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Original Article.

A Review of Telegraphic Progress for 1874.

THE year which has just closed has been remarkable for an almost unprecedented dulness in telegraphic work, so far at least as this country is concerned, which is principally if not wholly due to the prevailing financial stringency. It may not, however, be uninteresting at this time to review the telegraphic field, not only at home but abroad, and at a single glance gain a connected idea of the progress of events during the year 1874.

The Western Union Company signalized the commencement of the year by taking in the lines of the Pacific and Atlantic Company, comprising about 5,000 miles of poles and 10,000 miles of wire. Very few extensions have been made to points not hitherto covered by the Western Union system. Probably about 20,000 miles of new wire, all told, have been strung during the year, but nearly all of this has consisted of additions to the facilities on routes already existing. The mileage of new poles erected will hardly exceed 1,000 miles, as against between 3,000 and 4,000 miles the preceding year. The magnificent new building of this company at Broadway and Dey street has made steady progress during the year, and will probably be ready for occupancy before spring.

The Atlantic and Pacific Company have also extended their lines, improved their facilities and strengthened themselves in various directions and are now in a very satisfactory condition. During the past year they have built a new line from Chicago to Omaha, and extended their lines from Boston to Rye, N. H., and from New York to Long Branch. In October they effected a lease of the Franklin lines between New York and Washington, and are making preparations for still further extensions and improvements during the coming year.

The lines of the Southern and Atlantic Company have reached Mobile, Alabama, on their way to New Orleans. The Automatic Company have made no extensions during the year, but have been working their single wire successfully between New York and Washington, and, we understand, doing a good business.

We have seen no statement of the progress of the Montreal Telegraph Company, but believe that considerable work has been done by them during the year. The Dominion Company have added about 800 miles of poles and 1,000 miles of wire to their system, and are believed to be in a prosperous condition.

The record of submarine cable work for 1874 is quite an extensive one. The Lisbon and Maderia section of the Brazilian cable, laid last year and subsequently broken, was picked up from two and a half miles depth of water and repaired early in the season. The remaining sections were also laid, and the whole line completed on the 22d of June, giving a telegraphic connection from London to Rio de Janeiro via Lisbon, Maderia, the Cape de Verde Islands and Pernambuco. The fourth cable of the Anglo-American company has been laid from Valentia to Heart's Content without accident, the work having been successfully completed on the 6th of September. The cable of 1865, which failed on the 11th of March, 1873, at a point about 568 miles from Valentia, in deep water, has not as yet been repaired. A break also occurred in the 1866 cable on the 14th of April, at a point about twenty-five miles from Valentia, which was repaired, and the cable put in working order on the 14th of July. At the present time the cables of 1866, 1873 and 1874, and the French cable are all in working order.

The Direct United States Cable Company have not, at last accounts, succeeded in completing their line. The cables from Rye Beach, N. H., to Nova Scotia, and Nova Scotia to Newfoundland were successfully submerged, and the Faraday afterwards proceeded to lay the deep sea line from Ireland to Newfoundland, but was obliged to cut the cable in a storm on the 8th of November at a point less than 200 miles from Newfoundland, and owing to the unfavorable weather usually prevailing at this season of the year it is scarcely probable that the work will be completed before another season.

Soundings have been made during the season by the

U. S. steamship Tusearora on the route of a proposed cable across the Pacific ocean from the western coast of America to Japan and China.

The organization of the American Electrical Society during the past year is a circumstance upon which all our telegraphers and electricians have reason to congratulate themselves. The matter was brought up in THE TELEGRAPHER of May 2, 1874, by Mr. I. N. Miller, and the discussion which ensued led to the organization of the society, which held its first annual meeting at Chicago on the third Wednesday of October. The attendance was quite large, and a commendable degree of interest was manifested. If this interest is sustained, as it ought to be, the society will be of great and constantly increasing benefit to the electrical and telegraphic profession in this country.

We have been obliged to record during the past year the deaths of three persons who have been prominent in telegraphic interest, almost from the time of the first establishment of the system in this country—Edward Creighton, Isaac Butts and Ezra Cornell. One by one the early pioneers of the wonderful system of telegraphic communication, which now well nigh encircles the globe, are passing away. Of the few that remain scarcely any are at present actively engaged in telegraphic enterprises.

All things considered, the past year has been a dull one for those whose business is connected with the extension or enlargement of telegraphic facilities in our own country, but it is hardly possible that the coming year should not be an improvement in this respect upon its predecessors.

Southern and Atlantic Telegraph Company.

THE monopoly which has for so long a time been enjoyed by the Western Union Telegraph Company appears now to be at an end. The establishment of a competing line is an assured fact. The new competing line is the Southern and Atlantic Telegraph Company. Mr. Charles W. Blossom, of New York, is the President, and Mr. Henry Hentz, President of the New York Cotton Exchange, Vice-President, and Mr. George H. Grace, of Macon, Georgia, the General Superintendent.

Knowing that any information on the subject of cheap telegraph rates possesses great interest for the people of this city and State, and, in fact, the whole South, a reporter of the *Republican* called yesterday upon Mr. Grace to obtain from him some facts concerning the new company. Mr. Grace is here on business for the company, and, though much occupied, gave frank replies to the questions asked.

The company is organized, he states, under the laws of New York, Mississippi and Louisiana. The business men and bankers in the various cities and towns on the route are, many of them, owners of stock, and all of them support the enterprise, as it is to their interest to obtain cheap telegraphing. The work now being performed here is under the control of a local company, of which Mr. J. B. Lafitte is president, and Mr. J. M. Siexas, secretary.

Up to February, 1873, the company was operating but about 1,600 miles of line, with about twenty-five offices. To-day it is working over 4,000 miles, with 100 offices, including nearly every important city and town between New York and Mobile, as well as the cities and towns along the Atlantic and gulf coasts.

All opposition has come from those interested in maintaining a monopoly, and every device, it is alleged, has been resorted to whereby the progress of the company might be retarded. It has been frequently tied up for weeks at a time by injunctions. It has also had to contend with evil reports which were circulated concerning it. The suit which was decided on Monday in the Superior District Court will give some idea of how the company has had to fight its way. But for these legal detentions it would have been established here long ago. The suit in the Superior District Court was against the Mobile Railroad Company for condemnation of right of way, and a verdict of \$1 damages was rendered. This was merely to establish the right of the telegraph company along the line of the road.

The Company will now go ahead as fast as possible, and the Superintendent hopes to have the line between New Orleans and Mobile working in a few days. The line is already completed from Mobile to Pearl river, and work has now been resumed between there and this city. Great importance is attached to the connection between this place and Mobile, but it is the purpose of the company to establish a duplicate line to New York, and should the people of New Orleans encourage it, as no doubt they will, routes to the West will be the object of the company's immediate efforts.

This company now connects at New York with other independent companies, whose lines extend to San Francisco, and also to the Dominion of Canada. It has, also, close and exclusive connection with the new Direct United States cable now being laid by the cable

steamship Faraday, which, when completed, will give us connection with all parts of Europe.

The objection that the company, as soon as in complete working order, will consolidate with one of the rival lines and leave its patrons again at the mercy of a monopoly, is promptly met by the Superintendent. He asserts that it has no foundation. While, of course, he cannot say what may happen, he asserts that nothing has been done by the company looking to any consolidation with any of the rival lines. Nor can it possibly be done except with the consent of the holders of three fourths of the capital stock, and he has yet to see the first stockholder who would sanction it.

On closing the interview, Mr. Grace, after thanking our reporter, remarked: "We fully understand and appreciate the wants of the press and its claims on the telegraph, for which it has done so much, and so far as has been in our power we have recognized it to the fullest extent. This has been frequently acknowledged in a public manner by the different newspapers which we have served and are still serving."—*New Orleans Bulletin*.

What Can a Woman Do?

SHE can do very much outside of what some people choose to call a woman's sphere. We have an instance in point. Two daughters of Mr. W. H. Wheeler, station agent for the B., C. R. and M. R. R. at this place, have become successful telegraph operators. Miss Fannie M. Wheeler commenced operating at Blairstown, on the Northwestern road, before Vinton had a telegraph office. Subsequently she operated in other places—as Waterloo, Chicago, Omaha; being now in an office in the city of San Francisco, holding a responsible position at a good salary. Miss Fannie is regarded as one of the best operators in the country. While in Chicago Western Union (Main) office she worked the Union Stock Yard wire. And on one occasion received 140 messages, *without a single break*—a feat which, probably, not one operator in a hundred could perform.

Miss Julia Wheeler, a younger sister of Miss Fannie's has for several months, and until recently, had full charge of the telegraph office at this place, performing her duties with tact and skill. For the present she has retired from the office for the purpose of attending school. Who shall say *such accomplishments* are unladylike and unrefined.—*Vinton (Iowa) Eagle, Dec. 2d, 1874.*

Cupid and Telegraphs.

SOME two years ago Conductor Morris Goodwin, of the I. and St. L. road, became enamored of a young lady at Malta, a station on the line. She reciprocated the emotion, but the young man didn't suit Mr. Campbell, the father of the damsel, and he would not listen to any matrimonial propositions. The two, at last becoming weary in their pleadings, planned an elopement. Yesterday Anna wanted to go to Filmore, on the Vandalia road. Shortly after she had left with a friend in a buggy, it popped into the old man's head that she had matrimonial intentions, and he mounted a horse and pursued her. The young man, who had planned the elopement, was watching his manœuvres, and despatched a messenger on a swift horse, who informed her of what was going on. She then hired a buggy at Filmore and made for Greencastle, her lover, who had been informed by telegraph, taking an Indianapolis and St. Louis train and met her there, where the two were made one flesh. Yesterday afternoon they passed through this city *en route* for Cincinnati. The old gentleman is reported to have returned, disgusted with telegraphy, railroads and young American bloods generally.—*Indianapolis Journal*.

Rubber Thermometers.

M. KOHLRAUSCH having several times noticed that glass flasks, closed by stoppers of hard rubber, burst, concluded that this substance must be very dilatible. This hypothesis was fully verified by experiment, for the expansion of this body was found to be about three times that of zinc. From his measures, the coefficient of dilatation for 1° between 16.7° and 25.3° = 0.0000770, and between 25.3° and 35.4° = 0.0000842. Thus, not only has hard rubber a very great coefficient of dilatation, but the latter increases very rapidly with the temperature.

This remarkable property can be applied to the construction of very delicate thermometers. Thus, with a small instrument, consisting of two strips of rubber and ivory eight inches long glued together and fastened at one end, we obtain at the other extremity a considerable movement for a change of temperature of one degree. The coefficient of hard rubber is equal at zero to that of mercury; above, it is greater. We can, then, as a curiosity, construct a mercury thermometer with a reservoir of this substance, whose changes will be the opposite of those of a common thermometer, and which will fall with an increase of temperature.

Correspondence.

We do not hold ourselves responsible for the opinions of our Correspondents. Our columns are open to free discussions on all Telegraphic subjects, without distinction of person or opinion.

No notice will be taken of anonymous communications.

"Morse," "Quadruplex," and "Automatic" Telegraphy.

TO THE EDITOR OF THE TELEGRAPHER.

YOUR long editorial, in your interesting journal of last week, upon the subject of the three leading systems of telegraphing, and in reply to your "Morseite" correspondent, was characterized with your usual sound practical common sense, and there were but few ideas advanced by you that the friends of either side could take reasonable exception to.

It is known to you and to all your readers that, from first to last, I have in my advocacy of Automatic telegraphy, insisted that one of its chief elements of strength consisted in the fact that a very large proportion of the labor incident to the proper working of the system could be of a much cheaper grade than can possibly be used in working Morse, or any other system equal to it.

My real argument has been, from the day I undertook to develop and make practical Automatic telegraphy, in 1869, to the present moment, that the perforating of the messages could be done by the cheapest of intelligent unskilled labor.

Now, what are the facts in regard to the business of operating my perforating machine? In the first place, it can be worked accurately with one tenth part of the mental labor required to operate, reliably, the Morse key.

As a practical printer, I say that the mental and physical ability required to learn and successfully practice, to the extent of \$10 per week, the business of type setting upon plain book work, are vastly greater than are necessary to become good average operators upon our improved perforating machines.

But, practically, the real footing would be thus: 60 Morse operators.....\$250 00 41 Automatic operators..... 170 00 19 In favor of Automatic.....\$80 00

of the service. But even applying your remarks to the so-called Edison machine, in use by the Automatic Co., they are little less than caricatures. If you had written one quarter the "intelligence," and one hundredth part the "skill," you would have been very near the truth.

But it was reserved to your correspondent "Morseite," to out do all other opponents of Automatic Telegraphy, except, possibly, President Orton and his electrician, in the following monstrous statements.

"To counterbalance this, the Automatic system must more than double the number of employes of the Morse system in order to accomplish the same work in a given time, as every practical operator is aware that more words can be copied from an instrument in a specified time (all things being equal) than can be translated from strips and written out.

Your correspondent appears to have a soul above details, and therefore contents himself by making bold assertions which are directly the opposite of truth, and this I hold myself bound to prove from indisputable facts.

Estimate of the cost and of the number of operators required to telegraph 300,000 words between New York and Washington, by the "Morse" and by the "Automatic" systems.

The President of the Western Union Co. has publicly stated that 600 words per hour is a "large average" of the speed of telegraphing by the Morse system, but as there may be operators who think they can do 10,000 in ten hours, we will assume that as a maximum speed of a class of operators who command a salary of \$25 per week.

Each Perforator is capable, after a moderate degree of practice, to average 2,000 words per hour with great ease, therefore, fifteen operators would be required to perforate 300,000 words in ten hours.

In copying, each type-writing machine, manipulated by girls' labor, after three to six weeks' practice, will average, with the assistance of an expert reader of the Morse characters, 2,500 words per hour, with great ease and absolute accuracy.

There will also be required one operator to transmit and one to receive.

Thus we have for the Automatic system: 15 Perforators, 12 Copyists, 12 Readers, 2 Transmitters and Receivers.

41 Total Automatic, against 60 Morse. If it be admitted, for the sake of argument, that we must pay for our labor the same as the Morse people pay, the account will stand thus:

60 Morse operators.....\$250 00 41 Automatic operators..... 170 00 19 In favor of Automatic.....\$80 00

But, practically, the real footing would be thus: 60 Morse operators.....\$250 00 41 Automatic operators..... 82 00 19 In favor of Automatic.....\$168 00

Thus, in the matter of labor alone, showing a difference of more than 75-100ths against the simple Morse system, which, in the matter of labor is decidedly more advantageous than the "Duplex" or "Quadruplex."

When we leave the question of labor and come to the cost of maintaining the wires, on the basis of the official figures of the Western Union Co., we find in that item alone over \$70,000 per year against the Morse system—and if we divide this sum into 300 working days, we shall have over \$230 to add to the above balance of \$168—thus making the enormous difference of

\$368 in favor of the Automatic system, in telegraphing between Washington and New York 300,000 words. D. H. CRAIG.

The "Automatic Side."

BALTIMORE, Dec. 22d.

TO THE EDITOR OF THE TELEGRAPHER.

I WOULD like to say a few words in reply to the communication of "Morseite," in THE TELEGRAPHER of the 19th inst. I wish to notice that part of his communication in which the following occurs: "The work of preparing a strip for the Automatic system requires a certain amount of time, etc."

The Automatic Company are now doing about seven hundred messages a day between Washington and New York, which is a large amount of work for one "circuit," considering the length of the messages. Now, if we suppose a Morse "circuit" doing the same amount of work between the points above named, and sixty messages were to be given the Morse in Washington and the same number in New York, and the Automatic to be given the same number at both points at the same time, I would like here to ask "Morseite" which, the Automatic or the Morse, would have to wait the longest for the "circuit."

A first class puncher will prepare sixty messages an hour (perhaps "Morseite" may doubt this fact, if he does it can be proved to his entire satisfaction). A first class operator will send sixty messages an hour, (I don't say this amount of work is done, but believe it can be under favorable circumstances). The Morse operator will be two hours sending and receiving his business. The Automatic operator will receive and transmit his business in one hour, and have it copied in one hour and five minutes. We are supposing the Automatic and the Morse are starting simultaneously. If everything was favorable one first class copyist would do at each end of the line.

The force would be six employes for the Automatic, viz: two transmitting operators, two copyists and two punchers. The Morse would make a better showing in force, but give the Morse two "circuits," doing a heavy business, and the Automatic will get through as quick, if not quicker. The force will then stand four to six in favor of the Morse, but the one wire of the Automatic ought to balance the increase in force.

I saw an article some time ago in THE TELEGRAPHER, in which the writer charges certain parties connected with the Automatic Company of keeping up a continual fight to determine who shall run the machine, which appears to be true.

But if the system is worthless as "Morseite" seems to think, perhaps there would not have been so much fighting over it.

In conclusion, I believe the day is not far distant when Automatic telegraphy will be used throughout the United States—not to supersede the Morse, but in conjunction with it.

I have the honor to be an employe of and one who believes in the ultimate success of the

AUTOMATIC.

Automatic Telegraphy, and Things not generally Known in connection therewith.

TO THE EDITOR OF THE TELEGRAPHER.

PERMIT me to call the attention of your readers to another of the many valuable desiderata in connection with the American Electro-Chemical rapid Automatic Telegraph system. Thus, during the existence of a swinging cross, our expert automatic operators have frequently transmitted a long despatch during the interval of divergence. Is not this also progress?

GEORGE LITTLE, C. E.

Passaic City, New Jersey, U. S. A., December 19, 1874.

Success of the A. and P. Co.—Bad Policy.—Bulls.—The American Electrical Society.—Scurrilous Journalism, etc.

CHICAGO, Dec. 21.

TO THE EDITOR OF THE TELEGRAPHER.

WE are having one of the finest winters known in this region for a number of years, and, as a natural consequence business is quite brisk. The Atlantic and Pacific Company are doing a splendid business. They made excellent time on the President's message, receiving it on both their first class wires from the East. Their new Omaha wire is the model wire of the West. There are twenty way offices on it, all of which are doing a good business, and as Omaha and San Francisco business is done over that wire now, it makes it "red hot" all the while. It is to be regretted that the management have seen fit to reduce force and salaries as a means of curtailing expenses, as similar proceedings in this direction heretofore have demonstrated the fact that it is a bad policy, as they cannot

expect to retain skilful employes by this means. Overwork and poor pay won't pay in the long run.

Mr. Minor C. Gross has been promoted from the "mixed trick" to the regular day force in the A. and P. office.

This is a merited promotion to a deserving young man. After an unsuccessful search by an Eastern office for Col. B. patent Fire-arm Company, one of our Western offices suggested the message be delivered to Colt's patent Fire-arm Co.

Indianapolis insisted that it was "cow cars" that an office east of him telegraphed to an office west of here to be returned, but it wasn't, it was coal cars.

A written explanation will be in order and probably the receiving operator requested to "improve on his copy," ha! ha!

Speaking of bulls, here's one which, although a little old, ain't spoiled yet:

A young minister with a sweetheart, and a pastorate with a good salary, waiting for him here in the West, was expecting a certain Synod in the east to ordain him before proceeding to his western home.

The Synod met and lacking sufficient members for a quorum, adjourned over till next day. Our young divine telegraphed as follows: "Synod lacked a quorum to ordain." Imagine the surprise of the sweetheart when the Deacon out here showed her the following: "Synod tacked a worm to Adam," then imagine the consternation of the minister on his arrival in his western home to find a house furnished all but the wife, instead of finding his sweetheart with open arms to receive him.

The mistake was soon tacked on to a plug, and the worm to Adam.

The Quadruplex, I understand, still meets with good success, working between Chicago and Buffalo on all four sides perfectly. Some trouble of course has arisen from time to time, in fact such is to be expected from such a complicated mechanical arrangement, but the W. U. electricians here have shown themselves able to cope with every difficulty that has arisen so far, and declare they will make it work here or "bust."

Mr. Henry, a rising young electrician in the W. U. office at Buffalo, has shown that he understands his business, and knows what a Quadruplex is for. There has been some trouble at various times east of Buffalo, which disarranged matters so that New York could not get Chicago on both sides when sending to them, but Chicago has been able to get New York on both sides and send to him at the same time nearly all last week, thus doing the work of three wires on one.

The regular monthly meeting of the American Electrical Society was held last Wednesday evening at Gen. Stager's room. There were very few members present, but it was demonstrated at this meeting that the affairs of the Society are in a very flattering condition, that all the committees and sub-committees, except one, were working assiduously, and good progress was being made.

Blank applications for membership had been sent out to a large number of well known gentlemen, and they were being received almost daily signed and accompanied with the initiation fee and yearly dues.

The exception mentioned above was the committee on room, Col. J. J. S. Wilson, who had been confined to his house for several weeks, but it is hoped he will soon be able to be around again, when he will succeed in getting a suitable room, after which the society will rapidly grow in interest, and there will then be no lack of members present at every monthly meeting, as the society will begin to collect books, apparatus, etc. It must be remembered it takes time to get such a society as this in fair working order. The English society were nearly a year in getting fairly started, and I am very much mistaken if the society in this country is not in fair working order in a few months. The Committee on Printing made a good report.

Mr. Chas. W. Thayer of the W. U. night force has been promoted to the day report wire, made vacant by Mr. Stone's resignation.

Mr. Snyder, formerly of the P. and A., St. Louis, night force, who has been in poor health until quite recently, is now subbing in the W. U. days, while Mr. Swift is east on account of sickness in his family. Mr. Olin W. Hamilton of the W. U., who has been taking a vacation, has returned looking refreshed.

telegrapher, whether for quadruplex or automatic work.

Those of us who take all the telegraphic journals (and many do in the West) are sick of the slang and libellous abuse which has characterized a certain New York paper in its treatment of THE TELEGRAPHER and its publisher. Such scurrility as characterized its last issue may be appreciated by New York telegraphers, but the responsible publishers and editors may be assured that they are regarded elsewhere as anything but creditable to them. Their animus is so apparent, and the foul source from which they emanate is so well known, that they are having a contrary effect from that intended. The contrast between the spirit exhibited and the editorial on the next page, wherein we are enjoined to "cast off hatreds created in moments of past anger," is striking.

These slanderous effusions display neither "wit" nor "wisdom," but may perhaps come under the other designation of "folly." The friends of THE TELEGRAPHER admire your good sense in refraining from replying to such attacks, and the high ground that you have taken, but they are not going to stand by speechless any longer. Let us be done with such work, and exhibit a manly, or at least a reputable spirit, and not that of a cowardly calumniator or a snivelling child.

Suggested Simplification of Telegraph Rates and Prepayment by Stamps.

CINCINNATI, O., December 24.

TO THE EDITOR OF THE TELEGRAPHER.

PRESIDENT ORTON, in his Annual Report, says, that eventually he may be able to establish but four rates, viz: 25c., 50c., 75c. and \$1 00. Now, if this can be done, why not have a system of stamps for the payment of tolls, enabling Telegraph Companies to dispense with the expense of bookkeepers and a large portion of an auditor's office?

Table with 5 columns: Class (1st to 5th), To Chicago, To Cleveland, To Hamilton, To N. York. Rates range from 65c to \$1 00.

The 1st class (counting every word) to consist of all messages of twenty words or less; 2d class, over twenty and under thirty-one, etc., as follows:

Table with 6 columns: Class (1st to 6th), Description of message length (e.g., not exceeding 20 words, more than 20 and not exceeding 30 words, etc.).

Stamps of the denomination of the rates for 1st class only as above, would be required.

Some one in the Auditor's office will ask how to prevent stealing by dishonest managers and clerks, ways can be devised, but until I discover evidence that my suggestions so far are of value I will not occupy space in your columns with further discussions of the matter.

The Attack on the "Merry Meeting Club."

CHICAGO, Dec. 19th.

TO THE EDITOR OF THE TELEGRAPHER.

AS YOU always seem to be willing to do justice where there is a chance to do so, I hope you will give this a place in your columns.

Your correspondent "Doctor" in a recent number of your valuable paper referred casually to the unjust criticism of one "Cameo," in a sheet called The Operator, in regard to the social club of this city known as the "Merry Meeting Club." It is unfortunate that the "Doctor" did not give a detailed account of this criticism and of the club, as it would have saved my "rushing into print," and at the same time, have given your numerous readers from the Atlantic to the Pacific a better idea of the uncalled for attack.

The reply of "Pawnee," in the same paper, of the issue of the 15th inst., is a scathing rebuke, and meets with the hearty endorsement of the ladies and gentlemen of the fraternity in this section, outside of the Merry Meeting Society, as well as those connected with it.

The Merry Meeting Club was not organized among members of the fraternity, but by ladies and gentlemen outside of the telegraphic ranks, and was not intended as a telegraphic Club. As well might the churches, which some of the better class of the telegraphic fraternity attend and are members of, be called telegraph churches, as this club be attacked and looked upon as a telegraphic affair. A few of the mem-

bers had friends who were in the telegraph ranks, and naturally enough they were solicited to join, and did so. Did this make it a telegraph club?

After the society was formed, one of our first class lady operators was elected Vice-President, and a retired gentleman operator was elected President, but did this make it a telegraph club?

True the Secretary and Treasurer of the club is a telegrapher, but the members of the executive committee are not telegraphers, neither is the backbone of the club, nor a majority of the members telegraphers, but ladies and gentlemen who move in the best society on the west side. Now, if it is not a telegraph club, what business had "Cameo" to write it up in a so-called telegraph operators' paper? He had better write flowery notices of telegraph operators' marriages, as that is about all he has done for the paper so far, except this unwarrantable attack on a social club. Why didn't he write it up in the Kansas papers? 'Twould been just as fitting.

JUSTICE.

Advice to Telegraphers.—Don't Go West.

SAN FRANCISCO, Dec. 15th.

TO THE EDITOR OF THE TELEGRAPHER.

HAVING a few minutes' leisure, I think I cannot employ them to better advantage than by advising the many knights of the key in the East of that ever overflowing evil of going west. I will give you an idea of how the market for telegraphers in this State is overcrowded. I know of three good operators in this city who have been out of employment for three months, and one of which has just started to work on a farm at fifteen dollars a month. The man I speak of is a first class operator, and six months ago worked at 145 Broadway. Another I knew, who remained here until he hadn't five cents, and had to leave his clothes for his board, with the exception of a change of underwear, which, done up in a handkerchief, he threw over his back and started for the mines to work as a laborer. Such is now the state of things in California, and those that now persist in coming out here may rest assured that if they have not a stock of coin ahead it were better that they remain among their friends in the East.

W.

Correction.

OSAGE CITY, Mo., Dec. 22.

TO THE EDITOR OF THE TELEGRAPHER.

IN MY communication of Nov. 24th, in THE TELEGRAPHER of December 12th, there occurred a slight mistake. The illustration should be in a perpendicular position instead of horizontal.

R. J. HEWETT.

Answer to Correspondent.

W. S., Iowa.—The electric light is produced by the passage of a powerful electric current between two pointed pieces of carbon attached to the poles of a large battery; fifty or sixty carbon or Grove cells being necessary to produce a satisfactory effect. Instead of a battery a large magneto-electric machine, driven by steam or other power is sometimes used. The light thus produced is more powerful and intense than any other yet known, but is costly and difficult to manage. Professor Tyndall employed it with great success during his lecturing tour in this country for the purpose of illumination of the diagrams, etc., projected upon the screen, in illustrating the lectures. A full description will be found in Deschanel's Physics and other standard works.

A Merry Christmas for the Gold and Stock Boys.

AFTER the great storm of Dec. 20th, which made such havoc among the telegraph lines in this city and vicinity, the inspectors of the Gold and Stock Telegraph Co., who are mostly old operators, and good ones, turned out and spent a good share of their time during the following week in climbing over house tops, at the risk of their necks, carrying coils of wire, and doing linemen's work generally.

As a slight token of consideration of the extra labor performed, the regular meals missed and the good clothes torn in this volunteer service, General Lefferts generously ordered a distribution of turkeys to take place on the day before Christmas, which was duly carried into effect, and on Christmas eve the various employes of the Gold and Stock might have been seen on the uptown horse cars, the Brooklyn and especially the Jersey ferries, each laden with a large bird, in addition to the usual stock of dolls, hobby horses and toy wheelbarrows, which form a prominent feature of such occasions. There has always existed a very kindly feeling between the officers and employes of the Gold and Stock Company, which incidents like these have a tendency to preserve and strengthen, and it has had the excellent result of retaining permanently in the service of the company about the most efficient and intelligent corps of employes to be found in this country, a fact it is nothing more than simple justice to chronicle.

THE TELEGRAPHER

DEVOTED TO THE INTERESTS
OF THE
TELEGRAPHIC FRATERNITY.

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THE TELEGRAPHER:
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TENTH VOLUME.

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THE TELEGRAPHER.

A JOURNAL OF ELECTRICAL PROGRESS,

DEVOTED TO THE INTERESTS
OF THE

Telegraphic Fraternity and the Advancement
of Electrical Science and the
Telegraphic Art.

Published Every Saturday,

AT

No. 38 VESEY STREET, New York.

ELEVENTH VOLUME.

The Publisher, in announcing the **Eleventh Volume** of
THE TELEGRAPHER,

which will commence with the number for JANUARY 2, 1875, desires to return thanks for the LIBERAL SUPPORT which it has hitherto received, which it is expected and believed will be continued during the ensuing year.

All the popular and valuable features of the paper will be retained, and it will continue as heretofore to labor for the best interests of the TELEGRAPHIC FRATERNITY and the advancement of ELECTRICAL SCIENCE and the TELEGRAPHIC ART.

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All communications relating to or intended for THE TELEGRAPHER must be addressed to

J. N. ASHLEY, Publisher,

(P. O. Box 5503,) NEW YORK.

The Title Page and Index for Volume X.

We had hoped to have got the Title Page and Index for Volume X ready to send out with this number of THE TELEGRAPHER, but shall not be able to do so until next week.

We shall send this number of the paper to those whose subscriptions expired last week, whether their renewals have been received or not, but shall discontinue after this week, those for which renewals are not received before the second number of the present volume is issued.

It is not necessary for those who do not desire the paper continued to send any notice to that effect as the non-receipt of the money for renewal is sufficient notice.

If any of those who are entitled to a title page and index to Volume X should fail to receive it, they can get them on application.

The Eleventh Volume of "The Telegrapher."

WITH this number commences the *Eleventh Volume* of THE TELEGRAPHER. For nearly twelve years a first class telegraphic journal has been sustained in this country by the telegraphic fraternity, and the present volume commences under favorable auspices, and with every prospect of being as successful, if not more so, than any which has preceded it. In no other country in the world has a journal, specially devoted to the interests and welfare of the telegraphic laborers, been possible, and in no other country do these occupy the position they do here. They have a larger choice of employment, and, all things considered, are better compensated than elsewhere, and can with more ease engage in other business if telegraphy does not prove satisfactory and remunerative. For this reason is witnessed that constant abandonment of the telegraph service for other employments, which is going on. This has its disadvantages as well as its advantages, as those who leave the business, as a rule, are the more intelligent and enterprising of its members, whose services are or would become of much value in a business where skilled labor is of so much importance.

In inaugurating a new volume of THE TELEGRAPHER we have no special promises to make. For the past five years this journal has been under its present management, and we think we may justly refer with some pride to its character and the position which it has occupied during that time. That it has met with the approbation of the better and more intelligent class of telegraphers and those interested in telegraphy, we think its continued support by them sufficiently indicates. It has endeavored honestly to represent them, and to present them creditably to the world. It has not pandered to the lower passions and prejudices, but by presenting fairly and justly their claims to recognition of their rights in a candid spirit, has sought to secure for them the best possible treatment from their employers, and the respect of the public generally. It has been its aim to afford instruction and information which should render its weekly issues not only instructing but of real practical value to its readers.

We have not, and shall not favor what may be termed the slap dash style of telegraphic journalism. This may for a time cause the unthinking and inconsiderate temporary amusement and gratification, but it is not beneficial or reputable.

The columns of THE TELEGRAPHER have been in the past enriched by the contributions of the best and most intelligent telegraphers and electricians in the country, and in the future will continue to receive similar favors. Its columns will, as heretofore, be freely opened to the discussion of all telegraphic and electrical questions and matters without regard to persons. Every effort will be made to present each week a complete record of telegraphic news and progress, not only in this country but throughout the world. Whatever shall seem to be of value and importance in telegraphic invention and discovery will be a rly treated. We shall, as heretofore, commend whenever and wherever commendation shall

be deserved, and criticise and condemn when that shall appear to be necessary or proper.

Since THE TELEGRAPHER was first established, and especially during the time it has been under its present management, repeated attempts have been made to destroy or supplant it, but these have always failed hitherto, as they will now and in the future. We propose to attend strictly to our own business, and in our own way, and shall not descend to abuse, libel or blackguardism in response to any attacks which may be made upon us. We shall leave such weapons to those who may see fit to use them. They cannot permanently injure anything or anybody, and the motives which prompt them are usually too transparent for them to have the desired effect.

In conclusion, we would say that the present volume of THE TELEGRAPHER will in no respect be inferior, and in some we hope to make it an improvement upon any which have preceded it. With heartfelt thanks to those who have stood by the paper in the past and given it their countenance and support, we ask all who desire to have maintained a first class independent telegraphic journal to aid us in our task, and by increasing and extending its circulation, and by contributions to its columns, to make THE TELEGRAPHER more useful and successful even than heretofore. Confident from our experience heretofore that we shall receive such aid and support we will, without trespassing further, close, wishing our readers a Happy New Year, and as many of them as may reasonably be desired.

The Telegraphic Prospects for the New Year.

THE year 1875 promises to be one of much greater activity and interest in telegraphic matters in this country than the one which has just closed. The completion of the line of the Southern and Atlantic Telegraph Company to New Orleans is an event of much importance, and enables that company to compete for Southern business with the Western Union Company more effectually than it has hitherto done. It will, undoubtedly, having reached its objective point, proceed to strengthen its system and develop its facilities to a greater extent than it could do until this had been accomplished. It has met with every impediment that could be put in its way to delay, and if possible, prevent its extension, but has finally triumphed over them all, and we expect to be able to announce in our next paper the opening of its communication with New Orleans.

The Atlantic and Pacific Telegraph Company is making arrangements to add largely to its lines and facilities during the coming year. The company is displaying much energy, and is meeting with good success in obtaining business. What the Automatic may do is not yet known, but it is probable that there will be a vigorous effort made to still further develop and extend the system during the present year.

The Western Union Telegraph Company cannot, of course, stand still while its competitors are thus advancing toward a nearer approach to equality in the means for competition in the telegraph business of the country. During the year which has just closed, that company has done but little comparatively in the construction of new lines, but will no doubt resume the work of extension at an early day. The company, notwithstanding the depression in business during the past year, has done very well, in a business point of view. To maintain its present advantage over its competitors, it must necessarily guard as effectually as possible every point, and strengthen those in which it is weak or liable to be assailed.

Upon a review of the field the prospects now seem good for a very lively and active telegraphic business. This will, no doubt, be to the advantage of the telegraphic fraternity by increasing the demand for their services. The struggle between the several systems for rapid telegraphy has become very earnest, as it is apparent that the party which possesses the most practical and economical system of telegraphy will possess a decided advantage in the contest. If the

quadruplex shall prove on thorough trial to possess all the advantages and good qualities which are claimed for it, it will be of great value to the Western Union Company. The figures worked out by Mr. F. L. POPE in the excellent and practical article prepared by him and printed in THE TELEGRAPHER last week do not make as good a showing for the quadruplex as is claimed for it by Mr. ORTON in his official reports. If these figures are incorrect the columns of the THE TELEGRAPHER are open to any one who may desire to demonstrate that fact.

The revival of telegraphic activity will add to the interest and value of THE TELEGRAPHER during the current year. We shall keep our readers fully informed of everything of interest in connection therewith, and shall give to all parties and the different systems which are being experimented with or developed the credit and prominence which they shall be found to deserve.

The Discussion of Fast Telegraphy.

AS WILL be seen from the columns of THE TELEGRAPHER, the discussion of the automatic, duplex and quadruplex inventions and systems is exciting much interest. We are pleased to open the columns of THE TELEGRAPHER to this discussion, as nothing can more interest the telegraphic fraternity, and, in fact, every person connected with telegraph interests, than the development of the best telegraphic system, and that which shall be for the best interest and advantage of all concerned. It will be seen that Mr. CRAIG takes exception to our statement that to operate the "punchers" to the best advantage in practical business will require as much, or nearly as much skill and ability as is required in a good Morse operator, and that such will have to be paid at about the same rates. We do not think that cheap labor, as Mr. CRAIG understands it, can be advantageously employed in Automatic or any other telegraph system, nor do we believe that the success of the Automatic system is to result in driving from telegraphic employment all but a limited number of good Morse operators. However, we do not propose to discuss any of the principles or questions involved but merely to allude to the interest which has evidently been awakened.

We have received another communication from our correspondent, "Morseite," but in consequence of going to press a day earlier than usual, on account of Friday being a holiday, it did not come to hand in season to appear in the present number. We shall print it next week, and have no doubt it will be looked for with interest by our readers.

The American Electrical Society.

OUR Chicago correspondent keeps the readers of THE TELEGRAPHER informed of the proceedings and progress of the American Electrical Society. It gives us pleasure to know that the work of organization is progressing satisfactorily. Much time and labor is necessarily involved in getting such an association into good and complete working order, but we believe that this work is being very thoroughly done, and the society will bring forth good fruit in due season.

Blank applications for membership may be had of the officers of the society, and it is hoped that the society will have enrolled upon its books a large proportion of the intelligent electricians and telegraphers of the country.

Compound Telegraph Wire in England.

MESSRS. SIEMENS BROTHERS have made arrangements with the inventors of compound telegraph line wire to manufacture it at their extensive works in London. This firm have extensive works for the manufacture of telegraph apparatus, cables, wires, etc., at Woolwich, England, and at Berlin, St. Petersburg, and Tiflis. They have used the compound wire extensively in carrying out contracts for construction of lines in European countries, and recommend it to their custom-

ers and the public generally as the best for telegraphic purposes, and find it necessary to establish its manufacture at their own works to supply the European demand.

Tillotson & Co.'s Christmas Distribution.

MESSRS. L. G. TILLOTSON & Co. did not omit their usual distribution of turkeys, etc., to their numerous employes this year. For a day or two before Christmas a visit to the subterranean regions of their establishment at No. 8 Dey Street, would have given the visitor the impression that he had dropped into a poultry shop. It takes a large quantity to supply all their employes with the materials for a good Christmas dinner, but there was this year, as heretofore, abundance thoughtfully provided for this purpose.

The business of this leading firm deservedly increases from year to year and the good will of their employes (as well as of their customers) is secured by just and liberal treatment from their employers.

The Western Union Office in the Cotton Exchange.

WE are informed that there were some errors in the account of the Western Union Telegraph office which is located in the Cotton Exchange Building.

MR. EDWARD A. JOHNSON is the Manager of the office, and has been since it was first opened. There are seven operators, fifteen instruments, and twenty four wires in the office.

Personals.

MR. W. W. WELLS, late of the Louisville, Cincinnati and Lexington, has been appointed train despatcher to the Mississippi Division of the New Orleans, St. Louis and Chicago R. R.

MR. J. E. REEVES has been appointed master of trains and superintendent of telegraph on the Louisville, Cincinnati and Lexington R. R., and will have charge of the telegraph lines, and of the movement of motive power and rolling stock on the road. He succeeds Mr. W. W. WELLS, resigned.

MR. WM. R. McDONALD has resigned his position with the Western Union Company, at Little Rock, Arkansas, to accept a position with the same company at St. Louis, Mo.

MR. C. E. SMALLS, ex-manager of the Western Union office at Atchison, Kansas, has been appointed manager of the Denison, Texas, office of the same company, in place of Mr. H. C. MAHONY, who returns to St. Louis, Mo.

MR. F. W. GRIFFIN, of Topeka, Kansas, has been appointed manager of the Atchison, Kansas, Western Union office.

MR. LUTHER L. SMITH, of St. Louis, Mo., has accepted a position with the Western Union Company at Omaha, Neb.

CHARLEY DAY, of the Western Union office, at St. Louis, Mo., was the recipient of a very handsome "air gun," on the evening of the 26th December, presented by his friends in St. Louis, Mo. Mr. JOHN L. CASSIDY made the presentation speech, to which CHARLEY responded in a very eloquent manner.

MR. WM. FLITCROFT, formerly messenger at Paterson, N. J., for Midland Telegraph Company, has been promoted to the position of night operator at Wortendyke, N. J., station of the same company.

MR. J. J. WORTENDYKE has been appointed agent and operator, Midland Park, N. J., office of the Midland Telegraph Company, vice Mr. E. A. THOMPSON.

The Telegraph.

The American District Telegraph Company.

IN obedience to the orders of the President, all employes of this company will appear in full uniform on and after January 1st. The uniform of superintendents and managers will consist of a blue suit—Prince Albert coat; vest and pants, the rank being indicated by the color and arrangement of buttons.

The day and night office police will wear a blue sack coat, vest and pants; while the uniform of the night patrol will be similar to that of the city police. All line men will wear a uniform cap, each cap being properly numbered in front and the figures surrounded by a silver wreath. Shields will be worn outside. The but-

tons used on the uniforms are ornamented with a design in relief, representing one of the company's messenger boys. The uniforms were designed by the superintendent, and manufactured by Messrs. Jessup & Co.

All of the circuits of the American District Co., with but two exceptions, between Central Park and the battery, were prostrated by the storm of Dec. 21st. The whole line force, consisting of some 15 men, were ordered to report Sunday night and hold themselves in readiness to commence the work of reconstruction. By the following Wednesday night all the circuits were in working order.

Over 700 calls were answered in the 31st district office, at 946 Broadway, during the 24 hours ending at 8 A. M. Dec. 25th. The whole force of messengers, 425 in number, were kept constantly on duty in all the offices, and yet the facilities were inadequate to properly perform the great amount of work so suddenly thrown upon the company in consequence of the holiday season.

A Heavy Rental.

THE Western Union Company have for many years leased an office in the Fifth Avenue Hotel, in this city, at a rental of \$1,200 per year. The lease expired in August last, when a proposition was made to the proprietor of the hotel, by Mr. J. W. Burnham, who was for many years manager of the Western Union office, to open an office in the hotel in connection with the Atlantic and Pacific lines. Negotiations to this effect were carried on for some time, but were finally terminated by the Western Union Company agreeing to pay \$5,000 per annum for the exclusive right to maintain an office in the hotel. The payment of this large sum to keep the Atlantic and Pacific Company out of this excellent business stand would seem to indicate that they are beginning to be regarded as a dangerous rival. If the precedent thus established should be followed by the other first class hotels in the city demanding a proportionate increase in the rental of the telegraph offices located therein, it would be likely to prove rather an expensive operation for the Western Union.

Foreign Telegraphic Notes.

IN consequence of the loss of the La Plata, the cable steamer Sydney Hall, under charter by the Montevideo Brazilian Telegraph Company to proceed to the River Plate to complete the communication in concert with the La Plata, is detained in the Thames until another steamer can be despatched by the Platino-Braziliera Company.

As showing the extensive use to which the electric telegraph is now applied in the transmission of news for the daily and other papers, it may be stated that one of the Scottish papers—the *North British Daily Mail*—received by wire eight columns of extracts from the Life of the Prince Consort, and which appeared in its columns the morning after the publication of the work.

The number of messages transmitted by the Cuba Submarine Telegraph Co. for the month of October, 1874, was 1,794, estimated to produce £2,000, against 859 messages which produced £896 in the corresponding month of 1873.

The directors of the Anglo-American Telegraph Co. have resolved to pay the usual *interim* dividend of 1½ per cent., free of income tax, for the quarter ended Dec. 31, 1874.

The traffic receipts of the Submarine Telegraph Company for the month of November, 1874, amounted to £8,563; for the corresponding month last year £9,012.

The directors of the Brazilian Submarine Telegraph Company (Limited) have declared an *interim* dividend for the quarter ending September last, of 2s. 6d. per share, or 5 per cent. per annum, free of income tax, and payable on Thursday, the 24th inst.

The Eastern Telegraph Company announce the usual *interim* dividend of 2s. 6d. per share for the quarter ending Sept. 30, 1874.

The total number of messages forwarded from postal telegraph stations in the United Kingdom during the week ending Dec. 5th, 1874, was 354,418, an increase on the corresponding week of 1873 of 15,319.

The Eastern Telegraph Company announce that agreements have been completed with the French Government, her Majesty's Postmaster General, and the Submarine Telegraph Company, by which they will be immediately placed in possession of a special wire between London and Marseilles, to be worked by the company's own clerks. The new line is designed expressly for the traffic between Great Britain and Egypt, and the transit of messages will now be greatly accelerated.

The traffic receipts of the Great Northern Telegraph

Company for the month of November last amounted to 63,152 fr., and for the month of September, 1873, to 316,616fr.; increase, 46,536fr. The total traffic receipts from Jan¹ to Nov. 30, amounted to 4,133,552fr. (£165,342), and for the corresponding period of last year to 3,065,184fr. (£122,607), showing an increase of 1,068,368fr. (£42,735.)

Western and Brazilian Telegraph.

THE report states that the several sections of the company's cables were completed as follows: Para to Pernambuco, 6th September, 1873; Pernambuco to Bahia, 11th December, 1873; Bahia to Rio de Janeiro, 24th December, 1873. These cables are all in thoroughly satisfactory working order. Owing to the unfortunate loss of the Steamship Gomos in May last, and the lamentable wreck of the Plata, lately reported, communication has only been extended to Rio Grande do Sul southwards by the Platino-Braziliera Company. Arrangements are, however, in progress for the speedy completion of the short section still unlaidd, which, when finished, will complete cable communication with the River Plate. The shareholders are aware of this company's agreement with the Platino-Braziliera Company, by which all the cables between Rio de Janeiro and Montevideo, when laid, become our property. Upon completion of their line as above the agreement of the 23d of May, 1873, will come into force. The cables of the Central American Telegraph Company (Limited), between Para and Demerara, have been laid to Cayenne, and the necessary cable to complete the communication has left England. The extension of cable communication to the River Plate and the opening of the lines between North and South America will undoubtedly prove additional sources of revenue to this company. Working agreements have been completed with the Brazilian Submarine Company, the West India and Panama Company, and the River Plate Company, by which all the traffic passing over the lines of these companies for South America is secured to this company. Although for some months only one section of the cable, was laid and at work, and communication with Europe was not opened until the 22d June, 1874, from the opening of the line in September, 1873, to the 30th of September last, the total amount of receipts was £70,473, of which £43,917 belong to this company. From that date the receipts continue very satisfactory, being £23,298 up to the 4th inst.

The First Social Union of the Telegraphers of Cincinnati, Ohio.

THE first social union of the telegraphers of Cincinnati, Ohio, was held in Telegraphers' Hall, in the Western Union Telegraph Company's building, corner of Fourth and Vine streets, on the evening of Monday, Dec. 21st, last. This was intended to be the first of a series of annual or semi-annual social telegraphic reunions, and was a very successful affair.

Messrs. C. Selden, W. J. Lawler, J. C. Matton and J. C. Hall were the Committee of Arrangements. Mr. E. Baker was chief Master of Ceremonies, and Mr. A. M. Paddock, assistant chief. The Floor Managers were Messrs. W. Fellows, C. E. Higden, J. Evenman, E. T. Applegate, W. G. Peudeny, J. J. Grant.

A select party of ladies and gentlemen, most of whom are connected with telegraph interests in the city, were present, and all seemed to enjoy the occasion fully.

The social reunions of telegraphers should be more frequent, and, if properly and liberally managed, may be made not only pleasant but useful in cultivating a closer fraternal feeling.

THE telegraph line over the new section of the Flint and Pere Marquette Railroad, from Reed City to Ludington, Mich., is nearly completed.

Quotations of Telegraph Stocks at N. Y. Stock Exchange,

Showing Lowest and Highest Prices each day during week.

Table with columns: Dec., WESTERN UNION, ATL. AND PAC., AMER. DIST., GOLD AND STOCK. Rows show dates from Dec 23 to 29 with bid/asked prices.

THERE is a great tendency to ridicule that which we do not understand. Fortunately the scientific man has the laugh on his side. He gains much more amusement from the ignorance of the unscientific than the unscientific, though in the majority, do from the hard names, queer subjects and petty minutiae which apparently monopolize the time of the physicist.—W. H. Preece.

New Patents.

OFFICIAL COPIES of any U. S. Patent issued since July 1st 1871, including drawings, specifications and claims in full, sent free to any address for 25 cents each. Address F. L. POPE, P. O. Box 5503, New York City.

For the week ended Nov. 17, 1874, and bearing that date. 157,002.—ELECTRIC FIRE ALARM SIGNAL BOXES. Zeroy P. Hotchkiss, Richmond, Ind. Filed Aug. 14, 1874.

Circuit wheel held stationary by a lug on bolt if locked; key applied to this lock releases wheel, but is itself held in the lock till a second lock is operated by a key held by an officer of Fire Department. The manipulation of second key releases first key, and rewinds the spring. A trigger on a sliding plate may be brought into path of pins on side of circuit wheel to give a second set of signals.

- 1. A combination of locks, one permitting, by the application of a suitable key, the turning in of an alarm, the said key being thereby fastened until released by the application of a key to the other lock. 2. The combination of the door lock M and spring H with an arbor, I, common to both, and adapted to cause the rewinding of the spring in the act of locking or unlocking the door. 3. The sliding guard N, in combination with the spring O, for elevating it, and the cap plate connection O2 P2, for retracting the said spring. 4. The combination of spring catch N2 and projection N3, for securing the guard plate N in its uppermost position, substantially as set forth. 5. The slide R2 and trigger R, in combination with a secondary series of pins or projections upon the section wheel for the purpose set forth. 6. In combination with the door lock M, spring H, and arbor I, the double ratchet plates K K2, connected to impart a winding movement to the spring in one direction, and to permit the free movement of the key in the other direction.

157,003.—ELECTRIC BELL STRIKING APPARATUS. Zeroy P. Hotchkiss, Richmond, Ind. Filed Aug. 17, 1874.

Momentary breaking of circuit releases an armature from a magnet in main circuit. The initial movement of this armature closes a local circuit to a magnet acting on rear end of lever, causing its full movement, and consequent release of the detent arm of the striking machinery.

- 1. The combination of the governing arm 3, spiral shaft 2 drum 5, and the worm wheel 1, with ratchet wheel or teeth 8, spaced at double the distance of the threads of the endless screw 2, so as to retract the bell hammer in two revolutions of the said screw. 2. The combination of the armature lever 19, and governing arm 3 with a suitable battery, electro-magnet 16, and connections 20 21, to cause the tripping of the governing arm by the continued movement of the lever under the influence of a local circuit, which is closed by the initial movement of said lever. 3. The combination of the governing arm 3 with suitable mechanism for driving it, and a tripping mechanism causing it to break the electrical circuit by which it is tripped. 4. The combination of the armature lever 19, the two magnets 16 16c, the back spring 22, and electrical connections 20 21 23 24 25 32 with the battery B and main and local circuits, to effect an intermittent or alternate movement of the armature lever, in manner substantially as set forth. 5. The combination of main and local circuits with a battery, B, armature lever 19, and magnet 16, to cause an initial movement of the said lever by the current in the main line, and a further movement in the same direction by a current in a local circuit closed by the said initial movement. 6. The combination of the spring 4, guides 14, stop 15, and pins 20 21 with the revolving arm 3 and armature lever 19, operating to trip the said revolving arm and bring it to rest at the same point after each revolution. 7. The stop 13, in combination with the lever 9 and ratchet-wheel 8, for the purpose set forth.

For the week ended December 1, 1874, and bearing that date.

157,299.—ELECTRO-MAGNETS FOR MOTORS. Winfield S. Simms, Newark, N. J. [Filed Dec. 20, 1873.]

An electro-magnet for an electro-magnetic motor, provided with a supplemental core or mass of iron connected therewith opposite to the pole used to generate motion, as and for the purpose specified.

Born.

HUNTINGTON.—To Mr. GEO. E. HUNTINGTON, of Saginaw City, Michigan, at seven o'clock A. M., December 22d, 1874, a daughter. The first issue. We hope he will continue to do as well in the future.

Died.

MYERS.—At Brooklyn, N. Y., December 23d, 1874, CHARLES K. MYERS, of the New Sandy Hook Telegraph Line, after a short illness.

Obituary.

CHARLES K. MYERS.

CHARLES K. MYERS, one of the oldest telegraphers in the country, died at his residence after a very short illness, in Brooklyn, on the morning of December 23d, 1874, aged fifty years. Mr. MYERS commenced his telegraphic career as operator on the Semaphore Marine Telegraphic Line, between New York and Sandy Hook, about 1848.

In 1851 the present magnetic line, worked by the Western Union Telegraph Company, was constructed, and a lively opposition continued until 1857, with which Mr. MYERS' great popularity with the merchants enabled the semaphore to hold out much longer than it otherwise could against the superior magnetic system. When the lines were consolidated and the management passed into the hands of the American, now Western Union Company, the semaphore was abandoned, but Mr. MYERS

soon mastered the magnetic system, and continued his connection with the Western Union Company until the new line to Sandy Hook, by the Merchants' Exchange, was projected, when he became connected with that enterprise, but death overtook him before he had really entered upon his new duties. Under the various managements of the Marine Telegraph business he enjoyed the full confidence and esteem of his employers, and his universal urbanity of manner endeared him to all who came in contact with him in business or otherwise. No one in his sphere will be more missed. Until the evening before his death his physician did not consider him in the least dangerous, and when informed that he had but a few hours to live, and in answer to an interrogatory by his minister, his reply was, "I am ready."

PHILADELPHIA.

L. G. TILLOTSON & CO.

beg to announce the opening of an establishment for the sale of

TELEGRAPHIC AND ELECTRICAL GOODS

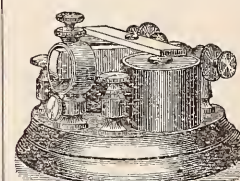
of every description, at

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They solicit the patronage of their friends and the telegraphic fraternity generally.



ECONOMIZE!

Procure the best and cheapest Telegraph and Electrical Instruments and supplies of all kinds from,

LANNERT & DECKER, 31 1/2 Prospect St., Cleveland, O. Send for circular.



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IMPORTANT NOTICE.

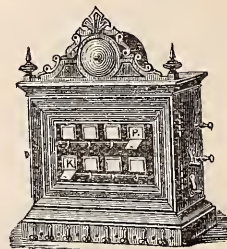
After JANUARY 1st, 1875, we will allow TWENTY CENTS for each used-up Porous Cell of this Battery that are returned to us free of charge, in good order. A change is made in the discount to the trade. A list will be furnished on application to

THE LECLANCHE BATTERY COMPANY,

No. 40 WEST EIGHTEENTH STREET; or to L. G. TILLOTSON & CO., 8 Dey street, sole Agents.

CHAMPION BURGLAR ALARM AND ANNUNCIATOR COMPANY,

40 WEST 18th STREET, NEW YORK.



We invite TELEGRAPH MANAGERS AND OPERATORS throughout the country to act as our agents for the introduction of our superior BURGLAR ALARMS AND ANNUNCIATORS into private houses, hotels, banks, &c. Upon receipt of plans of houses we will send skilful mechanics to estimate upon work, or will give any information in writing that may be required. Liberal commissions will be paid upon any orders that may be secured for us. Our Alarms and Annunciators have just been awarded the FIRST PREMIUM of the American Institute.

Explanatory Circulars will be furnished upon application to the Secretary.

L. G. TILLOTSON, President. CORNELIUS ROOSEVELT, Secretary and Treasurer, 40 West 18th Street, New York.

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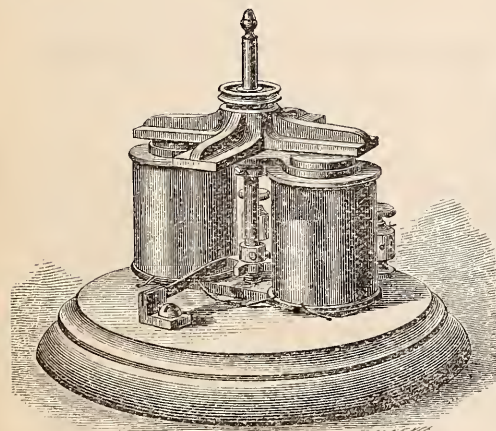
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- RELAYS, unequalled for beauty and strength;
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- REPEATERS—HASKIN'S AUTOMATIC, and others,
- SWITCH BOARDS—REPEATING, BATTERY and GROUND SWITCHES and LIGHTNING ARRESTERS.
- ANDER'S GALVANIC and MAGNETO-ELECTRIC PRINTERS; also SELDEN PRINTER.
- ELECTRIC BELLS, HOTEL ANUNCIATORS, FIRE and BURGLAR ALARMS, and WATCHMAN DETECTORS.
- ELECTRIC RAILWAY SIGNALS and ALARMS, ELECTRIC GAS LIGHTING APPARATUS.
- MEDICAL INSTRUMENTS and APPARATUS on hand and made to order. Second hand Instruments for sale cheap, and repairing done at short notice.
- BATTERIES in great variety, including the latest inventions; also a full assortment of battery material.
- WIRES—MOORE & SON'S and PHILLIPS' MAGNET and OFFICE WIRES, GUTTA PERCHA and KERITE WIRES, BEST GALVANIZED LINE WIRES; SUBMARINE, SUBTERRANEAN and HOUSE CABLES.
- INSULATORS—BROOKS, SCREW GLASS and KENOSHA CARBON.
- BRACKETS, PINS and SPIKES, TELEGRAPH POLES, LINE BUILDERS and REPAIRERS' TOOLS.
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Our TELEGRAPH INSTRUMENTS and ELECTRICAL APPARATUS are elegantly finished and mounted on highly polished rosewood, mahogany and walnut bases.

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[PATENTED SEPT. 29, 1874.]

THE FAIRY ELECTRIC ENGINE.

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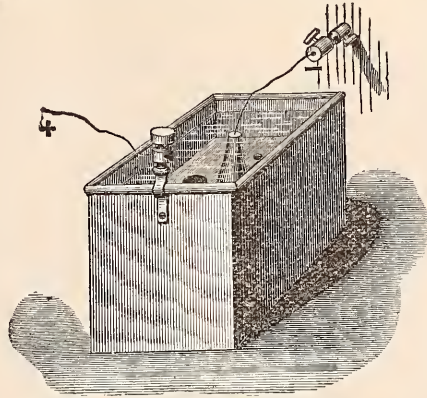
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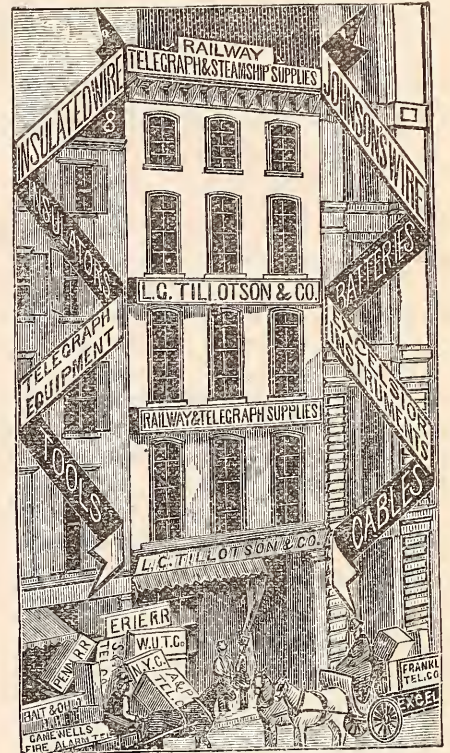
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SPECIE BASIS REACHED AT LAST!

We are offering 20 per cent discount from list prices on all instruments of our manufacture.

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UPON THE AUTOMATIC PLAN,

is now in operation in the following Cities, to which referencel
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New Bedford, Mass.,
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ARE,

First—The Automatic Repeater, through which the apparatus may be distributed in a combination of circuits, and the entire system successfully worked, without the constant personal attention of either operators or watchmen.

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Only PERFECT, COMPLETE and RELIABLE System

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IN THE WORLD.

It is a sufficient vindication of the claims which are made by the Proprietors of these systems of

FIRE ALARM AND POLICE TELEGRAPHS,

that they have sustained the test of more than twenty years of practical use, and that the efforts which have been repeatedly made to supplant them by other inventions have

COMPLETELY FAILED;

the few instances in which municipalities have been induced to adopt other systems having demonstrated their insufficiency and unreliability, and resulted in their abandonment, and substitution thereof of the

AMERICAN FIRE ALARM TELEGRAPH.

Messrs. GAMEWELL & CO. are the owners of the original *FARMER & CHANNING PATENTS*, one of the most important of which has just been extended for seven years, and during the past seventeen years have spared no expense or effort to secure improvements, and the Systems are now covered by MORE THAN TWENTY PATENTS.

The most important improvement which the Proprietors have adopted and introduced is the

AUTOMATIC SYSTEM.

the introduction and operation of which involves so little expense, compared to the benefit which it confers, that even small communities can profitably adopt and maintain it.

The American System of

FIRE ALARM AND POLICE TELEGRAPHS

has met with the universal approbation and commendation of the

People, Municipal Authorities,

AND THE

PRESS

throughout the UNITED STATES and CANADA.

NO EFFORT, TROUBLE OR EXPENSE

is spared by the Proprietors to obtain and secure ANY POSSIBLE IMPROVEMENT which shall increase the

EFFICIENCY,
RELIABILITY and
ECONOMY

of the system. They intend that, as far as possible, it shall be

ABSOLUTELY PERFECT!

The amount of property which has been saved from destruction, and the number of lives which have been preserved through the general adoption of this system, throughout the UNITED STATES and the DOMINION of CANADA,

CANNOT EASILY BE ESTIMATED,

but that, in every community where it has been introduced for any considerable length of time, they have been enormous, THREE CAN BE NO QUESTION.

The cooperation of TELEGRAPHERS in securing its introduction into their localities is cordially invited, and

their efforts will be duly appreciated and compensated.

Any information desired in regard to the above system will be cheerfully and promptly furnished upon application at the office.

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a most compact and reliable Switch, forming a clean spring-locked connection between any number of wires, occupying for each different connection only one square inch of space, and though made of the largest size, not subject to the warp and contraction of wood-work.

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We have made special arrangements to furnish this article for office purposes at a reduced rate.

ALSO, TO FURNISH

IRON CLAD CABLES

of the usual size, with KERITE COVER, believing that it will exceed, in insulation for submarine purposes, ANYTHING HITHERTO MANUFACTURED.

We shall be happy to furnish estimates for any amount and size of cable, which will be found to compete with any other construction, both in quality and price.

We manufacture the Genuine ELECTROPOION BATTERY, with Patent Platina Connection, introduced by us eight years since; also, THE ALPHABETICAL OR DIAL TELEGRAPH, now extensively used in this and other cities for private lines, being easily and quickly learned by any one.

We offer for sale, among other novelties, a SOUNDER that will work practically with a single DANIELL cell, a BATTERY that does not require to be taken down but once a year, and the very best MAIN LINE SOUNDERS made

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THE TELEGRAPHER

A JOURNAL OF
ELECTRICAL PROGRESS.

J. N. ASHLEY, PUBLISHER.

SATURDAY, JANUARY 9, 1875.

VOL. XI. WHOLE No. 443.

Original Article.

Friendly Notices and Reminiscences of Operators
Now or Formerly on the Atlantic and
Pacific (California) Line.

THE peculiarities of telegraph operators have furnished many interesting paragraphs for THE TELEGRAPHER heretofore, and the following in regard to operators now or heretofore on the Atlantic and Pacific (California) lines will be recognized by, and perhaps prove of interest to many of your California readers.

There was, for instance, Laven, "old Jim Laven," as he was familiarly known among his fellows. When taking report he would draw his chair up so close to the table that it would squeeze a person not used to it uncomfortably. Then he would have from three to half a dozen pencils lying around handy, all nicely sharpened ready for use. When working on the line he was all business, rarely making any conversation over the wire, "yes" or "no" being the extent of his remarks. He was a good fellow, withal, and a first rate operator. When he left to engage in more remunerative business the telegraphic profession lost an honored member, and one who was an honor to it.

Mr. Thos. R. Knox, better known, perhaps, on the line as "Tom Knox," deserves mention among those who were once familiar to California telegraphers. He was a good report operator. When working nights he usually wore a huge pair of goggles, which imparted to him a weird and unearthly appearance. He was loquacious, and would tell amusing and laughable stories and copy report right along by the hour. Knox and Harry Bennett used to have some terrible scoring up when they got started. Knox will verify this for any of his eastern friends who may have the curiosity to inquire about its correctness. He left us a long time since, regretted by all.

The Thomases are not yet exhausted, and I will next devote a few lines to Tom Lee. It is almost an impossibility to rush Tom, for he won't be rushed. He will scratch it down in his own peculiar manner, no matter how fast you may send to him. He is not much of a talker, but what he does say is to the point, and he has a way of crooking his fingers when writing till they resemble the famous "Grecian Bend," but makes a good copy nevertheless.

An old war operator, "Art. Jonesy," takes report in San Francisco office. As "Art. Jonesy" is rather an uncommon appellation, even for a telegrapher, I will endeavor to elucidate. "Art." as the readers who are telegraph operators will know, is the abbreviation for "all right." Not long ago Jones was made the victim of a "goak." Sometimes in sending, Ogden would open his key while waiting for copy, and Sacramento, improving these chances, would tap on the amateur of the relay on the east side of the button, "Art. Jonesy." As a wire couldn't very well be all right and dead open at the same time, Jonesy came to the conclusion it was some plug breaking in to interrupt report, and he determined to discover the culprit or perish in the attempt. Accordingly, he called up Winnemucca, which is between Sacramento and Ogden, and asked which side of him it was. Of course, Ogden hadn't heard it at all, but not wishing to appear inattentive to business, promptly replied "east." Jones was more than ever convinced that it was a "fritc gersc's" doings, and was quite wrathly until Sacramento explained.

A stranger would never suspect that "V. C." was taking report, for Ed. Pearson hangs out there, and he never breaks on report. He answers his call, and that is the last that is heard of him that night. It is sometimes amusing to listen to the rapid senders spreading themselves in endeavors to make him break, but their attempts usually prove futile.

Mr. Samuel Kimber sends report from Ogden, and makes good time. "S" is a queer one in some respects; seldom talks much, and whiles away the time between early and late reports with a game of "draw" with the boys, in which he generally comes out ahead. The only drawback to Sam's chance of promotion is a story that has been put upon him that he "froze out" a division superintendent one night on a little game.

On the day force in Sacramento office may still be found Harp Prays, one of the old timers. Harp has an

eye open for discipline, and if any of the boys on the line fail to come up to the mark, the offender will be very likely to hear from P.

The position of chief operator at Sacramento is held by Billy Wilder. He makes a beautiful copy and can write with almost lightning rapidity, and at the same time his copy is perfectly legible. As he has settled down to his position like an old stager in harness, we don't expect to hear of a vacancy there unless through promotion, till grim death steps in and claims him for his victim, which we all hope will be a long time hence.

In the same office may be found Marks. He is a cool, self-possessed individual, and nothing disturbs his equanimity. He never gets out of his regular jog trot style of sending. "Stox" have no enlivening influence for him. He turns out a good clean copy, and is not much of a talker.

Bennett sends quotations from "S. B.," while the Stock Board is in session, and then takes his trick at No. 2 wire in San Francisco. It pleases Harry greatly to get hold of some poor fellow and rush him half to death, and frighten him the other half if he breaks. He is a very rapid sender, and gives all the boys a hurrying up once in a while. Benny works No. 3 stock wire to Virginia with Newt Boydston. He is a good operator and a perfect gentleman.

Boydston is also a first class operator. He will sit with his legs crossed, fight circuit and smile complacently, while some man who imagines the circuit belongs to him is vainly battling for his rights—vainly, because Newt never gives it up.

On the whole Mr. Vandenberg has good cause to be proud of the *personnel* of the lines under his superintendence. K. O. T. K.

Recent Legal Telegraphic Decisions.—Rights,
Obligations and Responsibilities of Tele-
graph Companies—Telegraph Laws of
Ohio.

A DECISION has been given by Judge Marsh, at Zanesville, Ohio, in regard to the right of a chartered company to set telegraph poles on a street. The points are as follows:

First.—The Legislature has the power to authorize the companies to occupy the highways of the State with their telegraph lines erected on poles.

Second.—The dedication of a street must be held to include a use of all such improved methods of transportation and transmitting intelligence as future improvements may require, subject to the rule that no one method of travel or transit shall exclude any other, or interfere with its free exercise.

Third.—The original dedication contemplates all needed improvements, and a special injury must be shown before an injunction in any case can be granted.

The right of an individual to erect wires along a highway was disposed of, the Court saying that without a special act of the Legislature he could not do so. Several Supreme Court decisions were cited bearing upon the case, all of which justified the court in its decision.

In the Supreme Court of Minnesota, in the case of *Beaupure & Kelly vs. The Pacific and Atlantic Telegraph Company*, appellant. Syllabus of decision filed. The plaintiffs, merchants in St. Paul, wrote to R., a wholesale dealer in pork in Dubuque, Iowa: "Have you any more northwestern pork or prime mess, also extra mess; telegraph price on receipt of this." R. telegraphed in reply: "Letter received. No light mess here. Extra mess twenty-eight, seventy-five." On the 15th of July the plaintiffs, having received R's dispatch, delivered to the defendant at St. Paul, at about six o'clock P. M., the following message, addressed to R., with the request to forward it without delay: "Dispatch received. Will take two hundred extra mess, price named." The defendant undertook to forward the message, having no other information of its nature or object than was afforded by the message itself, but negligently delayed sending it until the 19th of July, and did not inform the plaintiffs of the delay. Between the 16th and 19th of July the market price of pork advanced, and the plaintiffs were compelled to supply at the advanced price. Held that the plaintiffs were entitled to recover the price paid for the message but not for any loss resulting from the advance in price of pork, the damages claimed on this account not arising naturally from the defendant's breach of contract, and not being such as may reasonably be supposed to have been contemplated by the parties when making the contract, as the probable result of the breach. Judgment of the court below modified so as to conform to the report of the referee. Opinion by Justice Young.

In the Supreme Court of Louisiana, in the case of the *Bank of New Orleans vs. Western Union Telegraph Company*.—From Fourth District Court. The defendant was employed to furnish plaintiff with daily reports indicating fluctuations of the New York money market. On the second of November, 1869, they delivered a

telegram reporting gold at 12 M. at 128½, whereas, the true rate was in New York at that hour 127½.

Plaintiffs allege that they lost by the telegrams \$1,733.16 in buying foreign exchange, \$173,816.15, for which they sued and obtained judgment for the amount prayed. The allegations of plaintiff were fully proven. The defendants, however, contend that the error in the telegram was no fault of theirs; that the information conveyed was taken from the indicator of the Gold Exchange of New York, and that the error occurred in the working of the indicator. It is true that the error so occurred in the instrument placed for defendant's convenience in their office at New York, but this does not exonerate them from liability, because by contract they were bound to convey correct information, which they could have obtained without relying on the indicator; this they failed to do. Judgment affirmed.

The Society of Telegraph Engineers.

The annual meeting of this Society was held on Wednesday evening last, the 9th inst.

Mr. Latimer Clark, Vice President, took the Chair.

The annual report of the Council was read by the Secretary, Mr. G. E. Preece. It stated that an accession of 131 members of all classes had taken place during the year, and showed the Society to be in a most satisfactory and prosperous condition. The council had to record the loss of Mr. Ricketts, one of the first members of the Society, who had met with an untimely end through the foundering of the steamship *La Plata*.

The Chairman expressed the sympathy of the Society with the families of those electricians who had perished in the *La Plata*. One of them (as stated in the report), was a member of the Society, and another was a relative of the President, Sir William Thomson. He hoped that all the members would subscribe to the fund which was being raised to help the bereaved families.

On the motion of the Chairman it was resolved that the report be adopted and printed.

A ballot was taken for the officers and council for the ensuing year. Mr. Langdon and Mr. Von Truenfeld acted as scrutineers. The following is the result as far as regards the officers of the Society:—President, Mr. Latimer Clark; Vice Presidents, Prof. Abel, Mr. Culley, Prof. Foster and Mr. Walker; Treasurer, Major Webber; Hon. Sec., Major Bolton.

Mr. Walter Hancock moved "that the best thanks of this Society be accorded to Prof. Sir William Thomson, F. R. S., for the manner in which he has filled the chair during the past year, and for the assistance that he has afforded the Society in furthering its proceedings." He said that he was sure that the motion would meet with the most cordial acceptance on the part of every member. The name of Sir William Thomson was a household word amongst electricians and other scientific men. He had conducted laborious investigations into the speed of the transmission of messages, and devised the most marvellous and beautiful instrument, the reflecting galvanometer, and also that very wonderful and simple instrument, the quadrant electrometer; and these three achievements were such as would stamp him for all time as a man who had left his mark on electrical science, and a most useful and indelible mark on telegraphy.

Mr. Sievwright seconded the motion, and spoke in the highest terms of the help and advantage which the Society had derived from Sir William Thomson during his presidency.

The motion was carried by acclamation. Colonel Stotherd moved "that the thanks of the Society of Telegraph Engineers be accorded to the President and Council of the Institute of Civil Engineers, for their continued liberality and kindness in affording this Society the free use of this magnificent hall, and the other apartments of the building."

Major Webber seconded the motion. He said that he hoped that the day, which was shadowed forth in the report, when they would have a hall of their own, was very far distant, for he felt sure that they would never get such a comfortable place as that in which they were now assembled. As treasurer, he thought that he could say that that day was really a distant one. (Laughter.)

The motion was carried unanimously. This concluded the business of the annual meeting.—*The Telegraphic Journal*.

At the meeting on Thursday, December 17, 1874, of the Western and Brazilian Telegraph Company, the directors' report, which is of an encouraging nature, was adopted. The chairman, Mr. John Hengh, was enabled to make the welcome announcement that, in the short time which has elapsed since the making up of the accounts, the receipts have been so satisfactory as to enable the directors to declare an interim dividend at the rate of 5 per cent. per annum for the three months ending the 31st of December instant, payable on and after the 15th instant.

Correspondence.

We do not hold ourselves responsible for the opinions of our Correspondents. Our columns are open to free discussions on all Telegraphic subjects, without distinction of person or opinion.

No notice will be taken of anonymous communications.

The "Other Side" Again.

TO THE EDITOR OF THE TELEGRAPHER.

If you will again allow me, I would like to review Mr. Pope's communication in THE TELEGRAPHER of the 26th instant. First, let me say that whatever criticisms I have made upon THE TELEGRAPHER'S course in this matter, have been entirely of a friendly character. I have no criticism to make upon the editorial comments touching my former article, except to say in regard to the statement, that, "In case of the interruption of a wire from crosses or breakages, that the accumulation of business can be worked off in a short time, etc.," and (in substance) "that the strips can be prepared during the interruption; that were this granted, the employes, at the receiving office would be, relatively, as badly swamped as under any other system. Suppose a force of ten copyists had enough business to keep them constantly employed, the wires are interrupted, for, say two hours, would not the entire day's business be delayed two hours, as well as by other modes of telegraphy, no matter how soon it passed over the wire?"

It matters little to us who invents quadruplex telegraphy. It is with the system itself that the interest of telegraphers lie—not the inventor.

With all due deference to Mr. Pope, I must say that, evidently, his figures in regard to Morse work are in confusion. He takes the transmission of the President's message as a fair specimen of what a Morse wire can do. Does he consider the fact that those wires were distributing the message to at least two intermediate offices? and that some of those offices were hard pushed to get men of fair ability to man those wires? Consequently the 1,368 average is not so poor as it might at first appear.

Again, Mr. Pope puts the average of messages at twenty words and only concedes fifty of those per hour upon a single wire, making a total of 1,000 words, or less than 17 words per minute over a through circuit, with first class operators! I, myself, have worked an average of nearly double that amount, therefore, I speak from experience.

I claim that messages will average over 30 words each, counting 1 for number of message, 3 for date, 4 for signal, "20;" and name, 3 for number and street, 2 for destination and State, 3 for signal "sig," and name, and 2 for check, making 18 words not paid for (longer names than I have allowed, in estimate, will compensate for messages without street in address). Every practical operator is well aware that, in regular business, the words counted and paid for will average over ten.

With a 20 word average, 90 messages, or with 30 words allowed, 60 messages per hour upon a single wire is practicable, thus making a total of but 1,800 words or 30 words per minute. About two years since Messrs. Dwight and Catlin, of the Western Union New York office, working with Boston upon a duplexed wire (while doing regular business), handled 151 messages, of a regular average, in a single hour; making an average for each of over 2,200 words.

Over 2,500 words have been transmitted (by Morse) and copied within an hour, on test occasions; but, of course, such speed is not practicable, and few could accomplish it.

We will take Mr. Pope's figures as to the cost of a single wire, viz. \$21.29 per day, allowing 90 messages per hour, of a 20 word average (equaling 60 messages of regular length), we have for

8 hours 720 messages, costing.....	\$21 29
Cost per message, single circuit.....	.0296
" " duplex ".....	.021
" " quadruplex ".....	.016

(I use the 20 word average to compare with Mr. Pope's 20 word average in automatic estimate.)

According to the above, a message can be transmitted at a cost of .016 by quadruplex, against a cost of .0101 by automatic, as Mr. Pope figures it.

The pay of the employes of the automatic system as stated by him, appears to be fair, excepting that of the copyists. If girls are to learn to read strips and copy on type writers, they will certainly come under the head of skilled labor and will have to be compensated accordingly. It strikes me that it will require as much skill to handle the type writer and read from strips, as is necessary for the ladies of the Gold and Stock Telegraph Co. to have, and they are paid (at the lowest, I think), about \$2.30 per day.

I am inclined to doubt the attainable speed of a copyist being as high as 1,500 words per hour. The characters are never as quickly read as manuscript or

print. Mr. Pope only concedes 1,738 words per hour to a printing circuit, with skilled operators, reading from manuscripts; but he thinks girls at \$1.50 per day can read the characters and finger each letter upon a type writer at the rate of 1,500 words per hour!

Again, suppose it is necessary to work a wire that "swings" occasionally, what is to become of the automatic copy then? Certainly the receiving operator cannot read and follow the instrument at the rate of 20,000 words per hour. A swing might spoil a word or two, and the error not be detected until it reached the hands of the copyist, how much time would be lost hunting up and retransmitting the portion lost? An occasional swing would, apparently, almost annihilate automatic working. With the duplex or quadruplex, when a word drops out, from a swing or other causes, it only requires a break (at the time) to correct it.

In long circuits repeaters can be used for the duplex and quadruplex, and they work much better than repeaters on single wires. I am not informed as to the distance the automatic will work successfully.

Another valuable feature of the quadruplex is the fact that three or more independent double circuits can be worked on the same wire. On a test, New York and Chicago worked a double circuit, New York and Buffalo another, and Buffalo and Chicago a third, only one wire from New York to Chicago being used for all three.

If, as Mr. Pope says, "the number of routes carrying business enough for the quadruplex is not very great," why will not this assertion apply to the automatic as well?

Summing up the whole matter, I find that the quadruplex will transmit messages at a cost barely exceeding that of the automatic upon its best showing, and day by day I think it will be found cheaper, everything being considered.

I am aware that all we can say will not hinder the ultimate adoption of the most simple and economical system of telegraphy, but I think that the automatic fails to fill the requirements more completely than the quadruplex, that requires no change in the methods of doing the business as already established. Then, if it costs no more, it is worth something to keep the business entirely in the hands of skilled labor rather than put part of it into the hands of those so near childhood that they can only command \$1.50 per day, on the ground of accuracy, if nothing more.

If the automatic system will tend to diminish rates for the service, so, equally, will the quadruplex, if it will, as I think, perform the work as cheaply considering the entire average day by day.

MORSEITE.

The Actual Performance of Phelps' Combination Printer.

NEW YORK, January 2.

TO THE EDITOR OF THE TELEGRAPHER.

In Mr. Pope's communication of last week, by giving 20.1 as the average number of words per message, I fear he commits an error which materially injures the character of his calculations.

My object, however, is only to refer to the error where it involves the performance of the Phelps combination Printing instrument.

The peculiar principle of that instrument is such that there can be no significant deviation in the speed of operating it from hour to hour. Its operation is something after the fashion of the treadmill, where, if the animal stops, its legs pay forfeit; so, if the operator stops, the instrument "runs out," and as it runs at a uniform rate of speed throughout the day, a uniform rate of transmission is necessarily maintained. Mr. Pope's observation that "the rate of speed at which wires are actually worked is a matter of endless dispute," cannot, therefore apply to the instrument in question.

The facts in regard to the Phelps Combination Printing Machine are, that in its daily working the year round, it transmits at the rate of not less than 86 messages, or 2,752 words (in messages) per hour. It will be seen that I give 32 as the average number of words per message. This average is arrived at by an actual count of the messages themselves, which must be admitted a more accurate method than taking the result of an unusual exertion over a single wire as the divisor, and an average made over eight wires as the dividend.

In the transmission of press matter a still higher rate is obtained, and a person visiting the W. U. office at night may witness the receiving of press at all the way from 50 to 58 words per minute, or at the rate of over 3,000 words per hour.

The Automatic perforating machine cannot, therefore, as Mr. P. claims, "certainly be fingered much faster than the Phelps Printer," unless it exceeds "50 words per minute" and "2,000 words per hour."

The Phelps instruments are now, and have been for years, run at an average speed of 190 revolutions per minute, 1½ letters being the average obtained per revolution. gives 285 letters, or (5 letters to the word) 57

words per minute, and 3,420 per hour as the full capacity of the instrument at 190 revolutions as above stated.

In sending press matter, where but few stoppages are necessary, if we make the liberal allowance of ten minutes, or 570 words for loss of time per hour, we still have 2,850 as the number of words actually transmitted.

In the controversy becoming so general in your columns, if, where the printing system is brought into comparison the above are adhered to, justice will be accorded it, and accuracy (an element greatly ignored by some of your correspondents) lend stability to the argument. Statistics might be found which would also recommend the consideration of accurate transmission or the comparative non-liability to errors.

JOS. L. EDWARDS.

How Interesting Communications may be Written.—Bad Policy of the Atlantic and Pacific.—Arrangements for Christmas Holidays, etc.

CHICAGO, ILL., Dec. 31.

TO THE EDITOR OF THE TELEGRAPHER.

DID you ever try to write without a subject, preach an extempore sermon without notes, deliver a lecture on a subject you knew nothing about, or make a political speech when you were on the wrong side of the question?

I have often heard persons when requested to write for THE TELEGRAPHER, say "Oh, I don't know what to write about that would be interesting." Now, probably, if all who contemplated writing would do as I am in the habit of doing, they *might* get up something interesting. I carry a little note book with me in my travels through the City when about my business, and when a thought strikes me, or I see anything worth recording, I note it down; so that by the time I am ready to send you my weekly batch of news, I usually find plenty to write about, generally more than you have room for. Try my plan, boys, but don't drop or leave your note book at some place just the day previous to writing your letter. This is exactly the position I am placed in.

The day force of the Atlantic and Pacific office were all on duty Christmas till 9 o'clock A. M., and the other hours were divided equally among the day men. The night men were on duty as usual.

My prediction that the policy the Atlantic and Pacific Company had inaugurated in cutting down salaries, etc., would prove a poor one is fast proving to be correct. One of the best operators in their office here (Mr. McRobey) resigned on short notice, and has accepted a situation on the W. U. day staff of this city.

As the holidays come and go business decreases, and the boys naturally take the benefit of holiday recreations. Messrs. Fortier, of the W. U. day, and Ball of the W. U. night force of this city, are spending the holidays among their friends in Canada.

On account of short force during part of the day on last Thanksgiving, the regular mode of working the W. U. force in this city was changed on Christmas, half force being on from 8 till 1 and the other half from 1 till 6 o'clock, when the whole night force relieved the day men. At 8 o'clock the night men drew each a card from an envelope marked "off Christmas," "off New Year's;" there being a card for half the force marked for the one night, and for the other half marked the other night. Those marked "off Christmas night," were promptly relieved, and those marked "off New Year's" are expecting the same pleasure when that night arrives.

A noticeable feature among the fraternity these holidays is an absence of any intoxication. This is very commendable, and is a great source of pleasure to the friends of those who have heretofore been in the habit of giving way to their appetites in this direction, and fixing themselves so they were fit subjects to be carried home on a shutter about 3 A. M.

There was a good deal of "kicking" (as the boys put it), among the W. U. lady operators, on account of having to work half the day these holidays. It has not been customary heretofore to require them to perform any service holidays, and they had rather began to look upon the "courtesy" hitherto extended them, as a "right" rather than a "courtesy." The management however decided to place all on an equal footing, and although a great many of the male operators no doubt felt that they would be willing to work harder to give "the girls" a whole holiday, the management probably, did not feel like discriminating, and could not see how one person could do the work of two, let him work ever so hard. Outside of this dissatisfaction among the ladies, the holiday hours this year are much more satisfactory than any previous arrangement for working them. Those of the day force I understand who were on early Christmas will be on late New Year's, and *vice versa* those late on Christmas night will be early New Year's.

I notice the Mercurial Fire Alarm, or Indicator, is

meeting with great favor here. The Western Electric Manufacturing Company are putting them in the more important buildings as fast as they can be manufactured. Especially is this the case in the vicinity of Lake and South Water Streets, where the fire made such sad havoc during the great conflagration. The name of the inventor is not shown upon any of the Indicators I examined. The box containing the Indicators proper are placed in a conspicuous place on the side or front of the building, whichever is most convenient, about five feet above the side walk. A glass door covers the box, and inside are Indicators showing each floor first, and underneath each floor every room on the floor. The Indicator pointers or fingers when everything is all right, point horizontally, all in the same direction and position. When any disturbance occurs the Indicator points drop down, showing what floor and what room on the floor are heated to a dangerous degree, and remain in that position until the trouble (*the heat*) is removed. A sufficient force of police and watchmen pass these boxes often enough to arrest any fire before it could gain sufficient headway to do any great damage.

It is not necessary to stop and examine the Indicator, a glance across the street is sufficient even when passing at a brisk pace, to determine the condition of every floor and room connected therewith. The insulated wires pass from the Indicator through a metal tube to the nearest window in the first story of the building, through which all the wires are passed into the building, and thence distributed to the different floors and rooms, connecting there with a mercurial apparatus, somewhat similar to that which has heretofore been explained in your columns editorially and by advertisements. Even the basement floors of the buildings are connected. Great and destructive fires will, when these Indicators are extensively used, be numbered with "the things that were."

Verily we live in a progressive age. I had the good fortune during one of my rambles recently to call at the Western Electric Manufacturing Co.'s works on Kinzie street, between State and Dearborn, and was shown over the immense building by Secretary Barton, who takes great pains to make visitors feel at home and show them the wonders of telegraph instrument making in all its various branches. The lateness of the hour at which I called (being near closing time) prevented my making a critical examination of all there is to be seen in this manufactory, and consequently you will have to be content with this passing notice, and wait till I call again (as I was kindly invited to do) for a detailed description. Mr. Barton is an old Eastern telegrapher, and can keep a fellow convulsed with laughter relating some of his early experiences, and at the same time explain the working of the different parts of the machinery.

Mr. Kellogg, the electrician of the concern, showed us a model of a French battery for medical use, about as large as a five cent cake of soap, which gives such powerful shocks that I had to "squeal" before I got half of the force of it. He is a well read gentleman, reading all the foreign works, as well as the English, on electricity, and is withal seemingly very friendly, and there is an absence of anything "airy," that was very acceptable to a common fellow like myself. I saw Mr. Warner, the inventor of the "Warner Relay," with his little apron on, hard at work with the other mechanics; a number of whom I was introduced to, and found seemingly very intelligent gentlemen, but cannot recall names. The "grip" of their stout hands was quite a contrast to the "littile squeeze" the "boys" give us, and we must confess rather pleasing and "impressive." Some of the boys, who complain of having so much spare time they hardly know how to kill it, might pass many an hour pleasantly and to their profit visiting the different manufactories of our city, not only the telegraphic and electrical, but others, and make the acquaintance of some of the mechanics employed therein. They would be agreeably surprised at the intelligence among the better class of them, and would be obliged to post up if they intended to carry conversation very far. The firm of George H. Bliss & Co., as is their usual custom at this season of the year, have given their employes a week's vacation, including Christmas and New Year's day, and are not turning out any work at present. After the holiday season is over they will start up again, and continue to turn out first class work as heretofore. They are prepared to fill any kind of an order on short notice, even during the holidays.

The quadruplex still continues to work satisfactorily in the Western Union office here, and unless something yet in the future transpires to interfere with the successful working of it to such an extent as to baffle the electricians here, it will prove to be a decided success and a great invention.

The showing up "northwest" gives the Valentine Bros. and their "telegraph school" at Janesville, Wis., in your issue of the 19th, is very much commended by the fraternity in this section.

The communication of "Morseite," in the same issue, on "The Other Side," expresses the sentiments

of the majority of the operators with whom it has been my good fortune to converse on the subject, and all are unanimous in commending your well written editorial on the subject. How any sane person can, after the publication of such an editorial, and after such prominence being given "*the other side*," accuse THE TELEGRAPHER of being "*an automatic organ*," is beyond the comprehension of conservative thinkers in the profession here. That part of the editorial referring to Mr. Prescott is especially commended, as a number of operators here who know Mr. Prescott personally (some of whom worked under him when he was superintendent) feel rather antagonistic to THE TELEGRAPHER on account of what they deemed uncalled for criticism of Mr. Prescott. I am happy to say the editorial in question is fast abating that antipathy. Let us quit treading on each other's corns.

In a recent communication, in speaking of the rising young telegraphers of this city, I mentioned Patsey Tracy as one of the most prominent. I should have said Patsey Tierney, which is the name of the young gentleman referred to.

OCCASIONAL.

Will the Coming Operator be a Woman?

CINCINNATI, O., Dec. 21.

TO THE EDITOR OF THE TELEGRAPHER.

WITHIN the last few years many changes have occurred in the old modes of doing and thinking! "Old things are passed away" and many things are become new. Many of these changes are doubtless for the better. Many others are certainly for the worse. There is also an intermediate class of changes which are doubtful in their tendencies. Change does not always mean improvement any more than revolution mea is purification. Our lathes had many straight-laced notions certainly, which have been wisely dropped by their children; but they also had many other earnest opinions which would be with equal wisdom adhered to by the knowing ones of the present generation. I might mention many, but I will only speak of one. Our fathers thought that women had a high and holy mission to fill, which, narrow though it might be, made home cheerful, children happy, men good. This is stating it briefly, perhaps too briefly to do justice. I suppose the average reader will understand what I have said and know all that I have not said; I shall, therefore, proceed to the body of my subject.

A few years since no one would have dreamed of a woman occupying a pulpit as a regularly ordained and installed minister. Now a large number of our clergymen are WOMEN. Harvey, and Greene, and Brown, and Bullion have made no provision in their grammars for this anomaly. As for Lindlay Murray, he would have choked with etymological wrath had any one hinted at the bare probability of any such inconsistency. Hence, I hope to be forgiven the syntactical error in view of the anomalous character of the fact. Forty years ago our "old fogies" would have held up their hands in unutterable astonishment at the thought (had it been suggested to them), of their daughters studying medicine; now their grand-daughters are practicing physicians. We have female lecturers, female aeronauts, female physicians, female clergymen and lastly, female operators, surely the day of female justices of the peace, female police judges and female lawyers cannot be far in the future. Female operators are everywhere. They are rapidly absorbing the business as they have already done in other walks in life. Now, I do not wish to hedge her in the least; I know how limited already are her opportunities for earning an independent, honorable livelihood, and I do not wish to cast a straw in her path, but I also feel keenly the nature and magnitude of the obstacles which are thrown in the way of her *real* prosperity in *this* business. She must, in the first place, utterly exclude herself from every social pleasure and privilege, and confine herself rigidly to the heated, unwholesome air of the office from eight to ten hours out of every twenty-four. This, it is true, she would have to do in nearly any other business now open to her. But here she has also to throw away much womanly modesty and mingle with men (and as yet the men are largely in the majority), hear all the profanity to which they may choose to give utterance, the covert innuendo, the foul remarks irresponsibly made by operators who "break in," breathe the tobacco smoke, sit and work by spittoons reeking with the accumulated foulness of a score of filthy tobacco chewers. Can the influence of such scenes do otherwise than dull those finer qualities of mind and heart, those gentler, purer sensibilities of soul, which go to make up the character which we all have learned to look for and desire in woman? I do not wish to be so plain as to be unkind. I certainly do not wish to say a word which would imply the slightest lack of respect on my part for any lady who may have chosen this profession as a means of livelihood, I do admire the pluck and independence of spirit which sustains a woman while she works under so many difficulties. I do respect her for her pride and the faithfulness which she exhibits in going through sunshine and storm, in sickness and health,

submitting patiently to the rude shocks her modesty must endure among so many of the uncouth sex to which I belong, but I very much regret the circumstances which surround her efforts, I deplore the result to her mind and heart. Let me point out briefly some of the probabilities in store for ladies who enter the profession.

First, and in addition to those at which I have hinted. When Miss A— has learned the business, she must get a situation (I take it for granted that those whose wealth places them above the need of pecuniary assistance will not be likely to try to learn it). She cannot afford to wait until one is offered, acceptable in every way. She must take such as she can get. Suppose that happened to be at the stock yards, or at a railroad repairing shop, such as I have seen, her office will be surrounded, perhaps thronged with men of the rudest, most uncultured type, glaring on her through her window, asking her impertinent or insulting questions and giving utterance to the most shocking profanity. She must bear it; she cannot protect herself, nor punish the offenders. Her bread and clothes are the price of these oaths and mocking taunts; she can do nought but bear it uncomplainingly. Second, an accident occurs out on the railroad over which her line runs, she must go in the night and the storm, perhaps, and attach the instrument to the wires, and sitting there alone and unprotected, among blasphemous men, work while chilling rain drenches her, freezing as it falls. But it is her bread and she must submit. To complain would be to lose her situation. To lose her situation is to shake hands with hunger and want. Third, as the female operators increase in numbers the isolated country offices which must still be filled, will be taken up, must be taken up by ladies who must stay alone, subject to every danger. Night work must still be done then as now, and when the women shall have absorbed all the work they must do this, too. Imagine the new difficulties they will encounter here. I am enlarging upon this third point, having in view the probability held out by some, that the day is rapidly coming in the which ALL telegraph operating will be done by women. This may be too strong, I hope it is.

In what I have said I have not hoped to influence any one already in the business to quit it. That would be too much. Such could not afford to lose time and money enough to learn a new business. But if I have said what shall deter any lady who now contemplates learning, from entering a profession which I consider eminently unfitted for her delicate organization and pure character, I shall accomplish all I intended, and I may almost add, more than I hoped.

NHIL NAMELESS.

Presentation to Manager Gough of Union Stock Yards, Illinois Western Union Telegraph Office.

UNION STOCK YARDS, CHICAGO, ILL., Dec. 30.

TO THE EDITOR OF THE TELEGRAPHER.

CHRISTMAS Eve, as Manager Gough was sitting at his desk, he was confronted by his operators, and Mr. T— who having been appointed spokesman for the occasion, addressed him as follows:

"Mr. GOUGH.—Allow me on behalf of the employes of this office and its patrons, to present you with this slight token of our esteem for you as a manager, friend and associate; hoping it may more firmly cement the ties of kindly feeling and fellowship. With it we wish you a Merry Christmas."

The present consisted of a splendid gold watch and chain. On the case of the watch was the following inscription:

"Presented to R. S. Gough, Manager W. U. Telegraph Office, by his patrons and employes, Dec. 25th, 1874."

Mr. Gough was so completely taken by surprise that it was some little time before he could recover himself sufficiently to return his thanks!

The *Chicago Tribune* in speaking of the affair, says: "Mr. Gough is a genial gentleman with whom it is a pleasure to come in contact."

He is very popular with all whom his business relations bring him in contact with, and has the kindest wishes from a host of friends that Christmas will always find him merry.

BLANK.

Says J. to X.—"Why is this *string* like you and I?"
X. "Give it up."
J. "Because it is always *busted*."

Curtain falls.

"Been after you all day, why couldn't I get you?"
"I hate to tell
But then I must,
It was because
You couldn't adjust,

THE TELEGRAPHER

DEVOTED TO THE INTERESTS
OF THE
TELEGRAPHIC FRATERNITY.

SATURDAY, JANUARY 9, 1875.

THE TELEGRAPHER:
PUBLISHED EVERY SATURDAY at 38 VESEY ST.
ELEVENTH VOLUME.

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THE TELEGRAPHER.

A JOURNAL OF ELECTRICAL PROGRESS,

DEVOTED TO THE INTERESTS
OF THE

Telegraphic Fraternity and the Advancement
of Electrical Science and the
Telegraphic Art.

Published Every Saturday,
AT

No. 38 VESEY STREET, New York.

ELEVENTH VOLUME.

The Publisher, in announcing the Eleventh Volume of

THE TELEGRAPHER,

which will commence with the number for JANUARY 2, 1875, desires to return thanks for the LIBERAL SUPPORT which it has hitherto received, which it is expected and believed will be continued during the ensuing year.

All the popular and valuable features of the paper will be retained, and it will continue as heretofore to labor for the best interests of the TELEGRAPHIC FRATERNITY and the advancement of ELECTRICAL SCIENCE and the TELEGRAPHIC ART.

THE TELEGRAPHER

is a thoroughly INDEPENDENT TELEGRAPHIC NEWSPAPER, bound to or in the interests of no TELEGRAPH COMPANY, CLIQUE or COMBINATION, but honestly devoted to the interests of the PRACTICAL TELEGRAPHERS.

Its columns are at all times open to the freest and fullest description of all questions of interest and importance to the Fraternity, or the Telegraphic Art and Electrical Science in connection therewith.

As heretofore, NO LABOR, TIME or EXPENSE, warranted by the patronage received, will be spared to improve its character, and add to its interest, and to sustain its reputation as the ONLY FIRST CLASS

ELECTRICAL AND TELEGRAPHIC JOURNAL UPON THE AMERICAN CONTINENT.

Under the new Postal Law publishers are required to prepay the postage on their publications sent to subscribers. Notwithstanding this additional expense the

Terms of Subscription

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Telegraphers and others are desired to act as Agents in obtaining subscriptions, and will be allowed TWENTY PER CENT. COMMISSIONS in lieu of Premiums or Club rates upon the amount of such subscriptions, which may be deducted from remittances when made.

Any person sending the names and money for FOUR subscribers, at the regular price of subscription, two dollars per year, will be entitled to receive an extra copy free.

SUBSCRIBERS CHANGING THEIR RESIDENCES, AND DESIRING A CHANGE IN THEIR ADDRESS, MUST ALWAYS SEND THEIR OLD AS WELL AS THEIR NEW ADDRESS.

Remittances for subscriptions may be made by mail, by post-office order or registered letter, at the risk of the Publisher, but no responsibility will be assumed for money sent without such precaution. On remittances of not less than FIVE DOLLARS the cost of the order or registration may be deducted from the amount.

Advertisements are solicited, and will be inserted at reasonable rates; but no Advertisement will be inserted for less than ONE DOLLAR per insertion.

All communications relating to or intended for THE TELEGRAPHER must be addressed to

J. N. ASHLEY, Publisher,

(P. O. Box 5503,) NEW YORK.

After the Holidays.

The holidays are over, and the business of the new year may be considered as having commenced. During the two weeks which have just passed which may be fairly considered the festal season of the year, there has been to a considerable extent a practical suspension of business and a devotion to recuperation, and a general settling up of old affairs preparatory to making a fresh start. Naturally telegraph business is unusually dull while this season lasts, but now that it is over we may reasonably look for a revival, which, it is to be hoped, will be more encouraging than that of the year which has just passed.

We receive complaints of depression in business in all parts of the country but more especially in the West, exceeding anything which has been experienced for many years. That this can be much longer continued we do not believe. The resources of the country and the energy and enterprise of the American people are so great that financial reverses cannot for any length of time exercise the depressing influence which has been felt for the last year and a half.

It is undoubtedly true as regards the telegraphic service that there has been and still is, an over supply of telegraphic labor. The very general suspension of telegraphic extension has lessened the usual increase of demand for such labor, while until recently, there has been little if any decrease in the number of those who are entering the telegraphic ranks. In fact, the depression in other lines of business for a time induced many to regard a resort to telegraphy as a means of obtaining a livelihood, as offering the desired opportunity for securing employment. Besides this, there being but little demand for the higher class of talent in other employments, there has not been the usual depletion of the telegraphic ranks from the transfer of telegraphers to other vocations, which are expected to be more remunerative. Those who occupy positions in the telegraphic service naturally and sensibly hold on to them in the absence of the usual inducements to make a change.

As we have before stated, the indications are that during the year upon which we have just entered the extension of telegraph lines and the increase of telegraphic facilities will be resumed.

It cannot be said of the telegraphs as of railroads that they have been extended and increased in advance of the demand of the country for them. With a revival of business, such as we are confident will be witnessed during the present year, additional telegraphic facilities will be required, and intelligent and enterprising capitalists and telegraph managers are preparing in time to supply this demand. The telegraph companies generally are in a healthy and prosperous condition, and with economical practical management telegraphs cannot fail to prove remunerative investments.

While the prospects for the future are encouraging, the fact that there is at present an over supply of telegraphic labor must not be overlooked. It will take some time to absorb such labor now seeking employment, and there is not, therefore, likely to be for some time to come the necessity for enlisting a large number of raw recruits in the service. Telegraphers should make it a point to impress this fact upon those who contemplate engaging in telegraphy. With the large number of telegraph offices now in existence, there will necessarily and unavoidably be many every year who will, from their connection with such offices in clerical or subordinate capacities, become telegraph operators. This will be sufficient, and it is to be feared more than sufficient, to supply any probable demand. It is not a good time for telegraph schools, and it would be a blessing if all such establishments could be at once closed up. As this cannot be done, however, the next best thing is, as far as possible, to restrict the number of their patrons by giving to those who would be likely to patronize them, reliable information as to the result likely to attend the expenditure of time and money in seeking to obtain a practical knowledge of the telegraphic art.

The holidays are over, and we must now come down to another year of toil and labor. That it may be satisfactory and remunerative is to be sincerely desired. For most of us life is no season of idleness or mere pleasure, and this is eminently the case with telegraphers. Success that is worth obtaining is seldom to be had except by earnest and persevering labor. Happy are they who can by such even secure it. The year, like those which have preceded it, will doubtless have the usual quota of successes and failures. Many will, despite their best and most faithful exertions, fail to secure that which they commenced the year with hopes of attaining. At the best, it is not for us to command success, but we may one and all deserve it.

It is not our wish or purpose to discourage any telegrapher. We but state the case plainly, and put on record what we believe to be the facts—that the prospects for the new year are better than for that which has just passed, we think is evident. That we may be mistaken in this is possible. At the best, however, economy and prudence will be requisite, and with these telegraphers as well as others, will be enabled to overcome the difficulties which must be met whether we will or not.

The Canadian Telegraphers' Mutual Insurance Association.

In November last a notice was issued for a general meeting of telegraphers to be held at Mechanics' Hall, in Montreal, Canada, December 7th, for the purpose of considering the advisability of organizing a Canadian Telegraphers' Mutual Insurance Association. The meeting was held accordingly, and it was decided to organize such an association under the above name. The organization was effected at this meeting and officers elected for the first year.

The following circular has been issued and distributed generally among Canadian telegraphers:

MONTREAL, December 8, 1874.

DEAR SIR: Pursuant to a notice dated November 11, a general meeting of telegraphers was held in the Mechanics' Hall, Montreal, on Monday, December 7. The response made to the circular above referred to was so general, and the desire to have an organization of the kind in operation in the Dominion being so heartily expressed, it was decided at the meeting to organize the "Canadian Telegraphers' Mutual Insurance Association." The following gentlemen were elected office bearers for the years 1874-75:

President, J. Stephenson, Superintendent G. T. R., Montreal; Vice-President, Hugh Neilson, Superintendent Western District, D. T. Co., Toronto; Secretary, B. J. Hickey, train despatcher, G. T. R., Montreal; Treasurer, J. S. McConnell, treasurer's department, M. T. Co., Montreal; Executive Committee, C. R. Hosmer, Superintendent Eastern District, D. T. Co.; J. S. McKenzie, chief operator, head office, M. T. Co.; A. T. Nurse, operator, M. T. Co.; D. McCarthy, train despatcher, G. T. R.; P. McPhee, operator, general offices, G. T. R., Montreal.

The constitution and by-laws were submitted, approved and ordered to be printed for distribution.

The president, officers and executive committee respectfully solicit the support of every member of the telegraphic fraternity in the Dominion.

The annual subscription to this association is one dollar from each member, payable in advance, the funds arising from which to go toward the formation of a reserve fund, after the payment of necessary expenses. When the death or total disability of any member takes place, an assessment of two dollars per member will be made, and the amount so collected paid over to the person in whose favor the deceased or totally disabled member had made his policy payable.

All persons who are employed in telegraph service in any capacity may become members of this association, provided they are acceptable to the executive committee.

With this circular is enclosed a blank form of application for membership to be filled up and returned with the amount of subscription (by registered letter) to the secretary.

District secretaries will be appointed as soon as possible, of which due notice will be given.

B. J. HICKEY, Secretary.

It will be noticed that this differs in some respects from the Telegraphers' Mutual Benefit Association, which has proved so successful here in that a yearly membership of one dollar is required, and that the assessment is two dollars in case of the death or total

disability of any member, the entire amount of such assessment to be applied to the benefit of the person in whose favor the policy is payable.

It is to be hoped that the Canadian telegraphers will respond liberally to the appeal which is made to them to give this association their personal and active support. It is comparatively an inexpensive kind of insurance, and one which has proved of the most beneficial and satisfactory character wherever it has been tried. There are now a large number of persons engaged in the telegraph business in Canada, and if these generally enroll themselves as members of the Association the benefits dispensed will be very liberal.

Our Correspondence.

ONE of the most valuable and interesting features of THE TELEGRAPHER, is its correspondence department, the contributions to which are mainly from practical telegraphers engaged in telegraphic service. The discussion of fast telegraph systems is bringing out some excellent and well written communications which enrich our columns. In this department THE TELEGRAPHER is by all odds greatly superior to any other telegraphic journal published, and the importance of this fact is greatly enhanced in that it demonstrates the talent and ability which is engaged in the practical every day work of the telegraph in this country.

We would avail ourselves of this opportunity to renew our urgent invitation to telegraphers to contribute to this department of the paper generally, and to keep our readers informed of all telegraphic matters of interest that may come to their knowledge or notice. There are but few of those who read THE TELEGRAPHER, who cannot occasionally communicate something of interest for its columns. We desire to make the paper a complete record of everything of interest or value in connection with telegraphic matters, or electrical science in its relations to the telegraphic art, and to do this we must depend largely upon the voluntary communications of those who are engaged in the telegraphic service. Such contributions are always received with pleasure and appreciation, and add greatly to the interest of the paper.

An Excellent Appointment.

We learn that Mr. HENRY HOLLAND has resigned his position as manager of the marine office of the Western Union Telegraph Co. at pier 1 East river, and has been appointed Superintendent of the new Marine Line to Sandy Hook, owned by the Merchants' Exchange and News Room, with his headquarters at the Exchange, Nos. 66 Beaver and 113 Pearl streets.

Mr. HOLLAND carries with him the good will and fraternal feeling of all his late brother managers and operators on the line, and a host of friends connected with the Custom House, whose friendship and good will he has won by his untiring efforts in anticipating all their wants in the intricacies of the customs duties. His long experience in marine telegraphy will enable him to work up the new line in such a manner as to give perfect satisfaction to its patrons, and secure, with his own exertions and the vigorous energies which the Western Union will make to hold supremacy over that business, a more thorough working of the lines than has ever been done before, so that the merchants and underwriters will be the gainers in being served with earlier and more detailed marine reports. The war between the lines will be earnest, and will be protracted so long as the Merchants' Exchange and News Room line can hold out. In fact their banners might be inscribed Western Union, MONOPOLY—Merchants' Exchange, EXISTENCE. No doubt the Western Union will carry the war into Africa by establishing eventually a large, commodious news room, and bring to bear all the resources of that company for news from all parts of the world, and it is claimed that it is only a question of time before the old News Room will be

obliged to succumb. On the other hand, the underwriters and merchants are fully identified with the Merchants' Exchange and News Room and its new line, and it becomes a question whether they will abandon their own organization and become subjects of the "great monopoly." On Mr. HOLLAND in a great measure lays the responsibility of success or defeat. If he displays energy and promptness to the satisfaction of the patrons of the line he will be sustained, if not, not.

New Year's Presentation to Mr. Joseph E. Fenn, General Superintendent of the Automatic Signal Telegraph Company.

THE Automatic Signal Telegraph is probably the most successful telegraphic enterprise recently inaugurated. It met a necessity, and furnished a safeguard against damage by fire which was immediately recognized and appreciated. Much of the marked success which has attended this enterprise is undoubtedly due to the ability and excellent management of Mr. JOSEPH E. FENN, who has been the General Supt. of the Company from the start.

Mr. FENN is deservedly popular, not only with the public, but also with the numerous employes of the Company, for his considerate treatment of the latter, combining strict discipline with a due regard for the interests and welfare of all associated with him in the business.

On the afternoon before New Year's, Mr. FENN, on going to the shop where the apparatus used is manufactured, was surprised to find a large number of the employes assembled, and still more surprised on being invited to remain for a few moments as they had something to say to him. His perplexity was soon terminated, however, by Mr. COYLE, one of the line constructors, informing him briefly that his associates in the employ of the Company, desired to extend the compliments of the season to their superintendent, and to emphasize their appreciation and good will toward him had procured a handsome china tea set, the best that could be obtained, of which they desired his acceptance.

He was so completely surprised at this that for a few moments he was nonplussed, but finally rallied sufficiently to appropriately acknowledge their kindness and assure them of his intentions heretofore, now and always to treat them justly, and his gratification at this manifestation of their approbation of his course, and the good feeling existing between them, which they might rest assured was mutual.

Send in Subscriptions Promptly.

Those who desire to secure full files of the present volume of THE TELEGRAPHER will do well to send in their subscriptions as soon as possible. We endeavor to print a sufficient number of copies to enable us to furnish back numbers from the commencement of the volume to all who desire them, but as it is not always possible to anticipate the extra demand for some issues of the paper, the supply of such numbers is liable to be exhausted.

Subscriptions can commence with any number of the paper desired, or may begin with the volume so long as the supply of back numbers is not exhausted.

The Title Page and Index for Volume X.

WITH this number of THE TELEGRAPHER, we send to our subscribers the title page, and usual very full index for Volume X, which closed with the number for December 26th. Possibly some who are entitled to, and desire to obtain this may fail to receive it. Such persons will be supplied on application to the publisher.

The number of messages sent during the month of November, 1874, over the Cuba Submarine Telegraph, was 1,621, estimated to produce about £1,500, as against 817 messages, which produced £927 in the corresponding month of 1873.

Personals.

Mr. J. W. WOODS, formerly of the Western Union Company's Canal street office in this city, has been appointed manager of the Marine office of the same company, on the Government pier, foot of Whitehall street, in place of Mr. HENRY HOLLAND, resigned, to accept the superintendency of the Merchants' Exchange and News Room Marine line to Sandy Hook.

Mr. J. M. FISH, formerly at the depot office, Salem, Oregon, O. & C. R. R. telegraph, has been promoted to chief operator on the lines of the road, during the absence of Mr. J. J. KENNY, who has taken a trip to San Francisco.

Mr. JAMES C. DELONG has resigned his position with the Western Union Telegraph Co., at Kansas City, Mo., and accepted a position with the same Company at Little Rock, Arkansas.

Mr. R. LIVINGSTON, formerly of New York, has been appointed on the Western Union day force at Kansas City, Mo.

Mr. T. J. HERBEL, of the Kansas City, Mo., Western Union office, has resigned and accepted a position on the Kansas Pacific R. R., at Brookfield, Kansas.

Mr. S. W. HILL, of Kansas City, Mo., has been appointed agent and operator at Buffalo, Kansas.

The Telegraph.

The New Marine Line to Sandy Hook.

THE new line to Sandy Hook, constructed for the Merchants' Exchange, News and Maritime Association of this city, to compete with the Western Union line for marine news on that route was completed some time since and is now in regular operation. This line is about ninety miles in length, and is constructed with compound wire and Brooks' patent insulators. Five cables manufactured at the Bishop Gutta Percha Works, some of them very heavy, are required. These are located as follows: that across the North River at the foot of Seventieth street, another at Kill Von Kull to Staten Island, from Tottenville to Perth Amboy, across the Raritan River from Perth Amboy to South Amboy, and across Shrewsbury River to the Highlands.

The following offices are now open for business, and others are to be opened soon: New York, at the Merchants' Exchange News Room, 66 Beaver and 113 Pearl street; Bergen Heights, N. J., Quarantine and Richmond Court House, Staten Island, Perth Amboy, Matteawan, Highlands, and Sandy Hook, N. Jersey.

Mr. Ohas. K. Myers, whose death was announced in THE TELEGRAPHER last week, was originally appointed superintendent, and was completing the organization of the line for business when he died. Mr. Henry Holland has succeeded him, and is actively engaged in perfecting the arrangements for working the line and the marine news stations in connection with it, effectively.

The competition in Marine news reporting between the Association and the Western Union and Gold and Stock Telegraph Companies is now fairly inaugurated and is likely to prove very bitter and protracted.

A Good Appointment.

The Pacific Division of the Atlantic and Pacific Telegraph Company will hereafter be under the control of Major R. P. Hammond, who has been appointed Executive Manager. The selection of Major Hammond for this important position is a very judicious one. He was for many years Superintendent of the Southern Pacific Railroad Company, and his business energy and executive ability are well known. During the year now closing the Atlantic and Pacific Telegraph Company has greatly increased its facilities for commercial business, and has grown steadily in favor with the public. It is but a few weeks since the lines were extended to the principal cities of distant Idaho, and now the Company find it necessary to run two additional wires from San Francisco to Ogden, Utah. Meanwhile the numerous wires throughout our own State are being constantly extended in every direction. Before assuming his new position, Major Hammond visited the chief cities of the Atlantic States and Europe, in order to familiarize himself with the newest improvements in telegraphy. He made a special study of the postal telegraph system in Great Britain, and highly indorses its efficiency and great economy. For twenty-five cents a message of twenty words can be sent between any two points in the United Kingdom.—*San Francisco Chronicle.*

Foreign Telegraphic Notes.

The directors of the Brazilian Submarine Telegraph Company have declared an interim dividend for the quarter ending 30th September last of 2s. 6d. per share,

or 5 per cent. per annum, free of income tax, and payable on Thursday, the 24th instant.

The Black Sea Telegraph Company state that telegraph communication has now been established between Constantinople and Odessa, and the Odessa offices are connected by wires with the Russian land lines.

The cable between Singapore and Batavia has been repaired, so that telegraphic communication with Australia is restored.

The traffic receipts of the Direct Spanish Telegraph Company for November, 1874, were £1,224 10s. against £1,386 11s. 8d. in October.

The traffic receipts of the Eastern Extension, Australia and China Telegraph Company for the month of November, 1874, amounted to £17,728 against £17,454 for the corresponding period of 1873.

The Eastern Telegraph Company's traffic receipts for the month of November, 1874, were £33,060 against £35,096 in the corresponding month of 1873.

The Eastern Extension, Australasia and China Telegraph Company have declared an interim dividend for the quarter ending September 30th of 3s. per share, or 6 per cent. per annum.

Subscription for the Widows and Orphans of the "La Plata" Disaster.

THE following is the list of the names of the electric and cable staff who were on the steamship La Plata when she was lost, every one of whom perished: F. H. Ricketts, chief engineer in charge of the expedition; C. A. Cramer, assistant engineer; A. Culham, assistant engineer; King, Platino-Brazilian Telegraph Company; Gockelen, electrician; Blake, electrician; Voullaire, fitter; Gericka, fitter; Richardson, joiner; Owen, joiner; Franks, foreman; Kelly, cable foreman; Mitchell, storekeeper; Telbury, engine driver; Newman, cabin boy; Charles Lowe, diver.

Subscriptions have been opened in London for the "La Plata Widows and Orphans Aid Fund."

Subscriptions are received by the Lord Mayor of London; Mr. W. T. Henley, 110 Fenchurch street, E. C.; the London and Westminster Bank, St. James's Square, S. W.; Messrs. Graut Brothers & Co., 24 Lombard street, and by Messrs. Siemens Brothers, 12 Queen Anne's Gate, S. W.

Presentation to Mr. W. W. Marks.

On New Year's Day the employes of the Bishop Gntta Percha Works proceeded in a body to the residence of Mr. W. W. Marks, the superintendent of the establishment, and succeeded in thoroughly surprising that worthy gentleman, by presenting him with a silver bouquet holder, valued at nearly \$100.

Christmas Presentations to Mr. L. E. C. Moore, Manager Southern and Atlantic Telegraph, Charleston, S. C.

THE employes of the Southern and Atlantic Telegraph Company, at Charleston, S. C., as a manifestation of their appreciation of the manager of the Company at that place, Mr. L. E. C. Moore, presented him with a handsome writing desk on Christmas, with the following kind and complimentary note:

Mr. L. E. C. MOORE, Manager In behalf of the employes of the S. and A. Telegraph Co., at Charleston, in appreciation of your uniform kindness and gentlemanly management, I have the pleasure of presenting you with this "writing desk," as a slight token of respect and a memento in remembrance of our second Christmas in the office together.

A. V. GREEN, in behalf of S. and A. Boys.

This manifestation of good feeling on the part of his associates was highly gratifying to Mr. Moore, who responded appropriately in accepting the same.

Telegraphers' Mutual Benefit Association.

RECEIPT OF ASSESSMENTS—NEW YORK, DEC. 24, 1874.

ASSESSMENT NO. 71.

- 23, 29, 31, 52, 54, 59, 60, 64, 67, 72, 75, 82, 88, 89, 95, 99, 103, 108, 114, 129, 140, 141, 142, 144, 148, 153, 189, 190, 191, 193, 197, 198, 220, 254, 269, 278, 279, 281, 282, 283, 285, 312, 342, 344, 346, 351, 352, 361, 367, 372, 378, 379, 391, 394, 405, 426, 430, 431, 466, 468, 469, 470, 471, 475, 514, 533, 542, 546, 554, 555, 560, 579, 586, 603, 661, 672, 678, 680, 685, 714, 729, 734, 740, 742, 750, 751, 756, 764, 769, 787, 791, 799, 812, 831, 855, 859, 873, 874, 875, 883, 886, 906, 917, 929, 932, 943, 952, 977, 978, 1023, 1038, 1040, 1047, 1072, 1088, 1090, 1093, 1102, 1143, 1147, 1169, 1198, 1200, 1226, 1227, 1232, 1233, 1267, 1288, 1325, 1329, 1364, 1365, 1398, 1407, 1417, 1426, 1444, 1449, 1451, 1454, 1455, 1456, 1482, 1484, 1488, 1489, 1498, 1505, 1506, 1507, 1508, 1517, 1522, 1532, 1554, 1555, 1569, 1582, 1589, 1601, 1615, 1620, 1625, 1634, 1652, 1656, 1658, 1676, 1681, 1692, 1697, 1699, 1707, 1721, 1723, 1732, 1733, 1736, 1745, 1775, 1791, 1809, 1810, 1811, 1812, 1847, 1869, 1906, 2919, 1938, 1942, 1957, 1965, 1991, 1999, 2000, 2001, 2025, 2026, 2028, 2029, 2040, 2057, 2061, 2065, 2069, 2084, 2086, 2094, 2097, 2113, 2114, 2138, 2147, 2159, 2162, 2165, 2169, 2170, 2172, 2180, 2181, 2192, 2196, 2197, 2199, 2201, 2203, 2204, 2205, 2206, 2212, 2213, 2216, 2233, 2240, 2242, 2256, 2257, 2263, 2273, 2285, 2283, 2294, 2295, 2296, 2297, 2298, 2299, 2309, 2310, 2313, 2314, 2315, 2316, 2317, 2319, 2321, 2331, 2332, 2339.

ASSESSMENT NO. 69.

- 6, 175, 273, 294, 347, 597, 692, 766, 1134, 1135, 1136, 1556, 1557, 1570, 1650, 1678, 1722, 1727, 1742, 1778, 1916, 1945, 1946, 1947, 1987, 2063, 2066, 2182, 2190, 2236, 2279.

MISCELLANEOUS.

- 68.—1854. 70.—398.

Members of the Association who look to THE TELEGRAPHER for receipt of assessments paid, will please take notice, that an acknowledgment of the receipt of one assessment should be taken as a receipt for all previous assessments.

Quotations of Telegraph Stocks at N. Y. Stock Exchange.

Showing Lowest and Highest Prices each day during week.

Table with columns: Dec., WESTERN UNION, ATL. AND PAC., AMER. DIST., GOLD AND STOCK. Rows show dates from Dec 30 to Jan 6 with bid and asked prices.

New Patents.

OFFICIAL COPIES of any U. S. Patent issued since July 1st 1871, including drawings, specifications and claims in full, sent free to any address for 25 cents each.

For the week ended December 8, 1874, and bearing that date.

157,469.—DUPLIX TELEGRAPHS. Georges D'Infeville, New York, N. Y. Filed July 13, 1874.

1. The combination, with opposing terminal batteries, of a rheostatic balance, connected to the line on both sides of a receiving instrument and to the ground, substantially as set forth.

2. In a duplex or multiple telegraph, the method of causing the relay at the sending station to be unaffected by the operations at that station, by using certain amounts of the currents of terminal opposing batteries to neutralize each other, such amounts being controlled by a rheostatic balance, substantially as and for the purpose set forth.

3. The method of operating a duplex or multiple telegraph by arranging terminal batteries opposed to each other, and localizing the battery at the sending station partly through the instrument at that station, and partly through a circuit outside of such instrument, the portion through the instrument being neutralized, when necessary, by a portion of the current of the distant battery, the relations of these portions of one or both currents being determined by a rheostatic balance, and the signals at either terminal station being given by the withdrawal from such station of the current of the battery of the other station, substantially as described.

4. In a duplex or multiple telegraph, as described, the combination, with the main battery, receiving instruments and key, of the series of resistance coils, for the purpose set forth.

5. The combination, with the rheostatic balance of the sounder, for the purpose of recording the sounder's own messages, and of counteracting the effect of the momentary current

in the receiving instrument due to the static charge and discharge in long or buried lines at each movement of the key, substantially as described.

Born.

VAN TYNE.—To Mr. A. E. VAN TYNE, assistant chief operator, Western Union office, St. Louis, Mo., December 31st, 1874, a daughter, eleven pounder.

PHILADELPHIA.

L. G. TILLOTSON & CO.

beg to announce the opening of an establishment for the sale of

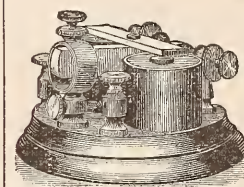
TELEGRAPHIC AND ELECTRICAL GOODS of every description, at

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(Corner Chestnut street.)

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They solicit the patronage of their friends and the telegraphic fraternity generally.



ECONOMIZE!

Procure the best and cheapest Telegraph and Electrical Instruments and supplies of all kinds from, LANNERT & DECKER, 31 1/2 Prospect St., Cleveland, O.



LECLANCHE BATTERIES.

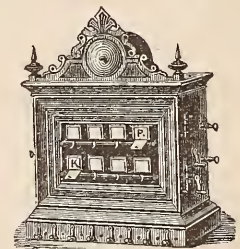
IMPORTANT NOTICE.

After JANUARY 1st, 1875, we will allow TWENTY CENTS for each used-up Porous Cell of this Battery that are returned to us free of charge, in good order. A change is made in the discount to the trade. A list will be furnished on application to

THE LECLANCHE BATTERY COMPANY, No. 40 WEST EIGHTEENTH STREET; or to L. G. TILLOTSON & CO., 8 Dey street, sole Agents.

CHAMPION BURGLAR ALARM AND ANNUNCIATOR COMPANY,

40 WEST 18th STREET, NEW YORK.



We invite TELEGRAPH MANAGERS AND OPERATORS throughout the country to act as our agents for the introduction of our superior BURGLAR ALARMS AND ANNUNCIATORS into private houses, hotels, banks, &c. Upon receipt of plans of houses we will send skilful mechanics to estimate upon work, or will give any information in writing that may be required, Liberal commissions will be paid upon any orders that may be secured for us. Our Alarms and Annunciators have just been awarded the FIRST PREMIUM of the American Institute.

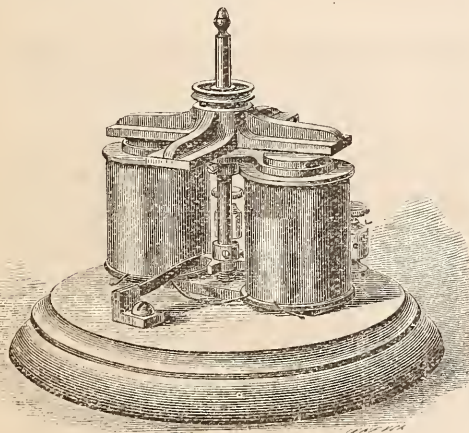
Explanatory Circulars will be furnished upon application to the Secretary.

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RELAYS, unequalled for beauty and strength;
COMBINATION SETS; BOX and POCKET RELAYS.
CHALLENGE, PONY and REPEATING SOUNDERS.
KEYS, various styles, including the SCHNEIDER KEY, just out, no legs, wire connections above the table.
REGISTERS, with SPRINGS or WEIGHT.
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SWITCH BOARDS—REPEATING, BATTERY and GROUND SWITCHES and LIGHTNING ARRESTERS.
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MEDICAL INSTRUMENTS and APPARATUS on hand and made to order. Second hand Instruments for sale cheap, and repairing done at short notice.
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INSULATORS—BROOKS, SORREW GLASS and KENOSHA CARBON.
BRACKETS, PINS and SPIKES, TELEGRAPH POLES, LINE BUILDERS and REPAIRERS' TOOLS.
TELEGRAPH STATIONERY—REGISTER, MESSAGE and MANIFOLD PAPERS, CARBON SHEETS, STEEL and AGATE STYLUSES, ORTON'S PENCIL HOLDER, SAFETY MESSAGE HOOK and AWL CLIP, STANDARD TELEGRAPH BOOKS, &c.
PRICE LISTS FURNISHED FREE ON APPLICATION.
Our TELEGRAPH INSTRUMENTS and ELECTRICAL APPARATUS are elegantly finished and mounted on highly polished rosewood, mahogany and walnut bases.

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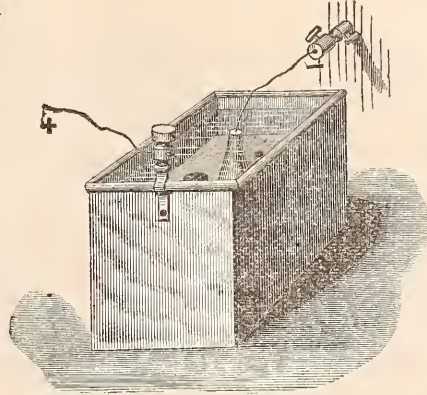


[PATENTED SEPT. 29, 1874.]

THE FAIRY ELECTRIC ENGINE.

A perfect working model of an engine
Run by Electricity!
It will work well with an ordinary local battery.
Price, with two cells Eagles' Metallic Battery.....\$6 00
" without Battery..... 4 00
May be seen working at the office of the THE TELEGRAPHER.
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36 BROAD STREET, NEW YORK.
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Durability, Efficiency, and Economy of Expense and Labor at last Secured.

THE EAGLES METALLIC BATTERY.

PATENT APPLIED FOR.
The undersigned having secured the exclusive Agency for manufacture and sale of the
EAGLES METALLIC BATTERY,

now offer them to the public as the best Battery for Telegraphic and other purposes yet devised.
The Battery cell is made of lead, and forms one pole of the battery. Sulphate of copper is the only chemical required to be used.
These Batteries have been fully tested during the last year, although only recently offered for sale, and have proved to be superior to any other as regards efficiency, economy and durability. When once set up they require no attention for from four to six months, according to the service required of them.
Two sizes are made at present, but others will soon be ready.
No. 1 is a large square cell, and can be used as a local or for running motors. Price, \$2.25.
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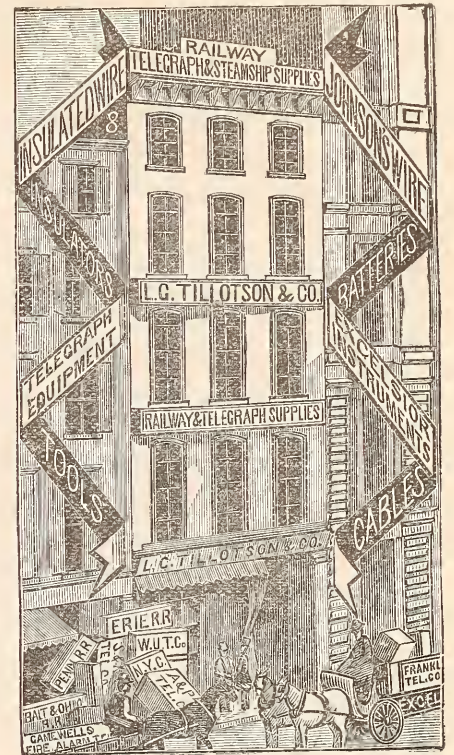
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We are offering 20 per cent discount from list prices on all Instruments of our manufacture.
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AMERICAN FIRE ALARM AND POLICE TELEGRAPH.

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Covington, Ky.,
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Elizabeth, N. J.,
Fall River, Mass.,
Fitchburg, Mass.,
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Troy, N. Y.,
Taunton, Mass.,
Toledo, Ohio,
Toronto, Canada,
Washington, D. C.,
Worcester, Mass.

The Distinctive Features of these Systems of

Fire Alarm and Police Telegraphs

ARE,

First—The **Automatic Repeater**, through which the apparatus may be distributed in a combination of circuits, and the entire system successfully worked, without the constant personal attention of either operators or watchmen.

Second—The **Automatic Signal Boxes**.

Third—The **Electro-Mechanical Bell Strikers**, adapted to produce the full tone of the largest church or tower bells.

Fourth—The **Electro-Mechanical Gong Striker**, for hose and engine houses, by means of which the location of the fire is instantaneously communicated to the members of each fire company.

These Features combined form the

Only **PERFECT, COMPLETE and RELIABLE** System

OF

FIRE ALARM TELEGRAPH

IN THE WORLD.

It is a sufficient vindication of the claims which are made by the Proprietors of these systems of

FIRE ALARM AND POLICE TELEGRAPHS,

that they have sustained the test of more than twenty years of practical use, and that the efforts which have been repeatedly made to supplant them by other inventions have

COMPLETELY FAILED;

the few instances in which municipalities have been induced to adopt other systems having demonstrated their insufficiency and unreliability, and resulted in their abandonment, and substitution thereof of the

AMERICAN FIRE ALARM TELEGRAPH.

Messrs. **GAMEWELL & CO.** are the owners of the original *FARMER & CHANNING PATENTS*, one of the most important of which has just been extended for seven years, and during the past seventeen years have spared no expense or effort to secure improvements, and the Systems are now covered by

MORE THAN TWENTY PATENTS.

The most important improvement which the Proprietors have adopted and introduced is the

AUTOMATIC SYSTEM,

the introduction and operation of which involves so little expense, compared to the benefit which it confers, that even small communities can profitably adopt and maintain it.

The American System of

FIRE ALARM AND POLICE TELEGRAPHS

has met with the universal approbation and commendation of the

People, Municipal Authorities,

AND THE

PRESS

throughout the UNITED STATES and CANADA.

NO EFFORT, TROUBLE OR EXPENSE

is spared by the Proprietors to obtain and secure ANY POSSIBLE IMPROVEMENT which shall increase the

EFFICIENCY,
RELIABILITY and
ECONOMY

of the system. They intend that, as far as possible, it shall be

ABSOLUTELY PERFECT!

The amount of property which has been saved from destruction, and the number of lives which have been preserved through the general adoption of this system, throughout the UNITED STATES and the DOMINION of CANADA,

CANNOT EASILY BE ESTIMATED,

but that, in every community where it has been introduced for any considerable length of time, they have been enormous, **THREE CAN BE NO QUESTION.**

The cooperation of **TELEGRAPHERS** in securing its introduction into their localities is cordially invited, and

their efforts will be duly appreciated and compensated.

Any information desired in regard to the above system will be cheerfully and promptly furnished upon application at the office.

A pamphlet, setting forth more fully its advantages and superiority, has been printed, and will be supplied to Municipal Authorities and others interested in Fire Alarm and Police Telegraphy, upon application as above.

CHARLES T. CHESTER,
104 Centre Street,
NEW YORK,

TELEGRAPH ENGINEER,

AND MANUFACTURER OF

INSTRUMENTS,

BATTERIES,

AND EVERY DESCRIPTION OF

TELEGRAPH SUPPLIES.

BUNNELL'S PATENT REPEATER.

These instruments are now made in two different styles, at \$120 and \$135 a set, consisting of two Relays, two Sounders, two Keys and Governor.

JONES' LOCK SWITCH-BOARD,

a most compact and reliable Switch, forming a clean spring-locked connection between any number of wires, occupying for each different connection only one square inch of space, and though made of the largest size, not subject to the warp and contraction of wood-work.

EXCLUSIVE AGENTS OF

A. G. DAY'S

KERITE,

OR

COMPOUND RUBBER COVERED WIRE

SUBTERRANEAN & AERIAL WIRES,

OF THE

HIGHEST INSULATION.

We are now prepared to furnish, after an experience of three years, an insulated Wire which can be buried in the earth or exposed to rain and sun, or to the vapor of acids, without injury. Professor SILLIMAN, who has exposed it to the most destructive agencies, finds that it remains uninjured in an atmosphere of ozone, which would destroy gutta-percha in a few hours. It exceeds glass or any other known substance as a non-conductor

We have made special arrangements to furnish this article for office purposes at a reduced rate.

ALSO, TO FURNISH

IRON CLAD CABLES

of the usual size, with KERITE COVER, believing that it will exceed, in insulation for submarine purposes, ANYTHING HITHERTO MANUFACTURED.

We shall be happy to furnish estimates for any amount and size of cable, which will be found to compete with any other construction, both in quality and price.

We manufacture the Genuine ELECTROPOION BATTERY, with Patent Platina Connection, introduced by us eight years since; also, THE ALPHABETICAL OR DIAL TELEGRAPH, now extensively used in this and other cities for private lines, being easily and quickly learned by any one.

We offer for sale, among other novelties, a SOUNDER that will work practically with a single DANIELL cell, a BATTERY that does not require to be taken down but once a year, and the very best MAIN LINE SOUNDERS made

Our CATALOGUE, embracing a large amount of new matter and description, is now ready for distribution.

THE TELEGRAPHER

A JOURNAL OF

ELECTRICAL PROGRESS.

J. N. ASHLEY, PUBLISHER.

SATURDAY, JANUARY 16, 1875.

VOL. XI. WHOLE No. 444.

Ocean Cables.*

ALTHOUGH submarine telegraphy has only been established about twenty years, few of those daily availing themselves of it have any idea of the successive steps by which it has been developed into its present enormous proportions; and, in the cases more particularly of the Atlantic cables, of the anxieties, disappointments and disasters attendant upon the early attempts to bring the eastern and western hemispheres into instant communication with each other.

It will be our task in this article to endeavor to show how, within the last quarter of a century, the world has seen the wonderful strides that have been made in submarine telegraphy, so that now, with the exception of the islands of the Pacific and New Zealand, the Cape of Good Hope in Southern Africa, and a few other points, the whole civilized world is able to interchange, almost with the rapidity of lightning, commercial, social and political intelligence, thus becoming, so to speak, one vast community of different races, but drawn together by a bond of brotherhood which each successive year will only the more firmly strengthen.

The first attempt to lay a submarine cable was made in the year 1850, when it was proposed to connect England and France by a line of telegraph between Dover and Calais. The length of the cable submerged was twenty-seven miles, and although accomplished without much difficulty, it worked only one day. The following year, however, another, and the first iron covered cable, was laid and successfully worked. It having thus been proved that the sea was no barrier to electric communication, cables between England and Belgium, and England and Holland, were soon after submerged, and were followed in rapid succession by others between various points, which are more particularly specified in the following table. Those marked thus * are not working at the present time.

Table with columns: Date, From, Length in Miles, Greatest depth in fathoms. Lists various cable routes from 1850 to 1868, including Dover to Calais, Keyhaven to Hurst Castle, and others.

Table with columns: Date, From, Length in Miles, Greatest depth in fathoms. Lists various cable routes from 1859 to 1874, including Crete to Alexandria, Singapore to Batavia, and others.

Table with columns: Date, From, Length in Miles, Greatest depth in fathoms. Lists various cable routes from 1871 to 1874, including Khania to Retimo, Retimo to Khandia, and others.

It will be seen from the foregoing list that no cable longer than 350 miles had been successfully submerged before the year 1858, when the first Atlantic cable of 2,174 nautical miles, was laid, which, however, only worked, and that with great difficulty, about one month, and then became useless.

The practicability of laying ocean cables having thus been proved, a line was projected from Malta to Alexandria, Egypt, touching at Tripoli and Benghazi, the longest section being 593 miles, and the length of the three sections 1,331 miles. This line was successfully submerged and worked.

The honor of being the original projector of ocean cables belongs to our country, in the person of Cyrus W. Field, to whom Congress, in December, 1866, voted their thanks, and authorized a gold medal to be struck and presented to him in the name of the people of the United States. The grand prize of the International Exposition at Paris in 1867 was also awarded to him as "the promoter of the system of ocean telegraphy."

The history of the world produces but few instances of greater energy, of more untiring exertions, and of more unbounded faith in the feasibility of the scheme for connecting telegraphy in the Old and New World, than were exhibited by Mr. Field through the long period of thirteen years, during which, in spite of every obstacle and discouragement, he kept on his course, unflinching, each successive disappointment only serving to infuse into him fresh energy and a determination to surmount every obstruction that lay in his path.

We have not space in this article to recite the successive steps that were taken by Mr. Field to accomplish the object eventually attained by the final laying and successful working of the two Atlantic cables in 1866, and the results that followed. Suffice it to say that from the year 1858, when the first ocean cable

- a Worked one day only.
b Remained perfect for eight years.
c Failed after five years.
d Failed after ten years.
e Broke in laying; part recovered.
f Worked eleven months.
g Failed.
h Failed.
i Too light; abandoned.
j Worked less than a month.
k Abandoned.
l Abandoned.
m Never worked.
n Red Sea Telegraph; some sections worked eighteen months and two years, others only a very short time.
o First long cable which proved successful. Finally abandoned in 1872, after repeated breakages.
p Failed in laying.
q Failed in a few days.
r Part laid in 1865; completed in 1866.
s Broken in laying.
t Two cables laid.
u Touching at Santos and St. Catherine.

* Philip P. Harris, in the American Iron Trade.

united for a short time the two hemispheres, the attention of capitalists was directed to the subject, and schemes were introduced with the view of connecting the British Isles with their outlying dependencies in Europe and Asia, although it was not until the year 1870 that the different sections were completed, and direct telegraphic communication was established between England, India, Singapore and Batavia, and during 1871 extended to China, Japan and Australia. Other projects had in view the laying of lines between England and her immediate Continental neighbors.

To complete the "girdle round the earth" a cable must be laid across the Pacific Ocean, and when this is accomplished the dream of Mr. Field's life will be realized.

The first step towards forming a company for this purpose was taken by that gentleman in the presentation of a memorial to Congress on the 31st of March, 1870, praying it to incorporate a company, possessing a capital of ten millions of dollars in gold, "with power to construct an oceanic cable between California and Japan and China," and soliciting a grant of land in aid of the undertaking. A bill to that effect was introduced into the Senate on the 31st of May of that year, but failed of passage before Congress adjourned. Certain obstacles afterwards intervening, it was thought advisable to delay the scheme till the proper course of the cable could be finally determined; and, on the application of Mr. Field, an act was passed authorizing the Secretary of the Navy to employ the vessels of the United States to take soundings. This service has just been completed, and the project will now be pressed forward as soon as funds can be obtained.

When this line of telegraph is laid, its length between the terminal points, namely, San Francisco and Yokohama, will be 5,573 nautical miles. The cable will, however, be divided into three sections—from San Francisco to Honolulu, 2,093 miles; from Honolulu to Midway Island, 1,220; and from Midway Island to Yokohama, 2,260 miles.

Several other cables are projected, but not yet contracted for; amongst them the following:

Table listing cable projects: Panama to Payta, Ecuador... about 960 miles. Pisco, Peru, to Valparaiso, Chili... 1,400. Sydney, Australia, to Wellington, New Zealand... 1,600. Aden, Arabia, to the Island of Mauritius... 2,800. Mauritius to Natal and Algoa Bay, South Africa... 2,300. Honolulu to the Fiji Islands... 2,950. Fiji Islands to Brisbane, Australia... 1,610.

The following are under contract, but not yet laid: Porto Rico to Trinidad... about 680 miles. Demerara to Cayenne, South America... 460. Rio Grand do Sul to Castillo, South America... 180. Ireland to Nova Scotia... 2,200.

The latter cable, while being laid from Ireland, in September last, broke after 574 nautical miles had been paid out. The fleet is now on its way to endeavor to pick up the cable, and, if successful, will proceed to lay the remainder, so as to unite it with that portion which was laid from Nova Scotia and buoyed off the coast of Newfoundland.

When the above projected lines are completed it will be seen that almost the whole civilized world will be connected by this wonderful invisible agent, the electric spark.

The cost of submarine telegraph cables depends altogether on the depth of water in which they are laid, and the nature of the bottom of the sea. If the latter is rocky and uneven in depth, and there are swift submarine currents, the cable must be much heavier and stronger than if laid on an even and soft bottom. The average cost of the Anglo-American Company's cables was about £300 per mile for the deep sea portion, and £1,000 per mile for the shore ends.

The cables from England to Holland are throughout nearly the size of the shore ends of the Atlantic cables, in consequence of the shallowness of the water, the deepest part not exceeding thirty fathoms. Their average cost per mile would, therefore, be considerably greater.

The following list shows the principal submarine telegraph companies, with the amount of their capital:

Table listing submarine telegraph companies and their capital: Anglo-American Telegraph Company—Ireland to Newfoundland; Newfoundland to Cape Breton; Brest to St. Pierre; St. Pierre to Duxbury, U. S. (five cables)... £7,000,000. Brazilian Submarine Telegraph Company—Portugal to Brazil... 1,300,000. Cuba Submarine Telegraph Company—Santiago to Havana... 160,000. Direct Spanish Submarine Telegraph Company—England to Bilbao, Spain... 130,000. Direct United States Submarine Telegraph Company—Ireland to Nova Scotia; Nova Scotia to United States... 1,300,000. Eastern Submarine Telegraph Company—England to Bombay via Mediterranean and Red Seas... 3,000,000. Eastern Extension, Australian and China Submarine Telegraph Company—Madras to China and Japan; Java to Australia... 1,663,100. Great Northern of Copenhagen Telegraph Company—England to Denmark, Norway, Sweden and Russia... 400,000. Great Northern China and Japan Extension—Siberia to Hong Kong and Japan... 600,000. International Ocean Telegraph Company—Florida to Havana... 1,500,000. Mediterranean Extension Telegraph Company—Sicily to Malta and Corfu... 152,000.

Table listing telegraph companies and their capital: Montevideo and Brazilian Telegraph Company—Montevideo to Brazilian Frontier... 135,000. Platino Brazilian Telegraph Company—Rio Janeiro to Uruguay... 400,000. Submarine Telegraph Company—England to France, to Belgium and to Holland... 418,640. Western and Brazilian Telegraph Company—Coast of Brazil... 1,350,000. West India and Panama Telegraph Company—Cuba to West India Islands and South America... 1,900,000.

Telegraphers' Mutual Benefit Association.

RECEIPT OF ASSESSMENTS—NEW YORK, JAN. 11, 1875.

ASSESSMENT NO. 71.

Large table of assessment numbers from 8 to 2326, arranged in columns.

MISCELLANEOUS.

- 70.—1626, 2253, 2273, 2275, 2276, 2277. 69.—232, 1915, 1921.

Members of the Association who look to THE TELEGRAPHER for receipt of assessments paid, will please take notice, that an acknowledgment of the receipt of one assessment should be taken as a receipt for all previous assessments.

Correspondence.

We do not hold ourselves responsible for the opinions of our Correspondents. Our columns are open to free discussions on all Telegraphic subjects, without distinction of person or opinion. No notice will be taken of anonymous communications.

Congress and the Telegraph.

WASHINGTON, D. C., Jan. 13th.

TO THE EDITOR OF THE TELEGRAPHER.

SINCE Congress reassembled after the holiday vacations, telegraph matters have been very quiet. On Monday last, however, three bills were introduced in the House under the regular call, which are of some interest to telegraphers. As only six weeks of the present Congress remain, it is not likely with the other

pressing and exciting matters which require attention, that anything will be done with them.

The bill introduced by Mr. McCrary, of Iowa, proposes to amend the telegraph law of 1866, so as to require that all telegraph companies who have or may accept the conditions of that act shall mutually interchange messages and transmit and deliver them at the regular tariff rates of each company between the points of transmission, without any additional charge for words indicating the route or manner of transmission, and punishes by fine not exceeding \$2,000, or imprisonment not exceeding two years, and by liability for damages to the party injured, any officer or employe of any telegraph company who shall refuse to receive or who shall fail promptly to transmit and deliver messages at the rates and in all respects in the manner above provided.

Another bill, introduced by Mr. White, of Alabama, for cheapening and regulating telegraphic communication, etc., provides, that the rate for telegraphing upon every telegraph line in the United States shall be, for 20 words or less, under 200 miles, 30 cents; under 500 miles, 50 cents; under 750 miles, 75 cents; under 1,000 miles, \$1, and for all greater distances, \$1 25. For night telegrams, under 1,000 miles, 30 cents; for all greater distances, 50 cents; for transmitting special telegrams to newspapers and commercial news associations, for each 100 words, for each circuit of 250 miles, not exceeding 75 cents at night and \$1 during the day; for copies of the same telegram dropped off at one or more offices, not exceeding 50 cents at night or 75 cents during the day; for special telegrams for two or more newspapers, 10 cents additional for each 100 words for manifolding; no charge for telegrams for press associations or special telegrams to exceed those now paid by the New York Associated Press or similar associations. The bill also provides that where the lines of the competing telegraph companies extend over the same territory and afford equal facilities, all government business shall be equally divided between them.

Both bills were referred to the House Judiciary Committee, which has in turn referred them to a subcommittee consisting of Messrs. Butler, of Massachusetts; Wilson, of Indiana, and Finck, of Ohio.

Another bill was introduced by Mr. Sypker, representative from Louisiana, for the construction of a government telegraph line from Washington, D. C., to Boston, Mass. This is identically the same bill as that previously introduced in the Senate by Mr. West, of Louisiana. CAPITOL.

Telegraphic News.—The "Chicago Times" on Telegraph Colleges.—Performances of the Quadruplex.

CHICAGO, ILL., Jan. 4th.

TO THE EDITOR OF THE TELEGRAPHER.

WISH you a happy New Year. The members of the fraternity in this section have done their best towards starting the New Year right. I did not hear of a single case of drunkenness. The Baltimore and Ohio R. R. have opened a telegraph office in the passenger depot, in the north wing of the opposite building.

The Illinois Central are increasing the capacity of their round house to six or eight more engine stalls, near the 16th street station, at the shops. It is rumored a new office will be opened on the line there.

Miss Lillie Smethells, of the W. U., Chicago, day force, has resigned, and accepted a situation on the Michigan Central R. R. line, as operator at the home of her parents, Michigan City, Ind. As the management of the Michigan Central have heretofore strenuously opposed the employment of female operators, this new departure must be considered quite a compliment to Miss S. We opine the M. C. R. R. will have no cause to regret its departure, as Miss Smethells has shown by her deportment here that she understood her business and knew her place. She has left lots of friends and no enemies behind her.

Mr. Aden Hatch, formerly clerk in Supt. Wilson's office, but more recently night check boy, W. U. main office, has been promoted to the vacancy caused by the resignation of Miss Smethells. Mr. Hatch is a worthy young man.

The following pertinent remarks upon the lying advertisements of so-called telegraph colleges, clipped from the columns of the Times of this city, of January 2d, will, no doubt, be read with interest by the fraternity elsewhere. The Times remarks as follows:

"There is a good deal of what seems to be well founded complaint against the advertisements and claims of so-called telegraph colleges. It is stated in the circulars of these institutions that men and women learning the business are sure of a position at once, and that salaries of operators range from sixty to one hundred and twenty dollars a month. They are also informed by these same circulars that the telegraphers have not infrequently the opportunity afforded them of travelling to distant parts of the world; that they not infrequently enjoy the privileges of railroads

steaboats, expresses, and of hotel living and public entertainments; that various companies 'offer a premium, by way of large salaries, for the services of telegraphers, both ladies and gentlemen, to act as agents, book keepers, and fill other responsible positions; and that 'enterprising young men and ladies can obtain a good salary in a shorter space of time than in most any other business.'

There is just sufficient truth in these statements to save them from being a total falsehood and not enough to save them from being a most discreditable misrepresentation—one hording on a barefaced swindle. The facts are that salaries range from \$30 to \$100 a month; and the further fact is worthy of notice that a telegraph company vastly prefers to employ an operator who has learned his business in a regular office, where he acquires all the routine duties, in addition to the management of an instrument, and which is really but a small part of an operator's duties. The operator who accepts passes at hotels, or on railways, secures them by virtue of his 'cheek' and not by virtue of his position. Again, these telegraph colleges require a considerable sum to be paid; whereas, any young man or woman desiring to learn practical telegraphy can obtain a position in almost any office; they can commence to receive pay at once, and can thoroughly learn the duties of the profession, their compensation increasing constantly as they are promoted.

A majority of the telegraph colleges in the country are started by discharged or broken down operatives, and who do no more than to 'beat' pupils out of half a hundred dollars, without affording them any adequate return. There may be one or two reliable telegraphic schools in Chicago and the northwest, but the majority are simply swindles. Young persons who wish to become practical telegraphers should seek to enter, at the start, a regular telegraph office. Telegraphy, like journalism, cannot be learned outside the regular organization."

The quadruplex continues to work successfully. When there is business enough to call for four men on each end, between here and New York, the quadruplex is always ready. At other times it is worked as a duplex, the receiving operator using one side, the sending operator the other. There is an advantage gained when working it this way over any other system, as the receiving operator at either end can break on his own side, without interfering with the sending operator, as on the duplex circuits as ordinarily worked. Sometimes Buffalo works with New York on one side, and Chicago with New York on the other.

Does not this seem wonderful, three offices working on the same wire at once? On December 21st, during the big sleet storm which prevailed from Buffalo east to New York, the quadruplex was worked in the manner spoken of above, Buffalo and New York doing 450 messages on one side, between 8 A. M. and 5 P. M., and Chicago and New York doing 523 on the other side, during the same hours. The line worked very hard east of Buffalo, or a better showing could have been made. That the quadruplex was almost a god-send to the Western Union Co. this day is demonstrated by the fact that out of the 40 wires Philadelphia had to New York, only four were working, and only two were working from Buffalo to New York; Cincinnati, St. Louis and Indianapolis, had none to New York, and Pittsburg had but one; so it was impossible to distribute the business by the different routes as is generally done at such times.

OCCASIONAL.

Subscriptions to "The Telegrapher.—The Canadian Telegraphers' Mutual Insurance Association.—Bulls.—Not to be Fooled.

HAMILTON, CANADA, Jan'y, 8.

TO THE EDITOR OF THE TELEGRAPHER.

ENCLOSED please find currency to pay for subscriptions to THE TELEGRAPHER, commencing with the first number of the current volume. Telegraphers in the Dominion feel the pressure of the hard times, but I expect to send you some additional subscriptions very soon.

The Canadian Telegraphers' Mutual Insurance Association, which was organized at Montreal on the 7th of December last, is understood to have already a very considerable membership, and is favorably regarded by the Canadian telegraphers. The Association is worthy of the support of the telegraphers in the Dominion, and cannot injure the Telegraphers' Mutual Benefit Association of our brethren in the United States, as it will not, in all probability, withdraw from it a dozen supporters, whereas a home institution will obtain more general recognition and be regarded with more interest. It is intended to appoint district secretaries for each company at convenient points.

Telegraph bulls are always appreciated—they serve a double purpose—to amuse, and as a warning to go and do otherwise.

A Wisconsin correspondent of THE TELEGRAPHER lately sent you a bull about "coat sleeves" for "coal stoves." The error was perpetrated in a lady's department not a hundred miles from here, and we caught it on the fly—the message being addressed to a large iron foundry here. I send you a few others which may interest the readers of THE TELEGRAPHER.

One operator at a branch office who works fast and slow, regardless of time, and throws dots in promiscuously, sent us a message addressed James S. Paw. When the original turned up it read James Shaw. Fortunately the street and number accompanied the address, and Mr. Shaw will no doubt be somewhat surprised at the new way of spelling his name.

Another message passed through this office signed "S. A. Mueleox." When the message was delivered the gentleman to whom it was addressed was absent, and his wife replying to the signature, the answer came back to us in the same shape. The singularity of the name attracted attention, and we asked "M" if he sent a message signed S. A. Mueleox? He replied "yes." We then asked for a repetition of the signature, and it turned out by a redistribution of the dots and time to be Samuel Cox.

Another message passing through asked for a certain "casbnator," which turned out to be a "cultivator." Walsingham via St. W—was sent by a telegraphic expert "Walsing Hall." Another to K— G—, care of H. and Peter, turned out to be intended for "Hespeler."

The last two bulls originated on the Western Union lines.

The last "bull" in this drove was received through a repeating office. "Meet her will leave at—Meet her." The receiver suggested that the first two words should be "mother," and so it turned out.

Will close this communication with a little anecdote, which I believe has not yet been in print.

Some years ago an office was opened at Vienna, Ontario, and a junior operator was sent to take charge and instruct the new agent. The telegraph was now in that section of the country, and the office was visited by sight seers from the locality for some distance around. One old gentleman visited the office daily, departing after each visit with a knowing look. At last he could hold in no longer, and as he watched the paper unrolling and passing through the table exclaimed: "No use, young man, you can't fool me—there ain't paper enough on that roll to go around the world!" After this he was seen no more inside the office, having probably satisfied himself that the telegraph was a fraud. Fancy a strip of telegraph paper passing inside the wire and going "around the world," and each office writing his message on it. I may suggest in concluding that there's a wide field for the inventive genius in this idea. Patent not yet applied for.

Cold Weather.—Lease of the Great Western Lines to the Western Union Co.—Telegraphic News and Personals.

CHICAGO, ILL., Jan. 10th.

TO THE EDITOR OF THE TELEGRAPHER.

NO LETTER is so easily begun, no conversation so easily opened, no acquaintance so quickly formed after an introduction as by reverting to that universal topic the weather, and "shure we're havin' a deal up it now," as the Irishman remarked, from 20 to 25 below zero, and the wind from the northwest driving it right through a fellow is enough to impress it upon one's mind quite forcibly. The Electrical storm of the 8th was pretty general. It had been snowing west of us for several days previous, and very few overland routes were working on that day.

Hon. Wm. Orton, Pres. of the Western Union Telegraph Co. was in town last week. He came here, I understand, in connection with the lease of the Great Western Lines to the W. U. Co. Just about a year ago now, the W. U. Co. celebrated the new year by taking in the Pacific and Atlantic Company. This year they say Happy New Year to the Western folks, and wrap their corporative arms about them. An order was entered on the 7th by Judge Williams, of the circuit court, approving and confirming the lease. The terms of the lease were not stated, but it is understood to be very favorable to the W. U. Co. This Company (the Great Western) owned and operated about 1,000 miles of line. It is claimed by parties who seem to be posted, that the Milwaukee lines of the G. W. Co. are not covered by this lease to the W. U. Company, but that they are to be operated by a private corporation. I understand some of the wires have already been run into the W. U. office.

This quiet transfer to the W. U. is a matter of great surprise in telegraph circles here, as it was generally thought the A. and P. Co. would lease the lines of the G. W. Co.; and a rumor was afloat that the terms had recently all been agreed upon, but it is said that the A. and P. kicked over the traces on account of having

to advance money to pay the taxes, and other liens against the G. W. Co. The W. U. being willing to do this have outgeneralled the A. and P.

George Fuller, a well known fire alarm operator, recently resigned his position in the office here on account of his health, and accepted the position of Pipeman on Engine No. 6, of the City Fire Department. On the evening of the 6th as the engine was going to a fire, running at full speed, one of the whiffletrees broke at the corner of Canal and Eighteenth street, and turned the engine over on its side. Mr. Fuller, who was in his seat beside the driver, was thrown directly under the engine, and instantly killed.

Mr. F. W. Jones, electrician, W. U. office, this city, has just finished setting up one of the finest sets of quadruplex instruments I have ever seen. There is not a single splice in any of the wires, they being continuous from pole to pole. The wire that was used to make these connections being first tested as to insulation, etc. before being used, and no naked splices under the table to make crosses. There is no doubt this will be one of the finest working quads in the business. This one is intended for the Cincinnati wire. That makes two sets of quadruplex now in successful working in the W. U. office here.

Mrs. O'Connor, for a number of years on the day force in the W. U. office here, has taken a vacation, and will visit the Emerald Isle, the place of her birth, across the big pond, before she takes her place in the office here again. Wish we could go too.

OCCASIONAL.

The Toronto, Canada, Dominion Telegraph Office.

TORONTO, ONT., CANADA, Jan. 7.

TO THE EDITOR OF THE TELEGRAPHER.

AS THERE has been nothing said through your columns as regards the Toronto Dominion office for some time, I thought I would show the boys that we are alive.

We have five four sectioned tables and a duplex in operation between here and Montreal, and have just set one up for the Buffalo circuit, which will be put in operation in a few days.

Our present force consists of Mr. S. E. Gibbs, chief operator, a gentleman well worthy of his position. Mr. P. W. Snider, asst. chief, who is an old time operator in this country. Mr. N. Enrke, is our night manager, and is well liked by the boys.

Miss Josie Schofield, our only lady operator, manipulates the Barrie line. Mr. A. J. Pattison (Pat) is sushing things on the Buffalo wire. Messrs. G. M. Merryfield (swelly) and F. W. Farley (Kid), are running the Montreal Duplex. Mr. Thomas Kehoe sleeps on the Hamilton and St. Catharines wire. Mr. Mick Burke (the wild Irishman), runs the Ottawa line. Mr. George Carlisle, the infant that's never on time, runs Detroit wire. Mr. R. M. Ratbray presides at the Brantford wire. Mr. Alexis Bennet, the man that never breaks, is playing on the Peterboro' wire. Mr. E. Whiteside works with the girls on the city loop. Mr. Channey Knapp takes a good many chances on the Goderich wire. Mr. Homer Pingle, the short haired man, is rusticiating in a branch office. Mr. W. H. Stratton is on the Kingston wire; and last, but by no means least, is Mr. James Wilson, at present acting as Supt. Neilson's private secretary.

Business at present is very dull, consequently the force is not so large as usual, but the Canadian Parliament opening in Feb. will probably call for an increase in the staff, owing to large amount of reports, etc.

DOMINION.

Telegraphs and Telegraphers in Minnesota and Wisconsin.]

WINONA, MINN., Dec. 30.

TO THE EDITOR OF THE TELEGRAPHER.

TELEGRAPHING is rather slow in this part of the country at present. But few changes are taking place among the operators, as those who have situations hold on to them, as there are plenty of operators seeking employment and few vacancies occurring at this season of the year.

The Fountain City Telegraph Company, during the fall, extended its line from Winona, Minn., to Alma, Wisconsin. This is an independent line, and extends now from this place to Alma, with offices also at Fountain City and Buffalo City, Wis. It is owned by Mr. B. C. Slade, of this place.

The Grangers purpose to push their line through to Chicago early in the Spring and promise to reduce the rates about fifty per cent. when the line is completed

A BILL is to be introduced into the Legislature of New Jersey to incorporate the New Jersey and New England Telegraph Company.

THE TELEGRAPHER

DEVOTED TO THE INTERESTS
OF THE
TELEGRAPHIC FRATERNITY.

SATURDAY, JANUARY 16, 1875.

THE TELEGRAPHER:

PUBLISHED EVERY SATURDAY at 38 VESEY ST.

ELEVENTH VOLUME.

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THE TELEGRAPHER.

A JOURNAL OF ELECTRICAL PROGRESS,

DEVOTED TO THE INTERESTS
OF THE

Telegraphic Fraternity and the Advancement
of Electrical Science and the
Telegraphic Art.

Published Every Saturday,

AT

No. 38 VESEY STREET, New York.

ELEVENTH VOLUME.

The Publisher, in announcing the **Eleventh Volume** of

THE TELEGRAPHER,

which will commence with the number for JANUARY 2, 1875, desires to return thanks for the LIBERAL SUPPORT which it has hitherto received, which it is expected and believed will be continued during the ensuing year.

All the popular and valuable features of the paper will be retained, and it will continue as heretofore to labor for the best interests of the TELEGRAPHIC FRATERNITY and the advancement of ELECTRICAL SCIENCE and the TELEGRAPHIC ART.

THE TELEGRAPHER

is a thoroughly INDEPENDENT TELEGRAPHIC NEWSPAPER, bound to or in the interests of no TELEGRAPH COMPANY, CLIQUE or COMBINATION, but honestly devoted to the interests of the PRACTICAL TELEGRAPHERS.

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The Impending Telegraph Contest.

ALL the signs indicate a very active and vigorous contest between the Western Union Telegraph Company and the Atlantic and Pacific Company and the other companies connected with the latter in competing for the telegraph business of the country. A strong party is now evidently backing up the Atlantic and Pacific combination, and the result thus far is shown in the advance of the quotation for the latter stock to 23, a figure which it has not reached for years before, or when it was originally issued at 40 on the par value of 100. As against this advance the quotation for Western Union has declined 3 or 4 per cent., though it will probably be advanced again when it shall suit the purpose of the leading operators in it to do so.

The managers of the two companies are making every effort to strengthen their respective organizations for the contest which is impending, and to weaken their opponent as much as possible. The last move of the Western Union Company has been to sequestrate the lines of the Great Western Telegraph Company, which have for some time past been in the hands of a receiver, and which it was generally supposed would eventually be absorbed by the Atlantic and Pacific Company. It is understood that the stockholders of the Great Western Company lose their investment, and the Western Union Company undertakes to pay the debts of the company as the consideration of the lines. We presume that, as has been the case with the Pacific and Atlantic lines, a considerable portion of them will be taken down.

It is now some years since there has been a really active and energetic telegraphic competition, and a renewal of such competition will no doubt add to the interest and excitement attending the business. Whether it will be carried to such an extent as to become regardless of the interests of the stockholders and employes remains to be seen. It is to be hoped by those who are interested, either as stockholders or employes, that it may not.

The advantages possessed by the Western Union Company in such a contest are undoubtedly very great, and are so realized to be by its competitors. On the other hand, the companies competing with the Western Union are in better condition than ever heretofore to compete for telegraphic business, and the funds will be forthcoming to add to the lines and facilities in such directions as may be needed to complete the system, and to strengthen the lines on routes already covered, where that may be required. What is needed now to put the so-called opposition companies in good shape is a practical consolidation of the whole, as has been persistently urged in the columns of THE TELEGRAPHER. The reasons for, and arguments in favor of such a consolidation have been too often stated by us to require repetition at this time. We honestly believe that such a consolidation would be for the best interests, not only of the companies, but also of the employes. It would seem as though, if rightly undertaken, and by the proper parties, the present is a favorable time to effect it.

We know that the real managers of these great enterprises, the men who are behind the scenes, and move the actors who represent them to the public, do not take into very deep or earnest consideration the effect that their movements and operations may have upon the interests of the employes. The latter, especially those in subordinate capacities, have little voice or influence in what is to be done or left undone in such contests. Consequently, they cannot be expected to feel any very partisan interest on either side. Their duty is to discharge faithfully the business which they are employed and paid to do, and their sympathies will naturally be with the company which pays best for their services. Active telegraphic competition will, we think, benefit telegraphic employes. It has done so in the past, and the result will be the same in the future.

The question of fast telegraphy, or automatic, duplex and quadruplex, derives much of its interest and

importance from the advantage which it may afford to the competing parties. It is reasonable to suppose, therefore, that neither party will neglect any opportunity to strengthen itself in this respect.

The fear of Government interference in telegraphic matters for some time to come is practically removed, and the public have therefore to look only to competition for any advantage to be gained. It is for the interest of the public to support telegraphic competition, and it must be acknowledged that the public heretofore have shown a very decided recognition of this fact. Consolidating and absorbing lines with a view to the establishment of a telegraphic monopoly have proved futile, for the means have always been provided for the construction of new lines in place of those thus absorbed. As we have often asserted, only a Government telegraphic monopoly, maintained by law is possible in this country.

The policy and course of THE TELEGRAPHER in regard to such a competition will be the same in the future as in the past—entire independence. As the representative of the telegraphic fraternity, who are employed by all parties to such a competition, we shall not take sides with either, but shall give them all a fair chance to be heard. We are nobody's "organ," and don't intend to be, and we are not, therefore, under the necessity of misrepresenting anything or anybody, or suppressing anything for fear of the effect it may have upon one side or the other. THE TELEGRAPHER, in the interests, as it believed, of the fraternity and the public, has always favored telegraphic competition, and opposed telegraphic monopoly, and will continue to do so, whoever the proposed monopolists may be. We have no telegraphic interests to be affected either way, and are therefore in a condition to render impartial justice to all concerned. While we favor telegraphic competition within reasonable bounds, we do not desire to see it carried to such an extreme as to make the business unremunerative. That is not a consummation to be wished, either devoutly or otherwise, and such an excessive competition is not eventually in the interest of the patrons of the lines even. The great risk which has to be encountered in such cases is that the contestants may lose their temper, and be more intent on damaging their opponents than on making the business remunerative. However, we hope it may not proceed to such an extreme in the present case.

Important Decision of the U. S. Supreme Court in Regard to Patents.

In another column we publish the syllabus of a recent decision of the Supreme Court of the United States, which is of the utmost importance to all inventors, patentees and owners of patents. Although the magnitude of the interests involved in this decision will, doubtless, lead to its being extensively commented upon by far abler pens than ours, still we think no apology is needed for calling the attention of such of our readers as may be interested pecuniarily or otherwise in patents and patented inventions to some of the more prominent points involved therein.

According to this decision, it seems that if any person makes use of all the elements of a patented combination excepting one, and, instead of that element, he employs what was known at the date of the patent to be a proper substitute for that element, he is liable for infringement; but if he uses any other substitute, even one which was already known, but which performs a new function, he is not liable.

The importance of this decision will at once be apparent when it is borne in mind that nearly every patent issued from the Office is what is technically known as a "combination patent," that is, a new combination of old and well known devices, which is capable of producing a useful effect. We believe it has been almost uniformly laid down heretofore, not only by writers on patent law, but in the decisions of the Courts both in this country and in England, that the evasion of such a patent by the introduction of an obvious equivalent in place of one member of a patented

combination, constituted an infringement of the patent. Curtis, one of the leading authorities on the subject, says, that if the change introduced constitutes a mechanical equivalent, "and besides being such equivalent it accomplishes some other advantage beyond the effect or purpose accomplished by the patentee, it will still be an infringement, *as respects what is covered by the patent*, although the further advantage may be a patentable subject as an improvement upon the former invention." A good illustration of this doctrine is the English case of the Electric Telegraph Co. *vs.* Brett. The patentee's invention was described as an invention of "improvements in giving signals and sounding alarms in distant places, by means of electric currents transmitted through metallic circuits." The defendant used the earth as a return circuit, a discovery made subsequent to the grant of plaintiff's patent. It was held, in this case, that the earth was merely an equivalent for the return wire, which might in itself constitute an improvement which would warrant a separate patent, but, nevertheless, when used in connection with the signal and alarm apparatus, constituted an infringement. Under this last decision of the Supreme Court, on the contrary, it would not be an infringement. This question is one of the most common of any that arise in patent litigation, and the decision will be likely to render many patents hitherto considered of immense value comparatively worthless, and to correspondingly enhance the value of a great number of patents hitherto considered to be infringements upon earlier inventions. Of equal, and perhaps greater importance, is the decision in reference to reissued patents. The patent law provides that a patent may be reissued and amended under certain specified conditions, and under this law the office has been accustomed to grant any claim for a combination of elements, which was new, and was shown in the original drawing or model, whether specifically described in the original specification or not. According to this decision it seems that if a patentee of a patented combination subsequently discovers that he can accomplish a new and useful result by a combination which omits one or more members of his previously patented combination, he cannot reissue and obtain a valid claim on a combination of less than the original number of elements, the ground taken by the Court being that such a patent would not be for the same invention as the original patent, and that any description of such combination would constitute "new matter," the introduction of which into the specification of a reissued patent is expressly forbidden by the fifty-third section of the patent law of 1870.

In view of this decision it would be well for the holders of reissued patents to have them carefully examined by competent counsel, as in many cases their value may be most materially affected thereby.

The Faraday and the New Cable.

A DESPATCH to the Associated Press, from St. Johns, N. F., of the 11th inst., states that nothing had been heard of the cable steamer Faraday, since she put to sea, twenty-four days previously, to try to pick up the cable and finish laying it to the shore. It is supposed that after unsuccessful attempts to accomplish the object she has abandoned further efforts for the present season, and has returned to England. Her arrival has not, up to the time this is written, been reported at any English port, but this is not cause for alarm, and she will probably be heard from in a few days.

The persistent but unsuccessful attempts to complete the laying of the new cable, after the usual time regarded as practicable for such work, has fully demonstrated the fact, which has been generally recognized and heretofore acted upon by those who have had experience in laying cables across the Atlantic, that there are but a few weeks in the year when suitable weather can be relied upon for a sufficient length of time to warrant undertaking the work of laying a cable of the length required to establish telegraphic

communication between North America and England or Ireland.

The contractors for putting down the new cable have made most extraordinary exertions and incurred very large expense to carry out their contract, but it has been in vain, and the completion of the work, of which only about 200 miles remained to be done, must be postponed until another season. All the steamers from English and Irish ports arriving here for the last two or three weeks report unusually tempestuous weather and very heavy gales on the Atlantic, which have protracted their voyages to from two to three weeks. Under such climatic conditions it is of course useless to hope for the success of the Faraday.

It has seemed to us, although we do not claim to be an expert in telegraphic cable laying, that the great mistake which has been made in this matter was in laying the short sections of the cable from Nova Scotia to Rye Beach, and from Nova Scotia to the Newfoundland coast first. It would seem to have been more essential to have first laid the long section between Ireland and the Newfoundland coast while at least reasonably good weather could be counted on, and that having been done, it would not have been a difficult matter to put down the shorter sections. Why the other course was pursued we are not informed, but there must undoubtedly have been some reason which was considered of force sufficient to warrant a disregard of the experience of former similar enterprises. At any rate the damage is done, and the possibility of competition with the Anglo-American Company is postponed for several months.

There were undoubtedly very important reasons why the cable should be completed the past season, if possible, which will account for the persistent and costly efforts to accomplish it. The pecuniary loss falls upon the contractors, MESSRS. SIEMENS BROTHERS, but the company and its allies in this country are disappointed and damaged by the unanticipated delay in establishing communication. It is especially annoying to be unable to finish the work, when it had so nearly reached completion that two days more of decent weather would have sufficed for the purpose.

A Correction.

IN the account of the presentation to Mr. JOSEPH E. FENN, by the employés of the Automatic Signal Telegraph Company, which appeared in the last number of THE TELEGRAPHER, it was stated that Mr. COYLE made the presentation on behalf of his associates.

This was an error. Mr. EDWARD KYLE, who is a native American, and not an adopted citizen as the name first given would indicate, having been delegated for that agreeable duty.

A Telegraphic Change.

MR. L. N. JACOBS, who is generally known either personally or through his prominent connection with the "strike" in California in 1869, has resigned the position of Manager of the San Francisco, California, office of the Atlantic and Pacific Telegraph Company, the duties of which he has discharged for some time to the satisfaction of the company and the public, to engage in other business. The estimation in which Mr. JACOBS is held by the public in San Francisco is shown by the following notice of his retirement from telegraphic service, which appeared in the *San Francisco Chronicle* of January 1st:

"L. N. Jacobs, Manager of the Atlantic and Pacific Telegraph Company's office in this city, yesterday resigned his position to engage in a more lucrative business. His successor is J. G. Bloomer. Mr. Jacobs has been identified with the Atlantic and Pacific Telegraph Company since the establishment of their office in this city, and his uniform courtesy and attention to business have won for him hosts of friends, who will regret to learn of his retirement. In the retirement of Mr. Jacobs the company has lost a most efficient and capable officer."

Mr. JACOBS has been an earnest and practical friend

of THE TELEGRAPHER for several years past, and has contributed by his exertions very materially to the liberal support which it has received from the telegraphers on the Pacific Coast, and, while, in common with his late associates and numerous telegraphic friends, we regret the discontinuance of his connection with the telegraphic interests, we heartily congratulate him on his excellent prospects for the future, and trust that he may realize the success and prosperity which he has now every reason to anticipate.

A Telegraphic Ball.

SOME time since an Association of telegraphers was organized in this city for the purpose of giving an annual invitation ball. The first annual ball of this Association will be held at FERRERO'S Assembly Rooms, Tammany Hall, on Thursday evening, Feb. 4th. This will, no doubt, prove a successful and enjoyable entertainment.

A general meeting of the Association to complete the arrangements, was held at 86 Liberty Street, on Friday evening of this week.

Personals.

MR. THOS. FORSYTHE has been reappointed Superintendent of Fire Alarm Telegraph at Elizabeth, N. J.

MR. JOHN H. WERBLE has been appointed Superintendent of Fire Alarm Telegraph at Newark, N. J.

MR. L. N. JACOBS has resigned the position of Manager of the Atlantic and Pacific Telegraph Company at San Francisco, Cal.

MR. J. G. BLOOMER has been appointed Manager of the Atlantic and Pacific Telegraph Company, at San Francisco, Cal., *vice* Mr. L. N. JACOBS resigned.

The Telegraph.

Lively Times in Telegraphic Circles.—Resignation of Gen. Eckert, Superintendent of the Eastern Division of the Western Union Telegraph Co.—Facts, Rumors and Fancies.

QUITE a sensation was occasioned in telegraphic circles and among the brokers and speculators at the Stock Exchange, on Tuesday last, by the resignation of Gen. Thomas T. Eckert, who has, since the present organization of the Western Union Company, been General Superintendent of the Eastern Division of that Company's lines. This resignation took the public generally by surprise, although it was not unanticipated by those acquainted with recent telegraphic combinations.

It was also reported that Mr. Eckert's retirement was preliminary to his election to the Presidency of the Atlantic and Pacific Telegraph Co., which, it will be recollected, has been vacant since the withdrawal of Mr. Duff from the Company. There is no doubt but that Mr. Eckert is to occupy a prominent position in the management of the Companies competing with the Western Union combination, but just what that position will be is not as yet made public.

General Marshal Lefferts is prominently spoken of as the successor of Gen. Eckert in the position of General Supt. of the Eastern Division. As manager of the American Telegraph Company, previous to its consolidation with the Western Union, Gen. Lefferts was very popular. His present position as the President and Executive Manager of the Gold and Stock Telegraph Company is a very important one, and whether he would consent to the transfer, if proposed, we are not informed.

There are unpleasant whisperings in regard to the hold which the Western Union Company has upon the quadruplex, which it has puffed so industriously and spent so much to develop. The presumptive inventor of that arrangement is a slippery customer, and it would be the usual thing for him, after the instrument had been developed at the expense of the Western Union Company, and had been so unqualifiedly endorsed by its officials, to trick them out of it, if possible.

It is also rumored that negotiations are nearly completed with the Automatic Telegraph Company to afford the advantage to be derived from its system to the opposition to the Western Union. We shall probably be in a position to give our readers more certain and definite information in regard to these matters before long.

All sorts of rumors are afloat in regard to matters

connected with the telegraphic contest which is about to be inaugurated, but it is hardly worth while for us to repeat them at this time.

It is evident that the competition between the Western Union combination and the companies competing with them is to be very active and bitter, and not improbably a protracted one. Further developments will no doubt be awaited with much interest, and the readers of THE TELEGRAPHER may rely upon being kept fully informed of all matters in connection therewith.

Lease of the Great Western Telegraph Co's. Lines to the W. U. Telegraph Co.

THE lines of the Great Western Telegraph Company have been leased to the Western Union Co., the Atlantic and Pacific Telegraph Co. having declined to accede to the terms proposed for a lease to that Company.

It is understood that the Western Union Company leases the lines on condition that it advances the money required to pay off the floating indebtedness of the Great Western Company, which is to be reimbursed out of the earnings of the property if there should be any. It is known that the Great Western Company has been for some time in the hands of a receiver, and it was necessary to make some disposition of the property to meet the pressing demands of the creditors.

Gen. Eckert elected Trustee and President of the Atlantic and Pacific Telegraph Company.

At a meeting of the Board of Trustees of the Atlantic and Pacific Telegraph Company, Thursday, P. M., January 14th, Gen. Eckert was elected a Trustee, and subsequently President of the Company, to fill the vacancy caused by the retirement of Mr. John Duff.

Western Union stock sold down to 73½ on Thursday, and Atlantic and Pacific advanced to 29, closing at 29¾.

Effect of False Financial Quotations.

CONSIDERABLE indignation prevailed on the Gold Exchange on Saturday, growing out of the receipt of false financial intelligence affecting the price of gold. It appears that early in the day the following despatch was sent over the tape of the Manhattan Quotation Company:

LONDON, 3 P. M.—Discounts open market, 4¼; bank rate, 5. Bullion withdrawn from Bank of England, £268,000. American securities weak. Erie, 25½.

This caused an advance of from ¼ to ⅓ per cent., and a large number of transactions were made. The regular press despatches were soon received, stating that the Bank of England had gained £20,000 of bullion, that American securities were unchanged, and the street rate of discount was ½ below the regular Bank rate. This was soon followed by the following from the Manhattan Quotation Company:

CORRECTION.—LONDON, 4 P. M.—Bank of England gained on balance to-day £20,000; '90s, 4¼. Frankfurt—U. S. '62s, 98¾.

Gold reacted, and the indignation of the brokers found vent in the appointment of an investigating committee, who ascertained that the first despatch was not authentic, and recommended that the indicator of the Manhattan Company be removed from the floor. The Executive Committee was authorized to offer a reward of \$500 for the discovery of the perpetrator of the fraud.—*New York Daily Tribune.*

Important Patent Decision.

SUPREME COURT OF THE UNITED STATES.

Ira Gill, Plaintiff in Error, vs. Eliza Wells, Administratrix of Henry A. Wells, deceased. (In error to the Circuit Court of the United States for the Southern District of New York.) If any one uses all the elements of a patented combination except one, and instead of that, employs what was known at the date of the patent to be a proper substitute for the omitted element, he is liable for an infringement of the patent. But he is not liable if he uses any other substitute, or even an old one, which performs a new function.

A combination of four elements is not the same invention as a combination of three of them without the fourth.

A patent for a combination of four elements cannot be reissued for a combination of three of the original elements with a substitute for a fourth, unless it was known at the date of the patent to be a proper substitute; and it should be explained, it seems, that the substitute is an equivalent for the omitted element, and why the change is made.

A patent for a combination of four elements, which does not suggest any other improvement, cannot be reissued with a claim for a combination of three of those elements, omitting all reference to the fourth. A suit

for the infringement of such a reissued patent cannot be maintained against any one who uses a combination of the three elements embraced in it, even though he uses with them a substitute for the omitted element.

Conviction of a Railroad Telegraph Operator of Manslaughter.

IN the Court of Quarter Sessions, at Jersey City, N. J., on Tuesday last, Mr. John S. McClelland, a telegraph operator on the Pennsylvania Railroad, at Bergen Cut, was placed on trial on an indictment for manslaughter. The indictment set forth that the defendant, on the 28th of March last, neglected to warn the conductor of a train to remain at one of the cuts until another had passed. Owing to this negligence two trains collided, and Robert Keyes, conductor of train 941, William Day, a fireman, and Charles Stockton, a brakeman, were killed.

The prisoner, McClelland, was sworn in his own behalf, and testified that when he discovered his mistake he rushed out and tried to attract the attention of those on one of the trains, but did not succeed. He stated that the brakeman, Stockton, was intoxicated, and he tried to rouse him up while he was in the telegraph office. He cast the blame on McGuire, the conductor of one of the trains, for repeatedly disregarding the notifications of the telegraph operator. Gibbon Morris, the night telegraph operator at the same place, corroborated the testimony of the prisoner with regard to McGuire's repeated violation of instructions. He said he knew McGuire to run his train frequently on the main line without orders. When the defence was closed McGuire was called to give rebutting testimony, and he stated that McClelland gave him no orders whatever to remain for another train. His train was ready to proceed to Jersey City before he went to McClelland for orders. He did not hear the latter call or whistle or motion for the train to stop. James Smathers, the engineer, testified that he heard McClelland tell McGuire that all was right, and McGuire turned the switch to let the train on the main track. The case was summed up, and the jury, after a long deliberation, found the prisoner guilty. McClelland is still out on bail.

Quotations of Telegraph Stocks at N. Y. Stock Exchange,

Showing Lowest and Highest Prices each day during week.

Jan.	WESTERN UNION.		ATL. AND PAC.		AMER. DIST.		GOLD AND STOCK.	
	Bid.	Asked.	Bid.	Asked.	Bid.	Asked.	Bid.	Asked.
7	76½	77¾	20¾	21	37	62	75	
8	77½	77¾	20	20¾	37	62	75	
9	76½	77¾	22	23	37	62	75	
11	75½	76¾	24½	25½	30	68	73	
12	75½	76¾	25	25½	30	68	73	
13	75½	76¾	27½	28	30	68	73	

New Patents.

For the week ended December 8, 1874, and bearing that date.

6,167.—ELECTRICAL TORCHES. J. K. Simpson, Newark, N. J., assignor, by mesne assignments, to H. Mandeville. Patent No. 69,715, dated October 8, 1867. Filed October 16, 1874.

A portable electrical gas lighting torch, consisting of an electrophorus near the handle, and a gas director and spark points at the upper end, the lower spark point and gas director being insulated from the upper spark point and stem.

1. The electrical torch made by the combination, in one implement, of a gas director, spark point, and an electrophorus, or other portable electrical device, substantially as set forth.

2. The portable torch provided with an electrophorus contiguous to the handle, and operated by a thumb or finger piece, substantially as set forth.

3. The herein described electrophorus, consisting of the hard rubber tube *c*, the metallic plate *f* and the metallic tube *b*, connected, through the plate *d* and rod *2*, with the outer surface of the rubber tube *c*, and through the rod *3* and ring *e*, or its equivalent, with the outer surface of the handle *a*, substantially as set forth.

4. The torch with a gas director insulated from the point *s*, substantially as and for the purposes described.

5. The combination of an electrophorus, situated near the lower end of a torch, the gas director *z*, at the upper end of said torch, and a conductor between the electrophorus and the gas director so arranged as to convey the electricity from the electrophorus to the insulated point *s*, contiguous to the opening of the gas director, substantially in the manner and for the purposes set forth.

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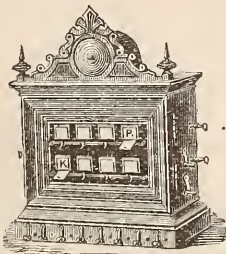
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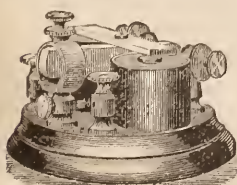
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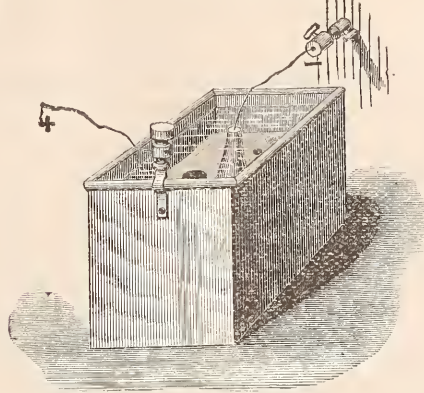
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 Two sizes are made at present, but others will soon be ready.
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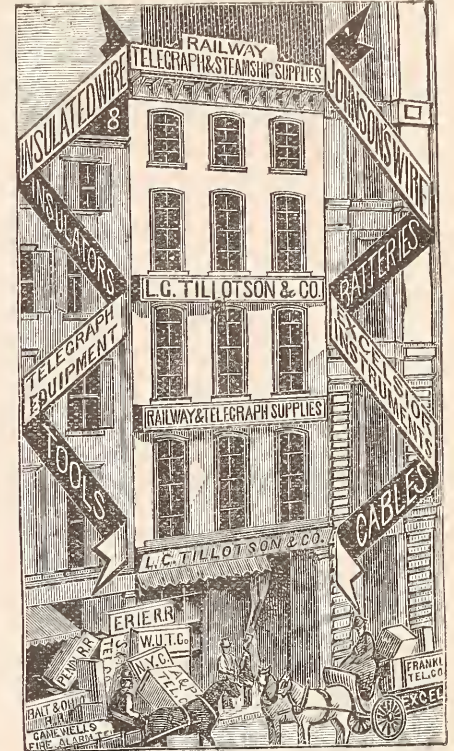
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GAMEWELL & CO., Proprietors,
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THIS SYSTEM OF
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WITH A CENTRAL OFFICE,
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UPON THE AUTOMATIC PLAN,

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| Baltimore, Md., | Omaha, Neb., |
| Chicago, Ill., | Philadelphia, Pa., |
| Cincinnati, Ohio, | Pittsburg, Pa., |
| Columbus, Ohio, | Portland, Maine, |
| Cambridge, Mass., | Peoria, Ill., |
| Charlestown, Mass., | Providence, R. I., |
| Covington, Ky., | Quebec, L. C., |
| Detroit, Mich., | Rochester, N. Y., |
| Dayton, Ohio, | Richmond, Va., |
| Elizabeth, N. J., | St. Louis, Mo., |
| Fall River, Mass., | St. John, N. B., |
| Fitchburg, Mass., | Springfield, Mass., |
| Hartford, Conn., | San Francisco, Cal., |
| Indianapolis, Ind., | Savannah, Ga., |
| Jersey City, N. J., | Syracuse, N. Y., |
| Louisville, Ky., | Troy, N. Y., |
| Lowell, Mass., | Taunton, Mass., |
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These Features combined form the

Only **PERFECT, COMPLETE and RELIABLE** System

OF

FIRE ALARM TELEGRAPH
IN THE WORLD.

It is a sufficient vindication of the claims which are made by the Proprietors of these systems of

**FIRE ALARM
AND
POLICE TELEGRAPHS,**

that they have sustained the test of more than twenty years of practical use, and that the efforts which have been repeatedly made to supplant them by other inventions have

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the few instances in which municipalities have been induced to adopt other systems having demonstrated their insufficiency and unreliability, and resulted in their abandonment, and substitution thereof of the

AMERICAN FIRE ALARM TELEGRAPH.

Messrs. **GAMEWELL & CO.** are the owners of the original **FARMER & CHANNING PATENTS**, one of the most important of which has just been extended for seven years, and during the past seventeen years have spared no expense or effort to secure improvements, and the Systems are now covered by **MORE THAN TWENTY PATENTS.**

The most important improvement which the Proprietors have adopted and introduced is the

AUTOMATIC SYSTEM,

the introduction and operation of which involves so little expense, compared to the benefit which it confers, that even small communities can profitably adopt and maintain it.

The American System of

FIRE ALARM AND POLICE TELEGRAPHS

has met with the universal approbation and commendation of the

People, Municipal Authorities,

AND THE
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throughout the UNITED STATES and CANADA.

NO EFFORT, TROUBLE OR EXPENSE

is spared by the Proprietors to obtain and secure ANY POSSIBLE IMPROVEMENT which shall increase the

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RELIABILITY and
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of the system. They intend that, as far as possible, it shall be

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The amount of property which has been saved from destruction, and the number of lives which have been preserved through the general adoption of this system, throughout the UNITED STATES and the DOMINION of CANADA,

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but that, in every community where it has been introduced for any considerable length of time, they have been enormous, **THREE CAN BE NO QUESTION.**

The cooperation of TELEGRAPHERS in securing its introduction into their localities is cordially invited, and their efforts will be duly appreciated and compensated.

Any information desired in regard to the above system will be cheerfully and promptly furnished upon application at the office.

A pamphlet, setting forth more fully its advantages and superiority, has been printed, and will be supplied to Municipal Authorities and others interested in Fire Alarm and Police Telegraphy, upon application as above.

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These instruments are now made in two different styles, at \$120 and \$135 a set, consisting of two Relays, two Sounders, two Keys and Governor.

JONES' LOCK SWITCH-BOARD,

a most compact and reliable Switch, forming a clean spring locked connection between any number of wires, occupying for each different connection only one square inch of space, and though made of the largest size, not subject to the warp and contraction of wood-work.

EXCLUSIVE AGENTS OF

A. G. DAY'S

KERITE,

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COMPOUND RUBBER COVERED WIRE

SUBTERRANEAN & AERIAL WIRES,

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We are now prepared to furnish, after an experience of three years, an insulated Wire which can be buried in the earth or exposed to rain and sun, or to the vapor of acids, without injury. Professor SULLIMAN, who has exposed it to the most destructive agencies, finds that it remains uninjured in an atmosphere of ozone, which would destroy gutta-percha in a few hours. It exceeds glass or any other known substance as a non-conductor

We have made special arrangements to furnish this article for office purposes at a reduced rate.

ALSO, TO FURNISH

IRON CLAD CABLES

of the usual size, with KERITE COVER, believing that it will exceed, in insulation for submarine purposes, ANYTHING HITHERTO MANUFACTURED.

We shall be happy to furnish estimates for any amount and size of cable, which will be found to compete with any other construction, both in quality and price.

We manufacture the Genuine ELECTROPOION BATTERY, with Patent Platina Connection, introduced by us eight years since; also, THE ALPHABETICAL OR DIAL TELEGRAPH, now extensively used in this and other cities for private lines, being easily and quickly learned by any one.

We offer for sale, among other novelties, a SOUNDER that will work practically with a single DANIELL cell, a BATTERY that does not require to be taken down but once a year, and the very best MAIN LINE SOUNDERS made

Our CATALOGUE, embracing a large amount of new matter and description, is now ready for distribution.

THE TELEGRAPHER

A JOURNAL OF
ELECTRICAL PROGRESS.

J. N. ASHLEY, - - - - - PUBLISHER.

SATURDAY, JANUARY 23, 1875.

VOL. XI.

WHOLE No. 445.

Original Article.

Telegraphic Competition, Past, Present and Future.

BY OLD TELEGRAPHER.

COMPETITION in telegraphy commenced very soon after the practicability and importance of the telegraph was established, and, notwithstanding all attempts to establish telegraphic monopoly, has continued, with more or less vigor, to the present time. That it will continue in the future is inevitable, unless the Government in this, as it has in other countries, assumes the exclusive ownership and management of the telegraphs. Only by such ownership and management, and legal prohibition of private telegraph enterprises can competition in telegraphy be prevented. That such competition is essential to the interests of the public and telegraphic employes all experience has shown.

It is not intended at this time to go into a detailed history of the competition between different companies heretofore. It would occupy too much space, and require more time than can well be devoted to it at present. It would not, however, be either unprofitable or uninteresting to write up a complete history of the competition which has existed in the past, and the rise and fall of competing telegraph companies and systems, and it is to be hoped that some properly qualified person will soon undertake the task. For the present it is only intended to refer briefly to the subject and the lesson which may be learned from the experience of the past twenty-five years.

The Morse system and patents having been originally under one ownership and control, it was necessary, for the purpose of establishing competing lines, to develop some new system. This was done by Prof. Royal E. House in the House Printing Telegraph, and by Mr. Bain in the Bain Chemical Telegraph. There were at one time these three systems in operation, and competing for telegraph business in this country. The Chemical system first succumbed to and was absorbed by the Morse, and was practically abandoned until it was revived in the Automatic system. The House made a more prolonged contest, but it was finally consolidated into the Morse companies, and printing telegraph instruments are used to but a very limited extent now by the Western Union Company, which, in absorbing the American Company, took the only printing lines then in operation. In the meantime the House instrument had been succeeded on the American lines by the combination printer of Mr. Geo. M. Phelps, and this is the instrument which is now used, as above stated, by the Western Union Company.

For obvious reasons, no reference is made here to the printing telegraph instruments which have been invented and are extensively used on what are known as reporting lines, and for private telegraph lines. A large number of these are in operation, but they are designed for special use, and not for general telegraphic service.

After several years' experience with telegraph companies and lines covering limited extents of territory respectively, it became evident that, to work efficiently and advantageously, it was necessary that there should be fewer companies, and that these should cover large sections of the country at least. Accordingly the process of consolidation of companies and aggregation of lines was commenced and carried on vigorously, and has continued to the present time.

During this time the vital Morse patents had expired and this opened the field for a more active competition, which was not slow to be availed of. The American Telegraph Company and the Western Union Telegraph Company covered a large extent of territory, and by their connection with smaller companies and lines practically afforded a compact telegraphic system, covering a large part of United States and Canada. These companies were not always harmonious, it is true, but they managed to get along together bound by mutual interests. Various companies and lines competing with these were organized and built, most of which were finally consolidated into the United States Telegraph Company.

For two or three years an active competition was kept up between the United States and the American and Western Union Companies, which was at times very exciting and bitter. Through mismanagement and fraud the United States Company finally proved unprofitable to its stockholders, and soon after the election of Mr. Orton to the Presidency it was consolidated with the Western Union. A portion of the lines acquired by the Western Union from the United States Company, covered territory of the American Company, and by means of this and the menace of entering into direct competition with the latter company and building lines on other portions of its territory, the American Company was reluctantly induced to consolidate with the former company. Mr. Amos Kendall strenuously opposed this consolidation to the last, and to effect it it was necessary to purchase all his stock in the American Company, which was done, and the consolidation finally accomplished. The managers of the Western Union Company believed that telegraphic competition was practically ended, and that it would be practicable for that company, through its great resources and power, to prevent any effective competition in the future, and establish a practical telegraph monopoly. They soon found, however, that this was impossible.

The means were provided for building new lines in place of those which had been taken in. Not discouraged, however, the process of consolidation was continued, and the Bankers and Brokers, and subsequently the Pacific and Atlantic, and recently the Great Western Telegraph lines (not to mention other smaller concerns) have been absorbed. Still the millennium of telegraph monopoly seems as distant as ever.

The Atlantic and Pacific Company, under the vigorous manipulation of its present controlling influence, comes prominently forward, and just at the time when the pockets of the Western Union stockholders are beginning to be plethoric with dividends (so long suspended), a competition more extensive and energetic than ever is entered upon.

The lesson to be learnt from all this is obvious—it is that telegraph monopoly is repugnant to the public who patronize telegraph lines, and that however often bad management and consolidation may ruin telegraphic enterprises, and inter them in the Western Union telegraphic cemetery, the means will be forthcoming to construct new competing lines. The public do not intend that any telegraph company, no matter who may control it, shall be in a condition to "dictate terms."

Telegraphic Progress on the Pacific Coast.

THE SAN FRANCISCO, Cal., correspondent of the San Diego *Union* communicates to that journal the following interesting statement of telegraphic progress on the Pacific Coast last year:

"To a certain extent the business life of a community can be quite accurately gauged by the amount of telegraphing from and to that point. In this day of cheap telegraphing no business of any importance is carried on without more or less assistance from the telegraph, and the regular monthly reports to any telegraph headquarters from the different cities and towns are good thermometers, showing the rise or decline of business activity in the different localities.

The telegraph in its workings is no respecter of persons—"first come first served" is the standing order—Uncle Sam of course excepted. Peter Short's telegram to his grocer for a sack of potatoes goes according to its number, notwithstanding the impatient elbowing of the message behind it ordering the purchase of a railroad or line of steamships.

With the unprecedented increase of telegraphic facilities on the Pacific coast during the now closing year, the patrons of the telegraph can certainly be accommodated with speed—the second desideratum in the business—and with such pioneers as Col. James Gamble and Frank Jaynes, of the Western Union, in charge of the principal lines, there is but little to fear of the first requisite, *i. e.* accuracy, suffering.

The Western Union's line construction and reconstruction this year has only been limited by the number of competent foremen to take charge of the work. Early in the season all the District Superintendents were drafted to the front, and most of them are still there, working all day and praying all night that the agricultural gentlemen who asked for these early rains may never realize what *damp bad* work telegraph building in the rain is.

The following is a brief statement of the most important work this year:

A one wire line from Salinas to Santa Barbara, 241 miles. This extension was described at length in the *Union* some months since.

The line from Downville through Sierra City, Jamieson and Quincy to Greenville, 85 miles. This fills a long needed want in Plumas County.

The Cloverdale line was extended to Ukiah, 31 miles.

Construction of three new wires and reinsulating four old ones from Reno to Virginia. Rebuilding the Overland lines from Emigrant Gap to Summit, 22 miles—everything new except the post holes. The wires used on this work is No. 6 galvanized, 525 lbs. to the mile, the heaviest ever used on this coast. These two last jobs were under the personal supervision of Supt. Frank Bell, and reflect great credit on the builder.

The Overland lines have been further reconstructed by putting in new poles, cross arms and insulators between Promontory and Ogden, 53 miles.

The line along the North Pacific Coast Narrow Gauge Railroad is completed from Sandedito to Tomales, 50 miles.

The Northern line has been entirely rebuilt from Yreka, Cal., to Roseburg, Oregon, 160 miles. Four thousand new poles and thirty-two tons No. 7½ wire formed part of the material used.

From Shasta to French Gulch, 16 miles, new poles and other extensive repairs.

From Sacramento to Roseville Junction, 18 miles, seven wires were reinsulated upon new cross arms.

Roseville Junction to Marysville, 34 miles, thoroughly reinsulated.

Marysville to Colusa, 28 miles, and Nevada to Camp-tonville, 19 miles, overhauled and put in good shape.

Portland, O., to Kalama, W. T., 47 miles; Tenino, W. T., to Victoria, B. C., 200 miles. The lines were entirely reconstructed at heavy expense.

Several proposed extensions are postponed until next year, for reasons above given.

The Colusa Lake and Mendocino Telegraph Co. have extended their lines and opened a number of new offices.

The Western Union will, this winter, construct entirely new lines through the cities of San Francisco and Sacramento; extra heavy forty foot poles will be used, and no expense spared to make a neat and substantial job.

Mr. Jas. Gamble, Gen'l Supt. Pacific Division W. U. Tel. Co., who has just returned from New York, brought, among other electrical apparatus, a number of samples of cable proposed to be used in the Pacific Ocean submerged line, and Mr. Gamble speaks hopefully of an early start on this work.

The Duplex system, by which two messages are sent over one wire at the same time, has been lately introduced by Supt. Gamble upon the Overland, the Virginia, Nev., and the Sacramento circuits, with great success. This, practically, doubles the Company's facilities on these routes. As soon as a supply of the quadruplex (four messages over one wire at once) instruments can be made in New York, the Pacific Division will be stocked on the "heavy" lines.

Further and extensive improvements are to be made during the coming season, of which you will be duly advised.

Colusa Lake and Mendocino Telegraph Company.

AS THIS is strictly a local company, and as the enterprise originated and has been carried to a successful completion by prominent residents of Colusa county, we propose to give the particulars of its organization and extensions of the line.

P. I. Washburn, Manager of the Western Union Telegraph Company at Colusa, after exhausting every effort to persuade that company to extend their lines to Princeton and Grand Island, organized a local company, consisting of E. W. Jones, J. K. Giles, Joseph H. Jones and himself, for that purpose. In the latter part of May, 1873, they completed the new line from Princeton to Grand Island, embracing six offices, and connecting with the Western Union Telegraph Company at Colusa. This company was known as the Princeton, Colusa and Grand Island Telegraph Company. In December, 1873, J. B. Cooke and J. B. Stanton purchased the interests of E. W. and J. H. Jones, when the company reorganized under the name of the Colusa, Lake and Mendocino Telegraph Company, and resolved at once to extend their lines through Lake and Mendocino counties. As this enterprise contemplated a heavy expense, and as the plan proposed by the new line would be a huge lever in the development of the three counties, an effort was made to get an enabling Act passed by the last Legislature, which would authorize the different counties to loan their bonds in aid of the work, but as the bill was killed in committee, the company resolved at once to build the main trunk line, and delay the completion of the side lines until material assistance could be had. They commenced work on the fifteenth of May, and completed the line to Middletown, in Lake County, on the 25th of August. They opened offices at Colusa, Boggs', Princeton, Sycamore, Chapin's Landing, Grand Island Mills, Grimes' Landing, Grand Island, Williams' Ranch, Mountain House, Turner's Station, Munchville and Leesville, in Colusa County, and at Allen Springs, Bartlett Springs, Upper Lake, Lakeport, Kelseyville and Middletown, in Lake County.

The cost of the line and properties of the company was in round numbers twenty-four thousand dollars. We learn the company intend to complete their line to Calistoga within the next two months, and that the line will be extended to Jacinto, St. Johns, Olimpo and Newville, as soon as inducements are held out to the company by the citizens and property owners along the route. We are also informed they will extend their line north from Upper Lake, via Witer Springs and Potter Valley to Round Valley, in Mendocino County, early in the spring. Their present line covers about one hundred and eighty miles, which will be extended the coming season some two hundred miles more. This company, composed of only four men, by their energy and enterprise in showing this work along, have set an example worthy of imitation by some of our wealthy citizens, who at first were disposed to burlesque the enterprise, and throw cold water on the measure in its infancy. We can now boast of more telegraph offices in the county than any county in the State, and six months from this time we expect to see offices opened at Spring Valley, Newville, Olimpo, Kanawha, St. John's and Jacinto.

The principal or head office of this company is located at Colusa. J. B. Cooke, General Superintendent; J. B. DeJarnatt, Secretary, and W. P. Harrington, Jr., Treasurer.—*The Weekly Calusa (Cal.) Sun.*

Pleasant Surprise Party and Presentation to Miss Kittie Marriott.

On Friday evening, Jan. 15th, a large party of ladies and gentlemen assembled at the residence of Mrs. Marriott, 484 Herkimer street, Brooklyn, N. Y., for the purpose of surprising Miss Kittie Marriott, and presenting her with a large and beautiful black walnut, gold finished, photographic frame, containing the photographs of the several operators employed upon the Western Union wire between New York and New Brunswick, N. J., which Miss M. formerly operated.

Miss Marriott was greatly surprised, as she had been invited by one of the party to attend the theatre, and was waiting for the escort; which invitation was fully understood by her when her friends made the object of their visit known.

After the presentation had been made and suitably responded to by Miss Marriott, the party were invited to the large dining hall, where a sumptuous repast had been provided, which was enjoyed and appreciated by all present.

After supper dancing was indulged in, and continued for some time, and afterwards the talented and accomplished Miss Clara Utley, of Rahway favored the company with music.

Among those present were Messrs. W. T. H. Barr, of Elizabeth, N. J.; L. B. Foley, of New York; R. H. Zublar, of Hoboken; J. W. Downing, of New Brunswick; W. T. Harned, Fred. Atwood, Miss Madge McConnell, Miss Utley, Miss Tillie V. Marriott, Miss Van Schoonoven. The party dispersed at an early hour, greatly pleased with their evening's entertainment.

Miss Marriott has for the past three years been in the service of the Western Union Telegraph Co. in New York, and now retires, taking with her the esteem and good will of her superiors and that of her friends and late associates, who showed their appreciation of her past services in presenting her with so handsome and appropriate a testimonial.

Correspondence.

We do not hold ourselves responsible for the opinions of our Correspondents. Our columns are open to free discussions on all Telegraphic subjects, without distinction of person or opinion.

No notice will be taken of anonymous communications.

A Woman Operator's Response to "Nihil Nameless."

CHICAGO, Jan. 15th.

TO THE EDITOR OF THE TELEGRAPHER.

"Will the Coming Operator be a Woman?"

THE above is the caption of an article in your issue of January 9th. The writer takes a doubtful affirmative view of affairs in general being better in these latter days, while that many things are worse he seems positive. It is always sad to my mind, when any one, be he friend or foe, is more inclined to look on the dark side of life than on the bright.

As "N. N.'s" side of the question unfolded itself to my mind at a first perusal, I mentally promised to answer paragraph by paragraph. But, just at present, lack the time, and must be content to fill less space.

Passing, therefore, directly to the very head of "the body of his subject," I would ask "N. N." if he considers it always necessary to use the term "clergyman?" I think not one of the scholars he calls forth would object to the noun clergy. I fancy even the

venerable Lindley would allow the lexicographers of the present day to be his equals.

Immediately after this little flirtation with grammar, the writer most fittingly uses the term "Old Fogies." An old foggy is always behind the time, even of his own age—let alone "forty years" in advance. Soon we hope to celebrate the Centennial of our Republic, and, methinks, he is an old foggy indeed who shall doubt that in the coming century woman will accomplish much which during the past years she has passively permitted her brother's brain and hand to will and do.

And again (I will quote one sentence, which I think must have got into "N. N.'s" article by mistake, surely) he says, "They," women, "are rapidly absorbing the business, as they have already done in other walks in life." If he thinks that, how can he say "he knows her opportunities are limited?"

Is it a conundrum?

All "N. N." says of men operators may be true. He knows such, I presume; but, after working long where there are scores of operators of his sex, I can say I am ignorant.

"Honi soit qui mal y pense."

If woman's mission is to elevate the human race, "make men good," does it argue against their working as operators, that in all large offices where there are a number of employes the introduction of ladies has tended directly to raise the tone of the office to a higher level? or this fact, that on a railroad line where the manager was troubled by slang and profane language he introduced three or four lady operators and quickly there was a marked change for the better in this respect? There is still enough of the old chivalry left to render men more gentlemanly in the presence of women. Does "N. N." think this will grow less as women go more and more into active business life? I think not. One who is naturally refined will not lose her identity by coming in contact with others. And one who respects herself, will always be respected.

A word as to my own experience. I have had charge of an office in a lumbering district in this city, where, perhaps, I was the only lady in the vicinity, but, not for that reason, did I meet with less kindness or consideration from the business men with whom I came in contact.

In an office with many employes a woman need have but little to do with male employes of coarse minds, if such there be; but men are not likely to show any but their most manly and gentlemanly characteristics to a true lady.

In a railroad office I suppose a woman does have to do with a rougher class of men, but she can certainly prevent profanity in her presence. And is it any worse to hand orders, etc., to a few workmen, than to give orders to the butcher, the baker, etc., at home? A woman cannot stay forever penned up at home, and only go out into the world hemmed in by a father or a brother on one side and a husband on the other. Many have not these "natural protectors," and as they go through life will probably meet all classes of men, the vulgar as well as gentlemen, and it rests with themselves to maintain their dignity under any and all circumstances.

I do not think that telegraphy will ever be in the hands of women alone.

I truly believe that in the coming days, men and women will ever join hands in all good works.

ALUQUAR.

Severe Weather.—Telegraph Colleges.

TO THE EDITOR OF THE TELEGRAPHER.

WE have been having some remarkable weather here in the northwest since my last communication. The thermometer at St. Paul changed in three hours to-day from 9 degrees above to 19 degrees below zero. It has been below 20 several times this winter, but the change was not so sudden. At Oshkosh to-day it was down to 22, at Greenbay 25, at Janesville 21, and about on the same proportion all through the upper lake region. At Pembina, Dakota, it was 45 below, and Fort Garry, Manitoba, 40 below. The electrical storm made sad havoc in this section with railroads, telegraph lines, etc. The snow blocked up the roads, and the extreme cold snapped the wires where they were drawn too taut like pipe stems. There was not so much snow as has fallen at other times, but the high winds drifted it in huge piles in enough convenient places to block trains. The Sioux City R. R. line was broken in several places north of St. Paul, and no trains got nearer Sioux City on that road than Mankato, Minn. Several interesting phenomena have been reported. Among the most notable was one at St. Paul, on the above mentioned Sioux City R. R. line. When Mr. Hughes, the chief operator, began testing this morning, this line seemed to be heavily grounded, and upon opening the key a stream of fire followed the circuit breaker about three inches long, and, seemingly, an inch thick. It was of nearly a minute's duration. A great many of

the boys complained of sticky writing to-day, and it was only remedied by opening the key a good deal wider when sending. The charge formed by the electrical storm was so heavy as to completely stop communication on some of the wires for several minutes at a time.

The Northwestern Telegraph Company began Jan. 1st using the word "collect," which is written after the signature on each collect message, and counted in the check as an extra word, but not charged for; this will no doubt prove to be an excellent idea to prevent error in paid and collect business, and save a great many check error sheets and vexation to clerks. No trouble originated in the adoption of the rule, as it was so simple. It looks very much like the work of Gen. Supt. C. H. Haskins.

In my last letter I referred incidentally to the Messrs. Valentines' Telegraph College, at Janesville, Wis., and expressed a wish that some of the fraternity would get the daily papers of some of our large cities to show up these swindles. This earnest desire, originated out here in the woods, has been gratified, as the following communication, clipped from the *Chicago Times*, January 4th, will show. I suppose some one of the fraternity has carried my former communication to Mr. Storey and shown him one of their circulars. Mr. Storey generally handles swindlers and humbugs without gloves, and, judging from the spirit of this letter, his editorial must have given it to them hot and heavy. The following is his letter, *verbatim*. The attention of the public is called to it by its being placed in a very conspicuous place and the following heading lines:

"TELEGRAPH COLLEGES.

An Old Operator Pronounces them Frauds of the First Water.

To the Editor.

CHICAGO, Jan. 4.—Your truthful editorial in your issue of the 2d inst., in regard to so-called telegraph colleges, is highly commended by the fraternity here and elsewhere. Heretofore these despicable frauds and humbugs have only been exposed in the telegraph papers, 'class journals,' whose circulation is limited entirely to members of the telegraphic fraternity. As a matter of course, 'outsiders,' young ladies and gentlemen who are constantly being made the victims of these would-be professors, never see these journals, as they rarely know of their existence, and it is only through the medium of a paper like the *Times*, whose columns are read by all classes, that they can ascertain the truth in regard to these colleges. You can consider yourself the pioneer in this respect here in the northwest, as no daily paper has ever published anything on the subject before. By your kind permission I should like to more fully enlighten the public in regard to these colleges.

You have forcibly pointed out the falsity of the elaborate statements made by the principals of these institutions, in regard to the 'certainty of position,' 'munificent salaries,' free transportation privileges, free tickets to entertainments, etc., and of premiums being offered telegraphers in the way of 'good salaries' as 'book-keepers,' 'agents,' etc., all of which is worse than bosh, as those who send out circulars containing such information know as well as we telegraphers; and their victims find it out when too late, after being fleeced out of the amount charged for tuition. These statements, however, do not seem sufficient to entrap the unsuspecting by some of these colleges, but downright falsehood and bribery has been used to accomplish their ends. A case recently came to the notice of the fraternity here, in which a college in Wisconsin undertook to bribe a young operator who had learned the business in a regular telegraph office near the location of this college, by offering to give him \$5 per head for every scholar he would induce to buy a scholarship in their institution. He was to inform the greenies that he learned there in six months. As he is as fine a young operator as there is in the business in the northwest, of course such an argument would have been sufficient to induce the most doubting greeny that in a short space of time he could be a first class operator, and enjoy all the benefits so blatantly advertised in their circulars.

Let us look for a moment at what constitutes a good operator. He must have a splendid English education, understand Algebra, be a rapid penman, a good grammarian, and be able to read all kinds of writing. In the earlier days of telegraphy, men who were not remarkably good scholars took up the business and schooled themselves. As the business grew they grew with it; but that time has passed, and an operator who lacks any of the requirements named, especially rapid penmanship, need never expect to advance in the profession. The railroad operators, who are a class by themselves, 'enjoy the privileges of railroads,' in so far that the railroad employing them transport them from one station to another, not as a pleasure to the operator but to suit the convenience of the railroad service. Their salaries range all the way from \$25 to \$75 per month, rarely exceeding the highest figures named even

for train dispatchers. The railroad operator is subject to the whims and caprices (called orders) of the 'division operator,' 'train dispatcher,' 'superintendent of telegraph,' 'division superintendent of the railroad,' etc. If the duties of agent are combined with those of telegraphing, his responsibilities are increased without a corresponding increase of salary. The commercial operators, those who handle the matter that appears in your telegraphic columns, are under a chief operator, manager and superintendent. Their hours of duty are from 8 A. M. until 6 P. M., with half an hour for lunch, and from 6 P. M. until the business is all cleared up, generally about 2 A. M. The day duty (8 A. M. to 6 P. M.) is considered preferable, and there are always applications on file for promotion from night to day duty. The commercial operators' hours are not so long as those of the railroad operators, except at way offices, they having to be on duty (except in offices where more than one is employed) from 7 A. M. until 9 and 10 P. M., with time allowed for dinner and supper. The commercial operators' work is more confining, however.

These remarks are not intended to discourage any who think they are fitted for this profession, but only to show them what fitness they require. Those intending to enter the profession should apply to some well known manager or superintendent, and if they can recommend a telegraph college they will be safe in entering it; otherwise they will save time and money and prevent disappointment to wait until they can get into a telegraph office to learn.

TELEGRAPH OPERATOR.

It is a pity this correspondent did not enlarge on his subject more, and show how that by as many years study in any other profession as it takes to make a real first class operator, a man could become rich and honored instead of being a mere machine subject to the whims of ignorant superiors devoid of any reason or judgment, to say nothing about justice, for it is a well known fact that if an operator, no matter how long he has been in the business, dares to assert his manhood he is quickly made to understand that he must divest himself of such foolish notions or find other quarters. It is also a matter of regret among the fraternity here that he did not come out boldly and give the principals in the case in Wisconsin mentioned, where the proprietors undertook to bribe a young operator to assist them in the roping in business as the principals were none other than the Valentine Brothers of that model college at Janesville. No doubt this correspondent knew all this, but did not wish to commit himself as it is well known here in the northwest. The young operator in question making no secret of the matter, but telling it boldly to his fellow laborers in the office where he is employed, and laughing over it as a good joke on the "Greenies." If the Messrs. Valentine want to follow up this matter they can have the facts, figures, etc., but they dare not do it.

If I mistake not we had editorial advice from you in a recent issue of your valuable paper showing that this method of ventilating these nuisances in the daily papers was the proper way. At least one of the students of this college will trouble the proprietors no more to procure him a situation. His real name was Odella B. Carpenter, but he went under the assumed name of T. H. Clifford. He spent three months at this college, and, of course, came out little better fitted for a first class telegraph situation than when he went in. His money was all gone, and he applied to the Northwestern Railroad Company, who gave him a clerkship at Sharon, Wisconsin, where he could barely earn enough to eke out an existence. There he was permitted to practice in the telegraph office when he had leisure time. Seeing no prospects of bettering his condition, and laboring under the idea that for something he had done, which caused him to assume another name, he would dishonor himself and family, he took morphine a few evenings ago and died from the effects of it. It has not as yet transpired what he had done to cause him to go by an assumed name. He was a single man, and I understand has a brother in the business at Belleflower, Ohio, and his parents reside at Painsville, Ohio. They have the heartfelt sympathy of the fraternity in this section in their bereavement. It is reported that some of the officials of the Northwestern Railroad are getting a bonus from the Valentines for giving these students situations on that road as fast as any of them are turned out competent to take a situation. I cannot say how true this is, and until I ascertain you will probably hear no more on this vexed question from

NORTHWEST.

The Relative Strength of Iron and Compound Telegraph Wire.

TO THE EDITOR OF THE TELEGRAPHER.

MENTION is made in the *Journal of the Telegraph*, for January 1st inst., of the serious interruptions caused to the Fire Alarm and Police telegraph lines o

New York city, by the sleet storm of December 20th 1874; and as the article appears to bear unfavorably upon compound telegraph wires, the following explanation of the facts is given that those who are interested in telegraphs may be enabled to judge fairly and intelligently whether the fault be inherent in compound wire or otherwise.

The compound wire used for the construction of the New York Fire Alarm and Police telegraph lines in 1869, was, in the first place, of very small size and the steel core of a smaller proportion to the whole weight, than is now manufactured, unless by special order. If this fact alone had been the cause of its inferior strength to galvanized iron wire, it remains simply a question of how much steel shall be added to make it superior to iron—but the wire was not constructed in accordance with the advice of the Wire Co., as regards the length of stretches (some of which are enormous), and was badly damaged before stringing by lying in the streets with teams passing over it, kinking in handling, etc; and the copper was also badly torn in making twist joints with plyers, such as are used for iron wire construction, whereas, patent joints are now used, entirely preventing such damage. We admit that the wire from its nature will not bear the rough usage in construction usually given to iron wire, and if the copper be torn, so as to admit moisture, it is only a question of time when the steel will rust away. Also, if kinked (for which there is no necessity), the steel is weaker at that point—but we claim that, being properly strung, copper will remain intact, and after a series of years the steel will be found bright with the tin originally put there. The superiority in strength of compound wire, properly strung, has been fully proven in many instances of long stretches in use by the Western Union and other telegraph companies.

CHESTER SNOW,

President Am. Compound Teleg. Wire Co.

N. Y. & O. M. R. R. Southern Division Operators.

IN THE WILDS OF JERSEY, January 12.

TO THE EDITOR OF THE TELEGRAPHER.

THE operators on this division of the New York and Oswego Midland Railroad are a very nice set of fellows. If some are a little slighted they must excuse me on the ground that I am not so very well acquainted with them. The first on our list is Mr. C. W. Cresson, ticket agent and operator at Wickham Avenue Depot, Middletown, N. Y., who is a fair, sound man, but I would like to suggest to him that when he breaks in on one, to at least give them some warning, as it would look more gentlemanly. No harm is meant, "X."

Mr. G. H. Smith, "S," officiates at Crawford Junction.

At "B," we find Mr. R. G. Kirkpatrick, "K," who does the double duty of agent and operator. He comes from some place on the Auburn branch, but we never could find out what part he took in the drama of "The Drover and the Lady Operator" at Truxton; perhaps Silas can.

At "Su," Mr. A. M. Chase, "C," takes care of both main line and the branch. The Ellenville branch starts from this place, following the D. & H. Canal to Ellenville, where Mr. C. E. Crum, "C," runs the station, while Mr. W. C. Whitner, "W," runs the "string."

At "C. E." Mr. W. E. Shippy, "S," officiates. While at Liberty Falls and Liberty, Messrs. E. Schoemaker, "E. D.," and W. H. Freer, "F," make things lively on the wires. We find Mr. A. D. Murray, "D," at Parkville; and at Morriston is Mr. W. L. Darbee, "A."

At Westfield Flats Mr. F. T. Wheeler, "F. T.," is agent and operator. At Cook's Falls we find a young man of our acquaintance, one of the most eccentric boys I ever had the fortune to come across, Silas D. Blanchard. I never hear his name but what I think of his "ball race and horse play at Truxton," and it makes one laugh heartily to hear of his exploits at school, in De Ruyter, N. Y. *Yale boys are nowhere.* Silas changes his sig, so often that we can hardly keep track of him. I must leave Silas to his fate, and pass on to East Branch, where Mr. W. E. Sloat, "S," is agent and operator. At Hancock, Mr. J. E. Hamilton, "X," is operator. At this point the Midland runs within half a mile of Hancock Station, on the Erie Railway. At Walton, Messrs. W. Nichols, "N," and W. Hawkins, "H," run the office. At Airville, Mr. H. H. Walton, "W," is agent and operator. At Sidney Centre Mr. C. W. Burnside, "B," is agent and operator. At Sidney Plains is the testing office, and here we find as agent, Mr. C. H. Hopkins, "N," a retired operator.

Mr. W. E. Dante, "X," officiates as day operator to the perfect satisfaction of the company. In Mr. C. W. Sherwood, "C. S.," the night man, I think I recognize as being once the night man at Franklin Furnace, N. J., who was at that time just commencing to *frite gerse*. At New Berlin Junction, Mr. M. D. Olds, "Q," is agent and operator. At this point the New Berlin branch leaves the main line. On this branch are few

stations. At Holmesville, Mr. Edw. White, "X," is operator. At Mt. Upton, Mr. Howard North, "W," and at New Berlin, Mr. Jas. Broadfoot, "F," brings up the rear with his *broad foot*. Again, on the main line, at Guilford, Mr. C. A. Winsor, "W," is agent and operator. At Summit, Mr. J. M. Welsh, "C," is operator; and at Oxford, Mr. J. E. Rogers, "J," is agent and operator. I will now stop for the present.

P's AND Q's.

Successful Working of the D'Infreville Duplex.—Unfounded Rumor.

TORONTO, CANADA, Jan. 12th.

TO THE EDITOR OF THE TELEGRAPHER.

DURING the past week a practical test of D'Infreville's duplex invention was made by the Dominion Telg. Co., working a circuit of six hundred miles—from Buffalo to Montreal, through repeaters at Toronto. The duplex between this city and Montreal has been for months working very successfully. Last week Mr. Hugh Neilson, Supt. and Electrician for the Dominion Co. proceeded to Buffalo, and after having put up the duplex, the trial was made, which proved quite satisfactory. One great advantage is that this duplex can be and is now working between this city and Buffalo on a battery by which a number of other wires are also worked.

The rumor that a paper is about to be started in the interests of Canadian telegraphists is evidently quite unfounded, nothing having been heard here of the undertaking.

P.

Personals.

Mr. DAVID T. ACKERSON has been appointed agent and operator N. J. M. Ry., at New Durham, N. J., vice E. Greenleaf, Jr., transferred.

Mr. ENOCH GREENLEAF, Jr., formerly agent and operator N. J. M. Ry., at New Durham, N. J., has been transferred to Newfoundland, N. J., same road, same position, vice Mr. E. B. CLAY.

Mr. A. H. KNAPP has been promoted from relief operator N. J. M. Ry., to the position of operator, same road, at Pompton, N. J., vice Mr. McELROY, transferred.

Mr. F. PETIT, operator Pompton Junction, N. J., succeeds Mr. McELROY, at Pompton, as agent.

Mr. J. H. McELROY has been transferred from Pompton, N. J., as agent and operator N. J. M. Ry. to Middleton, N. J., same road, as agent. This is quite a responsible position, but Mac is capable of holding his own.

Mr. SAMUEL E. GARVEY, "Sq," has been appointed manager of the Montreal, Canada, office, of the Dominion Telg. Co.

Mr. CHARLES R. RICHARDS has been discharged from the service of the Automatic Signal Telegraph Co. for intoxication and inattention to duty.

Mr. T. D. LOCKWOOD has resigned his position at Morristown, N. J., on the Delaware, Lackawanna and Western Railway, and has been appointed inspector of the Automatic Signal Telegraph Company in this city.

MESSRS. P. V. DEGRAW and E. C. BOILEAU, have resigned their positions in the New York Western Union office, and accepted positions in the New York office of the Associated Press line.

MESSRS. F. N. BASSETT, of the New York Western Union office, and WILLIAM G. JONES, of the Western Union, Philadelphia, office, have resigned, and accepted positions in the Washington office of the Associated Press line.

MESSRS. THOS. J. BISHOP, of the New York Western Union office, and HARRY A. WELLS, of the Western Union, Philadelphia, office, have accepted positions in the Baltimore office of the Associated Press line.

MESSRS. WM. H. HARGRAVE, of the New York Western Union office, and WM. N. GROVE, of the Philadelphia Western Union Office, have resigned and accepted positions in the Philadelphia office of the Associated Press line.

Mr. WM. S. LEWIS, who resigned his position in the New York Western Union Office in July last to go to St. Louis, returns and accepts a position on the night force at 145 Broadway.

Mr. GEORGE P. MATTHEWS, ticket agent and telegraph operator at the South street depot of the Penn. R. R., at Elizabeth, N. J., has been promoted to the principal depot in the same city, as passenger agent of the road, to date from Feb. 1.

THE TELEGRAPHER

DEVOTED TO THE INTERESTS
OF THE
TELEGRAPHIC FRATERNITY.

SATURDAY, JANUARY 23, 1875.

THE TELEGRAPHER:

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ELEVENTH VOLUME.

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THE TELEGRAPHER.

A JOURNAL OF ELECTRICAL PROGRESS,

DEVOTED TO THE INTERESTS
OF THE

Telegraphic Fraternity and the Advancement
of Electrical Science and the
Telegraphic Art.

Published Every Saturday,

AT

No. 38 VESEY STREET, New York.

ELEVENTH VOLUME.

The Publisher, in announcing the **Eleventh Volume** of

THE TELEGRAPHER,

which will commence with the number for JANUARY 2, 1875, desires to return thanks for the LIBERAL SUPPORT which it has hitherto received, which it is expected and believed will be continued during the ensuing year.

All the popular and valuable features of the paper will be retained, and it will continue as heretofore to labor for the best interests of the TELEGRAPHIC FRATERNITY and the advancement of ELECTRICAL SCIENCE and the TELEGRAPHIC ART.

THE TELEGRAPHER

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All communications relating to or intended for THE TELEGRAPHER must be addressed to

J. N. ASHLEY, Publisher,

(P. O. Box 5503,) NEW YORK.

The Telegraphic Contest.—A Commotion in Telegraphic Circles.

THE situation in telegraphic matters for the last ten days has been decidedly exciting and interesting. We gave briefly in the last number of THE TELEGRAPHER an account of the events that had transpired in the development of the active contest which was impending between the Western Union and the Atlantic and Pacific Telegraph Companies, the most notable and that which attracted the most general public attention being the resignation by General THOMAS T. ECKERT of the Superintendency of the Eastern Division of the former, and his election as President of the latter company.

This event, which was not altogether unanticipated by the initiated, took the public entirely by surprise, and was universally accepted as showing that the competition was to be a protracted, vigorous and bitter one. The officials of the Western Union Company were disposed at first to regard this transfer of General ECKERT from one side to the other as a matter of very little moment, and they were evidently in ignorance of other defections, and the arrangements which the manager of the Atlantic and Pacific Company has been making to secure advantages which should be effective in the contest that has been so vigorously inaugurated.

The adherents of the opposition company and the public were, however, disposed to regard it as a more momentous affair, and as indicative of strength in the opponents of the Western Union Company, and the consequence was a considerable decline in the market quotations for Western Union, and a more than corresponding advance in Atlantic and Pacific shares.

On Friday the following correspondence between General ECKERT and President ORTON was made public by the latter:

NEW YORK, Jan. 9, 1875.

DEAR SIR.—I hereby respectfully resign the position of General Superintendent of the Eastern Division of the Western Union Telegraph Company, and of Director and Traffic Manager of the International Ocean Telegraph Company, which resignation I prefer should take effect at once. Very respectfully,

THOS. T. ECKERT.

Hon. WILLIAM ORTON, President.

NEW YORK, Jan. 12, 1875.

Gen. THOMAS T. ECKERT—Dear Sir: At a personal interview solicited by you yesterday you tendered me your written resignation as General Superintendent of the Eastern Division of the Western Union Telegraph Company. The resignation, which was dated the 9th inst., and which you desired should take effect at once, was the first intimation of your purpose that I had received. In view of the fact, now clearly ascertained, that, while holding a confidential position with this company, you have been, for some time past, secretly carrying on negotiations with its enemies, and, before tendering your resignation, had made arrangements to accept employment in the service of the opposition, I promptly comply with your request, and your resignation is accepted hereby. Vice-President Mumford has been instructed to take charge of your office and assume its duties for the time being. Very respectfully,

WILLIAM ORTON, Pres't.

As Mr. ORTON had not seen fit to publish the whole correspondence, Gen'l ECKERT, on Saturday, in a card to the *New York Tribune* made public his reply to the sharp and acrimonious letter accepting his resignation, which first appeared in that paper.

To the Editor of The Tribune.

SIR: Will you have the kindness, as you have today published the first part of the correspondence which has passed between Mr. Orton and myself, to give publicity to the following letter, which is the latter portion of that correspondence, and which has been omitted, for reasons best known to Mr. Orton, although it was in his possession on Thursday, at 1 o'clock.

NEW YORK, Jan. 14, 1875.

The Hon. WM. ORTON, President Western Union Telegraph Company, 145 Broadway, New York.

DEAR SIR: Your letter of 12th inst., accepting my resignation, is before me. In it you mention that my letter of the 9th inst. was the first intimation of my purpose that you had received. That letter was withheld until your return on Monday, the 11th inst., that I might hand it to you personally.

The wide difference of opinion occurring between us as to the practical management of my division, and

recently exhibited with regard to the New Building on Broadway, has resulted in relations which were anything but agreeable, and which might have prepared you for the reception of my resignation at any moment. You cannot have forgotten the acrimonious correspondence which passed between us in May, 1873; and again last spring our relations assumed such a character that, as several of my friends are aware, I intended to resign, and should have done so but for your ill health and absence. My letter of resignation simply expressed a preference that it should take effect at once, but in presenting it to you I stated, as you must remember, that I was prepared to continue my duties for any reasonable time, and especially in connection with the completion of the work of my department in the new building, if you should so desire. Notwithstanding the imputation in your letter I to-day, at the request of Vice-President Mumford, my successor, accompanied him through the new building, and explained to him in detail all my plans that have been adopted for its arrangement. The assumption in your letter that a subordinate officer, not a director of a company, nor having any voice in determining its general policy, shall be debarred from entertaining a proposition for a more advantageous or agreeable position elsewhere, is one which I do not for a moment admit.

I regret that your exception to my resignation conveys a reflection upon me which will entirely prevent me from taking any further interest in the affairs of the Western Union Telegraph Company.

Very respectfully, THOMAS T. ECKERT.

As the public probably feel no particular interest in this subject, I do not propose to inflict any further discussion of it upon them. But both the public and the press are interested in possessing cheap telegraphic facilities, and these I hope to give them before long.

Very respectfully, THOMAS T. ECKERT.

NEW YORK, Jan. 15, 1875.

It is generally considered that in this epistolary warfare Gen. ECKERT had rather the best of it. It has been known that his relations with the Executive of the Company have for some time past, and as it now appears from the above letter, for nearly two years, not been very pleasant and agreeable to either party. However, that is a matter with which the public have but little concern, but it serves to explain, in some degree, his readiness to accept an antagonistic position to the Company with which he had been so long connected in a leading position.

Gen. ECKERT's ability as an executive officer and as a disciplinarian are generally conceded, and he certainly has no lack of the positive element in his character. In his new position as President of the Atlantic and Pacific Company, in the bitter competition which is to ensue, he will have ample opportunity to demonstrate the ability which it is claimed he possesses to efficiently manage a great telegraphic enterprise.

Mr. A. B. CHANDLER, Superintendent of the Sixth District, and Assistant General Superintendent under Gen. ECKERT, also resigned and followed his chief to the Atlantic and Pacific Company, of which he has since been appointed Assistant General Manager, Mr. E. D. L. SWERT retaining the position of General Manager of the Company.

We stated last week that there were unpleasant whisperings as to the hold which the Western Union Company had on the much lauded quadruplex. This was as definitely as we were at liberty to state the case, but it is now well known to the public, as it was previously to us, that EDISON had given the Western Union Company and his former admirers and ardent friends, President ORTON and Electrician, G. B. PRESCOTT, a "cold shake," and disposed of whatever title he had to the quadruplex to Mr. JAY GOULD for the service of the opposition. It was very difficult to convince our Western Union friends of this fact, and they retained, or pretended to retain their faith in EDISON up to the last possible moment, notwithstanding they had been unable to obtain an interview with him for some two weeks previously. They were at last compelled to succumb, however, to the cumulative evidence, and now they lament for him, and abandon further hope of being charmed by his presence and cooperation in effecting a reduction of tariffs which was officially announced as likely to follow upon the complete development of the quadruplex.

The retirement of Messrs. ECKERT and CHANDLER necessitated some changes in the personnel of the offi-

cial. To Vice-President MUMFORD was temporarily assigned the duties formerly discharged by Gen. ECKERT. Up to the time this is written no permanent appointment to fill the vacancy has been made, but it may be done in time to enable us to give the name of the fortunate individual before we go to press. We learn that Mr. J. C. HINGHAM has been appointed Assistant General Superintendent of the Eastern Division.

Mr. A. S. BROWN, who has for many years efficiently and ably discharged the duties of Manager of the New York office, has been appointed Superintendent of the Metropolitan and Sixth Districts in place of Messrs. HINGHAM and CHANDLER, and at once entered upon his new duties, retaining temporarily the management of the office until his successor could be appointed. Mr. BROWN is an excellent Manager and electrician and his appointment is a most fit and proper one. If the Western Union Company are successful in securing as well qualified persons to fill other vacancies they will be fortunate indeed. Although quiet and undemonstrative in his character and disposition, his ability and zeal in the service of the company ought to have secured promotion long since. We congratulate him and the company most heartily on their mutual good fortune.

The Central Grand Division (Gen'l STAGER'S) is to be extended so as to include GIFFORDS', HOLMES' and CHANDLER'S districts, which comprise the greater part of the lines and offices in New York State, and a portion of Northern New Jersey and Western Vermont, while BATES' New York and Washington district, including Eastern Pennsylvania, and DAVIS' (Baltimore and Ohio) district are to be annexed to the Southern Division under General Superintendent VAN HORN, which will leave the Eastern Division entirely east of the Hudson River.

Vice-President MUMFORD will, for the present, continue to act as General Superintendent of the Eastern Division, aided by Assistant General Superintendent J. C. HINGHAM.

Mr. A. S. DOWNER, who has for a long time been Assistant Manager of the New York office, has been appointed Acting Manager.

General Superintendent VAN HORN, under the new arrangement, will transfer his headquarters from Louisville to New York.

It will be noticed that Mr. ECKERT very plainly intimates in his card to *The Tribune* that it is his expectation to be able in his new position to give the public cheap telegraphy. With the quadruplex and the automatic systems, both of which are to be adopted and used by the Atlantic and Pacific Company, if necessary or advantageous, it is expected to so greatly increase the capacity of the lines for business as to make feasible low rates for telegraphic service. As from present indications the competition between the Western Union and the Atlantic and Pacific Companies is to be embittered by acrimonious personal feeling, as well as actuated by a desire to divide the telegraph business of the country, it is not improbable that rates may come down very materially at a not distant day.

As yet there have been no very important or radical changes of the Atlantic and Pacific lines. At present matters are in rather an unsettled state, and there is a disposition to marshal the forces and get things in order for the conflict which is to be waged. We have rumors of what is to be done by or for that company, but it would be premature to state them until matters are more definitely settled.

It is understood that there is behind all these movements a strong railroad combination, which has been provoked in the first place by the attempt of the Western Union Company to enforce the odious PAGE patent, and thus bring the railroad as well as other telegraphic interests into subjection to that company.

It is reported that the Atlantic and Pacific Company are negotiating for a lease of the Astor House for their executive and main offices in this city, but we are not in a position this week to either confirm or deny the report.

We have endeavored in the above to state as briefly as possible the facts and the situation, so far as they can be known, fairly and candidly. It is a subject which interests every telegrapher, and we do not think that we could occupy our columns with anything which would be more acceptable to our readers, and will not, therefore, offer other apology for the space which is devoted to it.

The telegraphic situation for some time to come is to be one of absorbing interest, and our means of obtaining information is such as to enable us to keep our readers fully and authentically informed of everything of importance on either side in connection with it. This we propose to do, not in the interest of either party especially, but as a matter of duty as a telegraphic journal to which the fraternity and the public are entitled and accustomed to look for the latest and most reliable information.

The Foundation of Telegraphic Success.

THERE has been, especially of late, great activity in the invention and development of apparatus for increasing the capacity of telegraph lines for business. They are all very well in their way, but to make them available to the fullest extent there is a necessity for a radical and decided improvement in the construction of the telegraph lines themselves. Too little attention has been given to this branch of the subject, and, as it is probable that a considerable extent of new line will be constructed during the coming year, we desire to urge upon those who have their construction in charge the vital necessity of full and intelligent consideration of the subject.

No matter how excellent and improved apparatus and systems may be devised, the anticipated benefits will not be realized until properly constructed lines are furnished for their operation. The problem of how such lines may be secured is of more vital importance now than further improvement in telegraphic apparatus. The experience of the Western Union Company in testing the quadruplex has been that it was only practicable to work it on long circuits on lines of large conductivity, and, unless we have been misinformed, it has only been successfully worked on No. 6 galvanized iron wires between New York and Boston and New York and Chicago. Any system, of rapid transmission especially, requires lines of large conductivity and very perfect insulation to be worked advantageously and profitably on any but comparatively short circuits. Notwithstanding the prejudice (which we regard as unfounded) that has been created against the compound telegraph wire, we believe that it furnishes the best and most economical solution of this problem. We do not say this to puff the compound wire, and we have no interest in so doing, but because we believe it to be true. The cost of lines properly constructed of compound wire is actually less than those constructed of other wire of corresponding conductivity, and, if properly handled and put up, it will remain intact for a longer period than other wire.

The manufacture of compound wire has been so improved that it can be furnished of any strength and conductivity required. It is true that it requires more careful handling in construction, but the advantages which it possesses more than counterbalance this.

With a properly constructed and insulated line of adequate conductivity circuits of any reasonable length can be worked with certainty by almost any known telegraph system, and to great advantage by what are known as fast telegraph systems. Without these only circuits of limited extent can be worked, and these not to the best advantage.

As before said, too little attention has heretofore been paid to this vital point in telegraphic efficiency and economy. We do not wish to see any more such miserable lines constructed, as are too many of those now operated by the telegraph companies of this country generally. The best attainable lines will in the end prove by far the most economical and profitable.

Death of the Rev. Henry Highton.

THE last number of the *Telegraphic Journal* records the death of the Rev. HENRY HIGHTON, which took place suddenly at his residence at The Cedars, Putney, England. Mr. HIGHTON was for many years one of the assistant masters at Rugby school, and for some time principal of Cheltenham College, in both of which positions he enjoyed great popularity. As a scientific man he was associated with various discoveries in connection with electric telegraphy, for which he has more than once received the medal of the Society of Arts. He took out his first patent in 1844, for a telegraph worked by high tension electricity, and employing a chemical recorder. In 1846 he invented his well known gold leaf telegraph, which, however, has never been practically used, although Mr. HIGHTON has recently been engaged in perfecting an adaptation of it to long submarine cables. In 1848, in conjunction with his brother EDWARD, he patented several improvements in needle and type printing telegraphs. He has within the last two or three years invented a battery which promises to be of much value. In 1852 he published his well known work on the Electric Telegraph, the matter of which has been largely drawn upon by more recent writers upon the same subject.

A New District Telegraph System.

WE understand that General ECKERT, the new President of the Atlantic and Pacific Telegraph Company, has commenced the organization of a company in competition with the American District Company, which latter, it will be remembered, has for some time been working in harmony, and under a contract with the Western Union Telegraph Company in this city.

The new organization it is understood, controls the patent of J. W. KATE'S automatic signal telegraph about to be issued, which consists in the employment of a series of non-conducting perforated tapes, upon the principle of the automatic system, each tape being prepared in such a manner as to transmit a signal or message corresponding to the principal or most frequently recurring wants of the party in whose residence or place of business the apparatus may be located. These tapes are wound around a grooved drum which is on the same shaft with the mainspring of a clock gearing—the clock gearing, drum and tapes being so relatively arranged that a withdrawal of the tapes winds up the spring of the clock gearing; and the reaction or retrograde motion of a spring when the tapes are released, winds up the tapes upon the drum, and sends the line current through the perforations by means of conducting rollers, between which the tapes pass.

They have also secured the EDISON patent for the same purpose, but upon a different plan. It is also rumored that the KIRCHOF patent of 1865, and the TOWLE and UNGER patent of 1873, will be controlled by the same combination.

The profits of the American District Company are not believed to be very large, in proportion to the capital invested, although they have some two or three thousand instruments in circuit in this city, but it is quite possible that the new organization may contemplate the addition of new features to the business, which have not as yet been thought of, or at least not announced by the managers of the American District.

Lease by the N. Y. Associated Press of a Western Union Wire.

THE New York Associated Press have leased a wire from the Western Union Telegraph Company, between New York and Washington. This will connect with instruments to be placed in the offices of the association in New York, Philadelphia, Baltimore and Washington, on which the greater part of the press business will hereafter be transacted. By offering extra inducements in the way of salary, the association has succeeded in engaging the services of eight of the best operators in the country, whose names will be found

in our column of personals. This arrangement will go into effect as soon as the offices and instruments can be got ready, probably some time next week. With this superior staff of operators, the Associated Press circuit will doubtless be handled in a manner superior, possibly, to any Morse circuit in the United States, or outside of it.

The Cable Steamer Faraday Heard From.

AS SUGGESTED as probable in our article on the Direct United States cable last week, the steamer Faraday has for the present abandoned the attempt to complete the laying of the cable and returned home. An Associated Press despatch from London, dated the 19th inst., announces the arrival of the Faraday at Portland, England, and states that she will refit at Gravesend and resume operations on the cable.

It is hardly probable that any further attempt will be undertaken until the winter and early spring months are past, and more settled and favorable weather for the purpose on the Atlantic may reasonably be expected.

Important to Inventors.

THE attention of inventors of electrical and telegraphic apparatus is called to the advertisement of the Electro-Magnetic Manufacturing Co. They will find it to their advantage to communicate with the company, which makes a specialty of bringing out new, useful and valuable inventions of this character.

The Telegraph.

The Official Changes of the Western Union Telegraph Company.

WE are indebted to Vice-President Geo. H. Mumford, of the Western Union Telegraph Company, for an early copy of the following important executive order,

EXECUTIVE ORDER, No. 159.

1. The Sixth District of the Southern Division is hereby consolidated with the Second District of the Central Division, and placed in charge of Superintendent R. C. Clowry, St. Louis, Mo.
2. Supt. Clowry is hereby appointed Ass't Gen'l Sup't of the Central Division, and will report to this office direct, touching matters within the district assigned to him.
3. The Eighth District of the Eastern Division, Supt D. H. Bates, and the Tenth District, Supt A. G. Davis, are hereby transferred to the Southern Division, and will be designated respectively as the Sixth and Seventh Districts of the Southern Division.
4. The headquarters of the Southern Division will be removed from Louisville to New York, Gen'l Sup't Van Horn remaining in charge, as heretofore.
5. The Seventh and Ninth Districts of the Eastern Division, Supt's Gifford and Holmes, are hereby transferred to the Central Division, and will be designated respectively as the Eighth and Ninth Districts of the Central Division.
6. Supt J. C. Hinchman is hereby appointed Ass't Gen'l Sup't of the Eastern Division.
7. The Sixth District of the Eastern Division is hereby consolidated with the First District, and assigned to Mr. A. S. Brown, who is hereby appointed District Sup't.
8. All reports for the current month will be forwarded in the same manner as heretofore, and without regard to the foregoing changes.

(Signed), WILLIAM ORTON,
President.

The Removal of the Gold and Stock Telegraph Company.

UPON further consideration the Gold and Stock Telegraph Company has decided not to remove its offices from No. 61 Broadway to the new Western Union building. The executive offices of the company will, however, be removed to the new building. The Morse and cable business of the commercial news department has been removed to the present Western Union operating room at 145 Broadway. The printing systems remain at the old quarters until February 1st. This is a temporary arrangement made on account of alterations now in progress at 86 Liberty street.

Telegraphic Construction in New York City.

THE Western Union Telegraph Company have been actively engaged during the past month or two in erecting the new pole lines by which their numerous wires will enter the new building at Broadway and Dey street. One of the most prominent of these extends from Chatham Square along Chatham street and Park Row, crossing Broadway, in front of the *Herald* building, and thence across Fulton street to the north side of the new building. Last Sunday a pole was erected for this line in Fulton street, near Broadway, which is ninety-three feet long and two feet in diameter, and reaches high above the neighboring buildings. The raising required the labor of a large number of men and two horses, and completely blocked the street for some time. The tree from which this pole was made was of California growth.

The line referred to carries forty-seven wires, arranged symmetrically upon eight cross arms, and a top pin. It is to be hoped that the telegraphic war which is evidently approaching will have at least one beneficial effect—that of compelling the removal of these cumbersome, expensive, and, at the best, unsightly pole lines, and the substitution of underground lines, as in all the large cities of Europe, and which is just as practicable in New York as in London.

Foreign Telegraphic Notes.

THE total number of messages forwarded from postal telegraph stations in the United Kingdom during the week ended Dec. 26, 1874, was 295,162, an increase of 33,976 on the corresponding week of 1873.

The average weekly increase of messages transmitted from postal telegraph stations in the United Kingdom for 1874 was about 32,000, against about 25,000 for the preceding year.

Messrs. Siemens Brothers have appointed Mr. F. C. Webb (member Inst. C. E. and Soc. T. E.), to succeed Mr. Ricketts, who was lost in the La Plata disaster, in charge of the submersion and repair of their cables on the South American coast. In noticing this appointment *The Telegraphic Journal* says: "Mr. Webb's experience in this particular branch of the profession is, perhaps, more continuous and extensive than that of any living engineer."

The London Stock Exchange is about to be placed in direct telegraphic communication with the Paris Bourse, and the new telegraph station in Paris has just been inspected by the officials of the Submarine Telegraph Company.

A private letter from an American electrician now in Paris states that the telegraph business now transmitted over the French telegraph lines is only about one third of that done before the late war with Prussia.

A project has been formed to connect the Indian telegraph lines in British Burmah with Australia via the Malay Straits Settlement, but some hitch has occurred in Malay.

Telegraphic and Electrical Brevities.

A *SHERWD* chap went about Hartford a few days ago representing himself to be a messenger from a telegraph office, and collected about twenty dollars off a number of ladies on spurious messages. The police are on the track of the clever swindler, who did not attempt to play any of his sinful games upon gentlemen, well knowing that the fact of his using "counter blanks" would expose him to all who are used to receiving telegrams.

A *FIRE* in the *Spy* office at Worcester, Mass., on Tuesday last, did considerable damage. The Western Union Telegraph Office, which was on the first floor of the building, was compelled to remove to the offices at the depots and the Bay State House for a few days.

Quotations of Telegraph Stocks at N. Y. Stock Exchange,

Showing Lowest and Highest Prices each day during week.

Jan.	WESTERN UNION.	ATL. AND PAC.	AMER. DIST.	GOLD AND STOCK.
14	73 1/2 ... 75 1/2	28 1/2 ... 29	30 ... 37	62 ... 73
15	70 1/2 ... 74	28 ... 28 1/2	30 ... 36	62 ... 75
16	71 1/2 ... 72 1/2	27 ... 27 1/2	30 ... 36	62 ... 75
18	71 1/2 ... 73 1/2	23 1/2 ... 23 1/2	30 ... 36	62 ... 75
19	72 1/2 ... 73 1/2	22 1/2 ... 23 1/2	30 ... 36	62 ... 75
20	73 1/2 ... 74 1/2	24 ... 25 1/2	30 ... 36	62 ... 75

New Patents.

OFFICIAL COPIES of any U. S. Patent issued since July 1st 1871, including drawings, specifications and claims in full, sent free to any address for 25 cents each. Address F. L. POPE, P. O. Box 5503, New York City.

For the week ended December 15, 1874, and bearing that date.

157,708.—ELECTRIC HIGH AND LOW WATER ALARMS. Jno. E. Watson, Louisville, Ky., assignor of two thirds his right to John Watson and Geo. S. Allison, same place. Filed September 19, 1874.

Flexible springs, with which contact is made in either direction by an arm controlled by a float within the boiler, are used, so that continued motion of arm and float is not impeded.

1. The combination with a float F', its rock shaft E and indicator h, and the conducting arm C, of the flexible circuit making arms a', substantially as and for the purposes specified.
2. The combination of the float, the rock shaft, and the conducting arm with the flexible circuit closers, alarm and switches, substantially as set forth.

157,764.—TELEGRAPH RELAYS AND SOUNDERS. Wm. S. Rose, Colchester, Ill. Filed April 13, 1874.

Magnets carried on pivoted lever A, and adjusted to or from armature by set screw n, elevating or depressing the lever.

The combination of the horizontal bar A, provided with cross bar B and adjusting screw m, with the magnets D D and their armatures, substantially as shown and described, and for the purpose set forth.

IMPORTANT TO INVENTORS.

Inventors of Electrical and Telegraphic arrangements are invited to communicate with the

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36 Broad Street,

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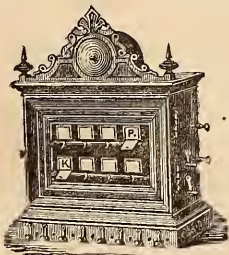
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After JANUARY 1st, 1875, we will allow TWENTY CENTS for each used-up Porous Cell of this Battery that are returned to us free of charge, in good order. A change is made in the discount to the trade. A list will be furnished on application to

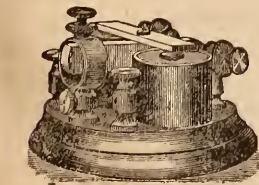
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 RELAYS, unequalled for beauty and strength;
 COMBINATION SETS; BOX and POCKET RELAYS.
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 KEYS, various styles, including the SCHNEIDER KEY, just
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 REPEATERS—HASKIN'S AUTOMATIC, and others,
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 and LIGHTNING ARRESTERS.
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 SELDEN PRINTER.
 ELECTRIC BELLS, HOTEL ANNUNCIATORS, FIRE and BURGLAR
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 Our TELEGRAPH INSTRUMENTS and ELECTRICAL APPARATUS are
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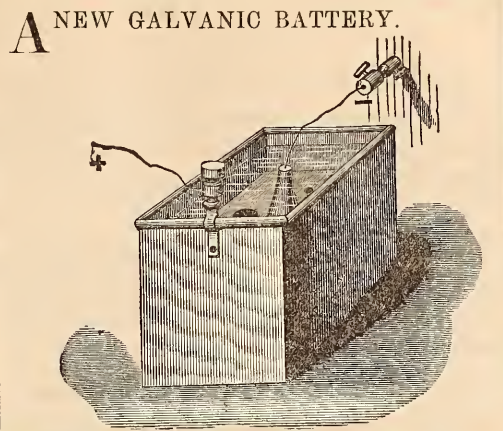
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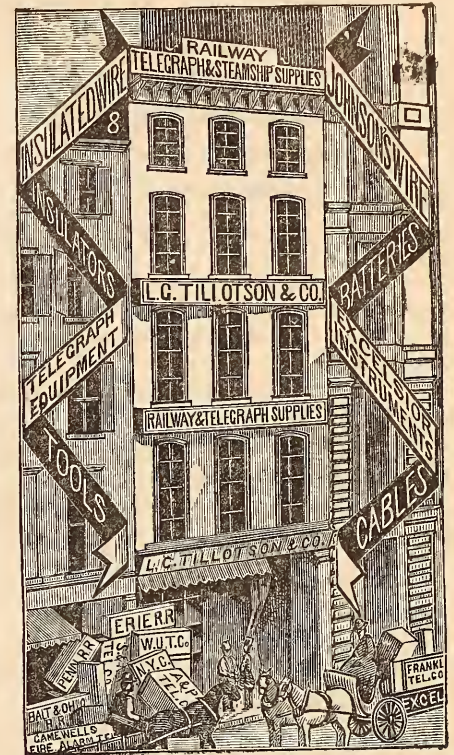
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First—The **Automatic Repeater**, through which the apparatus may be distributed in a combination of circuits, and the entire system successfully worked, without the constant personal attention of either operators or watchmen.

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IN THE WORLD.

It is a sufficient vindication of the claims which are made by the Proprietors of these systems of

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that they have sustained the test of more than twenty years of practical use, and that the efforts which have been repeatedly made to supplant them by other inventions have

COMPLETELY FAILED;

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Messrs. **GAMEWELL & CO.** are the owners of the original **FARMER & CHANNING PATENTS**, one of the most important of which has just been extended for seven years, and during the past seventeen years have spared no expense or effort to secure improvements, and the Systems are now covered by

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has met with the universal approbation and commendation of the

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AND THE

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NO EFFORT, TROUBLE OR EXPENSE

is spared by the Proprietors to obtain and secure ANY POSSIBLE IMPROVEMENT which shall increase the

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The amount of property which has been saved from destruction, and the number of lives which have been preserved through the general adoption of this system, throughout the UNITED STATES and the DOMINION OF CANADA,

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but that in every community where it has been introduced for any considerable length of time, they have been enormous, **THREE CAN BE NO QUESTION.**

The cooperation of **TELEGRAPHERS** in securing its introduction into their localities is cordially invited, and their efforts will be duly appreciated and compensated.

Any information desired in regard to the above system will be cheerfully and promptly furnished upon application at the office.

A pamphlet, setting forth more fully its advantages and superiority, has been printed, and will be supplied to Municipal Authorities and others interested in Fire Alarm and Police Telegraphy, upon application as above.

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a most compact and reliable Switch, forming a clean spring-locked connection between any number of wires, occupying for each different connection only one square inch of space, and though made of the largest size, not subject to the warp and contraction of wood-work.

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We have made special arrangements to furnish this article for office purposes at a reduced rate.

ALSO, TO FURNISH

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of the usual size, with **KERITE COVER**, believing that it will exceed, in insulation for submarine purposes, ANYTHING HITHERTO MANUFACTURED.

We shall be happy to furnish estimates for any amount and size of cable, which will be found to compete with any other construction, both in quality and price.

We manufacture the Genuine **ELECTROPOION BATTERY**, with Patent Platina Connection, introduced by us eight years since; also, **THE ALPHABETICAL OR DIAL TELEGRAPH**, now extensively used in this and other cities for private lines, being easily and quickly learned by any one.

We offer for sale, among other novelties, a **SOUNDER** that will work practically with a single **DANIELL** cell, a **BATTERY** that does not require to be taken down but once a year, and the very best **MAIN LINE SOUNDERS** made.

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THE TELEGRAPHER

A JOURNAL OF
ELECTRICAL PROGRESS.

J. N. ASHLEY, - - - - - PUBLISHER.

SATURDAY, JANUARY 30, 1875.

VOL. XI.

WHOLE No. 446.

The Telegraph at the Antipodes.

THE following connected and intelligible account of the Australian telegraphs and telegraphic connections with Europe, written by Mr. Edward A. Arling, a young American, now resident in Australia, was originally printed in the *Australasian*, a weekly newspaper published at Melbourne, Australia, and will be found of interest:

"It is just two years ago that the first through message was flashed from London to Australia, a distance of over 13,000 miles, and the connection then established has, with but slight interruptions, remained unsevered from that period, allowing of daily communication between the mother country and the most distant possessions of the British Crown. By means of the electric wire the principal items of important current events, as they transpire in various parts of the world, now find an accustomed place in the columns of all the principal newspapers of Australia. Australia, in fact, has by this connection been brought into direct contact with the world at large. Europe, Asia, Africa, and America, North and South, are all united, and even the islands of the West Indies are brought within the magic circle. A few short years ago and the mention of such a fact would have been regarded as an almost impossible venture, but since London has been brought within a few hours' distance of us, the whole thing is looked upon as a very ordinary matter, and means are already being devised to still further shorten the distance by improving the means of communication. The actual length of wire rope and wire which stretches in a direct line from London to Melbourne is something like 13,518 miles, including 10,044 of submarine cable, and 3,474 of land line. Over this immense distance there must necessarily be many repeats of messages. The first section is from Falmouth to Gibraltar, a cable of 1,154 miles; then to Malta, 1,120 miles; and Malta to Alexandria, 924. Then follows a land line of 224 miles from Alexandria to Suez, a cable from Suez to Aden, 1,462 miles, and Aden to Bombay, 1,819 miles. The line across from Bombay to Madras is 600 miles, and three other cables connect with Batavia, where a land line of 480 miles runs through the island of Java to Banjoewangi, and a cable of 1,186 miles effects the jointure with Australia. From Port Darwin to Port Augusta there is a stretch of 1,400 miles over a lonely country. In 200 miles more Adelaide is reached, and then 570 miles brings us to Melbourne. With this unprecedented distance, and numerous stoppages for repeats, it is no wonder that the contents of messages frequently reach the recipient in an unintelligible form; and when we consider also that the Dutch line is in the hands of the Dutch Government, there is still more reason for the commission of egregious blunders. Some little confusion may also be occasioned at times from the fact that the cable alphabet is not, in all respects, precisely similar to that employed on the land lines, the system of telegraphing being different. In a Christmas number of *All The Year Round*, published some years ago, and entitled "The Slaves of the Lamp," a very admirable description was given of the working of the Atlantic cable by the operators at Valentia, by means of reflectors, and in a darkened chamber. The Morse system, which is now almost universally used for ordinary purposes, is very simple; but to attain to proficiency to write at the rate of between 40 and 50 words a minute, and to receive by sound, instead of reading from the tape, requires time and great aptitude. Bombay is an important telegraph station as regards India, but the Australasian extension may be said to commence at Singapore, and it is from that point that the line branches off to China and Japan. Extending northward from Shanghai, the telegraph now runs up to the Amoor River, where it connects with the longest of all long inland lines, constructed by the Russian Government, a length of nearly 5,000 miles, through Siberia, and forming, as it were, a northern belt to the whole Asian continent. It passes through Tomsk, Omsk, Novgorod, on to Moscow and St. Petersburg, where it finds its way by several routes to the south and the west of Europe. About a year ago, when the cable between Madras and Penang was interrupted,

this Siberian line was utilized, and the messages were found to be transmitted correctly and well.

An extension on this branch from Posietta, in 47 deg. south, across the Pacific to San Francisco, would complete the circuit of the world, and freely realize the Shaksperian idea of a girdle round the world. The original route selected from England to the East was through Austria, Turkey and Persia, known as the Indo-European line, but in view of European complications arising in that quarter, it was deemed advisable, as a means of security, to lay a direct cable from Falmouth. For a time there was a keen competition between the two companies, but eventually the rivalry was merged, and an amalgamation took place. The whole of the cables have been constructed by companies in sections, and for a time each company acted independently, but now their interests are identical, as, to a very large extent, each one is dependent upon the other. A new cable line is projected, if not actually in course of construction, and it is one in which Australia has a direct interest. The colonies of New South Wales, Queensland, and New Zealand, acting unitedly, have agreed upon a guarantee—5 per cent., I believe—for the Messrs. Siemens to lay down a cable from Singapore to Queensland, but instead of touching at Batavia it will be carried in a more northerly direction to Macassar, and the shore end will be landed at Normanton, in the Gulf of Carpentaria. It is rather a long stretch of cable, but it will be more advantageous than having one's messages bungled by Dutch operators in their passage through Java, and presented in the form of a series of conundrums. New Zealand, which has long been out in the cold, is also to be brought into the charmed circle, but it is apparently not yet decided as to which island the shore end is to be landed on. The distance from Sydney to Auckland is 1,315 miles, and to Nelson 1,180. The nearest point would be from Tasmania, but that is out of the question. From Melbourne to Nelson is 1,410 miles, and to the Bluff 1,203, but the arrangement is not with Melbourne. Some day Fiji will be asking to be joined with Sydney, and 1,780 miles of cable would be required, and there is now every prospect of King George's Sound being brought into direct communication with Melbourne by a line from Adelaide to Eucla, and from Eucla to Albany. This would close another gap of some 1,400 miles, and give us early information of the whereabouts of our mail steamers, if nothing more, but the gain would be all on the side of Western Australia, which, from her position, is at present completely isolated from the Australasian group.

People who have been accustomed for years to get their news in the gross are rather inclined to object to the present piecemeal and homoeopathic system which is prescribed by the existence of the telegraph. They allege, and with some truth, that the cable news received day by day destroys the mail intelligence brought each month. The daily items contain just sufficient to interest, if not to altogether satisfy; but the details of news received some 30 or 40 days later savor of staleness, and the result once learned so far in advance diminishes the appetite for particulars. There are other people who are quite surprised that, with daily telegrams from Europe, sensational incidents are not served up regularly every day. The price of wool, copper and tin may not have any great interest for the bulk of the population, but these items have their importance to those specially concerned. It is, perhaps, a little surprising that, with the whole world before us, so few instances of real importance should transpire, and yet we find that the monthly mail budget brings us no account of important omissions, the telegrams being filled out with news too trivial for direct transmission. The present high tariff of £9 8s. 6d. for twenty words, inclusive of name and address, militates in a great measure against the reception of longer and fuller public messages, and no doubt prevents such a free use being made of the line for private purposes as would otherwise be the case if a more moderate scale was adopted. Twenty words being the minimum, a system of packed messages is resorted to, by which merchants and others are enabled to send as many or as few words as they please, paying *pro rata*. And for the carrying out of this advantageous system three separate agencies are now established in Melbourne, and the course adopted is this: a firm, say Brown, Jones & Co., register themselves at one of these agencies, and adopt a cypher word, "Cocolorum," which signifies Brown, Jones & Co., of Melbourne, to the London house of Jones, Brown & Co., Great St. Helen's, Bishopsgate street. Then in order to effect cheapness, combined with brevity and secrecy, a regular code of cypher words may be drawn up for general use. Such as "Bedtick" may mean hardware scarce in the market; "Tadpole," will send remittances by next mail; "Taper," shipments of tallow large, and so on, *ad infinitum*, as may be required. Some of these messages present a strange concatenation of words, which to a casual reader would be simply unintelligible, but 40 or 50 of these words grouped together might contain four or five separate messages of more or less im-

portance. Fancy such reading as this:—"Grashopper, loafer, blasphemy, shivering, gag, potomac, gurgle, grizzled," and yet these words would make up a tolerably long message. Passengers to and from the colonies register themselves by a single word or number, and upon arriving at their destination are enabled to at once communicate with their friends. Young gentlemen with expectations may obtain bank credits from home in as many days as it formerly occupied months, and shipowners and masters of vessels have found the telegraph of the greatest use in deciding upon charters, etc.

The new masts and yards for the Loch Ard were ordered from England even before the vessel had arrived here, but after she had been spoken by a ship bound to Adelaide. Announcements of deaths are frequently received, and legacies sometimes. In commercial circles the telegraph has its advantages as well as its disadvantages, but it prevents over speculation and engenders much caution. The Roman Convention in 1872 adopted, for the sake of uniformity, a system which is now universal, and strictly enforced. It was there and then decreed what number of syllables should constitute a word, and it was also allowed that a group of five figures should be regarded as one word. It is strange that won't, and can't, and such words are counted as two on the colonial lines—but only having four letters they can, without the apostrophe, be transmitted as one word by the cable. New Zealand passes as a single word, but South Australia would be two. The line is drawn very fine in some instances, and compound words are frequently so jumbled together as to render them almost unintelligible, and strange mistakes are sometimes made in dividing words which should not be so divided. As to the time occupied in transmission, the average is from 10 to 12 hours; that is decidedly too long, and six hours would be a very reasonable time, but much depends upon the amount of business on the line. The Australian portion of the line from Batavia is never over crowded, but there is a jam sometimes the other side of Singapore, with the Indian and China business, which is very large. The shortest time, I believe, in which a message has been received, is three hours; that is, of course, allowing always for the difference in the astronomical time, for it must be borne in mind that we in Australia are nine hours and forty minutes in advance of London. Nine o'clock in the morning in England is equivalent to seven o'clock in the evening in Melbourne. In six hours messages have been repeatedly received from end to end, and I believe that the feat could be accomplished in less than one hour, and will be before long. We know that the result of a Derby reached Bombay from Epsom in two minutes and a half, and the result of the Derby of April last was sent from Banjoewangi to Adelaide in two minutes. The gap between Bombay and Java could certainly be bridged over within the hour. Let us hope that we may see it done the next Derby day, in May next, when the laying of the second Australasian cable may cause some competition.

E. A. A.

Phillips' Insulated Telegraph Wire Works.

THE manufacture of insulated wire for office and outdoor use has become an extensive and important business. One of the principal manufacturers engaged in this specialty is Mr. Eugene F. Phillips, of Providence, R. I.

Starting with but sixteen "carriers" for the manufacture of insulated wire in the year 1870, Mr. Phillips' works at No. 20 Conduit street, Providence, has now 1844 to turn off work with. On entering his shop the constant rattle and busy hum of the machines cause the visitor to remark that it has anything but the appearance of business being dull.

The contrast between what is termed the winding room, where magnet wire is made, and the braiding room strikes the visitor very forcibly. The machinery for the manufacture of magnet wire is of the most improved and approved description, and do their work just as thoroughly and efficiently, though much more quietly, than those employed in the manufacture of braided wires. The braiding machines are marvels of accuracy and mechanical ingenuity.

The patent finish of the braided wires manufactured by Mr. Phillips, the patents for which are owned by him, is one of the marked improvements, and in the factory a long room 106 by 15 feet is devoted exclusively to this part of the work. The braided wires turned out at this establishment is generally conceded to be the best braided wire made. It has found customers in almost every city in this country and Canada, and quantities of it have also been purchased, in England, Scotland and other foreign countries.

Another specialty of Mr. Phillips' manufacture is rubber covered wire, of which large quantities are constantly required to supply the demand. Large orders for this wire are received for the Government use in this country and Japan. There has been heretofore a prejudice against rubber covered wire, which has arisen from the fact that, when the rubber was vulcanized out

the copper wire there was a chemical action on the rubber which eventually destroyed or greatly impaired its insulating quality. The chemical action also caused the wire to become brittle. This objection has been overcome by the process used by Mr. Phillips. The orders received for this wire are satisfactory evidence that its merits have become known and appreciated. A mistake was made in the first lot of this wire manufactured in not vulcanizing the rubber, which made it liable to melt and ooze out under the heat of the sun. This difficulty has been entirely overcome, and the rubber covered wire now furnished by Mr. Phillips is as nearly perfect as it is possible to make it. The wire is in the exact centre, and will stand any amount of bending in extreme cold weather without cracking, and will not soften in hot weather. It is adapted for outside, or underground, or any other use for which it may be required.

All descriptions of braided, rubber covered, magnet and insulated wires are made by Mr. Phillips, and his energy and enterprise are meeting with the recognition and reward due to them.

Correspondence.

We do not hold ourselves responsible for the opinions of our correspondents. Our columns are open to free discussions on all telegraphic subjects, without distinction of person or opinion.

No notice will be taken of anonymous communications.

Congress and the Telegraph.

WASHINGTON, D. C., January 27.

TO THE EDITOR OF THE TELEGRAPHER.

NOTWITHSTANDING but a little over four weeks of the present Congress remains, and that its time will be much more than occupied by the necessary legislation to carry on the government during the long interval between its close and the commencement of the next session, and the Louisiana question, Civil Rights bill, etc., telegraph bills continue to be introduced.

On Monday two of these, which if there were any probability of action upon them would be of great importance, were introduced in the House. The first by Mr. Butler, of Massachusetts, proposes that all telegraphic lines of communication shall be made post-roads, and the Postmaster General is authorized to advertise for the transmission of all Government dispatches in the same manner as the transmission of mails are now advertised for.

Section two provides that all companies shall receive and forward dispatches from other companies without any extra charge for designating the point where the same came upon its line, and prohibits preference being given to any class of business.

Section three prohibits the companies, inland and ocean, being interested directly or indirectly in the collection or transmission of commercial news.

Section four requires the rates for special telegrams to newspapers and commercial news associations to be the same, which rates shall be publicly displayed—such rates in no case to exceed the rates charged to the Associated Press and the American Press Association on the first of January, 1875.

Section five provides that all telegrams shall be privileged communications in law to the same extent that sealed letters now are, and the contents shall not be divulged by any agent or officer of the company, except for the purpose of justice, by order of a court of competent jurisdiction.

Section six makes the tariff uniform to all parties for similar services; Government dispatches, when certified by a proper officer, to have precedence without prepayment, at rates to be fixed annually by the Postmaster General: all other telegrams to be transmitted in the order received, except those designated to go at night.

Section seven makes the divulging of the contents of any telegram, or willful delay in sending, or injury to telegraph lines or apparatus, a misdemeanor, punishable by fine and imprisonment.

The second, by Mr. Williams, of Indiana, is a bill to incorporate the National Union Telegraph Company. The incorporators named are H. E. Paine, S. H. Rollins, Charles Stearns, J. Y. Sibley, Seth L. Milliken, R. B. Elliott, W. J. Pinman, Preston Smith, John George and George Moon. One hundred thousand dollars subscriptions to the stock and fifteen per cent. paid in is required before the company can organize.

The bill gives the right of way over all post roads, including railroads, and provides that for the purpose of facilitating correspondence, and enabling the signal service bureau to promptly transmit reports, telegraphic messages shall be received at such post-office as the Postmaster General may direct, and be transmitted by the National Union Telegraph Company to any address on the lines of said company, under such regulations as the Postmaster General and chief of the Signal Service and the said company may establish.

That the charge for transmission of special telegrams to newspapers and commercial news associations for each one hundred and twenty words or less for each three hundred miles shall not exceed sixty cents if sent at night, and ninety cents if sent during the day.

The Postmaster General and chief of the signal service are made *ex-officio* directors of the company.

It is not improbable but that the active telegraphic contest which is being developed may have had something to do with the bill introduced by Mr. Butler, as it is understood here that he is in sympathy with Mr. Jay Gould in his telegraphic demonstrations.

There is a very serious question as to the right of Congress to regulate the traffic of existing telegraph companies, but there can be no doubt of the propriety of prohibiting discriminating charges by one company as against another, and this is already proposed in the bill previously introduced by Mr. McCreary of Iowa, the substance of which appears in my communication of the 13th inst., printed in THE TELEGRAPHER of the 16th. Mr. McCreary's bill ought, to pass, and probably will if it can be reached and acted on before the 4th of March. It would seem that there could be no difference of opinion as to the justice of this measure. There is no valid reason why telegraphic companies should not receive and transmit messages delivered to them by other companies upon the same terms they do those handed in by private parties; and charging for dates should not be permitted, unless made general and not exceptional.

Section three of Mr. Butler's bill looks like a very unarrantable interference with the legitimate business of telegraph companies. That this distribution of commercial and news reports is a losing business to the companies engaging in it will not be doubted by those who best understand it. The transmission of thousands of private despatches at regular rates is now avoided by our bankers, brokers and merchants through the regular commercial and financial reports which are furnished to them for a mere pittance in comparison to what it would otherwise cost, but I think it would be difficult for Mr. Butler or any other Congressman to show any reasonable ground for legislative interference in the premises.

Great interest is manifested here in the telegraphic war, for the facts in regard to which we are indebted to THE TELEGRAPHER, and opinions in matters pertaining thereto are varied but freely expressed. There is a united sentiment, however, as to the lack of wisdom of the Western Union officials in their treatment during the past four or five years of inventors and inventions pertaining to telegraphy; their contemptuous expressions in reference to the Stearns Duplex, and its subsequent purchase by them—their action on the Page patent, the Automatic Telegraph, and finally their extravagant puffing of the Quadruplex and its inventor, before they had secured either the one or the other—proves a lack of knowledge and sound judgment somewhere.

Especially will this be apparent if the rumor proves true that the "Stearns Duplex" is of no value unless licensed under the patents of Mr. Moses G. Farmer, recently re-issued to him, and covering all the essential features of duplex telegraphy.

If the "Atlantic and Pacific" should secure the inventions of Little, Farmer, and Edison (and it is rumored they have), they would be the owners of all the valuable methods of rapid transmission, which would give them an advantage of incalculable importance.

CAPITOL.

Is the New Departure Genuine?—Caution Taught by Former Experiences.

TO THE EDITOR OF THE TELEGRAPHER.

THERE seems to me to be something a little singular in the correspondence between General Eckert and President Orton, on the resignation of the former gentleman from his connection with the Western Union Telegraph Co. General Eckert's letter is short and terse, without excuse or regret, while Mr. Orton's is really, or assumes to be, in bad humor. He says: "In view of the fact, now clearly ascertained that, while holding a confidential position with this company you have been for some time past secretly carrying on negotiations with its enemies, and before tendering your resignation had made arrangements to accept employment in the service of the opposition, I promptly comply with your request." Has not an employé a right to better his condition in the line of business in which he has been educated while he is in another employ? Has a dry goods clerk no right to change his place, with a view of improving his condition, while he is employed, or must he wait until he is discharged, or the house fails, before he can seek employment elsewhere? It may answer for the "great monopoly" to lay down such laws, but are the employés obliged to obey them? I trust not.

There is, however, another view of the correspondence to which I wish to call the attention of the readers of THE TELEGRAPHER. Is it not just such a correspondence as would take place provided there was an understand-

ing between the parties that, for an object, it was necessary to get a Western Union man into the opposition? We all remember with what a flourish of trumpets it was heralded to the world that Mr. Orton had left a very important position in Washington for the purpose of taking the presidency of the United States Telegraph Co., and organizing and prosecuting an opposition which should be worthy of the name. Bnt, alas! how were the hopes and expectations of all who were opposed to a monopoly in telegraphing, either by the Western Union or any other telegraph company, disappointed when one morning it was announced that that company had gone over to an "opposing" company with Mr. Orton at its head.

Again, General Lefferts was elected President of the Gold and Stock Telegraph Co., as has subsequently appeared, for the purpose of throwing that institution into the hands of the Western Union. I am not disposed to be a croaker, but we should not allow our wishes and desires to master our reason so but what we can look at all sides of the subject before we go off in ecstasies at the supposed guarantee that there is to be an opposition to the monopoly that is worthy the name. Let us gather a little of the fruit before we judge its quality. President Orton, General Eckert and Mr. Chandler are all honorable men; but in these days of gigantic operations, credit mobiliers and Pacific mail subsidies, we must not take the appearance for the substance of the things desired.

THOMAS.

Telegraphic Matters at the State Capital.—Fire and Pestilence.—A Cheap Edition of The Telegrapher wanted for Impeccable Operators.

ALBANY, Jan. 26th.

TO THE EDITOR OF THE TELEGRAPHER.

OUR mutual friend "Occasional," of Chicago, is setting us a good example in the very interesting news letters with which he favors us from time to time. There are many other cities of less size than "Ch." from which such letters might very profitably be received. Of course, all places may not furnish the same amount of incident, but certainly none are so dull that they cannot "occasionally" furnish something to interest and edify the profession.

We "Capitalists" (not bloated bond-holders, but residents of the Capital) are now quite busy, on account of the meeting of the State Legislature, which convened January 4th, organized, adjourned for a short recess, and are now again in session.

The office at the Capital is in charge of Mr. J. F. McAuliffe, formerly of Binghamton. This office is used for commercial business only, all "press" matter being sent from the main office. The amount of this kind of business sent daily varies considerably, ranging from five to twenty thousand words. Several correspondents who formerly sent their specials by the A. & P. lines, now patronize the W. U., which adds considerable to the business. As it would not probably be interesting to your readers, and as the gentlemen who do the work are not anxious to have their names or deeds in print (of neither of which have they cause to be ashamed, as they are worthy of record if it were necessary), it does not seem advisable to name them.

It is rumored that, notwithstanding the alleged sale of the Quad, to Jay Gould, in the interest of the A. & P., we are soon to have a Quadruplex Repeater, to be used on the Boston and Buffalo through circuit. If this rumor proves to be true it will make a very great addition to our present facilities. It would give us two extra circuits—one to Buffalo and one to Boston via the Quad—also leaving a spare wire to Buffalo, and one from Springfield to Boston. It is expected that the operating room, now nearly filled up, will have to be enlarged to make room for two more new "quartette" tables to hold "Our Youngest."

Last Thursday morning, about five o'clock, a fire broke out under the stairs leading to the fourth floor of the Museum building, where the operating room is located. When discovered the fire was burning briskly, and our "all night" man, "J. R." made a lively run down the burning stairs (the only way to get out) and gave the alarm. The flames were soon subdued without causing much damage. On Friday evening about eleven o'clock, another fire broke out on the first floor, back of the Receiving room. This was also soon extinguished, and not much damage done. The old saying that "misfortunes never come singly" has been verified with us.

Last week in connection with the fires and the bitter cold weather, an epidemic broke out in the office. It seemed to be a sort of "Epizootic" or old fashioned influenza. Six men were on the sick list, unable to put in an appearance, at one time, and several others were kept at their desks only from a sense of duty, they being more fit for the hospital than the office. I have since learned that the epidemic prevailed throughout the city, thousands were afflicted in the same way. As we have now endured fire and pestilence, a flood would seem to be the next in order. Luckily, we are

on the fourth floor, so that it would have to get "high" to disturb us.

An incident occurred here recently which may be worth recording: In the course of the regular morning "test," a few days ago, the Observatory Loop was found to be open. The chief was beginning to get anxious as the time to start "signals" approached, but just before that time arrived the circuit closed. The operator, on being questioned, explained that as the night operator desired to leave a note for him where he would be sure to find it, he had opened the key, placed the note between the points and then screwed the lever down tight, thus closing (?) the circuit and making sure of the delivery of his note. This newly invented circuit-closer has not yet been patented, and will, for the present, be adopted only on "Duplex" circuits.

The A. & P., under management of Mr. C. H. Sewell, seems to be doing a fair share of the business, judging from the number of branch offices which they have opened.

To close up with, let me venture to suggest that you issue a cheap edition of THE TELEGRAPHER (say a little one for a cent) to meet the wants of a certain class of men who either "don't like the paper" or "can't afford it," yet who seem to be utterly unable to get along without reading it regularly.

That THE TELEGRAPHER may continue to be successful as a telegraphers' paper, is the earnest desire of
DOUBLE-SIX.

Propriety of Telegraphy as an Occupation for Females.

TORONTO, Jan. 16th.

TO THE EDITOR OF THE TELEGRAPHER.

If you do not object to lady correspondents, I would like to say a few words in reply to the article by "Nihil Nameless," entitled "Will the Coming Operator be a Woman?" in your issue of the 9th inst. Although he writes from the States, I think he can hardly be a "free and enlightened citizen of the glorious Republic," or he would not be so fond of quoting "our fathers," and telling about the superiority of the "good old times" over the present. He seems to forget the old proverb, "Times change, and we with them." Many things which answered very well for our grandmothers would be very unsuitable for the young ladies of the present generation, and I think the men have had at least as much as the women to do with bringing about this new order of things. Our respected grandmothers were taught to look forward to marriage as the chief, almost the sole object of their lives; and our grandfathers, also, must have had more faith in the advantages of matrimony than the young men of the present day possess, for they did not hesitate so long before making up their minds to take the "fatal plunge" from "single blessedness" to "double misery." Most "eligible young men" nowadays are either too prudent or too ambitious to care about taking a wife till they have a good establishment to put her in, and a comfortable balance at the bankers to keep it up with. In the meantime the young ladies must live and dress, and of course cannot do so without money. Many of them, moderately endowed with talents and enterprise, whose parents are not very liberally supplied with this world's goods, and have younger children to educate and provide for, do not care to stay at home, wasting their lives in unproductive idleness. They have too much principle to marry men who do not suit them, merely for the sake of getting homes. They feel that their lives, and what they are to make of them, are questions which they must solve themselves—not wait for marriage to solve for them; so they take the matter in their own hands, and bravely proceed to work out their own destinies. To be sure, they don't all succeed. Many of them are not fitted either by nature or education to make their own way in life; more have not sufficient stability of character and perseverance to succeed in doing so; some grow weary of the strife, give up ingloriously and marry for a living; but the best and strongest struggle on hopefully, and in time win and deserve the best reward this world has to give, the consciousness of having been true to themselves, and the possession of a brave, self-reliant character. The grand thing for girls, as well as for men, is to find something to do, and then do it heartily. As Carlyle says, "An endless significance lies in work: in idleness alone there is perpetual despair." It is surely far better for us to be engaged in some useful business, earning our own living and making the most of our abilities, than to sit idly with folded hands waiting for the "coming man," who is often so long in coming and worth so little when he arrives.

Admitting, then, that independence is a good thing for some women, the next question is, what are the most suitable occupations by which she is to gain that independence? Sewing, of course, is admitted to be one very suitable employment; but that busi-

ness, like most others, is already overcrowded and underpaid; and, besides, many women are far better fitted for intellectual than for manual labor. If their talents lie in that direction, why should there not be female lecturers, female clergymen, female physicians and also female operators? No doubt the "old fogies" of forty years ago would have been astonished at the idea of female operators, but they would probably have been quite as much astonished at the idea of there being any need of operators at all, and I really cannot see that the opinions they held on the subject forty years ago affects it, in any way now—the mere fact of them voting it absurd did not and does not make it so. I do not see that there are any more obstacles in the way of woman's prosperity in this business than in any other? She is not obliged to exclude herself from social privileges any more than other people are who engage in any regular business; and as for the "unwholesome confinement," that is an objection which might be urged against all regular employment, and any moderately healthy woman can stand it well enough. She does not need to throw away one particle of real womanly modesty, though she certainly may have to part with some of that timidity and pretty helplessness which some men consider characteristic of the sex, and approve of, simply because it is flattering to their own vanity. If her modesty and "those finer qualities of mind and heart," etc., are so weakly developed in her as not to be able to stand the test of companionship with men, then they can't have been worth very much in the first place.

I think the office "Nihil Nameless" works in must be an exceptionally rough one, for in our office profanity is not allowed and is seldom indulged in; tobacco is prohibited, and spittoons are "conspicuous by absence."

The way in which a woman is treated in this as in every other business, depends to a great extent on the woman herself. If she conducts herself properly, with ladylike dignity and reserve, she stands a very good chance of being treated as a lady; if she does not, she cannot expect to be. If she behaves as a lady should do, and any man is so very unmanly as to treat her disrespectfully, she will despise him too much to be affected by his conduct. I will do operators and men in general the justice to say that very few of them are so degraded, and possessed of so little self-respect as to take pleasure in insulting a lady without provocation. Woman's mission to-day is as high and holy as it ever was, though not quite so narrow. I don't believe in those senseless advocates of "Woman's Rights," whose extravagant and absurd ideas have brought contempt and ridicule on the very object they are trying to uphold, but I do believe that in whatever sphere of life woman has been allowed to take a part her presence has had a refining and elevating influence on men, and, I think, too, that the benefits resulting from this companionship are mutual. We lose a little, it is true, by working among men, but we gain a great deal. We see more of their faults and follies than do our sisters who stay quietly at home, but we also see more of the earnest manly side of their characters, and so are able to form a more just and true estimate of them than it is possible for those to do who only see them in society or at rest in the home circle. However, I don't think there is any more danger of women monopolizing operating than there is of their monopolizing preaching, lecturing, etc. The same cause that prevents them absorbing other professions will hold them in check here. Proficiency in any business can only be acquired by long and patient practice, and very few women stay at it long enough to qualify themselves for the higher positions in the professions, but I do think the few of us who really mean to make it our life work, and are earnestly trying to discharge our duties faithfully, and to excel even in the highest branches of the service, should be allowed a fair chance to succeed.

Railroad offices, I admit, are not nice for ladies, and the gentlemen are heartily welcome to keep those as long as they please, but most commercial offices, I think, are at least as well adapted for ladies as for gentlemen. Whether they get them or not will depend on the ladies themselves. If the managers find them as expert, industrious, intelligent and trustworthy as the gentlemen, they will employ them—not otherwise. Ladies have no right to undertake men's work and claim men's wages, and then expect any privilege or immunity on account of their sex.

It is perfect folly for any one to learn telegraphing just at present, for the profession is greatly overcrowded; but I can see no reason why girls should not learn that which does not apply with equal force to boys.

The Automatic Discussion.

TO THE EDITOR OF THE TELEGRAPHER.

WILL we never have an end to the automatic dispute? After Frank Pope's labored, and, as I thought, exhaustive article of last week, here comes this week's paper with another blast from Craig's "bazoo," followed by

one from Baltimore, and winding up with a chirrup from Little. I expected that Little would have been silenced by that shot he got a few weeks ago, but no, he is like Banquo's ghost. As for Craig, he reminds me of John T. Raymond as Col. Sellers. He has been blowing hard for 20 years. The chap from Baltimore, who signs "Automatic," gives us the facts, I believe, and as he is an employe, should know. He says "a first class puncher will prepare sixty messages an hour." What does he mean by a first class puncher? Is it Craig's "10 year old?"

"Automatic" claims only that he can double the speed of the Morse. I believe "Automatic" is telling the truth, as he is in a position to see the practical working of the machine.

Why don't Craig and Little take the American Bank Note building and stick out a sign, "down with monopolies," send messages at a cent a piece, and "give us a rest." C. D.

A Sensation and Conjectures.—Telegraphing the President's Message.—Changes and Visitors.

CHICAGO, January 20.

TO THE EDITOR OF THE TELEGRAPHER.

QUITE a stir was created in telegraph circles here when it was generally known that Gen. Eckert had resigned his position with the Western Union Company to accept the Presidency of the Atlantic and Pacific Company. Various theories were advanced for this move, some claiming he had gone over to the latter company to manoeuvre it into the hands of the W. U.; others, and by far the great majority, claiming that it was a decidedly antagonistic move on his part towards the W. U. When it also became known that the Quadruplex had been sold to Jay Gould, it began to look as if things were warming up down about New York notwithstanding the season of the year. There are strong hints that the W. U. will have to fall back on the Duplex.

The President's Louisiana Message was handled with the usual correctness on the A. and P. lines, and at about the usual speed. The patrons of that line seem very much pleased at the recent rise in the stock of the company, as it bespeaks better facilities and insures the handling of their business promptly.

On the Western Union lines the Message was repeated at Cleveland this time, and was received over four wires by Night Manager Springer, "Billy" Wallace, "Charlie" Thayer, and "Dad" Armstrong, and sent to Milwaukee by Messrs. Cobb, Anderson, Whitcomb and A. J. Long. Dan Francis sent it to Salt Lake. About one hour and forty minutes was the time occupied in getting it from Cleveland and transmitting it to Milwaukee.

The Duplex of Mr. C. H. Haskins, Gen'l Supt. Northwestern Telegraph Company, is doing excellent work between Milwaukee and St. Paul. No transmitter is used by his system. The line is switched on Morse from Duplex by simply opening a button, it being worked by two ordinary Morse keys at each end. It is hoped that some of our Northwestern friends will give us a detailed description of this Duplex through the columns of THE TELEGRAPHER.

Mr. H. E. Stansbury has been transferred from the all night management of the W. U. office here to the regular night force. "Jack" Congdon takes "Stans's" place, and Mr. "Eddie" Dennis fills the position heretofore occupied by "Jack." "The boys" all think the latter one of the best appointments made in some time. "Ed" is a universal favorite. Mr. Chet. Andrews, who has always displayed considerable talent as an artist, has exchanged places with Mr. Whitcomb, of the W. U. night force here, and now devotes his entire time (days) to the crayon and the canvas, gracing the office with his cheerful presence nights only. Chet. is a good fellow, and we know THE TELEGRAPHER will wish him Godspeed in his new profession. Charley Wilkinson, who resigned from the day force in the W. U. office here some time ago for the same purpose, we understand, is making rapid strides in his new undertaking. The genial countenance of Mr. J. D. Reid, the operator's friend, formerly editor of the *Journal of the Telegraph*, beamed down upon us last week. He was here on business connected with the W. U. Co.'s statistics, and was shown round the office by Gen'l Anson Stager.

Charlie Mixer, one of the "vets," was also in the town last week, and shook hands all round with the boys. Jack Martin showed him round in the W. U. office, and chief operator Rudd in the A. and P.

OCCASIONAL.

L. G. TILLOTSON & Co. are having another story added to their store on Dey street, at the expense of the Western Union Telegraph Co. It is composed of a framing of timber, profusely ornamented with glass insulators, and when all the wires are run over them to the rear of the new Western Union building, Tillotson's establishment will look like a grand radiating electrical dispensary, which in fact it is.

THE TELEGRAPHER

DEVOTED TO THE INTERESTS
OF THE
TELEGRAPHIC FRATERNITY.

SATURDAY, JANUARY 30, 1875.

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THE TELEGRAPHER.

A JOURNAL OF ELECTRICAL PROGRESS,

DEVOTED TO THE INTERESTS
OF THE

Telegraphic Fraternity and the Advancement
of Electrical Science and the
Telegraphic Art.

Published Every Saturday,
AT

No. 38 VESEY STREET, New York.

ELEVENTH VOLUME.

The Publisher, in announcing the Eleventh Volume of

THE TELEGRAPHER,

which will commence with the number for JANUARY 2, 1875, desires to return thanks for the LIBERAL SUPPORT which it has hitherto received, which it is expected and believed will be continued during the ensuing year.

All the popular and valuable features of the paper will be retained, and it will continue as heretofore to labor for the best interests of the TELEGRAPHIC FRATERNITY and the advancement of ELECTRICAL SCIENCE and the TELEGRAPHIC ART.

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J. N. ASHLEY, Publisher,

(P. O. Box 5503,) NEW YORK.

The Progress of the Telegraphic Contest.

ELSEWHERE we give our readers a resumé of all matters of interest and importance in connection with the vigorous telegraphic contest, which has been to most people somewhat unexpectedly inaugurated. The most important feature since our last issue has been the practical and successful introduction upon the Atlantic and Pacific lines of the automatic system, which is said to have been worked between Washington and Boston on the old wires of the company at the rate of 600 words per minute.

There has been less of excitement in telegraphic circles during the past week than for the one preceding it, but there seems to be no diminution of activity on either side. The managers of the Western Union Company have at length seemed to realize that they have probably the hardest contest before them that the company has experienced. The manufacture of quadruplex apparatus is pushed forward vigorously at the company's shop, and they profess to believe at any rate that it was not within the power or at the option of the great quadruplexer to turn over his invention to Mr. JAY GOULD, or any other man or company. In this matter EDISON is in his element, for it gives him the opportunity of "going back" on one party and the other with cheerful and characteristic impartiality and regularity. It is only a question of time and opportunity when he shall desert the newest of his new friends, and, if possible, turn their own guns against them as he has at least attempted to do in the case of the Western Union.

In this connection we may properly refer to the communication which appears in our correspondence columns over the signature of THOMAS, which suggests caution in receiving all the hostile demonstrations as really genuine. THOMAS is evidently a lineal descendant of his apostolic namesake, and naturally and constitutionally a doubter. It must be confessed that telegraphic experience and history give excuse for entertaining doubts of the genuineness of such movements, and may suggest the possibility that a large sized cat may be concealed in the meal tub. As regards the instance presented by our correspondent in the connection of Mr. ORTON with the United States Telegraph Co. in its closing weeks as its President, we do not consider the cases at all parallel. We were well informed in regard to the affairs and manipulations of the United States Company during that time, and for some months previously. When Mr. ORTON accepted the Presidency of that company, resigning the office of Commissioner of Internal Revenue, to which he had recently been appointed, to do so, he was deceived as to the actual condition and standing of the company. That he was put in the position by the manipulators of the company to sell it out and consolidate it with the Western Union is, no doubt, a fact, but that he was aware of the real purpose for which his services were required until some time afterward we do not believe. He was not well informed in regard to telegraphic affairs or management, and his predecessor and those associated with him had got things into such a condition that, to a person situated and surrounded by the influences Mr. ORTON was, there seemed to be but one course to save anything from the wreck for the honest stockholders. Probably if the same thing was to be done over again, Mr. ORTON, with the telegraphic knowledge and experience since obtained, might advise a different course, which would, perhaps, prove in the end fully as beneficial to the honest stockholders before mentioned as the one that was actually adopted.

The doubts suggested by our correspondent are not confined to him, for the same are daily suggested to us verbally, and by letters from correspondents and friends of THE TELEGRAPHER. In reply to these we can only say that, to the best of our knowledge and belief, the contest is as it appears, a real one, and that there is every prospect that it will be bitter and protracted. What the final result may be we cannot, of course, predict. Behind all extensive operations of a

similar character there are always persons and interests not telegraphic to be served. In this case the prices of stocks are to be advanced or depressed, and much money is expected to be made by the principal manipulators out of the fluctuations of the market. This of course has nothing to do with the reality of telegraphic competition, and is not a purpose which should excite any great interest or sympathy on the part of the telegraphic fraternity. Personal ends are to be served in other directions, which are of no interest or importance, either to telegraphers or the general public. The only question to be considered by them is how far the competition, by whatever causes and purposes instigated and supported, is genuine; how long it will be maintained, and to what extent it will be carried.

We believe that there are underneath the demonstrations which have attracted the attention of the public, causes operating which preclude the possibility of an early adjustment of the difficulties, and that we may reasonably anticipate a protracted contest. We see it cropping out in Congress, where bills are being introduced to affect the position of the parties to the contest. Probably nothing important can be done during the four weeks which remain of the present session, but the presentation of these antagonistic measures have an effect—especially on the stock market.

So far as the telegraphic fraternity are concerned there can be no doubt but that active telegraphic competition will prove beneficial to their interests. As we have before remarked, the sympathies of the practical telegraphic laborers will naturally be with the party which pays them the best and treats them most fairly. Each must decide for himself or herself which is the one, and sympathize accordingly. Having no voice in the direction of affairs, and but little influence in their conduct, they should endeavor to discharge faithfully, and to the best of their ability, the duties for which they are employed, and leave to the managers and manipulators the tricks and devices which are relied upon to secure an advantage one way or the other. Those who hold remunerative situations with either Company will do well to hold on to them until they are satisfied that something permanently better is attainable.

As for the public—those who use and pay for telegraphic facilities, they are likely to be benefitted by an increase of such facilities, and, probably, at a not distant period, by a reduction in the charges for telegraphic service. The company or combination which shall best serve the public will no doubt have its sympathy and material aid so far as their patronage is concerned. Thus will all parties be made happy—speculators in telegraph stocks by fluctuations in the prices—those who have inventions and devices they wish to dispose of and have adopted by an increase of customers and demand for them—those who have grievances by opportunities to ventilate and revenge them—the fraternity by increased demand for their services—the public by additional facilities and cheaper rates—and THE TELEGRAPHER by having something of general interest to present to its readers weekly.

Election of Mr. E. D. L. Sweet, Trustee and Vice-President of the Atlantic & Pacific Telegraph Company.

At a meeting of the trustees of the Atlantic & Pacific Telegraph Company, held Tuesday, Jan. 26, at the office of the Company, No. 198 Broadway, Mr. E. D. L. Sweet, who, for the past six years, has held the position of General Superintendent and Executive Manager, was elected a Trustee and subsequently second Vice-President of the Company.

At his own request Mr. SWEET was authorized to transfer his headquarters to Chicago, Ill., his former home, from which he came to this city six years since, with the intention of returning there when certain purposes had been accomplished. These he now regards as either fully accomplished or assured, and he, therefore, feels at liberty, with the consent of the Execu-

tive Committee, to indulge his personal preferences as regards his future residence.

Mr. SWEET came to New York nearly six years ago to assume the duties of General Superintendent of the Atlantic & Pacific Telegraph Company. He found the Company in anything but a prosperous condition, incumbered with debts and embarrassed in its operations by inadequate business facilities. The improved position which it occupies to-day is unquestionably due mainly to Mr. SWEET's labors and careful management. Believing in the principle which has been persistently advocated in THE TELEGRAPHER, that the unification of all the lines and companies competing for business with the Western Union under practically one management, was the only way in which a prosperous and successful competing company could be established, he has labored assiduously to develop such a unification. Recognizing the fact that the public, which uses and pays for telegraphic service, desires more than one telegraph company to deal with, and that so long as telegraphing remains a matter of private enterprise, competition, more or less efficient will be had, he has sought to build up such a Company as should be able to best serve the public. It has required patient, arduous and protracted labor, but aided in his policy by the other officers of the Company, he congratulates himself at length on the realization of his hopes and desires, and returns to his home in the West, with the satisfaction which arises from the consciousness of work well done. The task of building up the Atlantic & Pacific has yet to be accomplished, and at the West Mr. SWEET will continue his labors in that direction.

We learn that at the meeting of the trustees of the Atlantic & Pacific Company on Tuesday, when a communication from Mr. SWEET was presented, asking for his transfer to Chicago, there was a general recognition of the value of the services he had rendered to the Company; and the opinion was unanimously expressed that to him was in large part due the credit for the success which had placed the Company in its present leading position.

While Mr. SWEET's removal to the West will necessarily interrupt, to a certain extent, the close intimacy which has characterized his relations with the Executive Committee and officials of the Company in this city, he retains their personal friendship, esteem and good will, and has the satisfaction of leaving matters in the hands of able and experienced gentlemen who will cooperate with him in carrying forward the work which he came here to do, and in making the Atlantic & Pacific Company a practical telegraphic and financial success.

Literature.

THE *Phrenological Journal* for January and February is on our table. These two numbers will be found of special interest to telegraphers. The January number contains a splendid portrait and biography of MARSHALL JEWELL, late Governor of Connecticut and Minister to Russia, and now Postmaster General of the United States. Mr. JEWELL was a telegraph operator in his youth, and by energy and perseverance he has secured a handsome fortune, and been crowned by well deserved honors. The February number contains a portrait of the late EZRA CORNELL, and a biographical sketch of his life, with which our readers are already familiar. Published monthly, at \$3.15 per year, by S. R. WELLS, 389 Broadway, New York.

The *Science of Health* is another excellent periodical, issued from the same publishing house, the title of which sufficiently indicates its contents. It contains many hints which will be found of great value to members of the telegraphic profession, and its contents are of great interest to all, \$2.15 per year. S. R. WELLS, 389 Broadway, New York.

Change of Firm.

Mr. JESSE BUNNELL, having withdrawn from the firm of PARTRICK, BUNNELL & Co., on the 1st of January, the business will be continued as heretofore at 38 South

Fourth street, Philadelphia, and 22 Dey street, New York, by the remaining partners, under the name of PARTRICK & CARTER.

Personals.

Mr. E. LELOUPE has been transferred from the management of the Washington, D. C. office of the Southern and Atlantic Telegraph Company to New Orleans, La., of which latter office he is to be the manager.

Mr. W. W. BURHANS has been appointed manager of the Washington, D. C. office of the Southern and Atlantic Telegraph Company.

Mr. R. P. BROOKS, formerly with Mr. J. W. BURNHAM in the Western Union telegraph office at the Fifth Avenue Hotel in this city, has received the responsible appointment of ticket agent of the Baltimore & Ohio Railroad Company at their office in this city, No. 315 Broadway. Mr. BROOKS' telegraphic and other friends will be gratified to learn of this recognition of his merits, popularity and ability.

The Telegraph.

By Cable.

THE CABLE STEAMER FARADAY.

LONDON, Jan. 25.—The Direct United States Cable Company's steamer Faraday, instead of coaling at Woolwich, will proceed to a Scottish port for repairs. She can hardly start out again to try and pick up her cable off the Newfoundland coast until the settled weather of next spring or early summer.

The Telegraphic Situation.

THERE is not much of startling interest to add to what has already been told in regard to the telegraphic situation. Both parties have kept rather quiet, so far as anything of interest to the public is concerned, but are busily engaged in perfecting their combinations to strengthen and improve their respective positions. The election of Mr. E. D. L. Sweet to the office of second Vice-President of the Atlantic and Pacific Telegraph Company, and the proposed transfer of his headquarters to Chicago, his former home, is one of the notable incidents of the present situation, and is treated of more fully elsewhere.

Another notable incident is the practical introduction of the automatic system upon the lines of the A. and P. Company, and its use will be made more general upon the lines of that company at an early day. At present it is being worked between New York and Washington, and New York and Boston, upon the A. and P. and Franklin wires, and, as it is said, with very excellent results.

Nothing is said as yet of the proposed use of the quadruplex upon the A. and P. wires, and if the automatic should realize the expectations entertained of it, it may not be necessary to introduce the quadruplex upon the lines of that company, although it has acquired the title to the patent, so far as the suppositious inventor can give it. It is probable that further developments of the purposes of the company will shortly be made. It is intended to establish a practical unification of all the companies and systems competing with the Western Union Company under one management, and this it is believed has been insured already.

The Western Union managers are very busily engaged in the transfer of the executive headquarters and main office to the new building on the corner of Broadway and Dey street, which it is intended shall be accomplished by to-morrow, Sunday. The executive officers of the company realize the gravity of the situation, and will leave nothing undone that is practicable to fortify their position, and if possible cover the ground which has apparently been lost. They make no declaration of what they intend to do, but claim that so far as the quadruplex is concerned at least, their right to continue its use upon their lines to any desired extent is secured. This, of course, is denied by the other party, and when the patents are issued there will probably be some lively legal proceedings in connection with this matter.

There is an apparent outward calm, but all parties are wary and vigilant and the end is not yet. The prospect for lively and interesting telegraphic times is good, and those who desire to be fully and promptly posted will as usual look to THE TELEGRAPHER for reliable information.

Removal of the Astor House Telegraph Office.

THE telegraph and railway ticket agency, so long established at the Astor House, in this city, under the management of Mr. Gustavus Swan (who for over

twenty years past has been connected more or less prominently with the telegraphic interests in this city), has been removed, while the Astor House is closed for the extensive alterations and repairs which are to be made upon it, to No. 229 Broadway, in the block above. This office connects with the Atlantic and Pacific Telegraph Company.

Removal of the Western Union Office to the New Building.

THE new Western Union building and its vicinity presents this week a scene of extraordinary activity. The lease of the present office at 145 Broadway having been extended only till the first of February, the officers and employes of the Company are straining every nerve to get things in readiness for the grand higha which is expected to take place on Sunday next. For the past week almost every pole within half a mile from the office has served as a sort of gymnasium, where from morning till night the agile line man perched from 75 to 100 feet above the curbstone has hauled away at an apparently endless array of wires, to the amazement of gaping rustics from New Jersey and Long Island, who congregate upon the street corners and watch the operations for hours with unabated interest. The lines are brought on the new poles to different points in the rear of the new building on Church and Fulton sts., from whence they run from immense distributing poles to a range of iron fixtures on the outside of the building, just outside the half story underneath the grand operating room, where the batteries, etc., are to be located. The iron fixtures on the north side will accommodate about 125 wires, and that on the west side about 250.

A trip through the interior of the building reveals the fact that matters are still in a very chaotic condition, although rapid progress is making in every department. Of course the portions of the building which are to be occupied by the telegraph company for its own uses are much farther advanced than the remainder. The interior of the grand operative room is nearly finished, and it already presents a magnificent appearance. The tables are being put in, and a portion of the switch will be in readiness by the end of the week. The batteries are being got ready in the battery room, and the cables running from the lightning arresters above the windows in the half story to the switch, and from thence to the operating tables are in place. Unless the outside line work should be delayed by bad weather, or some other unforeseen occurrence, it is probable that the operating department will be moved on Sunday next, which will complete the transfer from the old building to the new.

Owing to unforeseen and unavoidable delays, it is probable that it will take a month or so yet to bring matters into presentable shape, though Supt. A. S. Brown, Assistant Electrician Gerrit Smith, and Acting Manager A. S. Downer, who have immediate charge of the work, are pushing it forward with the utmost energy.

New City Offices of the Atlantic and Pacific Telegraph Company.

ARRANGEMENTS having been made on behalf of the Atlantic and Pacific Telegraph Company with the proprietors of the Windsor Hotel, a new and elegantly fitted up office of that Company has been opened at this fashionable locality. This is said to be the handsomest telegraph office in the country. It is in charge of Mr. P. J. Egan, who was for a long time associated with Mr. J. W. Burnham at the Fifth Avenue Hotel office of the Western Union Telegraph Company.

Arrangements have also been concluded with the proprietors of the St. Nicholas Hotel, and an Atlantic and Pacific office opened, which is in charge of Mr. George M. Seaman, Jr., as manager. Mr. Seaman has for some years been in charge of the railroad and steamship ticket office at the St. Nicholas, and is widely known and very popular with the guests of this house, and others.

Foreign Telegraphic Notes.

THE Globe Telegraph and Trust Company have declared a dividend of 3s. per share upon the preference shares, being at the rate of six per cent. per annum, and 2s. per share upon the ordinary shares, making with previous quarterly payments a dividend at the rate of five per cent. per annum.

The number of messages sent over the Cuba submarine telegraph line during the month of December, 1874, was 2,073, estimated to produce about £2,300, as against 726 messages which produced £742 in the corresponding month of 1873.

The traffic receipts of the Direct Spanish Telegraph amounted for the month of December, 1874, to £1,271, against £1,224 in the month of November.

The traffic receipts of the Eastern Extension (Aus-

tralasia and China) Telegraph for the month of December, 1874, amounted to £18,172, and for the corresponding month of 1873 to £20,400.

The traffic receipts of the Eastern Telegraph for the month of December, 1874, amounted to £31,725, and for the month of December, 1873, to £35,238. A circular issued by the Secretary gives a record for the last month of the latest dates of messages received from India, China, and Australia, which shows that the cables are working with uniform speed and efficiency. The time occupied in the transit of messages has been—from Calcutta, 56 minutes; from Bombay, 54 minutes. The comparative average of working speed of the Red Sea and Indo-European routes between London and Calcutta, during the past official year, has been 4 hours 33 minutes by the former (via Falmouth) and 4 hours 39 minutes by the latter. Increased efforts have been made to improve the speed and to attain a further degree of accuracy. The new recording instruments, worked by skilled English clerks, are used at all the stations between England and India.

The traffic receipts of the Great Northern Telegraph for the month of December last amounted to 294,333fr., and for December, 1873, to 287,356fr. The total traffic receipts for the year 1874 amounted to 4,427,890fr. (£177,116), and for the year 1873 to 3,352,542fr. (£134,102), showing an increase of 1,075,348fr. (£43,014).

The receipts of the Submarine Telegraph Company for the month of December, 1874, amount to £7,895 against £7,933 for the corresponding month of 1873.

The directors of the Western and Brazilian Telegraph Company have declared an interim dividend of 5s. per share for the quarter ending December 31, 1874.

The steamship International having taken on board from the tug Victor the necessary length of cable stores and appliances at Silvertown, proceeded to Dartmouth to take on board the electric cables of the Post-office, and proceed direct to Guernsey, to repair the Channel Islands telegraph. The various tests of the damaged cable have not as yet been very decisive of the nature of the fault in it, and it is improbable that anything definite will be arrived at until a further test shall have been taken from the Channel Islands side, although an impression is entertained that the fault is not very distant from Guernsey.

The Directory of the Peruvian International Exhibition of 1875 offer a premium of from \$200 to \$500 for the best telegraphic apparatus for fixing upon a railway line the relative situation of trains in motion on the same track, so that conductors may know the minimum distance between them when running.

The telegraph in the State of Guatemala, Central America, is now completed from the capital to Quetzaltenango, the largest city in the North of the Republic, and will soon be extended thence to the port of Champerico, on the Pacific.

Annual Meeting of the American Compound Telegraph Wire Co.

The annual meeting of the American Compound Telegraph Wire Co. was held at the offices of the company in this city, on Thursday, January 21st, and the following officers reelected for the ensuing year:

President, Chester Snow; Secretary and Treasurer, Alanson Cary; Electrician, Moses G. Farmer.

A dividend of \$1 per share was declared on the stock of the company.

Poetic (In)justice.

A TELEGRAPH pole has just been planted in front of the Franklin statue in Printing House square, in such a position as to ruin the view of the statue from the City Hall. It shows the encroaching tendency of the giant monopoly, but there is a sort of poetic justice in having the old philosopher hoisted on his own petard, or what is the same thing, thrown into the shade by the progress of his own discovery.—N. Y. Graphic.

The Southern and Atlantic Telegraph Line.

WE are glad to learn that the finishing touches are about to be given to this line, securing an independent communication from New Orleans to New York. In one more week the line will be in working order. Poles have been raised and wires stretched from Mobile to Lee station, on the N. O. & M. railroad, which is only nine miles from New Orleans.

The Southern and Atlantic Company has fought its way through almost inch by inch. Litigation has met it at every turn, but so far the company has seemed to come off victorious. A petition for an injunction has recently been filed in the United States Circuit Court

at New Orleans—Judge Woods—by the Western Union Company, asking that the new company be forbidden right of way along the line of the Mobile road, on the ground of its interference with the exclusive rights of the petitioner. This matter has clearly been settled in the Superior District Court of the Parish of Orleans, in favor of the Southern and Atlantic line, and now the United States Court is the last resort of the monopolists. The case has been fixed for hearing on the twenty-first instant, and much interest will attach to the decision of Judge Woods.—Mobile Daily Tribune.

Telegraphers' Mutual Benefit Association.

RECEIPT OF ASSESSMENTS—NEW YORK, JAN. 23, 1875.

ASSESSMENT NO. 71.

17, 22, 51, 58, 280, 350, 381, 398, 414, 438, 481, 527, 561, 605, 617, 652, 667, 671, 717, 725, 801, 869, 899, 908, 920, 934, 1103, 1148, 1207, 1251, 1336, 1437, 1485, 1516, 1559, 1564, 1572, 1600, 1603, 1605, 1607, 1608, 1609, 1610, 1611, 1612, 1626, 1637, 1639, 1653, 1655, 1657, 1672, 1690, 1691, 1698, 1729, 1773, 1818, 1835, 1917, 1931, 1934, 1953, 1954, 1964, 1968, 1978, 1995, 2005, 2118, 2128, 2145, 2160, 2179, 2244, 2280, 2302.

MISCELLANEOUS.

69.—1149.
68.—19, 800.

Members of the Association who look to THE TELEGRAPHER for receipt of assessments paid, will please take notice that an acknowledgment of the receipt of one assessment should be taken as a receipt for all previous assessments.

Quotations of Telegraph Stocks at N. Y. Stock Exchange,

Showing Lowest and Highest Prices each day during week.

Jan.	WESTERN UNION.		ATL. AND PAC.		AMER. DIST.		GOLD AND STOCK.	
	Bid.	Asked.	Bid.	Asked.	Bid.	Asked.	Bid.	Asked.
21	78½	73½	24½	25	62	75	62	75
22	79½	74½	23	24	62	75	62	75
23	78½	74	23	24	62	75	62	75
25	78½	73½	24½	24½	62	75	62	75
26	72½	72½	24	24½	62	75	62	75
27	73	73½	25	25½	63	75	63	75

New Patents.

OFFICIAL COPIES of any U. S. Patent issued since July 1st 1871, including drawings, specifications and claims in full, sent free to any address for 25 cents each. Address F. L. POPE, P. O. Box 5503, New York City.

For the week ended December 15, 1874, and bearing that date.

157,778.—VOLTAIC BATTERIES. R. Arthur, Baltimore, Md. Filed October 19, 1874.

The inner perforated cylinder for keeping in place the mass of zinc fragments, has permanently attached on one side a tube for the withdrawal of liquids, and on the other a tube extending down into a cavity filled with mercury in the bottom of the cup, for insertion of an electrode.

1. In a voltaic battery the inner perforated cylinder provided with the attached tube a, for containing mercury and for passage of the electrode, as shown and described.

2. In a voltaic battery the combination of the cylinder B, provided with the tube a, extended below it, and the jar A, having the groove or cavity in its floor for reception of said tube, as shown and described.

3. In a voltaic battery, the cylinder B, provided with the attached tube b, for removal of fluid surrounding the porous cup, as shown and described.

157,787.—PRINTING TELEGRAPHS. Samuel J. Burrell, Brooklyn, N. Y., assignor to Truxton Burrell, same place. Filed February 23, 1874.

Printing and type wheel magnets controlled by one main circuit, by varying strengths of current. The relay at sending station is used as a resistance. By depression of a proper key the battery is disconnected therefrom, and connected to the line, thus strengthening the current to control the printing.

1. The within described method of operating telegraph printing mechanism by cutting out the relay magnet at the sending station, so that the current is thereby strengthened, to render the printing mechanism operative at the receiving station or stations, as herein specified.

2. In combination with an electric circuit controlling the two operations of adjusting types and producing impressions, a resistance and means for cutting out the same at will, in order to perform one of the two operations, leaving the resistance in the circuit to perform the other, all substantially as herein specified.

3. In connection with an electric circuit controlling a printing mechanism, and with a resistance and means for cutting out the same at will, and means for causing such cutting out to produce the desired effect, the combination of a key or means not only for the cutting out the resistance, but also breaking the connection, so that no portion of the current can move through the resistance, substantially as herein specified.

4. The lever I I', forming the several contacts and breaks, so as to successively induce the operations of cutting off the connection of the local battery to the type wheel magnet, cutting out the relay coil of the main line, and closing the local circuit to the impression magnet, as herein specified.

157,880.—PRINTING TELEGRAPHS. John E. Smith, New York, N. Y. Filed November 12, 1873.

Printing and type magnets in same circuit, former requiring more powerful current, and operated by cutting a special resistance out of circuit at transmitting station by means of continued action of a shunting magnet, operated by prolonged closure of circuit.

A resistance coil or rheostat and a shunting magnet and connections, substantially as herein described, in combination with a main circuit in which are placed the printing and the type wheel magnets of any number of telegraph instruments, for the purpose of making the current for operating the printing magnets more powerful than is necessary for rotating the type wheels.

Married.

GREENLEAF—HOYT.—At the residence of the bride's father, New Durham, N. J., Wednesday evening, January 13, 1875, by the Rev. Telfair Hodgson, Pastor of Trinity Church, Hoboken, N. J., Mr. ENOCH GREENLEAF, Jr., to Miss AMINE C. HOYT.

WILLIAM BROWNLEE,

Dealer in
CEDAR TELEGRAPH POLES

OFFICE FOOT OF SHELBY STREET,
DETROIT, MICHIGAN.

IMPORTANT TO INVENTORS.

Inventors of Electrical and Telegraphic arrangements are invited to communicate with the

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beg to announce the opening of an establishment for the sale of

TELEGRAPHIC AND ELECTRICAL GOODS
of every description, at

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They solicit the patronage of their friends and the telegraphic fraternity generally.

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IN

Telegraph Instruments and Supplies.

STANDARD TELEGRAPH INSTRUMENTS,
EAGLES METALLIC BATTERY,
NONPAREIL TELEGRAPH INSTRUMENT,
INSULATED WIRE, etc., etc.

Send for Circular and Price List. Address,

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(P. O. Box 5508.

LECLANCHE BATTERIES.

IMPORTANT NOTICE.



After JANUARY 1st, 1875, we will allow TWENTY CENTS for each used-up Porous Cell of this Battery that are returned to us free of charge, in good order. A change is made in the discount to the trade. A list will be furnished on application to

THE LECLANCHE BATTERY COMPANY,

No. 40 WEST EIGHTEENTH STREET;

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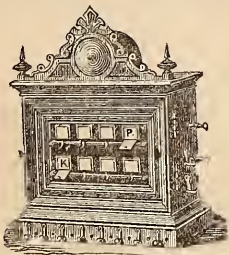
8 Dey street, sole Agents.

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- RELAYS, unequalled for beauty and strength;
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- OUT OUTS, many varieties, including a new style of PEG CUT OUT, with an adjustable LIGHTNING ARRESTER, just out.
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- ELECTRIC BELLS, HOTEL ANNUNCIATORS, FIRE and BURGLAR ALARMS, and WATCHMAN DETECTORS.
- ELECTRIC RAILWAY SIGNALS and ALARMS, ELECTRIC GAS LIGHTING APPARATUS.
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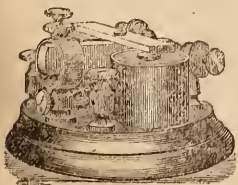
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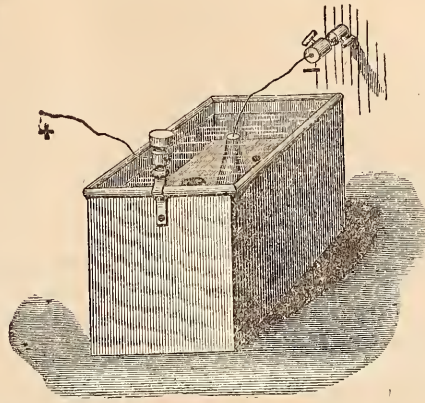
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These Batteries have been fully tested during the last year, although only recently offered for sale, and have proved to be superior to any other as regards efficiency, economy and durability. When once set up they require no attention for from four to six months, according to the service required of them.

Two sizes are made at present, but others will soon be ready.
 No. 1 is a large square cell, and can be used as a local or for running motors. Price, \$2.25.
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Fall River, Mass.,
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Jersey City, N. J.,
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Toledo, Ohio,
Toronto, Canada,
Washington, D. C.,
Worcester, Mass.

The Distinctive Features of these Systems of

Fire Alarm and Police Telegraphs

ARE,

First—The Automatic Repeater, through which the apparatus may be distributed in a combination of circuits, and the entire system successfully worked, without the constant personal attention of either operators or watchmen.

Second—The Automatic Signal Boxes.

Third—The Electro-Mechanical Bell Strikers, adapted to produce the full tone of the largest church or tower bells.

Fourth—The Electro-Mechanical Gong Striker, for hose and engine houses, by means of which the location of the fire is instantaneously communicated to the members of each fire company.

These Features combined form the

Only PERFECT, COMPLETE and RELIABLE System

OF

FIRE ALARM TELEGRAPH

IN THE WORLD.

It is a sufficient vindication of the claims which are made by the Proprietors of these systems of

FIRE ALARM AND POLICE TELEGRAPHS,

that they have sustained the test of more than twenty years of practical use, and that the efforts which have been repeatedly made to supplant them by other inventions have

COMPLETELY FAILED;

the few instances in which municipalities have been induced to adopt other systems having demonstrated their insufficiency and unreliability, and resulted in their abandonment, and substitution thereof of the

AMERICAN FIRE ALARM TELEGRAPH.

Messrs. GAMEWELL & CO. are the owners of the original *FARMER & CHANNING PATENTS*, one of the most important of which has just been extended for seven years, and during the past seventeen years have spared no expense or effort to secure improvements, and the Systems are now covered by

MORE THAN TWENTY PATENTS.

The most important improvement which the Proprietors have adopted and introduced is the

AUTOMATIC SYSTEM,

the introduction and operation of which involves so little expense, compared to the benefit which it confers, that even small communities can profitably adopt and maintain it.

The American System of

FIRE ALARM AND POLICE TELEGRAPHS

has met with the universal approbation and commendation of the

People, Municipal Authorities,

AND THE

PRESS

throughout the UNITED STATES and CANADA.

NO EFFORT, TROUBLE OR EXPENSE

is spared by the Proprietors to obtain and secure ANY POSSIBLE IMPROVEMENT which shall increase the

EFFICIENCY,
RELIABILITY and
ECONOMY

of the system. They intend that, as far as possible, it shall be

ABSOLUTELY PERFECT!

The amount of property which has been saved from destruction, and the number of lives which have been preserved through the general adoption of this system, throughout the UNITED STATES and the DOMINION of CANADA,

CANNOT EASILY BE ESTIMATED,

but that, in every community where it has been introduced for any considerable length of time, they have been enormous, **THESE CAN BE NO QUESTION.**

The cooperation of TELEGRAPHERS in securing its introduction into their localities is cordially invited, and their efforts will be duly appreciated and compensated.

Any information desired in regard to the above system will be cheerfully and promptly furnished upon application at the office.

A pamphlet, setting forth more fully its advantages and superiority, has been printed, and will be supplied to Municipal Authorities and others interested in Fire Alarm and Police Telegraphy, upon application as above.

CHARLES T. CHESTER,
104 Centre Street,
NEW YORK,
TELEGRAPH ENGINEER,

AND MANUFACTURER OF

INSTRUMENTS,

BATTERIES,

AND EVERY DESCRIPTION OF

TELEGRAPH SUPPLIES.

BUNNELL'S PATENT REPEATER.

These instruments are now made in two different styles, at \$120 and \$135 a set, consisting of two Relays, two Sounders, two Keys and Governor.

JONES' LOCK SWITCH-BOARD,

a most compact and reliable Switch, forming a clean spring-locked connection between any number of wires, occupying for each different connection only one square inch of space, and though made of the largest size, not subject to the warp and contraction of wood-work.

EXCLUSIVE AGENTS OF

A. G. DAY'S

KERITE,

OR

COMPOUND RUBBER COVERED WIRE

SUBTERRANEAN & AERIAL WIRES,

OF THE

HIGHEST INSULATION.

We are now prepared to furnish, after an experience of three years, an insulated Wire which can be buried in the earth or exposed to rain and sun, or to the vapor of acids, without injury, Professor SILLIMAN, who has exposed it to the most destructive agencies, finds that it remains uninjured in an atmosphere of ozone, which would destroy gutta-percha in a few hours. It exceeds glass or any other known substance as a non-conductor

We have made special arrangements to furnish this article for office purposes at a reduced rate.

ALSO, TO FURNISH

IRON CLAD CABLES

of the usual size, with KERITE COVER, believing that it will exceed, in insulation for submarine purposes, ANYTHING HITHERTO MANUFACTURED.

We shall be happy to furnish estimates for any amount and size of cable, which will be found to compete with any other construction, both in quality and price.

We manufacture the Genuine ELECTROPOION BATTERY, with Patent Platina Connection, introduced by us eight years since; also, THE ALPHABETICAL OR DIAL TELEGRAPH, now extensively used in this and other cities for private lines, being easily and quickly learned by any one.

We offer for sale, among other novelties, a SOUNDER that will work practically with a single DANIELL cell, a BATTERY that does not require to be taken down but once a year, and the very best MAIN LINE SOUNDERS made

Our CATALOGUE, embracing a large amount of new matter and description, is now ready for distribution.

THE TELEGRAPHER

A JOURNAL OF
ELECTRICAL PROGRESS.

J. N. ASHLEY, - - - - - PUBLISHER.

SATURDAY, FEBRUARY 6, 1875.

VOL. XI.

WHOLE No. 447.

[From the *Scientific American*.]

Early Submarine Telegraphy.

TO THE EDITOR OF THE SCIENTIFIC AMERICAN.

In your journal of January 9th Mr. George B. Prescott gives a brief account of some of the earlier experiments in subaqueous telegraphy. As this is a matter of much scientific as well as historical interest, I trust you will afford me space for a few notes on the same subject.

Prior to the employment of gutta percha for this purpose various attempts were made to insulate subaqueous telegraphic conductors, which were attended with only partial success. The plan usually adopted was that of winding conducting wire with thread saturated with insulating compound, and inclosing it in a tube. Dr. W. O'Shaughnessy made the first actual experiments of this kind for telegraphic purposes. He built a line, twenty-one miles in length, of iron wire, supported on bamboo poles, near Calcutta, India, in 1839. His line also embraced 7,000 feet of submerged wire, insulated with cotton thread saturated with pitch and tar. This was the first telegraph line of any length ever constructed in any country, and was worked successfully.

The first public telegraph line in England was opened from London to Gosport, eighty-eight miles, in February, 1845. In the summer of 1846, an attempt was made, under the direction of Prof. Wheatstone, to extend this line across the harbor to Portsmouth by means of a submarine wire a mile in length, but it failed to work successfully. This wire was, I think, insulated with India rubber, and enclosed in a leaden tube.

Gutta percha was first introduced into England in 1845. In March of that year R. A. Brooman patented the method now universally employed, for preparing the raw material for use in the arts, covering everything into which gutta percha could be manufactured. This was called the Master Patent. In September of the same year, Henry Bewley patented a machine for making tube, hose, etc., similar in principle to the American lead pipe machine of Tatham, patented in 1841. In 1846 C. W. Siemens, of London, sent a sample of gutta percha to his brother, Dr. Werner Siemens, who had been appointed a commissioner by the Prussian government to consider a telegraphic system, to see whether it would answer for coating subterranean wires. The latter soon discovered its remarkable insulating properties, and recommended an experiment upon a large scale, which having been sanctioned, he laid down a line of about five English miles near Berlin, Prussia, in the summer of 1847, which worked successfully. (*Journal of Society of Arts*, April 23d, 1853.)

In 1847 and 1848 more than a thousand miles of gutta percha covered wire was laid down in Prussia, which for several years proved successful, after which it gradually failed, owing to the impurity of the material. In March, 1848, Dr. Siemens made several successful experiments in the harbor of Kiel for the Schleswig-Holstein government, using a gutta percha cable of considerable length for firing submarine torpedoes. The same year he laid across the Rhine, at Cologne, a gutta percha coated wire, which was protected by a strong chain.

In 1846 the Gutta Percha Company was formed in London for the purpose of working the Brooman, Bewley and other patents. In June, 1846, Mr. Samuel T. Armstrong, of New York, received from one of the directors of this company a small quantity of the raw gutta percha, together with an invitation to visit the works in London. He left for Europe in March, 1847, spent six months in England and on the continent, visiting all the gutta percha factories then in existence, and finally purchased the patents for the United States, returning to New York in September, 1847. While in Europe he doubtless witnessed the manufacture of the insulated wire for Dr. Siemens, an immense quantity of which was furnished in 1847 by the same Gutta Percha Company of London.

In the latter part of 1847 W. S. Wetmore, of New York, imported a consignment of gutta percha for Mr. Armstrong. It was, probably, some of this lot with which Mr. Craven experimented, as mentioned by Mr. Prescott. I have been told that Mr. Craven and his

wife covered a wire themselves at their home in Newark, N. J., which he laid down as an experiment at the Passaic river crossing, in that city. On the 22d of May, 1848, Mr. T. M. Clark, Secretary of the Magnetic Telegraph Company, wrote to the Treasurer, George H. Hart, Esq., of Philadelphia:

"The wire has been down there (at Passaic river) nearly a month, and it has worked to a charm. It has been tested in various ways to see if there is any difficulty about it, but none has ever yet appeared. I am well satisfied that the plan is a good one, provided the wires can be kept out of the reach of anchors." This cable was, therefore, probably laid the last of April, 1848. Mr. Prescott states that James Reynolds covered the first cable that was laid across the Hudson River from New York to Jersey City, but makes no mention whatever of Mr. Armstrong, who was the proprietor of the establishment at which the cable was covered, and the owner of the Brooman and Bewley patents under which it was made—Mr. Reynolds (who was then employed by him) being the man who built and probably ran the machine used in coating the wire. This machine was the same in principle as Bewley's and Tatham's, previously mentioned. The cable referred to consisted of a No. 9 iron wire covered with half an inch in diameter of gutta percha. It was laid at five o'clock on the morning of the 15th of June, 1848, by the steamboat United States, from Cortlandt street, New York, to Jersey City, under the personal supervision of T. M. Clark and John W. Norton, directors of the Magnetic Telegraph Company. This cable had a leak in it from the start, but New York and Philadelphia telegraphed through it—by alternately cutting off the battery at the receiving station—for four days, when the wire was cut by an anchor.

Mr. Craven applied for a patent on the 12th of May, 1848, for his process of insulating wire by means of gutta percha. William Gordon also applied for a patent for the same thing on the following day, May 13. Both of these applications were rejected on the ground that, the insulating property of gutta percha being well known, its use to protect wires was not a patentable invention. Reynolds applied for a patent on his machine June 9, 1848, which was rejected for lack of novelty. But, notwithstanding all this, one George B. Simpson, of Washington, succeeded in engineering a bill through Congress, giving him a patent for insulating wires with gutta percha, which was issued May 21, 1867, and is now in force. Even if the subject matter were patentable, it is difficult to see how any one in this country could rightfully claim the invention, as it was made by Dr. Siemens in the winter of 1846-47, and the first importation of gutta percha into the United States was not until near the close of 1847. Mr. Prescott says: "One of Mr. Reynolds' workmen named Champlin, shortly after this cable was laid, went to England and communicated the process to the Gutta Percha Company," etc. This statement cannot be correct; for, as we have seen, the cable in question was not laid till June 15, 1848, while the Gutta Percha Company probably covered Dr. Siemens' four miles of wire in the summer of 1847, and certainly the 1,000 miles subsequently laid down by him in 1847 and '48.

W. H. Barlow took out a patent in England April 27, 1848, for covering wire with gutta percha by means of heated grooved rollers. The Bewley machine has, however, been much more generally used for this purpose than any other—having, of course, received more or less improvement at the hands of subsequent inventors.

F. L. POPE.

Elizabeth, N. J.

Interchange of Telegraphic Business.

THE bill introduced into Congress requiring the telegraph companies to interchange business and *pro rata* charges whenever their several necessities require it, has attracted a great deal of attention in Wall street, where the matter is regarded as a game between the Western Union and Atlantic and Pacific Telegraph Companies. It is expected that the bill will be reported favorably. Should it ever pass, however, it will be the beginning of a bitter war between the two telegraph companies, as the Western Union will never consent to share its facilities with its rival.

This telegraph bill is regarded by the officers of the Atlantic and Pacific Company as entirely fair, and as requiring no more than ought to be required in the relations even of competing companies. It is claimed by them that the custom of charging for extra work has never been practiced by any telegraph company in this country except the Western Union, and the Western Union does not charge for extra work on transfer business received from telegraph companies with which it is on friendly terms. The law of Connecticut and of several other States requires this free transfer of business, and the design of the present bill is to place the telegraph interests, throughout the country on a common footing. Mr. Orton, President of

the Western Union Telegraph Company, said yesterday that he considers the bill to be intended to affect Wall street, and it is not aimed at the Western Union. He claims that Congress has no right to legislate concerning the terms of transfer, and gives, as his opinion, that there is no chance for the passage of such a bill, arguing that Congress has no more right to legislate in these matters than it has to establish the rates of transfer between a Pullman line of cars and Dodd's express.—*New York Daily Tribune*.

Arizona U. S. Telegraph Line.—New and Reduced Tariff of Rates.

LIEUTENANT THEODORE SMITH, Superintendent of the Arizona U. S. Telegraph Line, yesterday received from Gen. Myer, Chief Signal Officer at Washington, the tariff of rates established by direction of the Secretary of War, to go into effect on the 15th instant. There is a great reduction in the charge for private and business telegrams over this line, but the rates to the Press are raised. We give the tariff from San Diego to the several points on the line, as follows: For messages of ten words or less to Yuma, 25 cents; to Stanwix Station, 50 cents; to Tucson, 75 cents; to Florence, 50 cents; to Maricopa Wells, 50 cents; to Phoenix, 50 cents; to Wickenburg, 50 cents; to Prescott, 75 cents; to Camp Verde 75 cents. Where the rates are 25 cents for ten words, the rate for each additional word will be 1 cent; where the rates are 50 cents for ten words, 2 cents will be charged for each additional word; and where the rates are 75 cents for ten words, the rate for each additional word will be 3 cents. All rates in United States currency.

This is the lowest telegraph tariff in the United States, and it now remains to be seen, by the increase in the business of the line, whether the people are disposed to take advantage of it. A letter of 110 words can be telegraphed from San Diego to Yuma for \$1 25, to Tuscan, Prescott and Camp Verde for \$3 75, and to any other point on the line in Arizona for \$2 50—in greenbacks.

For Press despatches 2 cents per word is charged between San Diego and Tucson, Prescott and Verdi; 1½ cents per word for any distance between 300 and 450 miles, and 1 cent per word for any distance under 300 miles.

Lieut. Smith has moved into the brick building adjoining the Western Union office, on Fifth street, which will be occupied as the headquarters of the line.—*The San Diego (Cal.) Daily Union*.

[Special Despatch to the *Daily Graphic*.]

Mr. McCrary's Telegraph Bill.—A Blow at a Gigantic Monopoly.

WASHINGTON, January 18.—There is every prospect that Mr. McCrary's bill, which was introduced in the House of Representatives on the 11th inst. and referred to the Judiciary Committee, will pass and become law. It strikes a direct blow at that greatest of monopolies of modern times, the Western Union Telegraph Company, and is clearly a bill of reform in the interest of the business community and people at large. I append the text of the proposed law.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That every telegraph company which has accepted or may accept the provisions of the act of July 25, 1866, relative to telegraph lines, shall mutually interchange with every other such telegraph company messages from points on the line of one company destined for points on the line of the other company; and every such company shall receive such messages from every other such company, and promptly transmit and deliver the same at their destination at the regular tariff rates established by such company between the points to and from which such messages are transmitted, and without any additional charge for words deemed necessary for indicating the route or manner of transmission; and any officer or employé of any such company who shall refuse to receive, or who shall fail promptly to transmit and deliver any message at the rates and in all respects in the manner as in this section provided, shall be punished in the Courts of the United States of the district where he may be found, by a fine not exceeding \$1,000, or by imprisonment not exceeding one year; and such person, and also such company, shall be liable for damages to the party injured, which may be recovered in the name of the telegraphic company receiving the message from the original senders.

A New Telegraph Company.

A TELEGRAPH company has been organized at Peoria, Ill., under the name of the Illinois Valley Telegraph Company. It proposes to put up lines to Chicago and prominent points in Indiana and Missouri.

Correspondence.

We do not hold ourselves responsible for the opinions of our Correspondents. Our columns are open to free discussions on all Telegraphic subjects, without distinction of person or opinion.

No notice will be taken of anonymous communications.

**Meeting of the American Electrical Society.—
Interesting Paper from Mr. C. H. Haskins.—
—Telegraphic News and Notions.**

CHICAGO, Jan. 26.

TO THE EDITOR OF THE TELEGRAPHER.

THE meeting of the American Electrical Society last Wednesday evening was by far more largely attended, and the most interesting of any since the formation of the society. The way business was transacted, and the interest manifested by those present, clearly demonstrated the fact that the right men were at the head of it. The President, General Anson Stager, presided. Vice-President Dr. C. H. Haskins, of Milwaukee, was also present, as well as C. H. Summers, and Colonel J. J. S. Wilson, of the Executive Committee. The roll was called by Recording Secretary C. S. Jones, who was in his place, as usual. One of the directors, Superintendent R. C. Clowry, of St. Louis, was also present. Prominent among other members present were Superintendent J. P. Fowler, A. and P. Telg.; Superintendent G. H. Thayer, N. W. R. R. Telg.; Manager H. C. Maynard; Mr. Firman, of the Fire Alarm; S. L. Robinson, Manager W. U. Board of Trade Chicago office; Master of Repairs W. U. Co., Chicago, W. O. Hopkins; Electrician W. U. office, Chicago, F. W. Jones, and others.

The record of the proceedings of the previous meeting was read and adopted, and some ten or fifteen new members elected; among others, Mr. Weller, Manager W. U. Telegraph office, Milwaukee; Mr. Kellogg, Electrician, Western Electric Manufacturing Company, Chicago, and Mr. Vigus, General Superintendent's Clerk, W. U. Co., Chicago, for whose benefit the rules were suspended, and they were proposed and elected at the same meeting, so that they (being present) could participate in the proceedings of that meeting. Quite a novel idea (to many members of the society at least) was presented by Mr. Haskins, which was the use of condensers as repeaters. The circuits were set up in the room (General Stager's) representing three circuits of 400 miles each. The duplex polarized relay was used, and battery was furnished by the W. U. Co. By this system a double pointed key is necessary; those not being available, a Stearns transmitter was used at either end, and the wire taken out of a binding post to do the breaking. It was shown that the breaking could be done promptly, right on the dot as it were, through the 1,200 miles of artificial line there represented. Mr. Haskins explained that the use of condensers was by no means a thing of recent date, as their uses had been known nearly a hundred years. They had been used by Farley on submarine cables, but had never as yet been used as repeaters. Mr. Haskins did not claim that he had perfected the system by any means, but gave it to the society, so that they might experiment upon it in the crude form that he presented it. He had tried it on a wire by one route from Milwaukee to St. Paul, and back by another route, making no choice of any wire, but taking them as they were available, and with this system of repeater at St. Paul the response on the receiving or terminal instrument, which sat right alongside of the sending instrument in Milwaukee office, was instantaneous. I might go on and lengthen the description, and tell you how none of the battery current passed out upon the line, but it was simply the induction current; but space and time forbids. A paper upon the subject is among the society's files, and will no doubt be printed at an early date, when your readers will get a full description. Until it is printed by the society it is not the property of the public. The meeting throughout was very instructive, especially to the younger members. A feeling among operators who are not members seems to exist, especially in the W. U. office, that this society is a kind of a prim, high backed chair kind of an organization. If they could have been present at the meeting just mentioned, and heard the joking by the members every time there was a chance previous to opening the meeting and after adjournment, they would have a different conception of it. Superintendents, operators and repairers there mingle, and for a time forget their different stations, and are only men and boys, as it were, seeking after knowledge, or imparting it to one another. "The boys" are very much mistaken if they think their superiors do not want them in this society, as I have frequently heard the different superintendents express the hope that ere long every operator in their employ would become members. It was for them (the operators) that the society was more especially formed, as those in an-

thority can get together at any time and discuss such subjects as appear before these meetings, and many of those who were prominent in organizing the society make great sacrifice personally to be present at the meetings. Those for whose benefit it was originated should certainly be willing to do the same. Some talk has been had of organizing a local society, to meet weekly, which shall be an auxiliary to the American Electrical, and have such men as Mr. Summers and Mr. Jones talk to us as Mr. Haskins does to his operators in Milwaukee. We might have such a society, and have no "dry algebraic technicalities" either.

Mr. F. W. Jones was appointed a committee of one to explain the quadruplex at the next meeting of the American Electrical Society. Something interesting may be expected, and there should be a large attendance.

Persons who patronize the telegraph have very little idea, as they pass in their occasional message from time to time, of the immense amount of work done by the various companies. One of the gentlemen on the night force kindly furnishes the following showing in the W. U. Office: on the night of the 20th, up to 10 P. M. that night, there was received for the different papers, exclusive of the Associated Press reports, 23,600 words; at 12 (midnight), 36,100 words; and at 1.30 A. M., 38,400 words. Of this amount the Chicago Times alone got 17,800 words; Tribune, 13,100; and the Inter-ocean, 7,500 words. The same night there was, of regular report, 4,500 words, and Smith extra 1,500 words, making the enormous amount of 44,400 words, besides the large number of half rate messages. No doubt quite as good a showing for the A. and P. Co. could be made had we the figures, proportionately of course to the facilities of the two companies; what would our fathers have thought had it been predicted to them that in a quarter of a century this toy of our grandfathers' days should grow to be such a benefit to mankind?

Messrs. Bale (not Ball, as your printer made me say recently) and Portier of the W. U. force, have returned from their holiday trip to Canada, looking very much invigorated. I am told by one of the employes of the Great Western Company that none of the wires of that company, except the western wire, is leased by the W. U. Company, and that one only, because the G. W. had no use for it, and that they (the G. W.) can terminate the lease at pleasure. As the W. U. Co. I understand, are responsible, to a certain extent, for the debts of this defunct organization, this looks hardly plausible. The W. U. Co. don't generally do things by halves, as this would indicate, but I give the statement for what it is worth.

I understand there is not to be an office opened at I. C. R. R. shops here as "suggested in a former communication," as the office at what is known as Weldon's station, on that road, near 16th street, is near enough to serve every purpose.

Hon. A. Spaddock, by one of the W. U. day force, is very good for Hon. A. S. Paddock, the newly elected senator in Nebraska. No doubt he would scarcely know himself if addressed as "Spaddock."

One of the day men taking night report in W. U. office a few nights ago, must have been very sleepy to get Reinhart & Kingsley for Rev. Charles Kingsley in a London cable message. It might have "passed" that way, but the idea of two men dying at the same age, 56 years, seemed rather preposterous, and it was caught on the Milwaukee sending wire by the irrefragable "Z" with his "ditching machine" and "patent egg sifter."

I understand the A. and P. Co. are now working the duplex system of D'Infeville between New York and Buffalo as well as between New York and Washington. It works so satisfactorily that it will be introduced West, no doubt, as soon as the instruments for it are completed.

OCCASIONAL.

**Christmas and New Year's Telegraphic Greetings.—
Retirement of Dr. Plummer and Accession
of Col. Lamb to the Superintendency of
the Third District.—Webfoot Con-
verted on the Tobacco Question.**

ALBANY, OREGON, Jan. 10.

TO THE EDITOR OF THE TELEGRAPHER.

"HERE we are again, boys!"—with Christmas and New Year's both past, and "we" settled down to work, with the sweet memories of those two days still lingering around us, suffice it to say we had a good time, and, being a bachelor, enjoyed it. On New Year's morning the operators on the O. & C. R. R. lines each indited and transmitted a telegram of greeting and good wishes to their efficient and esteemed superintendent, Mr. Falgout, who very appropriately replied to the same over the lines. The assistant chief operator was also duly remembered, for which he now returns his sincere thanks again, and expresses the earnest and heartfelt wish that we,

each and every one, may be permitted to exchange greetings on New Year's morning, A. D. 1876.

Some time since I stated that Dr. O. P. S. Plummer, Superintendent of the Third District W. U. Telegraph had resigned. This information I gave as I got it direct from the doctor's lips, and he said the 1st of November would be the day from which he could devote his whole time and attention to his neat and lucrative drug store on First street in this city; but by some means Col. Lamb, his successor, failed to appear until the 5th inst., when he arrived per steamer, and the W. U. boys all received notice of the change. The boys ought to feel happy over getting such a pleasant gentleman and efficient and experienced Superintendent as Col. Lamb to succeed Dr. Plummer. This district extends from Yreka, Cal., to Victoria, V. I., making quite a nice little "heat," as we "woodsmen" say.

On last Thursday morning the operators, desiring to express their sentiments in some way, called a meeting, and after inviting the Ogn. & Cal. and O. C. R. R. boys in Oregon and N. P. R. R. boys in Washington to join them, a "farewell telegram" was sent to Dr. Plummer, who was in the W. U. office in this city. The Daily Bulletin, of Portland, tells it right: "A very pleasant affair to Dr. O. P. S. Plummer, late superintendent of the Western Union Telegraph line, occurred at the telegraph office in this city on Thursday morning last. It should have appeared in yesterday's issue, but was mislaid. To Messrs. Jacobi and Thurman, operators, we are indebted for it. Each operator between Yreka and the northern station stood at his keys, while the following message was sent, to which they gave their signature:

"Dr. O. P. S. Plummer: In severing your connection with us as Superintendent of this District, please accept our thanks for the many kind acts received at your hands, and we trust that the cordial relations that have existed as Superintendent and operators may be continued through life. Hoping that you may succeed beyond your expectations in whatever you undertake, we are still your friends. (Signed by 66 operators.)"

DR. PLUMMER'S REPLY:

I thank you all sincerely for your friendly expressions, and assure you that the memories of yourselves and our pleasant past relations will ever rest among the brightest in memory's recesses.

O. P. S. PLUMMER.

Since September 15, 1868, Dr. Plummer has faithfully performed his duty, succeeding in placing the enterprise on a firm foundation. The workings in every department are most excellent, and to his industry and energy in greater part it is due. The affairs have been transferred to a good and capable manager in the hands of Col. Lamb, his successor." All of which am so!

What has become of Nettie Bronson, Elias, and "Dose odder fellers vat don't vas happy." Let's hear from them some more. By the way, you might gently intimate to Nettie that Webfoot, "having seen the evils of his way," has become a hopeful "convert" to her views regarding the use of the "weed"—having paid up his cigar account in full, thereby causing the heart of an old Israelite to bound for gladness, and also winning the eternal gratitude of a certain R. R. agent, by presenting him with my hitherto fondly cherished "Meerschaum." But for fear Nettie might be after taking unto herself too much credit, candor compels me to say that a certain one in Oregon—not a "sister," as Nettie says—together with some "tracts" addressed to me on a "crusading expedition" from the vicinity of the Erie, Pa., W. U. office, had as much or more influence to bring about this great revolution as Nettie's efforts; but I know Nettie will rejoice over the conversion of the "sinner" as truly as though she was the cause of it all. Am I right? Any way I am satisfied.

WEBFOOT.

**The Experience of a Female Telegrapher
Against Nihil Nameless' Assump-
tions and Forebodings.**

TO THE EDITOR OF THE TELEGRAPHER.

"NIHIL NAMELESS" is the happy possessor of very correct and perspicuous ideas concerning telegraphic journalism, but when he leaves that subject, and attempts to portray the shady side of a lady operator's life, he becomes at once hopelessly entangled in a net of sophistry and guesswork.

Granting for a moment, however, the truth of his remarks as applied to the benighted region of the Buckeye State, from which he hails, I wish to enter an emphatic protest in behalf of the more civilized West. I am an operator of six years' standing; have held offices in several States, and at points widely separated. I know personally and professionally many lady operators with whom I have compared notes regarding our business experience, and I have yet to know or hear of any one meeting the horrors which Nihil deprecates in our behalf.

He complains of social exclusion and unwholesome offices. Most office hours end at 8 P. M.; in cities earlier—time enough, surely, for some social recreation, I don't mean dissipation. I never found any difficulty in getting leave of absence in the day time or evening, if I left a competent substitute; and few of offices are necessarily heated or unwholesome, with a little care in securing ventilation. I admit that in railroad offices a lady cannot always stop the smoking while the habit is so universal, yet if she has a spark of decision she can clear her own office of loafers who know no better than to smoke in her presence. It does not seem to have entered Nihil's mind that separate departments may be instituted in cities, or even that smoking can be prohibited. Witness St. Louis, where ladies and gentlemen work together.

I am no extremist, contending that telegraphic work be given up to woman's control, nor do I think it ever will be; but I believe she can and ought to fill more positions of trust and responsibility than she does at present. Stock yard and railroad offices are not the most desirable positions in the service, but rough and uneducated men will have business at any office. They have rushed into mine, swearing frightful oaths, and stopped with apologies the moment they saw me. Four years ago political excitement ran high in the town where I was working. My office was in a large room, holding perhaps 150 persons, and on election night completely filled with excited and half drunken men. I stayed until 2 A. M. getting returns for them, and during all that time, if any one so far forgot himself as to utter an oath he was at once ignominiously hustled out into the rain and darkness. More than that; the next day a noted rough came and begged my pardon for having talked so loud in his excitement. Only once in all my experience have I encountered anything like the rudeness so greatly feared (and exaggerated), when a drunken Texan—the roughest of his class—staggered into the office, and, seeing me alone, began to talk in a profane and insolent manner. But even he left at once, and "stood not upon the order of his going," when I promptly ordered him out. Pardon so much egotism, I only wish to sustain my position with illustrations from my own personal experience.

On one of the southwestern railroads, noted for the rough character of its employés, a lady was sent to one of the way stations. Her advent was marked at once by a cessation of profanity over the wires, and she told me she never met with anything but respect and kind treatment from the desperadoes who manned the trains. I cannot comprehend how any one can be frightened by the bugbears which Nihil's imagination has conjured up. Bad as he represents mankind to be (and he is right), wicked and abandoned as many of them are, I believe any self-respecting girl can follow telegraphing anywhere on this continent without annoyance.

Has "Nihil" so low an opinion of lady operators as to suppose they would remain in the service another day if his doleful picture was correct? It is not a choice between telegraphy and starvation. The ability and independence which enables a lady to become a successful operator would gain her a living in a dozen other ways. Neither does it follow because she is no longer ignorant of the vices of humanity that her abhorrence of them is lessened (Pope to the contrary notwithstanding), or that her sensibilities are blunted in any degree.

Public opinion has changed mightily within the last decade, and any lady of dignity, perseverance and grit, will be sustained and respected in any profession which she honors by undertaking.

LADY.

An Insurance Banquet.—The Protection Life Insurance Co.

CHICAGO, January 21st.

TO THE EDITOR OF THE TELEGRAPHER.

THE banquet given by the Protection Life Insurance Company of this city to its officers and agents, at the Grand Pacific Hotel this evening, was one of the grandest affairs of the kind which has transpired for some time. Among the telegraphers interested in this association present we noticed Col. Edwards, the secretary of the company—an "old timer;" and Martin Ryan, the actuary of the company, who is also a member of the Board of Directors, and editor of the company's paper, *The Advocate*. Mr. Ryan was formerly connected with the telegraph of Canada, and for a long time worked on the W. U. night force in this city. He is one of the old "staid boys," and takes great pleasure in explaining the merits of the Protection to his old comrades whenever he meets them. We also noticed W. C. Long, who has an agency in the Protection, and has opened an office at his residence, working for them evenings. We understand he is making liberal offers to those of his telegraphic brethren who wish to insure in the Protection. If telegraphers who are insured in the Tele-

graphers' Mutual Benefit Association feel that they can carry more insurance than they have in it, or if those who for any cause fail to insure in the Telegraphers', and want good, cheap insurance, they can find no better company than the "Protection." The plan is very much like the Telegraphers', only the membership being larger the insurance costs somewhat less. Prominent among the telegraphers invited who could not attend, from sickness or otherwise, was Mr. H. C. Maynard, night manager W. U. Company in this city, who, we understand, is a member of the Protection family. If the gentlemen who responded to the toasts at the banquet this evening were all telegraphers, or your paper was an insurance journal, we might give you quite a good account of the meeting, but as it is can only refer to the speeches by the telegraphers, after the President of the company, Mr. L. P. Hilliard, had been introduced and spoken a few minutes upon the difficulties which he encountered in organizing the company in 1870. Mr. Ryan was called upon to respond to the toast, "The new departure." His speech was rather a statistical one, but contained some telling hits, which elicited considerable applause. He showed that for the \$9,000 paid into the company by deceased members, the company had paid to their families the enormous sum of \$879,479.01, and that if they had been insured in old line companies, they would, for the amount paid in by their protectors, have received but \$256,815. I hope you and your readers will pardon this somewhat lengthy dissertation upon a subject not strictly telegraphic, but I was anxious to impress the necessity of insurance upon the fraternity. More telegraphers die and leave their families but the remembrance of their virtues (which won't buy bread and butter, nor warm the house) than any other profession, and as this Protection Company embraces a number of well known telegraphers among its officers and members, and offers insurance within the reach of all, I thought an account of the telegraphic part of their banquet not amiss. I had almost forgotten to speak of Col. Edwards' speech, which was loudly applauded. It was a motion to adjourn.

INSURANCE.

Telegraphic Changes in California.—Fortunate Telegraphers.

SAN FRANCISCO, Jan. 20.

NOT having seen my notice of the following changes, I take the liberty of sending them to you, commencing with the A. and P. office here, in which there has been a general change—Major Hammond having assumed the duties of Managing Director of the Pacific Division. Mr. L. N. Jacobs, for some time past manager of the San Francisco office of that company, resigned, as did also Mr. Hubbard, receiver. The vacancy created by the resignation of Mr. Jacobs is filled by Mr. J. G. Bloomer, of the fire alarm telegraph of this city, author of "Bloomer's Cryptograph," which is a work of decided merit, and, being greatly needed, has been a financial success. Mr. Edw. Reese, for a long time of the W. U. Tel. Co., relieved Mr. Hubbard. Mr. Con. Dwyer, of the W. U. operating room, has transferred himself to the same department of the A. and P. Co., while Mr. Horace Jones, of the latter place, fills the vacancy caused by Mr. Dwyer's leaving. Mr. Harry Bennett, of the A. and P. Tel. Co. here, was one of the lucky speculators during the late rise, clearing up with about \$7,000, and "S. F." not being ethereal enough, he betook himself to that part of Mount Davidson in Nevada, known as Virginia City, where he still "pounds brass" for the A. and P. Co. despite his strike. Sensible youth. Mr. Geo. Tenf, manager of the W. U. Tel. Co. at Virginia City, is reported to have made about \$300,000 during the same "rise." Mr. Sam'l Chubbuck, manager of the Gold Hill office of the same company is said to have done very well in this way, and has also gained the honor of being elected by a large majority to represent his district as Senator in the Legislature of the State of Nevada.

Accessions have been made to the ranks of the San Francisco office in the persons of Jos. H. Thatcher, of Virginia, Nev.; Wm. F. Archibald, of Buffalo, and Geo. D. Field, of Chicago. The latter gentleman has been somewhat indisposed since his arrival, and rusticating at present across the bay at Oakland. Manager J. P. Yontz has now a full and efficient force, and is assisted by Mr. Chas. T. Dozier, chief operator, and Mr. Geo. Sawyer, assistant chief, with Wm. Foley, Jos. H. Thatcher, Arscott Venton, Chas. A. Boynton, T. S. Cunningham, Wm. F. Archibald, Miss Fannie Wheeler, Horace Jones, John A. and Geo. W. Campbell, E. Somerville, Wm. E. Smith, operators.

Within the past year the company have extended their lines very much, and have not yet taken their men out of the field. These extensions are warranted by the rapidity with which this wonderful State is being settled up.

Changes among other operators in this division to some extent will form the substance of my next letter. An inquiry from the East last week revealed the fact

that Mr. James D. Lillis, at present a receiver in the San Francisco office, has been engaged in telegraphy since Feb. 10th, 1847.

CLIX.

A Local Electrical Society.—Telegraphic Item.

TO THE EDITOR OF THE TELEGRAPHER.

I HAD hoped some one more able than myself would write you about the Local Electrical Society, formed in Milwaukee, which now consists of about thirty-five members. It was owing mainly to the exertions of Mr. C. H. Haskins, General Superintendent N. W. Tel. Co., that the society was started. He has tried to organize such a society for the past two years, but heretofore little or no interest was taken in it by those he wished to benefit. He delivers a lecture every week before the society, which is very instructive. He began down at the roots, and is gradually working up among the branches. We want a few more such men as Mr. Haskins up among the "Grand Moguls."

The wife of Mr. Hankinson (the worthy Assistant Superintendent of the Northwestern Telegraph Company) is now lying very ill at her home, Grand Rapids, Mich., and he has been summoned to her side. Fears for her recovery are entertained. Her case has puzzled some of our best physicians in this section. Mr. Hankinson has the heartfelt sympathy of all the fraternity who know him.

By a conversation over the line, I hear of honors done to a telegrapher. Mr. John Mullen, who is but twenty-four years old, has been elected to the Minnesota Legislature, from Blakely, Minn. He is an old chum of Frank Cargill, of the St. Paul, Minn., office of the Northwestern Telegraph Company. They worked together out in Dakotah some years ago. The weather in this section has moderated considerably since my last.

NORTHWEST.

Presentation to Mr. W. W. Cummings.

ST. LOUIS, Mo., Jan. 15.

TO THE EDITOR OF THE TELEGRAPHER.

ON New Year's morning, at half past nine o'clock, Mr. W. W. Cummings was surrounded at his desk by the day and night force. Before he had time to read the Riot Act Mr. Joseph Purcell stepped forward, and in a brief but very appropriate speech presented him with a pair of handsome chromos on behalf of the operators in the St. Louis office. Mr. Cummings was taken completely by surprise, and, after some little time, responded in a few well chosen remarks. It was a happy affair to all concerned. Mr. Cummings is justly popular with all the operators, and all joined in wishing him a Happy New Year.

Mr. Frank K. Swain, who has been with us for a long time, but thinks there is "no place like home," has resigned, and returns to New York. Frank has a host of friends here, and all are sorry to see him leave us.

C.

Miscellaneous.

Consumption of Zinc in Batteries.

Dr. P. H. VAN DER WEYDE, of this city, made a number of special experiments for the purpose of determining whether the consumption of zinc in a galvanic battery is greater when the circuit is continually opened and closed through an electro-magnet, than when it remains permanently closed with the same amount of resistance in circuit. He found that the consumption of zinc is the same when the current is permanently closed, whether the electro-magnet is made to sustain a weight or not. If, however, the current is often interrupted by breaking the contact rapidly, as in the case of electro-magnetic engines, induction coils, etc., the consumption of zinc increases by the action of the induced or reflex currents generated at every break of contact, and which acts most injuriously on the battery. It is well known that an induction coil with its continuous contact breaker wears the battery out very rapidly by reason of those induced or reflex currents, the power of which depends upon the size of the electro-magnets. In telegraphing, the electro-motive force is principally consumed to overcome the resistance in straight wires, while the coils of the magnets form a comparatively small portion of the circuit; therefore, the induced currents in this case do not practically amount to much. Therefore, telegraph batteries last much longer in proportion than those employed for induction coils, electro-magnetic engines, or in general for charging intermittently large powerful electro-magnetic coils. As the forcible removal and replacement of the armature from and to a charged electro-magnet, also induces secondary currents in the coils, which react on the battery, such removals and replacements, when continually repeated for a time will—notwithstanding the battery current remains permanently closed—cause a certain increase in the consumption of zinc.

THE TELEGRAPHER

DEVOTED TO THE INTERESTS OF THE TELEGRAPHIC FRATERNITY.

SATURDAY, FEBRUARY 6, 1875.

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THE TELEGRAPHER. A JOURNAL OF ELECTRICAL PROGRESS, DEVOTED TO THE INTERESTS OF THE Telegraphic Fraternity and the Advancement of Electrical Science and the Telegraphic Art. Published Every Saturday, AT No. 38 VESEY STREET, New York.

ELEVENTH VOLUME. The Publisher, in announcing the Eleventh Volume of THE TELEGRAPHER,

which will commence with the number for JANUARY 2, 1875, desires to return thanks for the LIBERAL SUPPORT which it has hitherto received, which it is expected and believed will be continued during the ensuing year. All the popular and valuable features of the paper will be retained, and it will continue as heretofore to labor for the best interests of the TELEGRAPHIC FRATERNITY and the advancement of ELECTRICAL SCIENCE and the TELEGRAPHIC ART.

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All communications relating to or intended for THE TELE-

J. N. ASHLEY, Publisher, (P. O. Box 5503,) NEW YORK.

The Telegraphic Situation.

THERE is nothing of very exciting interest in regard to the telegraphic situation to report to our readers this week. No additional manifestoes have been issued by the opposing parties and no public movement has been made.

The Western Union Telegraph Company, since our last issue, have been busily engaged in moving their various departments from 145 Broadway to the new building erected by the company, on the corner of Broadway and Dey street. Most of the executive offices and other departments, except the receiving, operating and delivery, were moved last week and on Sunday of this week. The operating and other departments referred to were moved Monday night last, and on Tuesday the business of the company was transferred to the new building entirely, and 145 Broadway, which has so long been the principal telegraphic centre for the telegraph business of the country, was left solitary and desolate, probably never more to be occupied for a similar purpose.

The new building is yet in a very incomplete state—even the portions occupied for the company's business being not entirely finished, and things are not yet in a proper condition to give our readers a detailed description of the new quarters and arrangements.

The officers of the company have very little to say in regard to the position of affairs, but are firm in the determination to hold on to the quadruplex until, if ever, it is legally wrested from them. They claim that the bargain with the great professor of duplicity and quadruplicity was complete, and that he had received a considerable sum of money on account, and that it was not at his option to shake off his obligations to them in the free and easy style which is characteristic of him.

The Daily Graphic of last Tuesday publishes the following account of an interview with President ORTON, which, while it was rather amusing and evidently somewhat baffling to the gentleman in search of information, yet is sufficiently definite as to the position of the company in regard to duplex and quadruplex inventions.

On Saturday a gentleman called upon him (Mr. Orton) at his office in the old Liberty street building. He was polite, but looked nervous and as if pressed with business.

"I want to learn," was the request, "the principle and operation of the duplex and quadruplex telegraph machines, if it is no secret."

"No," was the reply, "it is not especially a secret, but I could not explain them to you at present. I haven't the time. They are difficult matters to explain."

"Won't you explain to me, then, in what relation your company stands to these inventions?"

"If you will take a pencil," said Mr. Orton, speaking slowly, "and write, I will dictate all I have to say to you upon that point in a single sentence."

The pencil was immediately produced, and on the inside of a torn envelope the following words were written as they fell from his lips:

"This company claims to own all patents issued or to be issued upon applications now pending for duplex and quadruplex telegraphy."

"Will you tell me what the nature of the point in dispute is?"

Mr. Orton put on his hat. He cast a casual glance out of the window, and then turning and fixing his eyes on his questioner, said: "If you should own a house and sell it to me, and afterwards, if you were of such a disposition, should sell it to another man, don't you see that there might naturally arise a dispute about title?"

As Mr. Orton concluded he bowed slightly and moved towards a clerk's desk near the door, where he hastily gave some directions. In a pause that ensued the visitor made another appeal for information by asking him whether he could not mention some person who could and would explain the operation of the new machines. Mr. Orton seemed to withdraw himself from the clouds, and then said (politely): "No; I do not know of any such person to whom I could send you."

"Mr. Orton (quickly, while there was still an opportunity), will this matter come to an issue soon?"

He had again mysteriously withdrawn himself, and was only corporeally present, but he returned after a moment, and said (still politely):

"There will undoubtedly be a contest of title."

Further efforts to obtain information from this source seemed likely to meet with no better success, and the visitor (politely) withdrew.

The Atlantic and Pacific Telegraph Company are using the automatic system to advantage, and it is fully vindicating its value where there is a large amount of business to be transmitted, and the number of wires available is limited. It is in constant service between New York and Washington, and New York and Boston, and has proved a great assistance in keeping up the business when a portion of the wires were disabled. In working the automatic in connection with the Morse system a great advantage has been developed in the employment of skilled Morse operators as punchers, the operators receiving by sound and punching the strips for repetition without the necessity of their being first copied. This is, we are informed, regularly done in the Atlantic and Pacific office here when messages are to be repeated. Automatic apparatus is soon to be placed on the main routes of the Atlantic and Pacific Company west, as well as south and east. As suggested last week, the automatic will probably obviate the necessity of introducing the quadruplex into practical use on the lines of the Atlantic and Pacific Company. At the same time it is not contemplated to make use of the automatic exclusively, but to combine that and the Morse system in the business of the company.

We are also informed that on Sunday last a printing automatic arrangement was successfully operated between this city and Philadelphia—that is to say, the messages were printed in roman letters on the receiving slip. This required four wires, but the managers of the company are hoping that by further improvements it may be found practicable upon one or two wires. Unless this can be effected, while the experiment is a very beautiful one, it is not likely to prove very advantageous in actual service.

The excitement consequent upon the changes which took the public by surprise two or three weeks ago has subsided, and all parties are settling down to earnest work, to prepare for carrying on the telegraphic contest effectively.

We believe that there is room and a demand for two strong telegraph companies and systems in this country, that, properly conducted, these may both be successful, and that the interests of both the public and telegraph employes will certainly be advanced by such reasonable competition.

The Interest of Operators in a Proper Qualification for their Duties.

It is too often the case that telegraph operators neglect their own interest by an insufficient realization of the importance of thoroughly or adequately preparing themselves for the proper discharge of their important and responsible duties. Those who are ambitious of occupying the higher telegraphic positions must not only be willing to labor industriously, but must seek to acquaint themselves with the principles of the science which underlies the telegraphic art. The mere ability to manipulate a key or read telegraphic signals as they are transmitted over the wire, do not by any means constitute a telegraph operator, in the true sense of the term; and yet how many who call themselves, and are generally considered such, know no more of the business than this. If any emergency arises such operators are helpless, and must rely upon the chief operator or circuit manager to extricate them from their difficulty, which, perhaps, a merely superficial knowledge of electrical science would enable them to easily surmount themselves.

It is not to be expected that every telegraph operator should be an electrician, in the ordinary acceptation of the term, but there is no excuse for ignorance of the common principles of electrical science in its relation to telegraphy. Those who care more for temporary ease and enjoyment than advancement in their profession, will not, of course, take the pains necessary to qualify themselves properly for the discharge of their

duties. In this respect those who were engaged in the telegraphic service in its earlier days were better qualified than the majority of telegraphers at the present time.

It would be for the advantage of telegraph companies to have their employes more thoroughly educated than they now are, and to establish a higher standard of telegraphic knowledge and ability, especially in the more important positions, than is now required. There is, in fact, no real standard of telegraphic ability and knowledge. Many of those who consider themselves and are considered first class operators, are without the acquired ability which even second class operators should possess. This fact has often been presented heretofore, but as yet nothing has been done to improve the matter. To a person with a disposition to acquire knowledge, the telegraphic service is a perpetual school in which knowledge may be obtained daily which will be of value through life. But there are many telegraphers who, after years of service, actually know no more of the principles of electrical science than they did when they first became operators. They have no desire to learn more than is sufficient to enable them to send and receive messages.

We should be glad to see a movement on the part of telegraph employers to induce their employes to become better educated. They should encourage such a disposition on the part of employes, and should provide facilities for the instruction of those who may manifest a disposition to learn.

These should also be encouraged by promotion, and an increase of compensation according to their industry and proficiency. Cheap labor in telegraphing is not desirable or remunerative to employers, and is in fact, taking everything into consideration, more costly than properly educated, skilled and remunerated labor would be. We believe that if a disposition was manifested on the part of telegraph employers to encourage and reward application and study by proper promotion and remuneration, most telegraphers would thereby be induced to advance themselves in the study and practice of their profession. For the lack of such encouragement many of the best and most reliable and valuable telegraphers are constantly leaving the telegraph service to engage in other employments who would otherwise be glad to occupy telegraphic positions.

We hope that there may be ere long a reform in this respect, and that telegraph employers and employes will find some means of cooperating to bring about such a desirable result.

High Toned Journalism.

The following appears in the last number of the *nondescript* sheet published in the Post-office box of the Western Union Telegraph Company, in this city:

Gamewell's fire alarm system has proved a complete failure in more than one half the cities in which it is used.

The explanation of this and other similar unfounded and lying attacks upon GAMEWELL & Co.'s American Fire Alarm Telegraph system, which is in successful operation in most of the cities of any importance, and a large number of even the smaller cities and villages in this country is, that the publishers of the sheet referred to applied to Messrs. GAMEWELL & Co. for an advertisement, which was refused, probably for the reason that the paper having no standing or respectable character, it was not deemed advisable to be represented in its columns.

Another elegant extract is as follows:

It appears from late developments that the Manhattan Quotation Company is not to be run out so easily by the Gold and Stock people. They have by a peculiar strategic movement in finance placed 30,000 in their treasury to keep the pot boiling. As both sides employ telegraphers, we say—good enough.

As the Gold and Stock Telegraph Company is mainly owned and entirely controlled by the Western Union Telegraph Company, the force of the quotation,

in a paper published as above by employes of the latter company, will be apparent.

With one more extract from the rich placer of scandal and scurrility referred to we will leave the subject to our readers, and the consideration of the parties interested:

It is understood that some time ago the American District Telegraph Company mortgaged their entire property to the Union Trust Company for \$100,000. This arises from the fact that it is, and has been, managed by a set of reckless stock jobbers.

As one of the directors of the American District Telegraph Company, who is also largely interested in its management and prosperity, is a Vice-President of the Western Union Telegraph Company, the peculiar fitness of such a slur upon him will be recognized. The loan referred to was made some time ago, and was paid off long since, and this attempt to make scandal out of it, in the interest of a rival concern, is the more outrageous, as the facts might easily have been ascertained, and have already appeared in the daily papers of this city.

As evidences of high toned journalism we submit the above to the readers of THE TELEGRAPHER.

The Great Western Telegraph Company.

THE affairs of the Great Western Telegraph Company of Chicago appear to have got into an inextricable muddle. For the last two years the company has been in court on numerous suits and counter suits, the last move being the appointment of a Receiver to wind up the company, and secure the proceeds of the assets of the company to the creditors. The Receiver has leased a portion of the lines belonging to the company temporarily to the Western Union Telegraph Company, which lease has been sanctioned by the court.

The company appears to have been mismanaged from the start, and the consequence is that the stockholders who were induced to invest in its shares have lost their entire investment, the assets of the company probably not being more than sufficient to pay its liabilities, which are said to amount to about \$200,000, and it is regarded as doubtful if even they will eventually realize sufficient for this purpose.

Naturally, the stockholders are not disposed to regard with equanimity their loss, and are disposed to be somewhat troublesome over the matter. How they are to help themselves is a difficult problem to solve.

Much bad blood has been caused, and crimination and recrimination is the order of the day amongst the principals in the construction of the lines and management of the company. Mr. SELAH REEVE, the contractor for the construction of the lines, charges the President of the company, Mr. JOSHUA STARK, of Milwaukee; the Secretary and General Agent, Mr. BOND, and the General Superintendent, A. H. BLISS, with incompetency, and the most glaring incapacity and unfaithfulness, while, on the other hand, the parties above named retaliate with a charge that Mr. REEVE has been guilty of a most infamous attempt to get possession of the largest part of the property of the company.

The President of the company issued a call for the annual meeting, to be held at Chicago January 26th, and made a long statement of the affairs of the company, in which he charges the General Agent and Superintendent with disposing of the bonds of the company, and of accounting for but a small part of the proceeds.

Mr. SELAH REEVE also issued a circular abounding with invective and abuse, and charging the officials of the company with peculations of various descriptions.

About fifty stockholders attended the proposed annual meeting, but were met with an injunction prohibiting them from taking any action. This injunction was served upon the stockholders by being read to them by a deputy sheriff while in session, and its reading was followed by a scene of confusion; violent denunciatory speeches were made, and the lie freely bandied about among the contending parties. The

detailed report of the meeting fills some three and a half columns of the *Chicago Times*, and is of course too long for reproduction in the columns of THE TELEGRAPHER. Finally, a resolution was adopted that the officers of the company give notice to the stockholders of the time which it will be legal for them to come together for the purpose of electing a directorate and officers of the company, and the meeting adjourned.

Subsequently, an informal meeting was constituted by a portion of the stockholders, at which more violent language was indulged in, and, after another exciting scene, this was also adjourned, and so the matter ended for the time.

Western telegraph stockholders do not seem to take a "skinning" as quietly as their more experienced Eastern brethren. As there appears to be no probability of their ever receiving back a dollar of their money, there seems to be but little use in such cantankerous displays on their part.

"Under which King, Bezonian?"

THE telegraph sheet, whose only publication office is the post-office box of the Western Union Telegraph Company in this city, and whose publishers and nominal editors are employes of that company, is certainly suspiciously kind and liberal in its treatment of the "opposition." Can it be possible that the rumors of wavering allegiance on their part are correctly based on reported "negotiations," and that they are preparing to follow, at the opportune moment the great professor of duplicity and quadruplicity in his transfer to the enemy's camp?

It certainly looks suspicious, and we would advise the executive officers of the Western Union Company to ascertain whether more of its enemies may not be found among those whom they have fostered, and who are yet its paid adherents.

A Happy Relief.

ONE of the happiest effects of the transfer of the professor of duplicity and quadruplicity from the Western Union to the opposition side, is the relief afforded to the Editor of the Western Union official organ from the necessity of writing puffs and complimentary notices of that individual, and his supposititious inventions, against his conscience, knowledge and belief. He seems much happier since this relief was afforded, and life affords a better prospect of comfort and enjoyment to him. We congratulate him on the happy relief.

"Dere's a Heap o' Trouble on de Ole Man's Mind."

ONE of the small fry telegraphic journals has been in the habit of worrying the intellects of its readers—that is of such few of them as have any—with divers electrical conundrums, emanating from "the teeming brain and untiring nerve" of the "great genius" whose organ, or rather whose accordeon, the said sheet is popularly supposed to be. But, alas! when this "celebrated inventor" mysteriously disappeared with the "crowning triumph" of his illustrious career, to wit, the "quad," in one of his coat tail pockets, he likewise carried off the answers to all the puzzles! And there isn't, probably, another party in the whole world except the "great genius," that can solve them. We give it up! It is very sad.

A New Brand of Office Wire.

THE successor to the great puzzle maker started off last week with what we venture to predict is a riddle that will "stump the crowd." He wants to know how to work a polarized relay with "one cell of battery and a continuous coil of short office wire! No doubt the "teeming brain" of the "great genius" would be able to accomplish this, if he could only find "a continuous coil of short office wire," but as the children used to say, "that's just where the catch is!"

Personals.

Mr. ROBERT STEWART has been appointed General Superintendent of Telegraph of the Baltimore and Ohio Railroad, and will take charge February 15th, Mr. STEWART has been Superintendent of Telegraph of the United Railroads of New Jersey Division of the Pennsylvania Railroad since the lease, and was for many years previously connected with the New Jersey lines.

Mr. L. L. LATHROP has resigned his position as Manager of the Atlantic and Pacific branch office, No. 4 Wabash avenue, Chicago, Ill.

Mr. M. C. GROSS, of the Atlantic and Pacific main office, Chicago, Ill., takes charge of the No. 4 Wabash avenue branch office as manager.

Mr. EMOBY, of the Syracuse, N. Y., office Atlantic and Pacific Telegraph Co., takes the position in the Chicago, Ill., office of that company, made vacant by promotion of Mr. GROSS.

Mr. J. G. THORNTON has been appointed Assistant General Superintendent of the Southern and Atlantic Telegraph Company, headquarters at Macon, Georgia.

Mr. P. T. STEVENS has been appointed Superintendent of Construction and Repairs of the Southern and Atlantic Telegraph Company.

The headquarters of Mr. GEO. H. GRACE, General Superintendent of the Southern and Atlantic Telegraph Company, will be for the present at No. 51 Pine street, New York.

Mr. A. G. THOMPSON, an old veteran, has returned to his first love, and accepted a position at St. Louis, Mo.

Mr. NOAH TRISSELL, an old telegrapher, has been appointed ticket agent for the Rock Island and Pacific and C. and N. W. Railroads and the several steamship lines at Omaha, Neb.

The Telegraph.

The Southern and Atlantic Telegraph Co.

THE line of the Southern and Atlantic Telegraph Company has been completed to New Orleans, and an office has been opened at the corner of Gravier and Carondelet streets in that city, in charge of Mr. Ed. Leloupe. The S. and A. Co., have had very great obstacles to contend against in completing their line, having been opposed and obstructed in every possible manner, but have at last succeeded in establishing connection with the objective point.

It is proposed to establish a fair competition for business, and there is no doubt, but that the public will patronize the company liberally. Mr. Leloupe, the manager of the office, is well and favorably known among the business men of New Orleans, and his appointment will prove advantageous to the company, and satisfactory to the public.

The appointment of Mr. J. G. Thornton, of Macon, Georgia, Asst. General Supt., is also a good one. Although the actual appointment is of recent date, Mr. Thornton has really acted in that capacity for some time, and has given excellent satisfaction, displaying tact and ability in the discharge of his duties.

The prospects of the Southern and Atlantic Company are good. It establishes telegraphic competition in an important section of the country, where there has been none of any account for many years, and its advent has been heartily welcomed by the press and the people.

Foreign Telegraphic Notes.

THE telegraph in Guatemala is completed from the capital to Quezaltenango, the largest city in the north of the republic, and will soon be extended thence to the Pacific.

The total number of messages forwarded from postal telegraph stations in the United Kingdom for the week ended January 9, 1875, was 342,877—an increase on the corresponding week last year of 29,181.

An additional wire between Madrid and Santander, which the traffic from England had rendered necessary, has just been completed by the Spanish Government. Communications with Madrid and the interior of Spain, via Santander, will be much accelerated thereby. Telegraphic communication with Bilbao, which has been suspended since August, 1873, is also now re-established by the opening of a coast cable between that town and Santander.

The traffic receipts of the Western and Brazilian Telegraph Company, from the 20th November to the 25th December, 1874 (five weeks) were £12,764 17s. 4d.

The Directors of the German Union Telegraph Com-

pany have decided to pay an *interim* dividend of 11s. 9d. per £15 bond.

The Western and Brazilian Telegraph Company have announced an *interim* dividend of 5s. per share for the quarter ending December 31, 1874.

Testimonial to a Popular Superintendent.

As Mr. F. P. SHERWOOD, Superintendent of the American District Telegraph Company, was leaving the office on Montague street, Monday night, he was requested to step into an adjoining room, as several of his friends had "something to say" to him. To his surprise he found the managers and members of the company's police force awaiting him, and without delay Mr. S. E. Bronson, in a neat speech, presented him with a valuable gold hunting case watch, as a token of regard from the employés of the company. Mr. Sherwood accepted the gift and heartily thanked the donors. The watch is one of the neatest of time pieces, and on the inner cover bore the inscription, "Presented to F. G. Sherwood, Superintendent, by the employés of the American District Telegraph Company, January 11, 1875."

Quotations of Telegraph Stocks at N. Y. Stock Exchange,

Showing Lowest and Highest Prices each day during week.

Jan.	WESTERN UNION.	ATL. AND PAC.	AMER. DIST.	GOLD AND STOCK.	
				Bid.	Asked.
28	71½ ... 72½	24 ... 25	...	33	62 ... 75
29	72½ ... 74	24 ... 25	...	38	62 ... 75
30	73½ ... 74½	24 ... 25	...	33	62 ... 75
Feb. 1	74½ ... 75½	24 ... 25	25 ... 31	62 ... 75	
2	75 ... 75½	24 ... 25	...	...	62 ... 75
3	74 ... 75½	24 ... 24½	...	82	68 ... 75

New Patents.

OFFICIAL COPIES of any U. S. Patent issued since July 1st 1871, including drawings, specifications and claims in full, sent free to any address for 25 cents each. Address F. L. POPE, P. O. Box 5503, New York City.

For the week ended December 22, 1874, and bearing that date.

157,962.—ELECTRICAL PHOTOMETERS. Wm. W. Goodwin, Camden, N. J. Filed May 13, 1874.

Standard candle supported on a balance-arm carrying sliding weight. Consumption of a predetermined amount of the candle allows the arm to tip, its dipping in a mercury-cup, and closing an electrical circuit to magnets controlling devices which cause the candle to be blown out, the gas to be shut off, the metre and a clock stopped.

1. The combination, with a photometer, of a battery, conducting wires, and electro-magnets, substantially as described, for the purpose of instantly and simultaneously arresting the operation of every part of the said photometer in testing the quality of the gas.

2. The combination in a photometer, substantially as described, of the electro-magnet 29 with the balance K, for the purpose described.

3. The combination of the mercury-cup 28, platinum point 27, balance-lever K, electro-magnet H, and conducting wires, with the air puffing apparatus, substantially as and for the purposes set forth.

4. The combination, in a photometer, substantially as described, of the electro-magnet H and the catch bar h on the armature, with the levers f' and g', for the purposes set forth and described.

5. The combination, consisting of the valve G, weight g'', and levers g' and g'', liberated by the descent of the armature of the electro-magnet H, substantially as set forth, for the purpose of extinguishing the flame of the candle R by liberating a puff of air from the reservoir I, as described.

6. The combination of the notched stem f''' with the gas valve F, arranged in combination with the lever f' and electro-magnet H, substantially as and for the purpose described.

7. The combination in a photometer, substantially as described, of the dog 13 and the vulcanite disk 12, with the lever 16, operated by the armature of the electro-magnet P, as set forth, for the purpose of arresting the motion of the balance wheel 20 of the clock, as described.

8. The combination in a photometer, substantially as described, of the vulcanite disk 6 and dog 8 with the meter-gear and battery, for the purpose of arresting the motion of said meter as set forth.

9. The combination in a photometer, substantially as described, of the stationary posts s' s'' s''', and their respective conducting wires, with the insulated posts t' t'' and switch 32, for the purpose of changing the direction of the electric current, as described.

10. The combination in a photometer, substantially as described, of the electro-magnetic coils 29, with the return wire from the balance K, for the purpose of retaining the contact of the platinum point 27 of the balance with the mercury in the cup 28, as described.

11. In combination with a Bunsen photometer, substantially as described, the connecting wires or their equivalent mechanical devices, whereby by the instant and simultaneous extinguishment of the candle flame and arrest of all the moving parts of the photometer are produced.

158,071.—TYPE-WRITERS. Hans Rasmus Malling Johan Hansou, Copenhagen, Denmark. Filed Dec. 11, 1873.

The paper carrying surface is flat. Pressing down the type, prints, and at the same time, by completing the electric circuits causes the table to move along the space of one letter.

1. The combination of the converging types b with a flat paper carrying surface or table, d, wheels e, rails f, frame g, toothed rack G, wheel K, and shaft i, substantially as and for the purpose described.

2. The combinations of the types and a flat paper carrying surface or table, d, which is operated by a coiled spring, with the insulated spherical shell a of the writing ball c, electro-magnets g, and escapement v, all arranged and operating substantially as and for the purpose shown and described.

3. The combination of the converging types b with a flat paper carrying surface or table, d, wheels e, rails f, frame g, toothed rack G, wheel K, shaft i, rails h, and toothed rack or beam H, arranged and operating substantially as and for the purposes specified.

158,086.—MANUFACTURE OF PIPE INCASED TELEGRAPH WIRE. Samuel R. Honey, Newport, R. I. Filed Nov. 9, 1874.

1. The herein described manufacture of pipe incased wire—that is to say, pressing out the pipe through the die of a pipe press, and introducing the wire through the core of the press loosely within the pipe simultaneously and progressively with the formation of the latter, in the manner and by the means substantially as shown and set forth.

2. In the apparatus of the kind herein referred to, the passage d, leading from the exterior of the apparatus through the core, and terminating at the free or outer end of the latter, substantially as shown and described.

Married.

STOCKMEYER—WHISSEN.—At the residence of the bride's mother, Mr. JOHN E. STOCKMEYER, Agent and Operator at Carlisle, Ill., O. and M. R. R., to Miss LELIA WHISSEN, of Chillicothe, Ohio. (Johnny, may you always be happy!)

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Inventors of Electrical and Telegraphic arrangements are invited to communicate with the

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They solicit the patronage of their friends and the telegraphic fraternity generally.

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EAGLES METALLIC BATTERY,

NONPARELL TELEGRAPH INSTRUMENT,

INSULATED WIRE, etc., etc.

Send for Circular and Price List. Address,

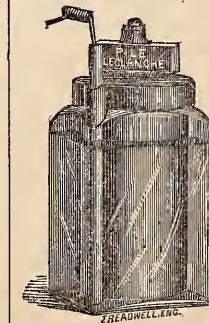
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IMPORTANT NOTICE.

After JANUARY 1st, 1875, we will allow TWENTY CENTS for each used-up Porous Cell of this Battery that are returned to us free of charge, in good order. A change is made in the discount to the trade. A list will be furnished on application to



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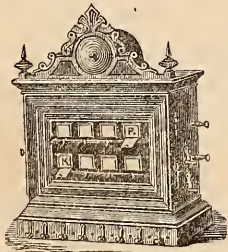
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RELAYS, unequalled for beauty and strength;
COMBINATION SETS; BOX and POKET RELAYS.
CHALLENGE, PONY and REPEATING SOUNDERS.
KEYS, various styles, including the SCHNEIDER KEY, just
out, no legs, wire connections above the table.
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CUT OUTS, many varieties, including a new style of PEG CUT
OUT, with an adjustable LIGHTNING ARRESTER, just out.
REPEATERS—HASKIN'S AUTOMATIC, and others,
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ANDER'S GALVANIC and MAGNETO-ELECTRIC PRINTERS; also
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ALARMS, and WATCHMAN DETECTORS.
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ING APPARATUS.
MEDICAL INSTRUMENTS and APPARATUS on hand and made
to order. Second hand instruments for sale cheap,
and repairing done at short notice.
BATTERIES in great variety, including the latest inventions;
also a full assortment of battery material.
WIRES—MOORE & SON'S and PHILLIPS' MAGNET and OFFICE
WIRES, GUTTA PERCHA and KERITE WIRES, BEST GALVANIZED
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ORTON'S PENCIL HOLDER, SAFETY MESSAGE HOOK and
AWL CLIP, STANDARD TELEGRAPH BOOKS, &c.
PRICE LISTS FURNISHED FREE ON APPLICATION.
Our TELEGRAPH INSTRUMENTS and ELECTRICAL APPARATUS are
elegantly finished and mounted on highly polished rosewood,
mahogany and walnut bases.

CHAMPION BURGLAR ALARM
AND ANNUNCIATOR COMPANY,
40 WEST 18th STREET, NEW YORK.

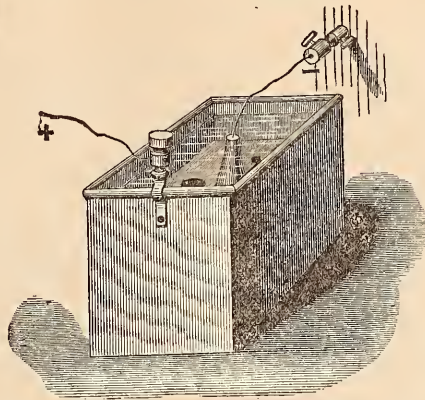


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vate houses, hotels, banks, &c. Upon receipt of plans of houses
we will send skilful mechanics to estimate upon work, or will
give any information in writing that may be required, *Liberal
commissions will be paid upon any orders that may be secured for
us.* Our Alarms and Annunciators have just been awarded the
FIRST PREMIUM of the American Institute.

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CORNELIUS ROOSEVELT, Secretary and Treasurer,
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and Labor at last Secured.**

THE EAGLES METALLIC BATTERY.

PATENT APPLIED FOR.

The undersigned having secured the exclusive Agency for the
manufacture and sale of the

EAGLES METALLIC BATTERY,

now offer them to the public as the best Battery for Telegraphic
and other purposes yet devised.

The Battery cell is made of *lead*, and forms one pole of the
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These Batteries have been fully tested during the last year,
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Two sizes are made at present, but others will soon be ready.
No. 1 is a large square cell, and can be used as a local or for
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On Locals, one No. 1 cell is used in place of two Daniells, at a
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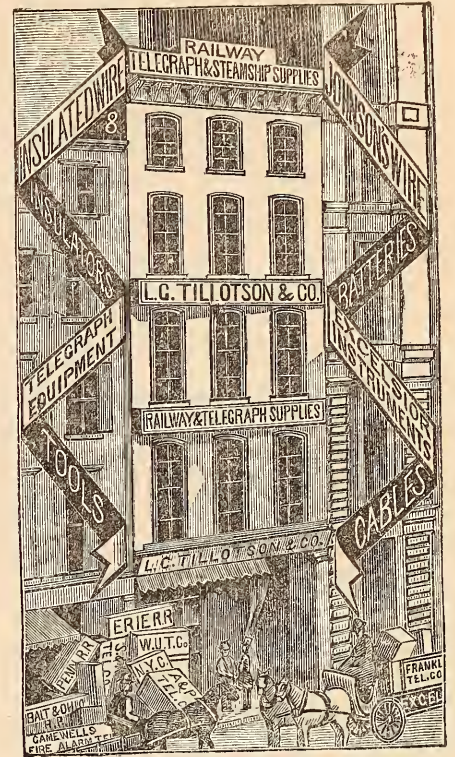
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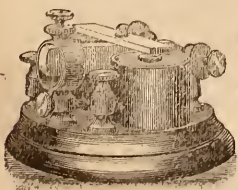
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ARE,

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These Features combined form the

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It is a sufficient vindication of the claims which are made by the Proprietors of these systems of

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that they have sustained the test of more than twenty years of practical use, and that the efforts which have been repeatedly made to supplant them by other inventions have

COMPLETELY FAILED;

the few instances in which municipalities have been induced to adopt other systems having demonstrated their insufficiency and unreliability, and resulted in their abandonment, and substitution therefor of the

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Messrs. GAMEWELL & CO. are the owners of the original *FARMER & CHANNING PATENTS*, one of the most important of which has just been extended for seven years, and during the past seventeen years have spared no expense or effort to secure improvements, and the Systems are now covered by

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The most important improvement which the Proprietors have adopted and introduced is the

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the introduction and operation of which involves so little expense, compared to the benefit which it confers, that even small communities can profitably adopt and maintain it.

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has met with the universal approbation and commendation of the

People, Municipal Authorities,

AND THE
PRESS

throughout the UNITED STATES and CANADA.

NO EFFORT, TROUBLE OR EXPENSE

is spared by the Proprietors to obtain and secure ANY POSSIBLE IMPROVEMENT which shall increase the

EFFICIENCY,
RELIABILITY and
ECONOMY

of the system. They intend that, as far as possible, it shall be

ABSOLUTELY PERFECT!

The amount of property which has been saved from destruction, and the number of lives which have been preserved through the general adoption of this system, throughout the UNITED STATES and the DOMINION OF CANADA,

CANNOT EASILY BE ESTIMATED,

but that, in every community where it has been introduced for any considerable length of time, they have been enormous, THERE CAN BE NO QUESTION.

The cooperation of TELEGRAPHERS in securing its introduction into their localities is cordially invited, and their efforts will be duly appreciated and compensated.

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These instruments are now made in two different styles, at \$120 and \$135 a set, consisting of two Relays, two Sounders, two Keys and Governor.

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COMPOUND RUBBER COVERED WIRE

SUBTERRANEAN & AERIAL WIRES,

OF THE

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We are now prepared to furnish, after an experience of three years, an Insulated Wire which can be buried in the earth or exposed to rain and sun, or to the vapor of acids, without injury. Professor SILLIMAN, who has exposed it to the most destructive agencies, finds that it remains uninjured in an atmosphere of ozone, which would destroy gutta-percha in a few hours. It exceeds glass or any other known substance as a non-conductor

We have made special arrangements to furnish this article for office purposes at a reduced rate.

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IRON CLAD CABLES

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We shall be happy to furnish estimates for any amount and size of cable, which will be found to compete with any other construction, both in quality and price.

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THE TELEGRAPHER

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The New Western Union Telegraph Building.

THE growth and development of the telegraphic system of the United States seems, to one who has been familiar with it from its earlier years, little less than miraculous. It is impossible for the mind to grasp, without an effort, the actual extent of the vast network of telegraph lines that has been woven across the Continent from Newfoundland to British Columbia, and from New Orleans to the settlements on the Red River of the North. But the growth of telegraphic business in the commercial metropolis of the United States is an infallible index of that of the whole system, and in no way can we get a more adequate idea of the latter than by a glance at the progress which has been made in this city during a comparatively few years.

Fourteen years ago the general offices of the different telegraph companies in this city, now consolidated with others under the name of the Western Union Company, were all accommodated in the small yellow brick building 21 Wall street, corner of Broad. Indeed, until within the past year, this building has contained a telegraph office of some sort for the best part of a quarter of a century. At the date just referred to, the Western Union Company was a comparatively small affair. Its lines were nearly all comprised within the States of Ohio, Indiana and Michigan, extending eastward only to Buffalo and Pittsburg, and westward to Chicago. The New York, Albany and Buffalo, the Atlantic and Ohio, and the American companies occupied the Wall street building, the first named working six wires, the second one, and the third twenty-two, including two city wires. In all there were not more than thirty instruments worked in this office, and here, with very few exceptions, all the telegraphic messages to and from this city were sent, received or repeated.

In the spring of 1861 the whole establishment was removed to 145 Broadway, which at that time afforded nearly twice as much space as was needed to transact the business of the different companies. The building was fitted up in what was regarded at that time as a very expensive, and, in fact, sumptuous manner. The American and Atlantic and Ohio lines had an operating room on the ground floor, while the New York Albany and Buffalo operators were quartered in the front room on the third floor. This room was regarded as a model of neatness, convenience and good taste. Mr. J. D. Reid, who was then Superintendent of that company, had an opportunity to carry out his own excellent ideas in regard to arranging and fitting it up, and the result was, perhaps, the most entirely satisfactory operating room, all things considered, that the writer ever remembers to have seen. The subdued yet cheerful light, the ample space about the tables, and the noiseless carpet under the feet, which brought out with beautiful distinctness the sharp, clear click of the Chubbuck sounders, rendered it as quiet and pleasant a workroom as a person of any profession could ask or wish for. But it was not fated to last long. The New York and Buffalo line was soon swallowed up by the Western Union, followed first by the opposition, or United States Company, and then by the American Company. This series of consolidations rendered it necessary to entirely remodel the building, and a new general operating room was fitted up on the fourth floor of the building, and all the wires except the metropolitan were transferred thither in 1867. There were at this time about eighty Morse and six Phelps combination printing instruments in the general operating room, and eighteen Morse instruments in the city line operating room. The number of main wires was about seventy-five, not including loops.

By 1872 the growth of the establishment rendered another reconstruction imperatively necessary, and in January of that year the general operating room was transferred to the top floor, which had been very elegantly fitted up for that purpose. The number of line wires had by this time increased to 130, and the number of instruments in both operating rooms to 168, counting duplex instruments and repeaters as two each. Meanwhile the executive and other depart-

ments had not only filled the original building, but had overflowed into the two adjoining buildings on Liberty street, and it had already become apparent that arrangements must be made to secure additional room at no distant day. It was, therefore, decided upon to take immediate measures to erect a magnificent and commodious building, of the most thorough and substantial construction, for the accommodation of the company's offices and business. The premises on the northwest corner of Broadway and Dey street were secured for the location of the new edifice, and active operations were commenced during the summer in clearing away the old buildings and laying the foundation of the new one. It was originally intended to have the new building in readiness by the spring of 1874, but various unforeseen delays prevented its completion, and it was, in fact, only by the most strenuous exertions that the portion to be occupied by the telegraph company was sufficiently completed to render it habitable by the time when they were obliged to vacate the old building.

The size of the new building is 105½ by 75½ feet on the ground, the shorter side fronting on Broadway. The basement and first story are of granite, and the walls above these are of granite and Philadelphia brick. The novel and somewhat *bizarre* appearance of this combination has been much criticised, but it is probable that when the colors have become somewhat toned down by the lapse of time, that the general effect will be tasteful and pleasing. The second story is about 18 feet in height, while the basement, third, fourth, fifth and sixth stories are 12 feet 8 inches each. Above this comes a low story about 8 or 9 feet in height, and next above, in the eighth story, is the grand operating room, 21 feet in height, and covering the whole size of the building. The ninth and tenth stories are included in the Mansard roof, which rises to the height of 165 feet. Above this is the clock tower, square at the base and octagonal above the dials, surmounted by an observatory balustrade, the whole height of the building and tower being 226 feet. The flag staff is of iron, and rises as high, and possibly a little higher than the cross on Trinity spire, which is about 275 feet above the pavement. The grand entrance is at the middle of the Broadway front, with a staircase leading to the second floor. The portico is supported by graceful columns of finely polished granite. At either end of the balustrade above the portico, upon granite pedestals, it is intended to place statues of Franklin and Morse. Above the sixth story and in front of the low seventh story, projecting braces of stone work are arranged, which support a continuous balcony running round the two sides of the building fronting on the street, which is reached from the windows of the operating room in the eighth story. In order to render the building as nearly fire-proof as possible, the floors are arched between the iron girders, and floors of tiling and artificial stone are used instead of wood, so that the window casings, doors, and base boards form about the only combustible portion of the building. The entire establishment is warmed throughout by steam from boilers placed in the basement. Four elevators are in use, two for the use of employes and the others for the public.

In describing the mammoth building which has been erected for the transaction of the executive as well as the regular telegraph business of the company, necessarily centering at the headquarters, commencement is made at the basement story. So extensive is the building, and so much space is occupied in the transaction of the business, that some departments must unavoidably be but briefly noticed.

Commencing at what may be termed the basement story, on the north side of the grand entrance on Broadway, the office of the Treasurer is located. The business of this department is very large, as may be supposed, and it is desirable that it should be easily reached from the street. The rooms for this department have been very handsomely fitted up, and every requisite convenience for the public, and for those employed in connection with it, have been amply provided.

Entrance to the Receiving Department is had by wide doors opening both from Broadway and Dey street, into a large square lobby, from which inner doors open into the extensive room specially devoted to the reception of messages, and for the use of the customers and those having business with the telegraph department.

The counters and desks in this room are all of cherry with mahogany tops, and surmounted by very handsome ornamental glass partitions, the latter rising about two feet from the tops of the counters, and affording an excellent view of the spaces enclosed by them. All the business in this department is done in full view of the customers and public, while at the same time effectually concealing from unauthorized eyes any secrets which are not proper for general information.

Upon entering the extensive hall the visitor first sees the cashier's office, which is immediately adjoining the Broadway front of the building. Here the

financial business of the office is transacted, and the telegraphic transfers, or telegraphic money order business, which is an extensive and constantly increasing branch of the operations of the company, are carried on. This department is under the charge of Mr. Leonard Cox, Cashier, who has occupied that position satisfactorily to the company and the public, he having succeeded to the position upon the decease of Mr. John Horner.

Between the cashier's office and the receiving counters there is an open space of some extent, by which access is had to an elevator, which carries passengers as high as the fifth story of the building. In the corner adjoining the elevator a large square place has been enclosed surmounted by a wide counter. To what use this is to be devoted is not as yet known. Properly fitted up it would afford an excellent accommodation for reporters and telegraphic newspaper correspondents, who contribute so much business to the company, especially at night. This suggestion is made for the benefit both of the company and its customers.

Beyond this open space are the counters devoted to the Receiving and Delivery Departments. First is the Cable Receiving Office, as it is termed, where the messages for transmission by the European and Cuba Cables are received. The business of this office is transacted exclusively in gold, greenbacks not being a recognized currency for cable messages, however freely they may circulate in all other parts of the building. Mr. Charles D. Hoyt has charge of this important business, with which he has been connected for several years, and by his courtesy and excellent business qualifications has secured a well deserved popularity. He is ably assisted by Mr. M. D. O'Connor, and probably these two gentlemen handle more actual hard money than any other two now in the telegraph business in this country. It may be said, however, that they do not despise greenbacks for their personal use, notwithstanding they handle so much gold daily in the service of the company. The general receiving windows are beyond the cable office. These are three in number, and at certain times of the day they are fully occupied by customers anxious that their despatches shall have precedence. Ample accommodations are provided for the satisfactory and rapid transaction of business, and Messrs. John B. Otman, Edmund Clasback, and John C. Stewart, who have, by years of service in that capacity, become familiar to, and by their geniality and courtesy very popular with the telegraphing public, are the day receivers. Mr. Samuel Dunlap is the night receiver, relieving the others when the rush of business is over for the day.

Mr. John Shires, who has charge of the Delivery Department, has a window adjoining those of the Receiving Department. In the Delivery Department there are constantly employed about 130 messengers. These are under the immediate charge of Mr. John Dawley, who keeps his numerous corps in an excellent state of discipline.

In arranging the plans for the new building the messengers seem to have been overlooked, and the space devoted to them is not so well adapted to their use as it should have been. However, it is being fitted up as conveniently as possible, and is a decided improvement upon the quarters previously occupied in the old building. It is above ground, whereas before, the delivery clerks and boys were relegated to the cellar, which was dark and ill ventilated, and almost any change could not fail to be an improvement. The entrance to the messengers' room is on Dey street, entirely distinct from any other entrance, so that the messengers are not brought in contact, and do not interfere in any way with any other portion of the business or building.

Beyond the delivery window another counter, similar to the others and fitted up in the same manner, has been extended across the room. This has not as yet been assigned to any purpose, and it was facetiously suggested, in response to inquiries as to what use it was to be put to, that it was to accommodate the "opposition" when they should be consolidated with the Western Union, which every true Western Union man firmly believes is their inevitable ultimate destiny.

The lower end of this floor is devoted to the Purchasing and Supply Department, of which Mr. Wm. Hunter has for so many years been the able and efficient chief. The offices devoted to this department are being fitted up with every convenience for the prompt transaction of the enormous business which is here carried on. The store and packing rooms are in the cellar below this floor, and an elevator will connect these with the offices above and with the upper parts of the building, for hoisting freight easily and expeditiously. Mr. Hunter probably carries on a larger business in telegraphic material, apparatus and supplies, and gets less cash returns therefor, than any other person in the business in this country.

This completes as full a description of the basement story of the building as there is space for this week, except that it would be inexcusably incomplete if no

reference were made to the pneumatic tubes by which messages are transmitted to the operating room. There are four of them—one from the cashier's desk, and three from the receiving desks. These are worked from the basement, the air being constantly exhausted by the operation of steam power, so that a strong current is constantly rushing into the open ends of the tubes. The messages are placed in small round boxes and dropped into the tubes, and are carried to the operating room in the eighth story very expeditiously, the time occupied in the transfer being only two seconds. The messages sent down from the operating room are placed in the boxes and fall to the lower office by gravity. Communication is also established between the receiving desks and the operating room by a speaking tube. The cellar and subcellar is devoted partially to the storage of line wire and other heavy supplies, but principally to the boilers and machinery used in heating and carrying on the various operations within the building. Six large boilers, manufactured by Baker, Smith & Co., of this city, furnish the necessary steam for warming the building, as well as for operating the various steam engines used for different purposes. The largest of these is a 20-horse power engine, from the Putnam Machine Co., of Fitchburg, Mass., which is principally employed, at present, for driving the Root blowers which operate the pneumatic tubes between the basement and the operating room, and the sidewalk hoisting apparatus. There is also a small double vertical engine in the seventh story, as well as three Otis elevator engines. A large double Worthington pump, capable of pumping several hundred gallons per minute, draws its supply of water from eighteen driven wells in the cellar, and distributes it throughout the building. The greater portion of it is used for operating the large water-balance elevator.

The second and third stories are still in an unfinished condition. They are to be rented for banking, insurance, and other similar purposes. The fourth story is occupied entirely by the telegraph company for its executive offices. The President's office is in front on the north side. This apartment is finished and fitted up in a style of great magnificence, the walls being tinted and the ceiling elaborately ornamented with designs in bright colors, the four corners bearing the names of distinguished electricians and telegraphic inventors. A cabinet occupies one side of the room, in the centre of which is a grate, surmounted by a bronze bust of Professor Morse. The floor is covered with an elegant Wilton carpet. The rooms of the Vice-Presidents and other executive offices are also beautifully fitted up, but with less elaboration than the President's office. The electrician and his assistant, and the *Journal of the Telegraph* are also accommodated in spacious and pleasant rooms on this floor.

The offices of the Assistant Superintendent of the Eastern Division and of the Metropolitan District are quartered in the front rooms of the sixth story.

The low seventh story, underneath the operating room, is utilized for a variety of purposes; principally, however, as a battery room. The whole length and a portion of the breadth of the room is occupied by battery stands, each stand having eight shelves capable of holding 192 small or 128 large cells. The sulphate of copper gravity battery is exclusively employed, the larger size for locals and for working several lines, and the smaller for working one or two lines only. There are about 2,700 large and 1,000 small cells already in place, besides the 2,600 of the commercial news department. On the north and west sides of the building, on a level with this story, wrought iron tubular fixtures are placed, carrying wooden pins and glass insulators, to which the line wires are brought from the lofty poles in Dey, Church and Fulton streets. The leading-in wires enter above the windows, through hard rubber tubes, and are attached directly to the lightning arresters, which extend along the wall near the ceiling in a continuous range. From the arresters, gutta percha coated stranded wires, made up in cables of eight wires each, pass along the ceiling of the room to the base of the switch on the floor above. From the switch an 8 wire cable is conducted along the ceiling to a point underneath each operating table, and passes from thence up through an aperture to the centre of the table above, as will be hereafter described. This story also accommodates the department for the copying, enveloping and distribution of received messages. These are collected and thrown down through a drop from the operating room, when each one is instantly copied, by placing upon it a sheet of damp copying paper and then passing it between rollers turned by steam power. They are then enveloped and dropped down through a tube to the delivery department on the basement floor, or sent to the city line department, as the case may be. It is contemplated to arrange machinery for transporting the received messages directly from each operating table to the counter of the copying clerk, and this will, doubtless, be done ere long. On this floor are situated wardrobes, and other conveniences for the accommodation of the operators.

Ascending a short flight of stairs the visitor finds himself ushered into the grand operating room, which occupies the entire eighth story. When viewed from the Broadway side this lofty and spacious room presents a truly magnificent appearance. The roof being trussed, this room is unbroken by a pillar or column, except the four that support the tower. The apartment is thoroughly well lighted by ranges of large windows on every side, which command a most extensive and beautiful view in every direction, embracing a large portion of New York city, as well as Brooklyn, Jersey City, Newark, Staten Island, the bay, and the North and East rivers. The side walls of this room are tinted a faint lilac color, the ceiling being bordered with a tasteful and elaborate tracery, the prevailing colors being buff, blue and gold. In the centre of the ceiling is a large and admirably executed panel, representing a section of blue sky partially veiled by fleecy white clouds, the effect of which is very pleasing. Midway of the north side of the room, and on the right, looking from Broadway, is the switch, which, when fully completed, will form the most striking feature in the room. It is 22 feet in length and projects from the wall some 12 or 15 feet, and is divided into six sections. The entire switch, as at present arranged, is capable of accommodating 300 line wires, that being the number of vertical straps. Beneath the lower ends of the straps are arranged a corresponding number of spring jacks, one for each line wire, into which are inserted the wedges carrying the instrument wires, loops, etc. The spring jacks, in common with all the metal work of the switch, are nickel plated and highly polished, and the designating number of each circuit is engraved upon an ivory tablet and affixed thereto. The mountings and ornamental woodwork of the switch are not yet set up, but will be of the most elaborate and elegant design and execution, and above the switch will be placed the desk of the manager of the office.

The operating tables are of hard wood, highly finished and polished, each table being divided by vertical plate glass screens into four compartments, each compartment accommodating a single set of apparatus, thus affording space for four operators to work conveniently at each table without interfering with each other. As before stated, each table has its own cable of four pairs of gutta percha coated wires, enveloped in tarred canvas, through which the main circuits are led from the switch; similarly, a fine wire cable, carrying four local battery wires and one return wire for the group, leads from the battery room to each table. This is an excellent and effective arrangement, having been thoroughly tested by two or three years' use in the old office.

The whole number of wires entering the switch is as follows:

From the East.....	25
" South.....	29
" West, via Albany.....	22
" West, via Erie and Pennsylvania R. R.....	28
From New York City and suburbs.....	52
Branch and short wires.....	8
Private wires, etc.....	8
Auxiliary offices (59 loops).....	100
Total.....	272

The whole number of sets of Morse instruments now in operation in the room is 149, besides 9 sets of duplex and 1 of quadruplex. There are 6 sets of button repeaters—4 of these being used for connecting lines at the switch, etc., and 2 for duplicating press reports on different routes, East and West. There are also 4 sets of Milliken automatic repeaters, and 6 Phelps combination type printers, the latter being driven by a small upright steam engine on the next floor below. This makes, at present, the equivalent of 197 single sets of apparatus. Several additional sets of quadruplex and duplex apparatus will be set up within a short time.

Nearly in the centre of the room, directly in front of the switch, is an enclosure surrounded by a counter, for the use of the assorting clerks. The messages taken in from the public in the Receiving Department on the basement floor are shot through pneumatic tubes which terminate in this enclosure. These, as they arrive, are assorted by a number of clerks, who deposit them in receptacles having plate glass fronts, arranged along the outside of the counter, whence they are at once taken and distributed to the proper operating tables by the office messengers.

The commercial news department of the Gold and Stock Telegraph Company is provided with accommodations in the northeast corner of the main operating room. The financial system, as it is termed, is worked by a motor transmitter, having 36 piano keys, and capable of operating 20 distinct circuits simultaneously, although only 13 circuits are as yet required. The instruments used on these lines are Phelps' small type printers, to the number of 100 or more. Two other transmitters likewise operate respectively the cotton and produce quotation circuits. There are also eight Morse instruments in this department.

The city and railroad wires are operated by young ladies, and occupy the western end of the room.

The whole number of operators employed on the day force is nearly 150, of whom about 60 are ladies. The night force usually consists of about 30. Altogether, about 250 persons are employed in this one room, including managers, operators, clerks and messengers. For lack of space we are obliged to omit the names of the operating force. The officers are as follows:

Superintendent of Metropolitan District, A. S. Brown.

Acting Manager of New York Office, A. S. Downer.

Chief Operator Eastern Wires, D. R. Downer.

Chief Operator Western Wires, J. H. Dwight.

Chief Operator Southern Wires, S. H. Edwards.

Chief Operator City Wires, Miss L. H. Snow.

Chief Operator Cable Wires, W. J. Dealy.

Night Manager, T. Dolan.

Night Chief Operators, T. C. Kennedy, S. S. Bogart, Jr.

Night Chief Operator City Wires, T. Brennan.

Night Chief Operator Cable Wires, E. A. Leslie.

Superintendent Commercial News Department, D. J. Ludwig.

Assistant Superintendent Commercial News Department, H. Van Hovenburgh.

From this description it will be seen that this is probably the finest, most complete, and thoroughly well appointed operating room in the world. No pains, skill, nor expense has been spared to promote the comfort, convenience and health of the operating staff. Standing at the entrance and looking down the spacious and lofty room, filled with long ranges of instrument tables, industrious operators, and nimble-footed messengers, the general aspect is effective and beautiful, though it is sadly marred by a straight, ugly screen stretched across the room about two thirds of the way down, which cuts off the perspective of the rows of tables, and entirely breaks up the unity of artistic effect.

There seems to be no necessity whatever for such a barrier between the ladies' department and the remainder of the room, and the management would display good sense, as well as vastly improve the appearance of the apartment, if they would abolish it altogether, as is done in most other large offices.

Mr. G. M. Phelps, the Superintendent of the company's extensive manufactory in this city, is engaged in constructing an electric clock system, by which the large dials in the tower, and the dials in all the rooms of the building will be operated by one regulator. This is not yet completed or introduced. When it is we shall give a detailed description of it, which cannot fail to interest our readers.

'Condensers as Automatic Repeaters.'

BY C. H. HASKINS.

At the last meeting of the American Electrical Society held in Chicago, Mr. C. H. Haskins, explained a system of "Condensers as Automatic Repeaters," which was very interesting. Mr. Haskins did not expect, when he thought of bringing his matter before the society at that meeting, that he should be present himself, he therefore prepared a paper upon the subject, and forwarded it to the secretary of the association to be read by him. The paper failed to arrive in time to be used, but Mr. Haskins himself being, as I remarked before, unexpectedly present explained the system by instruments, as well as language. Not being able, however, to quote his language at that time, I have, through the kindness of the Recording Secretary, Mr. C. S. Jones, been permitted to copy the paper by Mr. Haskins on the subject, and as parts of it are quite novel, I have thought it would be interesting to the fraternity at large, and offer it to them through the columns of THE TELEGRAPHER. The paper reads as follows:

OCCASIONAL.

"Mr. President and Gentlemen of the Society.

I design this evening to give you the result of some experiments in the use of condensers as automatic repeaters on Morse land lines.

Although condensers were invented nearly one hundred years ago, being among the first of Electrical apparatus, yet telegraph (which does not yet number forty years) has, until very lately, made little or no use of them. At first they were the playthings of the laboratory, and when they were loaded and fired off, so to speak, they never failed to excite the admiration of the audience. But for years they were classed with air guns, oxyhydrogen explosions, and all the other strange apparatus, and experiments with and by which the chemical professor or the travelling lecturer, enlightened his class or excited the wonder of his audience.

All this time the condenser was known only as a reservoir in which could be stored electricity of high tension. Every one knew that it could be filled gradually, but it emptied only with a destructive and instantaneous discharge.

Finally, long submarine cables were laid. At once various problems arose, making it necessary to know what the capacity of the cable was. What the condition or capacity of the dielectric or insulating coating was, etc., etc. And the condenser was found to be exactly the thing. For the electricians began using it as a grocer would his pint measure, for comparing and measuring capacities of cable conductors, etc.

Then it was found that a cable could be worked more rapidly and efficiently by charging a condenser at the receiving end, and by putting the key to the ground at the sending end, the charge so stored up would flow back through the cable, clearing it out rapidly, as it were, and reversing the deflection of the needle. This system superseded, to a great extent, the first system of using reversing batteries. Next followed the application of the condenser to duplex and to automatic telegraphy, and then Mr. Varley discovered that by using condensers at each end of the Atlantic Cables and not allowing any battery current to enter the cable, but working by inductive currents instead, he got rid of the earth currents almost entirely, and then again increased the efficiency of cable working. And this brings me to my experiments. When one side of a condenser is connected to the earth and the other side to the positive pole of a battery, the other pole of which is also to earth, current will flow from battery into the condenser until the conducting wire and the attached condenser plates are charged to the tension of the pole of the battery from which it flows. The effect of this charge will be to discharge the opposite plates to the earth; and now what is the condition? The battery side of the condenser is of the tension of its battery. The opposite side is as far below the tension of the earth as the other is above it. Now remove the wire attached to battery and connect it to ground, that side will discharge to earth with a vigor depending upon its excess of tension over the earth while the opposite side will be filled with electricity from the earth. When the discharge ceases the equilibrium is restored both sides of the condenser, and their wires being of the tension of the earth. If, however, you remove the wire from either side of the condenser, thus cutting it off from the battery or earth, there would be no discharge. Remove it from both and the condenser will hold its charge for a considerable length of time, as it can only escape by connection through the air or other leakage.

I do not state these facts as new, but merely as an explanation of what follows to those who may not be familiar with the action of condensers and the laws that govern them, the annoyances inseparable from the use of automatic repeaters and their adjustment. The use of way batteries, etc., led me to attempt the application to land lines of a similar arrangement to that which had been found so efficient in cable operating. I made the circuit in this manner. The keys must be double pointed, with battery attached to the anvil and a ground to the back stop, while the line wire is fastened to the lever of the key, as the magnetic effect of a current ceases when the current becomes static; and, as the current will cease flowing as soon as the condenser fills, it is necessary to use a polarized relay, so that when the current flowing in one direction closes the armature on the local points it will remain closed until the key is opened and makes contact with the back post, when the current flowing in the opposite direction will open it.

The local connections are made in the ordinary manner at the point of junction of the two circuits, where the automatic repeater would be used. I put a condenser attaching the two lines direct to the two sides without battery; there are no circuit closers on the keys, for the keys are left open when receiving with the line connected to ground by the back contact of the levers. A button for breaking is put in the wire near the key. When the line is at rest there is no current on the circuits. Now, suppose the man at the positive battery end closes his key, the current rushes in, closing his relay, and flowing through the wire, until the condenser is filled; its charge in tension is that of the battery that fills it. Its quantity depends upon the amount of surface it contains. Instantly the opposite side of the condenser sends a charge equal in quantity and tension along the line to the farther end and to ground, closing the receiving relay, then the sending man breaks instantly his side of the condenser, discharges back through his key to ground, opening his relay while the other side receives a charge from the earth at the other end, reversing the action of the receiving relay, and opening that, also; the action is instantaneous and very vigorous. When the receiving man wishes to break, he opens the button breaking circuit. This locks or holds the condenser in the condition in which it may be at. That instant, if the relays are open, no effort of the sending operator can close them. If they are closed, they cannot be opened by any effort of his; he is as effectually broken as if his line was down, and the former receiver closes his key to the positive pole of his battery being to ground; he draws, so to speak, from his side of the condenser, until he has reduced its tension to

that of the negative pole of his battery, to which it is attached, and from the earth, at the further end of the lines a charge rushes in to fill the other side of the condenser to its own tension, he opens his key and the action is reversed. Thus, the charge and discharge of the condenser works the relays at each end perfectly, and the offices can break each other without the intervention of a repeater or a main battery. The question will naturally be asked, Can way officers receive by this system, also? I answer, Yes, any number of polarized relays can be put in the circuits either side of the condenser, and all will be worked alike. To send, however, the way offices should have a battery to be attached in a manner not easily shown without the aid of diagrams. This battery should be of sufficient capacity to charge the section of line upon which the office is located, and its action will then be precisely similar to that of the terminal battery on the same circuit. In the course of my experiments upon artificial lines I found that two or more condensers in succession charged each other as perfectly as if there was but one in circuit. I made up a line representing three circuits of 9,000 ohms each. The first and second circuits were connected by the condenser, and the second and third by another. A current from a positive 100 cell gravity battery was attached to one key and a like one of a negative polarity to the other polarized relays, placed in any of the three circuits were worked vigorously. The resistances represented three lines of No 9 wire of about 450 miles each or a total of 1,350 miles of line, and yet the signals went through perfectly in each direction. In tests upon actual lines the results were the same. A condenser was connected at St. Paul, Minn., to two wires running to Milwaukee, making two circuits of nearly 400 miles each. The signal repeated to Milwaukee came as strong as the original one, although the latter was made by the battery current, and the former by condenser discharge—charge, in other words—the one was a battery effect, and the other an inductive one.

If you will recollect that the tension of the induced current is the same as that inducing it, you will see that its power to escape from the wire is no greater than that of the battery current; therefore, the volume of received current must be the same; moreover, as each particle or portion of the battery current carries with it its own tension, all that reaches the condenser must be of the same tension of the battery, and if the escape from the line is heavy, it is only necessary to write a little slower to fill the condenser as perfectly as if the line was in a good state of insulation. Experiment has also developed the fact that a branch line may be connected with a through line at any point by attaching one side of the condenser to the through wire, without cutting the wire, and the branch line to the other side, no instrument or battery are necessary at the junction. If the branch line has a battery at the further end, and instruments, that office can work direct with offices on the main line, or the branch wire may be attached direct to the main line, and battery, instruments and condenser, may all be at the further end of the branch line, and yet this office may work direct, exactly as if the main line looped in and out; and if ordinary way offices are put in on a branch wire in this manner, and each terminal office provided with a condenser, so that no current goes to line from any office, then any number of branches may be run in different directions, all single wires, and yet all work with each other direct. I might follow the combinations much further, for as I investigate, the complications and variations seem endless, but I will not trouble you further to-night. I hope at some future meeting to show you some of these circuits in operation, that you may judge of the practical value of what I have told you. I will close now by stating what I believe to be the advantages of this system of repeating on through circuits: first, the annoyance and expense of maintaining automatic repeaters is done away with—repeaters always adjusted, day or night, and always ready for work; second, it allows of attachment of branch lines at any point of the main line; third, the amount of wear of battery is extremely small, as only a sufficient quantity to fill the line wire and condenser is used at each closing. A very large number of lines could thus be worked from one gravity battery.

Other advantages are daily becoming apparent, but as I am still experimenting, I will speak of those at a future meeting."

THE report of the Eastern Telegraph Company (Limited) for the six months ended 30th September, 1874, has been issued. The revenue for that period amounted to £176,806. The sum is appropriated as follows: £46,323 for the ordinary expenses; £30,222 for special expenditure during the half year; £828 for income tax; and £98,425 for two *interim* dividends of 1½ per cent. each, and interest on debentures, leaving £1,007 to be carried forward.

Correspondence.

We do not hold ourselves responsible for the opinions of our Correspondents. Our columns are open to free discussions on all Telegraphic subjects, without distinction of person or nation.

No notice will be taken of anonymous communications.

The Western Union Company and Telegraphic Inventors and Inventions.

TO THE EDITOR OF THE TELEGRAPHER.

AN editorial which appeared in the New York daily *Tribune* of the 6th inst., referring to the reduction of rates advertised by the Atlantic and Pacific Company, very pertinently remarks that, "If the superior modes of transmission, of which the Atlantic and Pacific Company claims the monopoly, warrant the reduction, the Western Union has certainly made an enormous mistake in failing to secure these patents when it could."

It was, indeed, a very great mistake; for, as I am informed, the Western Union Company could have acquired, on their own terms, the automatic machinery which is now being used to their serious disadvantage before it was stolen by the party who has since conveyed it to the Atlantic and Pacific. This must be all the more galling from the fact that the reduction of rates is to take place within the exact limits where this automatic system is operating, and that further reductions will follow the track of its introduction, while the Western Union Company have no weapons at their command, either of offence or defence.

It is a singular fact that every improvement in the art of telegraphy which has been brought out in the last seven years has been developed upon opposition lines; and whatever of them the Western Union Company have acquired was first contemptuously derided. Even now, with all this painful experience, an employé of the Western Union Company (and in their service is some of the best telegraphic talent in the world) cannot obtain a fair hearing and trial with any improvement which is counter to antediluvian notions, but is forced to carry his brain work, much against his will, to the enemies of his employer for development, or defraud himself of honest recompense. There is a remedy for this; and, doubtless, if the matter could be looked at by Mr. Orton with his own eyes, the company over whom he presides, with generally so much ability, would be regarded with greatly increased confidence by inventors.

The Western Union Company should befriend inventors and encourage invention. Its existence as the leading telegraph company of the world necessitates this policy. The course of General Braddock, in his celebrated march against the Indians in ante-revolutionary days, is an apt illustration of my meaning in this communication; and in that sense it will probably be understood. QUEN SABB.

An Electrical Problem Incorrectly Stated.

NEW YORK, February 9.

TO THE EDITOR OF THE TELEGRAPHER.

IN your last issue you make an allusion to a problem incorrectly published under my name in the *Operator*. The problem I gave for publication in that paper was as follows:

"Being given a continuous piece of wire, one cell of battery, one Morse key, and one galvanometer, to send equal reverse galvanic and steady currents at their maximum over the galvanometer, the wire used may be of any material, diameter, and length, but should remain unbroken, untwisted, and not forming an inductive coil, and the key should be a single contact key."

I hope you will do me the justice to publish the above, which is a scientific electrical problem, including calculations according to the laws of electric currents, and can be applied to practical purposes.

I must respectfully decline the title and reputation of "successor to the great puzzle maker" gratuitously given to me in *THE TELEGRAPHER*, which I should certainly have deserved if I had asked anybody to solve this with a "continuous coil of short office wire."

GEO. D'INFREVILLE.

129 Broad street, New York."

THE correspondent of the *Pall Mall Gazette* writes: "In the International Telegraphic Congress, which will be held in St. Petersburg this summer, the Submarine Cable Companies intend to take an active part. They have already prepared a motion that despatches shall be reckoned by the number of letters and not words, because the words are confounded and run together at present in an almost incredible manner, thereby considerably reducing the number and increasing the work of the telegraphic agent in the same proportion."

THE TELEGRAPHER

DEVOTED TO THE INTERESTS OF THE TELEGRAPHIC FRATERNITY.

SATURDAY, FEBRUARY 13, 1875.

THE TELEGRAPHER:

PUBLISHED EVERY SATURDAY at 38 VESEY ST.

ELEVENTH VOLUME.

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THE TELEGRAPHER.

A JOURNAL OF ELECTRICAL PROGRESS,

DEVOTED TO THE INTERESTS OF THE

Telegraphic Fraternity and the Advancement of Electrical Science and the Telegraphic Art.

Published Every Saturday,

AT No. 38 VESEY STREET, New York.

ELEVENTH VOLUME.

The Publisher, in announcing the Eleventh Volume of

THE TELEGRAPHER,

which will commence with the number for JANUARY 2, 1875, desires to return thanks for the LIBERAL SUPPORT which it has hitherto received, which it is expected and believed will be continued during the ensuing year.

All the popular and valuable features of the paper will be retained, and it will continue as heretofore to labor for the best interests of the TELEGRAPHIC FRATERNITY and the advancement of ELECTRICAL SCIENCE and the TELEGRAPHIC ART.

THE TELEGRAPHER

is a thoroughly INDEPENDENT TELEGRAPHIC NEWSPAPER, bound to or in the interests of NO TELEGRAPH COMPANY, CLIQUE or COMBINATION, but honestly devoted to the interests of the PRACTICAL TELEGRAPHERS.

Its columns are at all times open to the freest and fullest description of all questions of interest and importance to the Fraternity, or the Telegraphic Art and Electrical Science in connection therewith.

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All communications relating to or intended for THE TELE-GRAPHER must be addressed to

J. N. ASHLEY, Publisher,

(P. O. Box 5503,) NEW YORK.

The Western Union Telegraph Company and Inventions and Inventors.

OUR correspondent, QUIEN SABE, calls attention to what may be considered an important defect in the management of the Western Union Telegraph Company, if what he states is true, and that his criticisms are, at least, warranted by the facts we do not think can be reasonably questioned.

It is essentially necessary that the Western Union, as the great telegraph company of the country, and by all odds the largest telegraph company in the world, considering the extent and importance of its lines, should be kept well up with, if not in advance of, the progress of telegraphic invention and development. While it could not reasonably be expected that it should adopt every so-called improvement and invention that may be presented to it for examination, yet all such should be carefully, candidly and intelligently investigated, and if found to be really of value and importance the inventors should be fairly and liberally dealt with, and the benefit thereof secured to the company. That such has not been the case hitherto, all who have sought to demonstrate their inventions, with one notable exception, have found, to their discouragement, delay and red tape intervene until the inventor becomes discouraged and is compelled to seek elsewhere for a purchaser, among those who are inimical to the interests of the company.

Especially it would be supposed that invention on the part of its employes (and that it has in its employ some of the best electrical and telegraphic talent in this country and the world is undoubtedly true) would be encouraged, and that every facility would be afforded them to demonstrate the value and importance of their inventions and discoveries. As a matter of fact, however, these are compelled to find opportunities to develop their inventions on rival lines, and to dispose of them if really of value to rival interests.

Should any one be inclined to dispute these statements we would ask him to point out to us what important telegraphic invention or discovery, with the exception above referred to, the Western Union Company has originally adopted?

Has it not, on the contrary, been the policy of the company to decry inventions as of no importance or value, until they have been developed on other lines and by other companies, and then, if possible, secure them at increased cost? Was not this the case with the duplex invention of Mr. STEARNS, which was declared to be valueless until finally purchased at a large cost by the company, since when it has been as extravagantly lauded as previously unreasonably decryed? Has not the automatic system, which the company could have secured at a very reasonable cost originally, been ridiculed and treated contemptuously while it was being perfected and developed, until now it is in the hands of an opposition growing in importance and strength, and made the basis of a reduction of rates now, and a still greater reduction in the near future, over a more extensive territory? And what has the Western Union Company got to meet the automatic system in the hands of an active competing company? It has the duplex, which may be found valueless to them under a certain contingency, and the quadruplex or double duplex, for which its title is dubious and of which it may very probably be deprived, and which, in any event, it can only retain at the expense of protracted and costly litigation.

It will not answer to treat inventors and inventions superciliously; and to endeavor to avoid adoption of inventions by decrying them as valueless is a very shallow way of treating a vital subject. Such a course has brought upon the Western Union Company much of the difficulty which it has now to encounter. It is perhaps too late to remedy much of the damage which has already been done; but it is not too late to learn wisdom from past experience and to adopt a wiser course in the future.

Inventors, we know, are apt to be a troublesome set, not unfrequently needy and importunate; but they must

be regarded as at least necessary evils, and should not be discountenanced on that account.

The strength of the opposition to the Western Union Company, which now threatens it with so serious injury, lies in the fact that its managers have not been sufficiently appreciative and enterprising to secure the advantages in improved telegraphic inventions which the Western Union officials have ridiculed and decryed. The world moves, and the management of a great telegraphic organization must move with it, if it desires and intends to secure permanent success.

The Telegraphic Situation.

IN preparing the weekly budget of information in regard to the telegraphic situation there are some matters of interest to give our readers.

On Saturday morning the Atlantic and Pacific Telegraph Company announced a considerable reduction of tariffs on a portion of their principal through circuits, to take effect on the 15th inst.

The new rates are as follows: Between New York City and Washington, D. C., and intermediate points, 25 cents for 10 words and 2 cents for each additional word; present rate, 40 and 3.

Between New York City and Albany, N. Y., and intermediate points, 25 and 2; present rate, 40 and 3.

Between New York City and Boston, Mass., and intermediate points, 25 and 2; present rate, 30 and 2.

Between all points east of New York, to and including Boston, and all points north of New York, to and including Albany, and all points south of New York to and including Washington, D. C., 40 and 3; present rate, from 40 and 3 to 60 and 4.

The date, address and signature to be transmitted free, as heretofore.

The announcement of this reduction, which is made over the signature of Gen. ECKERT, as President of the company, further stated that "the greatly increased facilities afforded by the use of improved modes of transmission, owned exclusively by the Atlantic and Pacific Telegraph Company, render this reduction practicable, and reductions elsewhere will soon be made."

This announcement had the effect to depress Western Union stock about one per cent., but this it subsequently recovered. Up to the time we write this no official announcement has been made of the proposed action of the Western Union Company in response to this demonstration of the Atlantic and Pacific Company. It is understood, however, that the managers of the former company will shortly go below these rates. President ORROR stated, in response to inquiries, that the company had done nothing yet in regard to it, that "thus far the reduction was small business; but that when the Western Union began to cut, it would be to the blood."

The lines of the Atlantic and Pacific Company have been divided into divisions, one the Western, to be called the Pacific Division, and to include all lines west of Buffalo. This division will be under the management of Mr. E. D. L. SWEET, who has removed his headquarters to Chicago, having closed his office here, and finally started for the latter city on Wednesday morning last.

The Atlantic Division will comprise all the lines of the company east of Buffalo, and will for the present be under the management of Mr. A. B. CHANDLER, Assistant General Superintendent.

The Atlantic and Pacific Company continue to realize good results with the automatic system on their wires, and are preparing to introduce automatic apparatus on all their principal circuits.

Should the Western Union Company go below the new rates of the Atlantic and Pacific Company, it is understood that the latter will double the number of words transmitted at the same price. It is evident, that, for a time at least, the public are likely to have cheap telegraphy to their heart's content.

The Western Union Company has negotiated abroad a new loan of \$5,000,000. Four and a half millions

of this amount is to take up bonds of the company outstanding, which will soon become due, and the balance will go into the treasury for such use as the company may see fit to make of it. The additional half million will be more than required to pay the cost of the new building over and above the amount of the loan previously contracted in London for that purpose.

Quadruplex matters have been very quiet since our last issue, but the Western Union officials are confident of their ability to hold on to the invention for whatever it may be worth to them. From what we can learn we are inclined to think that the quadruplex has been accorded much more importance than it deserves. What has been stated heretofore in THE TELEGRAPHER in regard to the necessity of specially favorable conditions and wires of exceptional conductivity in working it successfully, has been found to be correct, practically.

Upon a consideration of the condition of affairs, we do not find it materially changed from last week, except in that of the prospective reduction of rates. Both parties are bitterly hostile at present, and intent on damaging each other in their respective interests as much as possible

The American Electrical Society.—Subordinate Telegraphical and Electrical Associations Practicable and Desirable.

THE American Electrical Society is gradually getting into good working condition, and bids fair to realize all that the most sanguine of its advocates and promoters anticipated of benefit and advantages to be derived from it. The great development and progress of electrical science and the telegraphic art in this country renders such an association of great importance and value.

A good start has been made in Milwaukee under the leadership of Mr. CHAS. H. HASKINS, the able electrician and telegrapher who occupies with distinguished ability the position of General Superintendent of the North Western Telegraph Company, in the organization of a subordinate local association for the purpose of increasing electrical and telegraphic knowledge and information. It is very important and desirable that similar associations should be speedily organized in all the leading telegraphic centres. The advantages to be derived from such associations are too evident to need any lengthened demonstration from us.

We should be pleased to see such an organization effected in this city without further delay. There are here electricians of great ability, and telegraphers who are not excelled by any in the country. Our Western friends have got the start of us in this matter, but we should not be content to let them enjoy this honor alone. We have neither time or space to discuss this matter at length this week, but suggest that steps be at once taken to establish a similar organization here. THE TELEGRAPHER will cooperate to the fullest extent in such a movement. Who will start it?

We should be pleased to hear from the telegraphers and electricians of New York on the subject, and freely tender the use of the columns of this paper to advance the project.

The New Western Union Building.

WE print this week a full description of the new building erected and occupied by the Western Union Telegraph Company, on the corner of Broadway and Dey street, in this city. This is the largest and most costly building erected for telegraphic occupancy and use in the world, and we have no doubt our readers, both in this and other countries, will read with interest this description of it, which has been prepared for our columns. It illustrates in a most striking and forcible manner the great progress and development of the telegraph business in this country. Any one who, even ten years ago, should have predicted that the time would come when it would be possible for

any telegraph company to be so sumptuously and expensively located, would have been considered a wild enthusiast.

The Telegraphers' Ball.

THE First Annual Invitation Ball of the New York Telegraphers' Association took place, as previously announced in THE TELEGRAPHER, on Thursday evening, the 4th inst., at Fererro's Assembly Rooms, Tammany Hall. The affair was a success, and the occasion was a very enjoyable one. The company assembled unanimously pronounced it one of the best entertainments within their experience. The supper and appointments of the ball were satisfactory, and greatly enjoyed. There were 176 couple present.

Crowded Columns.

IN consequence of the space occupied by the description of the new Western Union Telegraph building and offices, and the great pressure upon our columns otherwise this week, we have been obliged to omit much matter intended for the present number, some columns of which is in type. Correspondents and contributors whose favors fail to appear, as expected, will understand the reason therefor. We will give all a chance to be heard as soon as possible. In the meantime our friends must exercise patience, and console themselves with the thought that they do not have more occasion for the exercise of this virtue than the editor.

Personals.

MR. ROBERT STEWART having resigned his position as Superintendent of Telegraph for the United Railroads of the New Jersey Division of the Pennsylvania Railroad, no successor will be designated, but a Superintendent of Telegraph for each subdivision will be appointed, as follows:

New York Division, Mr. WM. ETTINGER, office at Jersey City; Amboy Division, Mr. W. J. CARTER, Camden; Belvidere Division, Mr. W. H. WILMOT, Lambertsville. Their appointment will take effect Feb. 15.

The address of Mr. GEORGE H. GRACE, General Superintendent of the Southern and Atlantic Telegraph Company, should be 51 New street, New York, not 51 Pine street, as erroneously stated last week.

MR. E. D. L. SWEET, Vice-President and General Manager of the Atlantic and Pacific Telegraph Company, left New York for Chicago on the 10th inst., where he will have his headquarters hereafter.

The Telegraph.

Foreign Telegraphic Notes.

THE Society of Telegraph Engineers have acquired with Sir Francis Ronald's library a MS. catalogue compiled by himself, which purports to comprise all the works which have ever been published in any language on the subject of electricity and the cognate sciences, and this catalogue contains nearly 10,000 entries: but only about half of these works (5,000, including pamphlets, etc.), were in the possession of Sir Ronald himself. This catalogue will shortly be published by the Society of Telegraph Engineers, and the library itself will be accessible, under the necessary regulations, to all who may be interested in the science of electricity.

The Central American Telegraph Company have received confirmation of telegraph advices to the effect that the shore end of their cable has been successfully laid at Demerara by the screw steamer Norsman, and that the tests were most satisfactory. The authorities at Georgetown rendered every assistance, as also her Majesty's ship *Druid*, which accompanied the expedition.

The West India and Panama Telegraph Company (Limited) have issued a circular announcing that the dispute between the Company and the India Rubber, Gutta Percha, and Telegraph Works Company had been settled, and the terms are embodied in the following clauses: "The Colon Jamaica cable, with its officers, instruments, etc., is to be banded over to this Company. The £100,000 in cash and shares now unpaid, and forming the balance of the original contract sum, is not to be paid. The contractors' claims in respect to the St. Kitts Deviation, the Demerara Extension, repairs, extra cable, and other matters, amounting altogether to £73,752, are released. The contractors cancel and hand over £9,600 of this com-

pany's debentures now held by them. This company releases the defendants from all other claims, and all claims of the defendants against this company are released. The defendants are to give their assistance in procuring the transfers of concessions and subsidies not yet secured to this company, and settle with the parties to whom those concessions, etc., were originally granted." The contractors have also agreed, it is stated, to supply the company with fifty miles of new cable for repairs on very favorable terms. All further legal proceedings in the suit are now stayed.

The German Federal Council has resolved to invite the Chancellor to cause a report to be drawn up by experts having especial regard to the following points: 1. Whether in all cases of extension the municipalities of the places benefited may not be fairly called on to contribute, a scale being prepared from existing data to show the cost of erecting and working new stations at small towns, and the losses suffered on their account by the central administration. 2. Whether the railroad companies are now contributing a fair share for the benefits they enjoy, and whether new agreements ought not to be entered into with them which shall be more equitable to the public. 3. And, finally, whether the administration, as now worked by districts, is not a needlessly costly organization in itself, and one admitting many minor economies, especially by the employment of female labor in the offices.

West India and Panama Telegraph Company.

MR. WILLIAM ABBOT, of London, states in his circular referring to this company that its shares, after a long period of depression, are at last attracting some attention. "The new directors are fairly entitled to the sympathy of the shareholders, inasmuch as the policy to which they have specially directed their attention, viz., the linking together of North and South America by the cables of the Central American Company, from Para to Demerara, has been most unfortunately delayed by a series of mishaps entirely beyond their control. A new cable was despatched from England in the steamship *Norsman*, and the shore end has now been successfully submerged. It is expected that the line from Demerara to Trinidad, and thence to Ponce, will be completed by the end of January; thus, if all goes well, telegraphic communication between Buenos Ayres and New York via the West India and Panama system, will be fully established by February next." He also states that the entry of the Brazilian and Western Brazilian Companies into the list of dividend paying securities is a very healthy sign, as it reduces to a comparatively small amount the extent of capital invested in submarine enterprise which is unproductive to the original subscriber. The new Black Sea cable promises well for its proprietors. This line unites Odessa to Constantinople; already the traffic is satisfactory, and it will no doubt in time considerably augment the revenue of the Eastern Company through the lines of their system in the Levant.

Who Stole that Despatch?

DURING the memorable campaign of 1873, when "Poppleton's famous despatch" exploded like a bomb shell over the heads of the defunct "Kourt House Klan," Mr. Frank Lehmer, the manager of the Omaha office of the Western Union Telegraph Company, published a card, from which we quote the following extract:

"The publication in newspapers in this city of private despatches sent over the wires of this company entitle the public to a full explanation. The most emphatic and explicit orders are given to every employé to treat as most sacredly confidential every message committed to us."

This card was subsequently endorsed by Gen. Supt. Anson Stager, as follows:

"Your card is approved, and I suggest you add the following—This case is remarkable as being the only instance known to the company where operators have betrayed its confidence."

The *Journal of the Telegraph*, the official organ of the company, in reproducing these cards and accompanying statements denounced the publication of the Poppleton despatches in a double headed leader, closing its comments on "the extraordinary breach of trust" as follows: "We wish as summary a punishment could be meted out to the editor who accepted, and, perhaps, paid for the stealing of the intercepted despatches. This is not the first time the game of bribery has been tried. The editorial chairs have many blacklegs in them who have prices for violated honor always ready. This 'Rosewater' may be one of them."

Now, we apprehend, *Manager Lehmer*, *General Stager* and the *editor of the Journal of the Telegraph* were well aware that the stealing of despatches by telegraph officials was not such an uncommon affair as they tried to make the public believe. Without going into details, we can recall instances when "telegraph

officers" of the "very highest" rank had amassed wealth by making systematic use of their sacred trust, and speculating on information obtained from private despatches that passed over the company's wires; and now we propose to call public attention to a remarkable instance of "telegraphic theft" which requires explicit explanation at the hands of the gentleman who tried to class the editor of *The Bee* among editorial blacklegs.

Last Friday afternoon, on returning from the "senatorial battle field" at the State capital, we received the following telegram:

"St. Louis, Jan. 22.

"To E. ROSEWATER: Send two or three hundred words about Paddock. Who is he, antecedents, position, and how elected?"

(Signed,) G. W. FISHBACK,
"Managing Editor Democrat."

In compliance with this request we deposited a despatch conveying the desired information in the Western Union Telegraph office at 8.30 P. M. This despatch appears in the *St. Louis Democrat* of the 23d; but, on examining other St. Louis and Chicago exchanges, we discover that its contents were stolen in the Western Union Telegraph office, and almost literally transcribed into despatches sent by the Omaha agent of the Western Associated Press. Here is the proof. The special despatch to the *St. Louis Democrat*, written by us, opened as follows: "Algernon Sidney Paddock, elected to-day to succeed Senator Tipton, is a native of Glenn's Falls, New York, born Nov. 5, 1830, of Puritan ancestry. He is distantly related to Gideon Welles and General and Senator Sherman, and was educated in Union College."

The closing sentences of this special telegram read as follows:

"A Conservative Republican of the Seward school, Mr. Paddock is in full sympathy with the party, and will doubtless act and cooperate with it in the future. His election to-day was secured mainly as a compromise between the opponents of the strongest Republican candidate, General Thayer."

Now look at the transcribed telegram that appears on the morning of the same day in "The Chicago Times and St. Louis Globe, although somewhat condensed. It begins as follows:

"Algernon Sidney Paddock, elected to-day to succeed Senator Tipton, is a native of St. Lawrence Co., New York, and is about 44 years of age, and of Puritan ancestry, distantly related to Gideon Welles, General and Senator Sherman."

Here are the closing sentences:

"THOUGH a conservative Republican — Mr. Paddock is full of sympathy with the party, and will doubtless act and cooperate with it in the future, his election was secured mainly as a compromise between the opponents of the strongest Republican candidate, General Thayer."

Now, if this is not a clear case of "telegraphic theft," we should like to know where the author of the transcribed despatch obtained his information. How it was possible for him to arrive at precisely the same conclusion, and why he expressed his views almost verbatim in the language employed by us. While two reporters might generalize the same facts in somewhat similar terms, it would be utterly impossible for them to begin and close their despatches in almost identical sentences, unless one reporter had access to the messages of the other. It is, therefore, self-evident that the special telegram to the *Democrat* was stolen by somebody in the Western Union office. That despatch was paid for by the *St. Louis Democrat*, and was consequently the exclusive property of that journal. It was just as secret as any other private despatch, nobody outside of the telegraph office could possibly have obtained possession of it, since no other copy was made by its author. "Who stole that despatch?" Will General Stager, who so severely (and we claim unjustly) denounced the editor of *The Bee*, for publishing a political despatch obtained without solicitation on the eve of an exciting election, investigate this case, punish the offender, and put a stop to a practice which is not only unjust to the patrons of his company, but is also a shameless breach of trust? Will Manger Lehmer, who we understand is reporter for the *Western Associated Press*, give us another card explaining "who stole that despatch?" — *The Omaha Bee*.

Liability of Sureties.

In the suit of the Atlantic and Pacific Telegraph Company against Barnes and others, the defendants were sureties for a clerk of the plaintiff. In January the plaintiff found the clerk in arrears in his accounts \$15 92. They did not inform the defendants of this until they discharged him on March 2, when he was in arrears \$269 67. The defendants claimed that in good faith they should have been informed as soon as he began to make default. The General Term of the Supreme Court, Judge Curtis, giving the opinion and

Judge Speir concurring, overrule this defence, holding that the bond being absolute in terms and not requiring such notice, the defendants are liable. Judge Freedman dissents—holding that the character of the clerk was the basis of defendants' agreement, and they were entitled to notice of its deterioration.

Quotations of Telegraph Stocks at N. Y. Stock Exchange,

Showing Lowest and Highest Prices each day during week.

Feb.	WESTERN UNION.	ATL. AND PAC.	AMER. DIST.		GOLD AND STOCK.	
			Bid.	Asked.	Bid.	Asked.
4	73% ... 74%	24 ... 24½	...	32	62 ... 75	
5	73½ ... 74%	24 ... 24½	...	32	62 ... 75	
6	72% ... 73%	23% ... 24%	...	32	...	80
8	72% ... 73%	23% ... 24%	...	32	62 ... 75	
9	72½ ... 73%	24 ... 24%	...	33	62 ... 75	
10	72% ... 73	24 ... 24%	...	32	62 ... 75	

New Patents.

OFFICIAL COPIES of any U. S. Patent issued since July 1st 1871, including drawings, specifications and claims in full, sent free to any address for 25 cents each. Address F. L. POPE, P. O. Box 5503, New York City.

For the week ended December 22, 1874, and bearing that date.

158,156.—RECEIVING INSTRUMENTS FOR ELECTRIC TELEGRAPHS. C. Wheatstone, London, England. Filed Nov. 13, 1874.

1. The combination, in a receiving instrument, of an inking disk, and a tracing or marking disk independently connected to the maintaining power, substantially as described.
2. The inking disk G, having a peripheral groove, in combination with the ink reservoir, substantially as and for the purposes set forth.
3. The combination, with a tracing or marking disk, of the electro-magnet and armature, giving a to and fro movement of the disk, and an independent maintaining power continually rotating the same, substantially as and for the purposes set forth.

158,157.—TRANSMITTERS FOR AUTOMATIC TELEGRAPHS. C. Wheatstone, London, England. Filed Nov. 13, 1874.

The transmitter, constructed with contact points and actuating levers, controlled by the passage of perforated paper, thereover, in manner and for the purpose substantially as herein shown and described, to send into the telegraphic circuit short currents of equal duration at various intervals and alternately in opposite directions, so as to determine the occurrence of printed lines and intervals of various lengths in the receiving instrument.

158, 158.—PERFORATORS FOR TELEGRAPH PAPER. C. Wheatstone, London, England. Filed March 7, 1873.

1. The combination, in a perforator, of the three keys A B C, the series of punches and connecting devices, substantially as herein shown, each key controlling a combination of punches differing from that controlled by either of the others.
2. The combination, with the keys and punches, of the paper feed and connecting devices, each key controlling the feed to advance the paper a space corresponding to the perforations controlled thereby.

For the week ended January 5, 1875, and bearing that date.

158,442.—AUTOMATIC OR CHEMICAL TELEGRAPHY. William E. Sawyer, Washington, D. C. Filed Nov. 10, 1874.

1. A sheet, roll, or strip of paper, perforated for telegraphic transmission, in lines running from left to right, as in an ordinary printed page, substantially as shown and described.
2. The combination of a line, main transmitting battery, contact-point brush or roller therefor, a local battery and contact point brush or roller therefor, with a circuit through the primary wire of an induction coil, and a contact-point brush or roller throwing the secondary wire of the induction coil into line and connecting the line to earth, substantially as set forth.
3. The combination, with a line, its battery and contact-point brush or roller therefor connecting the line to earth and throwing the secondary induced current into the line, for the purpose of clearing the same of tailings, as set forth.
4. The combination, with a line and its transmitting battery, of an induction coil, the secondary current from which is thrown into the line immediately after each signalling pulsation, substantially as described.
5. The method of operating an automatic or chemical telegraph by first simultaneously, or nearly so, closing the transmitting circuit and the local primary circuit of an induction coil, and then, upon breaking the transmitting circuit, and instantly before breaking the local primary circuit of the induction coil, closing the circuit of the line through the secondary wire of the induction coil and to earth, substantially as and for the purposes specified.
6. In combination with the main line circuit, a metallic point, brush, or roller, connected or connecting to an induction coil and to earth, substantially as and for the purposes specified.
7. The combination of a metallic point, brush, or roller, closing the circuit of a local battery through the primary wire of an induction coil, and a metallic point, brush, or roller closing the circuit of the secondary wire thereof to the line, the local circuit being broken at or just after the completion of the secondary wire circuit, as set forth.
8. In a chemical telegraph receiving instrument, the combination, with a shunt within a shunt circuit, of the primary and secondary wires of an induction coil and resistances, as set forth.
9. A non-inductive resistance, composed of a length of wire arranged in parallel returning layers, substantially as shown and described.
10. The combination, with a line or circuit, of a commutator, or circuit changer, or current diverter, and two series of apparatus or batteries composed of different parts or sections or

two circuits, or two parts of one apparatus or battery, the series, parts or sections, or circuits referred to, being alternately connected to the line by the commutator, substantially as and for the purposes specified.

11. In chemical telegraphs, the method of producing a clear sharp record, assuming a positive battery current to be the impulse to be recorded, by charging the line in the following manner: First, transmitting an induced positive impulse; second, a battery positive impulse; third, an induced negative impulse, followed or not by a negative battery impulse, or with the polarities named reversed, substantially as set forth.

For the week ended January 12, 1875, and bearing that date.

158,636.—ELECTRICAL PHOTOMETER BALANCES. Wm. W. Goodwin, Camden, N. J. Filed Aug. 21, 1874.

Sliding pen 5 set at 0, and candle balanced by moving weight F. 5 is then slid on arm A to number indicating grains to be consumed, the candle holding down the balance arm against F and 5 till the amount is consumed, when they pull down the balance arm, which completes at 10 and H an electrical circuit to G, which, attracting its armature, holds the balance secure against any vibrations, and maintains the circuit connection for any other desired operations.

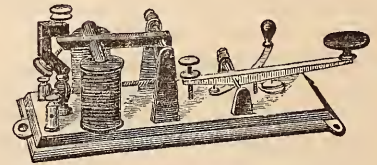
1. The combination, in a balance for photometers, substantially as described, of the micro-metrical adjusting weight F and the bar 6 with the power arm of the lever A.

2. The electro-magnet G and the armature bar of g', in combination with the power arm of the lever A, arranged as described, for the purpose of holding down the lever A, with its platinum stem 10 in contact with the mercury in the cup H, as set forth.

158,672.—ELECTRIC FUSES. C. A. Browne and Isaac S. Browne, North Adam, Mass. Filed Aug. 22, 1874.

Furnished ready to receive priming when about to be used. The tube A, having wires a a in a packing, C, and provided with open ended chamber D for the priming.

THE FAVORITE.



Price, \$5.00.

Having reduced the price of these standard instruments, we are now prepared to furnish them to amateurs, students, academies, &c., with battery, connecting wires, chemicals, and one copy of "Telegraphy Made Easy," for \$6.50. Will be sent by Express, C. O. D.

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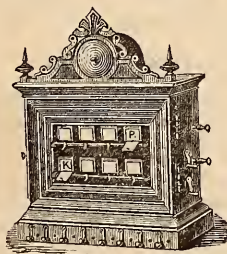
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 out, no legs, wire connections above the table.
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 OUT, with an adjustable LIGHTNING ARRESTER, just out.
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 and LIGHTNING ARRESTERS.
 ANDER'S GALVANIC and MAGNETO-ELECTRIC PRINTERS; also
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 ALARMS, and WATCHMAN DETECTORS.
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 ING APPARATUS.
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 PRICE LISTS FURNISHED FREE ON APPLICATION.
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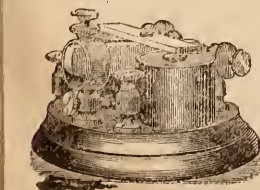
CHAMPION BURGLAR ALARM
 AND ANNUNCIATOR COMPANY,
 40 WEST 18th STREET, NEW YORK.



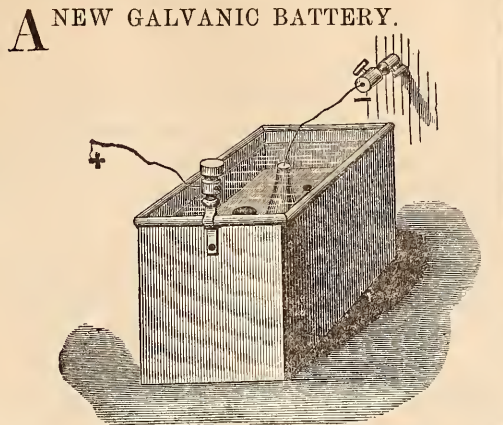
We invite TELEGRAPH MANAGERS AND OPERATORS throughout
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 superior BURGLAR ALARMS and ANNUNCIATORS into pri-
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us. Our Alarms and Annunciators have just been awarded the
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 Procure the best and cheapest Tele-
 graph and Electrical Instruments and
 supplies of all kinds from
LANNERT & DECKER,
 31 1/2 Prospect St., Cleveland, O.
 Send for circular.



**Durability, Efficiency, and Economy of Expense
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THE EAGLES METALLIC BATTERY.

PATENT APPLIED FOR.

The undersigned having secured the exclusive Agency for the
 manufacture and sale of the

EAGLES METALLIO BATTERY,

now offer them to the public as the best Battery for Telegraphic
 and other purposes yet devised.

The Battery cell is made of lead, and forms one pole of the
 battery. Sulphate of copper is the only chemical required to be
 used.

These Batteries have been fully tested during the last year,
 although only recently offered for sale, and have proved to be
 superior to any other as regards efficiency, economy and dura-
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 four to six months, according to the service required of them.

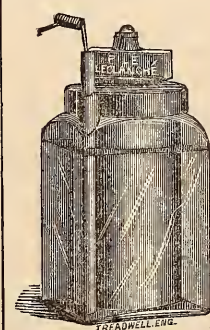
Two sizes are made at present, but others will soon be ready.
 No. 1 is a large square cell, and can be used as a local or for
 running motors. Price, \$2.25.

On Locals, one No. 1 cell is used in place of two Daniells, at a
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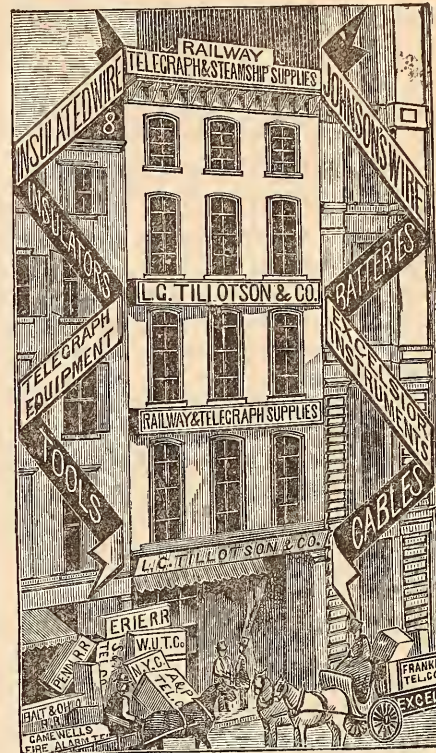
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UPON THE AUTOMATIC PLAN,

is now in operation in the following Cities, to which reference is
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UNIFORM RELIABILITY.

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Charlestown, Mass.,
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The Distinctive Features of these Systems of

Fire Alarm and Police Telegraphs

ARE,

First—The Automatic Repeater, through which the apparatus may be distributed in a combination of circuits, and the entire system successfully worked, without the constant personal attention of either operators or watchmen.

Second—The Automatic Signal Boxes.

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These Features combined form the

Only PERFECT, COMPLETE and RELIABLE System

OF

FIRE ALARM TELEGRAPH

IN THE WORLD.

It is a sufficient vindication of the claims which are made by the Proprietors of these systems of

FIRE ALARM AND POLICE TELEGRAPHS,

that they have sustained the test of more than twenty years of practical use, and that the efforts which have been repeatedly made to supplant them by other inventions have

COMPLETELY FAILED;

the few instances in which municipalities have been induced to adopt other systems having demonstrated their insufficiency and unreliability, and resulted in their abandonment, and substitution thereof of the

AMERICAN FIRE ALARM TELEGRAPH.

Messrs. GAMEWELL & CO. are the owners of the original *FARMER & CHANNING PATENTS*, one of the most important of which has just been extended for seven years, and during the past seventeen years have spared no expense or effort to secure improvements, and the Systems are now covered by

MORE THAN TWENTY PATENTS.

The most important improvement which the Proprietors have adopted and introduced is the

AUTOMATIC SYSTEM,

the introduction and operation of which involves so little expense, compared to the benefit which it confers, that even small communities can profitably adopt and maintain it.

The American System of

FIRE ALARM AND POLICE TELEGRAPHS

has met with the universal approbation and commendation of the

People, Municipal Authorities,

AND THE

PRESS

throughout the UNITED STATES and CANADA.

NO EFFORT, TROUBLE OR EXPENSE

is spared by the Proprietors to obtain and secure ANY POSSIBLE IMPROVEMENT which shall increase the

EFFICIENCY,

RELIABILITY and

ECONOMY

of the system. They intend that, as far as possible, it shall be

ABSOLUTELY PERFECT!

The amount of property which has been saved from destruction, and the number of lives which have been preserved through the general adoption of this system, throughout the UNITED STATES and the DOMINION of CANADA,

CANNOT EASILY BE ESTIMATED,

but that, in every community where it has been introduced for any considerable length of time, they have been enormous, **THEIR CAN BE NO QUESTION.**

The cooperation of TELEGRAPHERS in securing its introduction into their localities is cordially invited, and

their efforts will be duly appreciated and compensated.

Any information desired in regard to the above system will be cheerfully and promptly furnished upon application at the office.

A pamphlet, setting forth more fully its advantages and superiority, has been printed, and will be supplied to Municipal Authorities and others interested in Fire Alarm and Police Telegraphy, upon application as above.

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TELEGRAPH ENGINEER,

AND MANUFACTURER OF

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AND EVERY DESCRIPTION OF

TELEGRAPH SUPPLIES.

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These instruments are now made in two different styles, at \$120 and \$135 a set, consisting of two Relays, two Sounders, two Keys and Governor.

JONES' LOCK SWITCH-BOARD,

a most compact and reliable Switch, forming a clean spring-locked connection between any number of wires, occupying for each different connection only one square inch of space, and though made of the largest size, not subject to the warp and contraction of wood-work.

EXCLUSIVE AGENTS OF

A. G. DAY'S

KERITE,

OR

COMPOUND RUBBER COVERED WIRE

SUBTERRANEAN & AERIAL WIRES,

OF THE

HIGHEST INSULATION.

We are now prepared to furnish, after an experience of three years, an Insulated Wire which can be buried in the earth or exposed to rain and sun, or to the vapor of acids, without injury. Professor SILLIMAN, who has exposed it to the most destructive agencies, finds that it remains uninjured in an atmosphere of ozone, which would destroy gutta-percha in a few hours. It exceeds glass or any other known substance as a non-conductor

We have made special arrangements to furnish this article for office purposes at a reduced rate.

ALSO, TO FURNISH

IRON CLAD CABLES

of the usual size, with KERITE COVER, believing that it will exceed, in insulation for submarine purposes, ANYTHING, HITHERTO MANUFACTURED.

We shall be happy to furnish estimates for any amount and size of cable, which will be found to compete with any other construction, both in quality and price.

We manufacture the Genuine ELECTROPOION BATTERY, with Patent Platina Connection, introduced by us eight years since; also, THE ALPHABETICAL OR DIAL TELEGRAPH, now extensively used in this and other cities for private lines, being easily and quickly learned by any one.

We offer for sale, among other novelties, a SOUNDER that will work practically with a single DANIELL cell, a BATTERY that does not require to be taken down but once a year, and the very best MAIN LINE SOUNDERS made

Our CATALOGUE, embracing a large amount of new matter and description, is now ready for distribution.

THE TELEGRAPHER

A JOURNAL OF
ELECTRICAL PROGRESS.

J. N. ASHLEY, PUBLISHER.

SATURDAY, FEBRUARY 20, 1875.

VOL. XI. WHOLE No. 449.

[Written for THE TELEGRAPHER.]

Adieu to "145."

By J. J. McD.

FAREWELL old honored spot, a long farewell;
"Tis loath, indeed, we are to part with thee;
No more within thy time-stained walls will dwell
Those bygone scenes of merry jest and glee,
Where oft, in bright and happy days long past,
Full many heroes of the art have trod;
But now, their gladsome voices hushed at last—
Their forms lie mouldering 'neath the green cold sod.
And as—like some delightful happy dream—
They faded from thy precincts day by day,
Borne upon life's surging, troubled stream,
Others as swiftly came and passed away.
And thus, for years and years, hast thou beheld
The many changes in time's ceaseless flight;
That though they but a single moment dwelled,
Have known the comforts of thy genial light,
In thee, old home of telegraphic lore!
Uncultured genius to perfection grew,
And, master of thy mysteries, to thy door
Oft bade a last and loving fond adieu.
No more beneath thy dear old roof will sound
The well known *click*, that to the practised ear
From far away, o'er land and ocean bound,
Hath spoken oft the tale of love and cheer.
Or told of loved ones gathered to the tomb,
Or brought sad tidings of disaster dire,
To cast o'er all a sudden, mournful gloom
Where'er 'twas borne upon the magic wire.
And now, forever buried in the past,
Thy noble, faithful, duty's done and o'er—
The march of time has brought the hour at last
When we must part with thee forever more.
But though the future many changes bring,
Until the golden sun of life shall wane,
Fond recollections to our hearts will cling,
And bring thee back in dreams to us again.

Original Articles.

Bits of Reminiscence.

By JOHN OAKUM.

ALL readers of THE TELEGRAPHER are familiar, no doubt, with the story of the sensation created in Syracuse some years ago, by the *Star* publishing what Jack Selden told its credulous local editor, by wire, one Sunday night about Barnum, the giraffe and the Old Number 5 hand engine. If there be any who are not, let them seek out that genial telegraphist, fisherman and philosopher, and get the story from his own lips; no one else could do it the shadow of justice. But there have been other instances in which newspapers have been made the victims of circumstances owing their origin to telegraphic causes. Some years ago a rural reporter for the Associated Press sent to the New York Agency a despatch as follows:

"Thomas Barnard was found lying by the roadside near here yesterday, apparently frozen to death. Arrangements were made for his burial, when, to the surprise of the authorities, he revived just as he was being lowered into the grave. To-night he is sitting in the Central Station thinking of earthly things."

Now, I cannot attempt to explain what the author of that despatch meant by his concluding words. I remember in earlier years when an *attache* of a struggling morning paper that our editor-in-chief, who had been a minister abroad under President Buchanan, and whose circle of friends was large, occasionally came back to the editorial room under the influence of considerably more champagne than he could conveniently manage. On these occasions he invariably attempted a "leader" on some sublime theme, and not infrequently he would call one of us to him and in his dignified and pleasant manner would say; "Read that (pointing to what he had written), and see if it's all straight." On being told it was straight enough, but that it ended in the middle of a sentence he would close one eye in a most comical manner and remark confidentially: "That's it, that's it, my son; I've soared so high I can't light in my present condition." In other words, the wine being in the wit was out, and he hadn't the requisite clearness of head to bring to an intelligible close what had been so bravely begun. The correspondent alluded to above was, I infer, in a similar predicament from a lack of experience in rounding sentences, or from some other cause,

and having got his man into the station house, knew of nothing to add except "thinking of earthly things."

Without discussing that point further, suffice it that the despatch came to hand in the form given, and though editors of press telegrams are supposed to be educated in a sort of Gradgrind school, and to be men of facts, with no element of sentiment or humor in them, they do sometimes depart from the straight and narrow path in which they generally plod their way. This was a case in which the temptation to let a good thing go intact was yielded to, and so the despatch got refiled for Pittsburg, Cincinnati, Chicago, and the west generally, without undergoing a curtailment of its funny part. The "boys" along the line recognized its humorous side, and each had something to say. The operator at Chicago "opened" and made some flippant remark, which New York did not catch, owing to the high adjustment of Cleveland's repeater. The natural result was that New York asked Cleveland: "What did he say?" To which the latter replied petulantly. "Oh, go on; he said he would take sugar in his." New York, with a laconic "i, i," proceeded, and no more was thought of the matter until the next week, when quite a little disturbance was raised, and an inquiry instituted on the basis of the following, which had appeared in a Pittsburg paper:

"Thomas Barnard was found lying by the roadside near here yesterday, apparently frozen to death. Arrangements were made for his burial, when, to the surprise of the authorities, he revived just as he was being lowered into the grave. To-night he is sitting in the Central Station thinking of earthly things. He says he will take sugar in his."

During the war of the rebellion I remember a similar occurrence, though hardly as funny. New York was sending an account of a battle, and was saying: "His horse was shot from under him," when some one "broke" and said "g. a. horse." New York, evidently disgusted with the frequent breaking, did not proceed, and a mischievous chap of my acquaintance, who was reading Dr. Holmes' "Elsie Venner," and who was much taken with the narrative in that part where Bernard Langdon shoots Dick Venner's horse as that worthy attempts to throw the fatal lasso over Bernard's head, opened his key and went ahead from the book: "And the wild horse of the pampas was buried 'neath the turf by the wayside in the far off New England." The description of the battle appeared that afternoon in the *Fall River News* as follows:

"His horse was shot from under him. And the wild horse of the pampas was buried 'neath the turf by the wayside in the far off New England. At least three thousand prisoners," etc.

"My next," as the inventors of enigmas say, is not a telegraphic story, but the affair took place in the customers' department of a telegraph office, and perhaps that will admit the story to telegraphic circles. A gentleman who had been connected with establishing the old National line of stage coaches through the West was narrating to some friends how, on one occasion when their own team was broken down, the wagon of a farmer had been appropriated by some of the surveying party, whereat his "bucoic nibs" was considerably incensed. The gentleman who was telling the story was then in command of the men, and, returning to the scene of the accident and disturbance, sought to allay the farmer's indignation, telling him no harm was intended, that the use of the wagon was actually necessary, and would be paid for with pleasure, etc. This put a different face on the matter, completely taking the starch out of the man of agricultural pursuits, who hemmed, and hawed, and asked if the gentleman thought twenty-five cents would be too much. He was rewarded with a shining half dollar, and a silver quarter was bestowed on each of his tow-headed progeny, of whom there were seven or eight standing about. As the gentleman went on with his story a strong bodied, rough visaged Teuton, who sat waiting in the window seat for an answer to a message that he had sent, expressed the liveliest interest in the narrative, and seemed to grasp the essence of all the humor there was in it. And when the gentleman concluded by telling how surprised and delighted the whole family was, and said that the half dollar to the old fellow and the quarters to the children came like sunshine in a shady place into their simple lives, the face of cousin German indicated plainly that the tender spot was down in his heart of hearts was touched. The gentleman, perceiving he had entrapped one more auditor than he had counted on, made his acknowledgments, as a matter of courtesy, by turning to Dutch and saying, blandly, "Those were primitive times, you know, PRIMITIVE times, sir."

"Yah, dot is so," responded old mahogany head, "dose railroads ish hell."

Troubles are like dogs—the smaller they are the more they annoy you.

Are Rules made for Managers to Observe, or only for Employes beneath that Rank?

BY OCCASIONAL.

It has been my fortune, or misfortune (as you may please to term it), during the fifteen years I have been in the telegraph business, to be employed by almost every telegraph company that has lived and died during that time, in almost every capacity, from manager to messenger (not excluding battery and repairman). I have also been a member of the telegraphic staff of a number of the prominent railroads of the country. The rules of nearly all of them, in regard to the conducting of the business connected with the operating department, are so nearly alike that it is not necessary at this time to particularize or name any certain company.

It is a fact conceded by all intelligent thinkers that the manager who keeps his department within the bounds of the rules laid down for the governing of the same is the *best* manager, and more especially is this the case where infractions of the rules are treated with the greatest severity and rigor. There is a rule, however, that I would like to call attention to, as its non-observance by many of our well known managers has caused it to be almost entirely disregarded by many operators. It will be found on page 21, Western Union Book of Rules—rule 34, and reads as follows: "Profane, obscene, or other ungentlemanly language will not be allowed upon the wires nor in the offices of this company."

Could anything be plainer than that in its language? Was it not evidently the intention of the framers of that "Western Union" rule (which has been adopted on telegraph lines all over the country) that ladies and gentlemen might perform service in the same room in any office of that company and not be obliged to listen to profanity, obscenity, or other ungentlemanly language?

Should a manager who is daily in the habit of using language classed under any of the three heads named in this rule be called a *good* manager? I think not. What should be the duty of employers who see this rule trampled upon day after day, while other rules of less magnitude are enforced with the most radical severity? I am of the opinion that *every* rule should be observed to the letter, and I do not think that *any* manager, no matter what length of time he has served the company he has the honor to represent, should be considered a good and efficient manager if he allowed any rule to be treated with impunity by his employes.

Now, if this is the case, if such conclusions are true, what shall be said of the manager who himself disobeys this rule?

My attention was called recently to one of this class, who, upon the slightest provocation, "pours out the vials of his wrath" upon the devoted head of the offender. In ungentlemanly language, do you ask? Aye, worse, by far; the most profane language is used. Now, suppose the offender had manliness enough to retort, and use the same kind of language, what is the result? He violates not only a standard rule of the company, but is also guilty of insubordination to his superior, and, of course, he must apologize or be degraded, resign or be discharged. "Consistency, thou art a jewel but rarely found" attached to "*red tape*."

Are rules made for managers to observe, or only for employes beneath that rank?

Will some of our worthy superintendents (I am proud to say there are such) answer this interrogation?

The rule should either be observed, stricken from the book of rules, or else an amendment appended, allowing managers to swear at their employes when they feel like it. In either case it would be better understood than as it now stands.

Who Was He?

A YOUNG railroad telegraph operator residing in Harrisburg was not long ago sent to call a conductor at eleven o'clock at night. He wasn't quite familiar with the location of the conductor's house, but he thought he would make a guess, and probably he would hit the right one. Going down the street on which the conductor resided, he carefully noted the houses until he thought he had the right one. Stepping up to the door he gave the bell handle a yank that almost broke the wire, and then he stood there knocking his heels against the door steps, waiting.

Presently the door opened, a female form appeared, two arms were clasped around his neck, a pair of lips were pressed several times to his cheek, and a low voice murmured: "Dear John, I thought you were not coming to-night; it was so late!" "Thunder!" exclaimed the astonished telegrapher, "I ain't John!" There was a shriek, a girl vanished, a door slammed, and the telegraph operator was left standing on the steps in utter bewilderment. Sadly he retraced his steps to the depot, and once there he vowed never more to hunt a man, unless he had the number of his house down fine.

Correspondence.

We do not hold ourselves responsible for the opinions of our Correspondents. Our columns are open to free discussions on all Telegraphic subjects, without distinction of person or opinion.

No notice will be taken of anonymous communications.

Congress and the Telegraph.

WASHINGTON, D. C., February 17.

TO THE EDITOR OF THE TELEGRAPHER.

THE active and bitter contest which has been inaugurated between the Western Union and the Atlantic and Pacific Telegraph Companies has made telegraph matters in connection with Congress more lively than they promised to be a few weeks ago.

The bill introduced by General Butler in the House, regulating the telegraphs of the country, which was referred to the Judiciary Committee, has been reported back by him from that committee. This bill is accompanied by a report, the object of which is to show that it was originally proposed to control, if not own the telegraph, as part of the postal service of the country, and that the right and power of the Government to do this in the interest of good government and for the prevention of monopolies, either in prices of transmission of intelligence, or by superior advantages of early intelligence, which shall give one man an undue, unnatural and fraudulent advantage over his fellows in carrying on the exchange of commodities among the people, or in affecting the value of securities of the Government, in whichever way it may be stated, is complete under either the third or the seventh clause of the eighth section of the first article of the Constitution. The report proceeds to criticise at some length the business arrangements between the Western Union Telegraph Company and the New York Associated Press, and asserts that the former "can crush out or buy up all rival lines whenever it desires to do so," and that every leading journal must have full reports both of general and commercial news, and that they can only be obtained from the Associated Press, and by compliance with whatever rules and regulations it may dictate. A refusal to comply with them would be the loss of telegraphic news, of readers, of advertisements and of subscribers.

The bill and report were recommittees and ordered to be printed. There is little probability that they can receive consideration and action at this session, of which only about two weeks remains. Legislation is very backward, several important appropriation bills yet remaining to be acted upon, in addition to other important and pressing matters. Among other bills the Army Appropriation Bill is sure to lead to protracted debate, and this has but just been reported.

A more significant movement is the resolution introduced by Mr. Dawes in the House on Monday last, which was adopted, as follows:

Resolved, That the Committee on the Judiciary be directed to inquire if the Western Union Telegraph Company have refused to transmit despatches for the American Press Association, or any other parties among the several States, on account of criticisms by such association on said telegraph company, with power to send for persons and papers, and to report by bill or otherwise.

This action is understood to have been caused by the refusal of the Western Union Company to send reports to certain papers formerly supplied by the Pacific and Atlantic lines, under a contract which was continued by the Western Union Company after it had absorbed the P. and A. lines. It is charged that a despatch having been sent by the American Press Association which reflected upon Mr. Orton, the latter suddenly terminated the contract and deprived the papers referred to of any news reports unless obtained through expensive special despatches.

In the Senate last week Mr. Dorsey, from the Committee on Post Offices and Post Roads, reported with amendments the bill recently introduced by him to establish certain telegraphic lines in the several States and Territories, and to regulate the transmission of commercial and other intelligence by telegraph, which was placed on the calendar.

On Monday of last week an important Act, explanatory of the Page Patent Act, which was introduced on the 18th ult. by Mr. Spencer, referred to the Committee on Patents, and recently reported favorably from the committee, was taken up and passed. Subsequently Mr. Conkling, of New York, moved to reconsider, on the plea that he wished to be heard on it, and his motion was agreed to, which ties the bill up for the present. It enacts "That the Act approved March 9th, 1868, authorizing the issue of a patent for 'induction apparatus and circuit breakers' shall not be construed as authorizing the issue of a patent for any invention applicable to telegraphic apparatus; and any issue, under color of said Act, of letters patent for any such invention applicable to telegraphic apparatus, is hereby

declared to be null and void, as contrary to the meaning and intention of said Act of March 9th, 1868."

The lack of time may prevent the final passage of this Act, but the action of the Senate will no doubt have an important influence on pending litigation to enforce the Page patent.

President Orton, of the Western Union Telegraph Company, spent several days in this city last week, laboring to counteract the efforts which are being made to obtain legislation of an unfriendly character to the Western Union Telegraph Company.

CAPITOL.

Dull Times at the State Capital.—A Successful Burglary.—Automatic Telegraphy in Albany, etc.

ALBANY, Feb. 9.

TO THE EDITOR OF THE TELEGRAPHER.

I HAVE been waiting, like the immortal "Micawber," for something to turn up, but as this is a place where "few die and none resign," there appears to be little probability that anything very startling will soon occur, and as it seems useless to wait for it any longer, I send along what there is, before it becomes too stale to be palatable.

Notwithstanding the presence of the Legislature, Albany is quite dull this winter; the Senate and Assembly having comparatively little business to be transacted, and business generally being very poor.

Mr. Waterbury, of the night force, has been on the sick list for several weeks, and was for nearly two weeks unable to work, during which time Mr. C. C. King, of the day force, performed double duty, thus "scooping in" the extra.

The house of the well known Superintendent of Repairs, Mr. Geo. C. Thompson, in Bath-on-the-Hudson, was entered by a burglar on the night of the 3d inst. The burglar picked two locks and one pocket, getting about twenty-five dollars. Just as the gent. was leaving the house, Mrs. T. awoke and roused her husband, who seized his revolver and gave chase, but as the weather was a little too frigid to think of going far in "nature's airy garb," George concluded to let him go.

The damages caused by the late fires have been substantially repaired, "and yet we are not happy;" we still long for a marble palace with velvet cushioned elevators to waft us to our aerial abode. The prospects are, on the contrary, that should the old rookery called the Museum Building burn down, we might stand a chance of being obliged to work for the State awhile, as there is a report in circulation, outside of the telegraphic circles here, that "all the telegraph operators want their office to burn down," which puts us in rather an unenviable light.

The A. & P. have introduced the automatic system here and are apparently preparing for a vigorous campaign. The reduction of rates, which is advertised to take effect the 15th inst., will reduce the tariff on messages between here and New York from forty to twenty-five cents. This early reduction of rates is considered by some to be an almost suicidal act, but the result is yet to be seen.

As war is inevitable, we say: "Let it come," it cannot do us much harm—it may do us much good—it will at least solve the much discussed question as to the value of the automatic system.

The T. M. B. Association is in a flourishing condition here, there being fourteen good paying members attached to this agency. This we consider a fair showing in proportion to the number of telegraphers hereabouts. One fact is noticeable, *i. e.*, that they are all now employed or formerly were employed by the W. U.

Those who have formerly worked in this office will rejoice with us on learning that on January 1st the use of soft paper blanks for copying repeated messages became a thing of the past, all business being now copied on No. 1 blanks with pen and ink.

The name of our very popular chief operator, Mr. Morgan, got rather badly mixed up a few days ago, somewhat like this: An operator on a city line inquired if the chief (giving his name) was in. The question was translated as follows: "Is that (tt) organ in?" As we could produce nothing in the musical line except a pair of drumsticks and a speaking tube, he was informed that the organ wasn't in. Nevertheless the room resounded with vocal music when the blunder became known.

Here's one that was discovered before it was too late: as received, "Lilly Oweu;" as corrected, "D. McEowen."

DOUBLE-SIX.

Severe Storm.—Telegraph Lines Damaged.—An Error Corrected.

February 7.

TO THE EDITOR OF THE TELEGRAPHER.

FOR the past two days we have experienced one of the worst storms we have had in several years. A

great many of the wires were more or less affected with the electrical storm; some were broken and others so badly crossed and mixed up as to greatly impair telegraph facilities. The St. Paul and Sioux City R. R. line was down nearly two days, and nearly all the lines in the northwest worked badly. The snow fell and drifted in some localities to a great depth, badly blocking up the roads. All regular trains on the St. Paul and Sioux City Road were abandoned on the first and second, and passenger trains that had just started out turned back. It was reported there was 4½ feet of snow fell on the level in Green Bay and Oshkosh, Wis., and the snow in the former place was drifted to the depth of 8 feet in some of the streets, completely suspending travel and some kinds of business for a time. The thermometer was down in the twenties at these cities. At Winona about 2 feet fell, drifting 4½ feet in the streets of that city. At St. Paul and Minneapolis only about 6 inches fell; but, strange to say, it drifted to the depth of 2½ to 3 feet in the streets and at different points on the railroads leading out of those cities.

In a former communication, in referring to the Telegraph College of the Valentines, at Janesville, Wis., I said that it was reported that an arrangement was made by some of the telegraph officials of the Northwestern Railroad to give situations to the Valentine graduates. This was an error on the part of my informant, as the railroad he referred to is in Iowa, and not under the control of the Northwestern Railroad telegraph department. That such an arrangement does exist on an Iowa road I am positively informed; but, as far as I can learn, no bonus has been paid to any one or by any one officially connected with the road I intended to name, except you call station agents officials, as several of them have arranged for some of the students named, and they are the only ones I have ascertained as having done so. Until I have positive proof that the officials of that road are connected with "the fraud," I shall refrain from naming the road.

I regret that the name of the Railroad was erroneously reported to be the Northwestern, as no railroad in the country has the telegraphic department so well managed, or, at least, any better than the Northwestern, and no more faithful and honest a telegraph Superintendent can be found than Mr. Thayer. The correcting of this error where Mr. Thayer is known is entirely unnecessary, as he is too well and favorably known there to have an anonymous communication affect his character or standing as a Supt. and gentleman; but there may be those who do not so familiarly know the gentleman, and I make the correction to obviate all chance for any misunderstanding. NORTHWEST.

The Telegrapher Imposed Upon.—Correction of a "Fishy" Item.

ALBANY, OREGON, February 1.

TO THE EDITOR OF THE TELEGRAPHER.

IN the issue of THE TELEGRAPHER for January 9th there appears in the "Personal" column an item fully illustrating the advantages of "going away off" for news from "hum." The item referred to states that "J. M. Fish, formerly of Salem Railroad office, had been promoted to the chief operator's position on our road." This is certainly news to us fellows here, who have had no notice of the change (?) until it appeared in your columns. This information is false, and whoever wrote it knew it to be so at the time, and for what purpose it was imposed upon you I know not, but think the ghost of the scoundrel who some time ago imposed upon you the report of "Webfoot's" death is running at large somewhere in Oregon. If I catch him he had better say his prayers on the spot. Such conduct is very low lived and mean, and no one but a lying scoundrel would be guilty of imposing such stuff on a confiding public, and should be caught he would receive the public condemnation he so richly deserves from the Oregon telegraphers. Suspicion already points to a certain person as being the author, and his future action will certainly be closely watched.

I would not have referred to the matter had it not been that some of the boys (knowing I am the only correspondent in Oregon) have twitted me on writing such stuff east; but I have not got so short of material that I have to "make it up," as that item was. Every item written by me has been as near the truth as it could be composed, and I have no desire to do otherwise at this date; but 'spose it's so natural for some people to "prevaricate" that "they" can't tell the truth. As I do not reside in a glass residence I come out flat footed, and if any body gets "struck" I can't help him. WEBFOOT.

The North Pennsylvania Railroad Telegraphers

PHILADELPHIA, Feb. 10.

TO THE EDITOR OF THE TELEGRAPHER.

I WILL try to give the numerous readers of THE TELEGRAPHER an idea of the operators employed

along the lines of this company, the information in general having been kindly furnished me by several of the operators on said lines.

The train being late at Bethlehem, "B," (Junction of the L. V. and C. R. R. of N. J. (L. & S. Div.) Railroad,) I boldly stepped into the telegraph office of this company and soon made the acquaintance of Mr. Clewley, "D," day operator, and Mr. C. A. Hammann, "H." Mr. H. does very little at the art, except in the evenings after "D" leaves, but he is an expert at the business. Mr. Edwards, "V," the genial Ticket Agent, also does a little manipulating now and then. The train having arrived "I made my bow, and made my speech," and boarded the train, and soon thereafter landed at Hellertown, "J," where Mr. Wilson, "W," with a smiling countenance holds forth. Bingen, "B N," not on the Rhine but on the Sacon, is the next station; here a Mr. Sell predominates and is noted for his promptness in reporting trains. We passed a station and soon come to Coopersburg, "C. A.," where Mr. Wambold, "Z," presented himself. The next halting place was Quakertown, "Q," Messrs. Stoneback and "R," have charge of the station and business, the latter being the assistant. Perkasio, "P A," soon came to light after emerging from darkness, there being a large tunnel, through which we passed, near the place. Mr. Hedrick is taking his ease here. The next station I was informed was Sellersville, "S," here Mr. Sellers, "M," and Mr. Beidler, "R," have charge of all the business; the latter named gentleman is the assistant and has just launched into the "telegraph" business. At Telford, "M S," the next station, Mr. Horning, is operator, besides being Ticket, Freight and Express Agent. The stations being situated close together on this part of the road, I soon reached Souders, "S. D." where, after having introduced myself, Mr. Landis, "J C," and Mr. Schuge, "N C" (also called North Carolina), took me in their cosy little office and treated me as if I were U. S. Grant or some other unfortunate being. Hearing "All aboard," I soon was on board and had hardly seated myself ere Hatfield, "C E," hove in sight and a hurried introduction informed me that Mr. Barndt is here taking his leisure in smoking his Habanas, and according to the one he gave me he smokes only good ones. Alighting on the rear platform and after having a good airing (as the rear door was locked, and it was a jolly cold day), I soon heard that we were approaching Lanesdale, "F," Junction of the S. C. and Doylestown Branch roads, both roads being branches of this road, and both running in opposite directions—Morristown being the terminus of the S. C. and Doylestown the terminus of the Doylestown Branch roads. Mr. U. S. Beaver, "U," *alias* United States, and his active assistant Mr. Moyer, "M O," have their hands and heads full. "M O" informed me that Mr. Shute presided over the "Paper Collar machine" at Doylestown, and that no telegraph communication has as yet been made to Norristown; Mr. Coughlin, however, being the agent there, I left him with a "G M," and looking over the time table I read North Wales, "N. W.," where I was soon taken to and where I found Mr. Finney, "D K," *alias* Railroad Finney, and Mr. Yocum, "W Y," *alias* Wyoming, presented themselves as being the brass pounders in the brick palace which I beheld. At the next station, Fort Washington, "G," generally abbreviated "The Fort," Mr. Cravens is Operator and Manager of the business, and kindly conducted me to what is termed a "Pee Wee" train, which stops at every station. After getting on board I soon heard the brakeman sing out Edge Hill, "E H," where I met an old friend of mine, Mr. Leech, the active agent and operator, and a great admirer of the fair sex. Abington, "A," the next telegraph station, is the Junc. of the N. E. P. R. At the terminus of said branch is Hartsville, but no lightning slinger is required there yet, for want of the implements to sling it with, but at Harboro, "H B," on said road, Mr. Reiff gives his "O D." Ax "A," Mr. Sparks, "O," an old timer, and "H," his assistant are situated. After leaving "A," York Road, "K" was soon visible, where Mr. Riegel, "J E," has charge of the grand structure and the business thereof, and is said to be fully able to do it. Next come Erie Avenue, "N P," here the P. R. R. crosses this road; Mr. Stout is the Agent and Operator at this point, and with his well built constitution and with a beaming face he greets all he comes in contact with—I mean fellow mortals. He ushered me into the presence of his partner in the blessings of this life and his little "sounder," I was sorry to leave such good company, and get on board the train which was starting, and soon arrived, as a Dutchman said, at Filidely, (Phila.) Berks and American streets, the passenger depot of this company; Mr. Bumm, "U," and another, Sell or Andy, as I heard them call him, are the operators. The latter is the assistant and was formerly Mgr. of the W. U. Tel. office at Coopersburg, Pa., before accepting his present situation. Mr. Bumm has been operating for over two years at this office and seems to know his place, being a courteous gentleman and bearing a never failing reputation, as his assistant informed me to be a fact. At the Freight depot, Front

and Willow streets, "X," Mr. Utt, "T," and his Mr. Bansch, "M," generally called "Dutch Mike," do the business in the telegraph line for the different officials there. The latter it is said is often the unfortunate victim of jokes and tricks imposed on him by the numerous individuals employed in and around the building, but a glass of beer and a pretzel is said to relieve his anything but pleasant feelings, after having been dearly sold, otherwise they will rise as high as "fever heat." A telegraph office has lately been established at Fifth and Chestnut with Mr. Burus, "J," as operator. At Walnut street office, "N," Mr. Iddings, does the manipulating.

This completes my trip over this road, and I hereby express my gratitude and thanks to the operators along this route for their numerous favors shown to me during my trip.

As this is the first communication from this line, I hope you will excuse its lengthiness, and the grammatical errors contained therein.

Z. Y. X.

Opening of the Southern and Atlantic at New Orleans.—Western Union Promotions and Changes.

NEW ORLEANS, LA., January 30.

TO THE EDITOR OF THE TELEGRAPHER.

THE Southern and Atlantic Telegraph Company have at last completed their line to this city, and have established an office which has been very neatly fitted up, in an excellent location, corner Carondelet and Gravier streets, which is right in the centre of the cotton trade.

Since the Pacific and Atlantic lines were absorbed by the Western Union that company has had a monopoly of the telegraph business of this city, and the public, and especially the merchants, are much pleased to have competition re-established. The A. and S. Company have met with all sorts of opposition and delay in completing the line, but have at last succeeded in overcoming them, and we are assured has come here to stay. Mr. Ed. Leloupe is the manager of the company in this city, and it is an excellent selection.

Mr. D. Flanery, who has for many years been Superintendent of the Western Union Company at New Orleans, has been appointed Chief Constructor of the Southern Division, which embraces all the States south of Ohio, and east of the Mississippi River. New Orleans district has been merged with that of Mobile, under that prince of good fellows, Mr. Merriwether, who comes from Mobile to relieve Mr. Flanery. Mr. James Alleyn, who has been so long associated with Mr. Flanery, now takes charge of the New Orleans Western Union office as manager. General Superintendent Van Horne, of the Southern Division, is here for a few days.

T.

The Protection Life Insurance Company.

TO THE EDITOR OF THE TELEGRAPHER.

YOUR correspondent in Chicago, who signs himself "Insurance," obtained a gratuitous advertisement last week for the Protection Life Insurance Company, and, among other things, exhorts all members of the telegraphic fraternity in want of good and "cheap" insurance to take out policies in the above named company. Being one of the fraternity mentioned, and not desiring to see any of my collaborators in the business deluded out of their hard earned cash, I take the liberty of advising any one in want of more insurance than they have at present to give the Protection a wide berth. I characterize the whole institution as a "delusion and a snare." I have had some sad experience with this very concern, and know whereof I speak. No later than last month our city papers contained a telegram from Chicago of still another judgment against the company. The suit was brought by the widow of one of the company's oldest policy holders and judgment obtained, with the jury out but five minutes. This is but one of many similar cases with companies who pretend to afford such a cheap insurance to their patrons.

When coöperative societies pretend to provide life insurance, if they do not steal the livery of heaven to serve the devil in, they at least raise hopes which are destined to be disappointed. A prominent feature of this class of insurance is the uncertainty of everything connected with it.

The amount which a policy will yield is uncertain.
The amount of assessment is uncertain.
The times of payment are uncertain.
The tenure of membership is uncertain.
The claim to indemnity is very uncertain.
But, among so many uncertainties, there are some things so certain as to be beyond dispute.
It is certain the losses will be greater;
That it will cost more to pay them;
That he who dies first will receive most and pay least;

That he who dies last will pay most and receive nothing;
That the young pay too much;
That the old pay too little;
That the originators of the plan did not understand it;
That it was gotten up to make money;
That the future will repeat the past;
That this plan will ultimately fall to pieces;
That all who have anything to do with it will be disappointed and deceived.

ONE WHO KNOWS.
Not an Insurance Agent.

Winter Sports of Telegraphers on the Rocky Mountains.

SIERRA SUMMITS, Jan. 30.

TO THE EDITOR OF THE TELEGRAPHER.

NOT having seen anything in your paper from this part of the great trans-continental line, and thinking that a communication from the remote summits of the Sierras, where the growl of the grizzly and the mirthful laugh and shout of the snowshoer breaks the quiet winter solitude, would be perhaps acceptable, as showing how telegraphers amuse themselves up here, the following, of which I was an eye witness, is submitted for the benefit of your readers.

Not long since one of our neighboring hamlets was surprised by the appearance of a noble looking youth, stately and graceful as a statue, with a melodious laugh, and whose stories would excite and interest the most dull and stupid, who arrived in their midst to fill the position of night manager of one of the Central Pacific offices situated in those magnificent snow galleries, so well known to the tourist and others seeking pleasure in the beautiful mountains of California. Other gentlemanly members of the fraternity, whom we will style Shanghai and Banty, on account of the dissimilarity in their personal appearance, proposed to the aristocratic operator from New York, styling himself James Aspinwall *alias* old Jim Kearney, to take a little snowshoe exercise. Now, the new arrival was hardly up to the business, and, consequently, the first attempt wasn't an entire success. The trio started down hill together, when old Jim's shoes got the better of him and steered for a stump. Seeing his imminent danger of a collision he made a most frightful jump, such as may be found described in popular dime romances of Indian warfare, where the noble red man makes his dying yell and leap.

The party again ascended the hill with our friend James, heartily wishing all the time that his old friend Burbridge, train despatcher from the east, could be along, so as to enjoy the sport with the boys.

The ascent having been made, it was intimated to James that there might be a difference in the shoes, and another pair was substituted, which resulted in his making another fearful leap.

Providentially no bones were broken, but our hero thinks that wisdom is displayed in the old adage, "Learn to shoot a gun before you go to war." P.

To Correspondents.

HORACE.—Your communication was promptly consigned to the waste basket. You probably never heard of the law of libel. If you desire to make such statements in regard to a person they should be made over your own signature. To endeavor to use the columns of a journal for such a purpose, and carefully conceal yourself under a *nom de plume*, is, to say the least, dastardly and cowardly. THE TELEGRAPHER cannot be used for such purposes.

SOUTHWEST.—Your communication would be a very good advertisement for one of a class of institutions of which we do not approve, and which we consider inimical to the interests of the telegraphic fraternity. If you are, as you say, a subscriber to THE TELEGRAPHER, you will do well to read the notice to correspondents at the head of the correspondence column. Your communication was not dated anywhere in particular, and was unaccompanied by your name and address, which of itself would have insured its passage to the waste basket, even if it had been otherwise unobjectionable.

J. E. S., New York.—We do not know the address of Mr. J. T. Sprague. His residence, however, is in England, and not in this country. The articles on Dynamo-electric machines and induction coils which you refer to were published in the *English Mechanic* and appropriated bodily by the "professor," and printed in his organ without any intimation of the source from whence they were derived.

THE EVAPORATION OF METALS BY ELECTRICITY.—

Mr. Hopkins describes an interesting experiment, which consists in passing a charge of electricity through a very fine thread of platinum, or other metallic foil, the thread being kept in place between slides of microscope glass. The effect of the heat from the electric discharge is to vaporize the metal, which is instantly condensed in a transparent layer upon the cold glass, which can then be studied by the microscope, and can be used in various ways to determine the character of the metal and the peculiarities of the discharge.

THE TELEGRAPHER

DEVOTED TO THE INTERESTS
OF THE
TELEGRAPHIC FRATERNITY.

SATURDAY, FEBRUARY 20, 1875.

THE TELEGRAPHER:

PUBLISHED EVERY SATURDAY at 38 VESEY ST.

ELEVENTH VOLUME.

TERMS OF SUBSCRIPTION.

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38 VESEY ST., New York.

THE TELEGRAPHER.

A JOURNAL OF ELECTRICAL PROGRESS,

DEVOTED TO THE INTERESTS
OF THE

Telegraphic Fraternity and the Advancement
of Electrical Science and the
Telegraphic Art.

Published Every Saturday,
AT

No. 38 VESEY STREET, New York.

ELEVENTH VOLUME.

The Publisher, in announcing the Eleventh Volume of

THE TELEGRAPHER,

which will commence with the number for JANUARY 2, 1875, desires to return thanks for the LIBERAL SUPPORT which it has hitherto received, which it is expected and believed will be continued during the ensuing year.

All the popular and valuable features of the paper will be retained, and it will continue as heretofore to labor for the best interests of the TELEGRAPHIC FRATERNITY and the advancement of ELECTRICAL SCIENCE and the TELEGRAPHIC ART.

THE TELEGRAPHER

is a thoroughly INDEPENDENT TELEGRAPHIC NEWSPAPER, bound to or in the interests of no TELEGRAPH COMPANY, CLIQUE or COMBINATION, but honestly devoted to the interests of the PRACTICAL TELEGRAPHERS.

Its columns are at all times open to the freest and fullest description of all questions of interest and importance to the Fraternity, or the Telegraphic Art and Electrical Science in connection therewith.

As heretofore, no LABOR, TIME or EXPENSE, warranted by the patronage received, will be spared to improve its character, and add to its interest, and to sustain its reputation as the ONLY FIRST CLASS

ELECTRICAL AND TELEGRAPHIC JOURNAL
UPON THE
AMERICAN CONTINENT.

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Terms of Subscription

will remain as heretofore:

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Any person sending the names and money for four subscribers, at the regular price of subscription, two dollars per year, will be entitled to receive an extra copy free.

SUBSCRIBERS CHANGING THEIR RESIDENCES, AND DESIRING A CHANGE IN THEIR ADDRESS, MUST ALWAYS SEND THEIR OLD AS WELL AS THEIR NEW ADDRESS.

Remittances for subscriptions may be made by mail, by post-office order or registered letter, at the risk of the Publisher, but no responsibility will be assumed for money sent without such precaution. On remittances of not less than FIVE DOLLARS the cost of the order or registration may be deducted from the amount.

Advertisements are solicited, and will be inserted at reasonable rates; but no advertisement will be inserted for less than ONE DOLLAR per insertion.

All communications relating to or intended for THE TELEGRAPHER must be addressed to

J. N. ASHLEY, Publisher,

(P. O. Box 5503.) NEW YORK.

Congress and the Telegraphic Competition.

AS WILL be learned from the interesting communication from our Washington correspondent, CAPITOL, the contest between the competing telegraph companies which has recently attracted so much attention crops out in the proceedings of Congress. The backward condition of legislative business and the brief time remaining of the present Congress, will probably prevent any very important action before the adjournment, but there is an evident disposition to hold the Western Union Company to accountability, so far as Congress has the power to do so, for any extreme measures which it may be inclined to resort to for the purpose of embarrassing and crippling its competitors or those who may be regarded as identified in interest with them.

The bill introduced by Mr. BUTLER, the purport of which has already been given in the columns of THE TELEGRAPHER, has been reported to the House from the Judiciary Committee, but we regard it as hardly probable that it can be acted upon before the adjournment. It must necessarily lead to considerable discussion, and for this there is no time. Some of the provisions of this bill are good, but as a whole it cannot meet with approval, and should not pass. As we understand it, it proposes to practically confiscate the property of the telegraph companies, and inaugurates a Government telegraph system, without proper compensation to owners of telegraph property or adequate consideration of their interests.

As every reader of THE TELEGRAPHER is aware, we have opposed Government ownership and management of the telegraphs first, last, and all the time. Our opinions on this subject have undergone no change, and we believe that nine tenths of the public and the telegraphic fraternity concur with us in this opposition. For this reason we are inflexibly opposed to anything looking towards such ownership and management. At the same time we are in favor of any proper and needed legislation which shall tend to prevent any undue and unreasonable restrictions being imposed by any company upon the operations and business of its competitors, and so far as Mr. BUTLER'S bill goes in this direction we regard it favorably.

The resolution offered by Mr. DAVES on Monday last, directing the Judiciary Committee of the House to inquire whether the Western Union Telegraph Company had refused to transmit reports for any papers belonging to or receiving reports from the American Press Association, in consequence of criticism of that company, and to report what legislation, if any, is needed on the subject, is significant. The report of the committee, which was authorized to send for persons and papers, will be awaited with interest. There does not seem to be any great amount of sympathy for the Western Union Company in this Congress, at any rate, and this action is a warning to that company that in the existing contest it must not resort to means which have heretofore proved very effectual in preventing active sympathy with those opposed to it.

The passage by the Senate of the Explanatory Act in regard to the PAGE Patent, relieving the telegraph interest from an impossible burden in consequence of the extraordinary patent issued to Prof. PAGE and his legal representatives, by his former associates in the Patent Office, whether it becomes a law during the present Congress or not, cannot fail to have an important influence upon the pending litigation to enforce that patent. Mr. CONKLING tied it up for the present by a motion to reconsider, and it will very likely fail for want of time, but the readiness of the Senate to pass the act, indicates the estimation in which that patent is held. We hope that the friends of this act of justice will use their best exertions to pass it before the termination of the session.

We regret the necessity for carrying these matters before Congress, as we consider it for the interest of all parties that the contest should be fought out without resort to special legislation for or against either. The

contest, however, is a very bitter one, and personal feeling and interests enter into it to an unusual degree, and no doubt every means will be resorted to to cripple one and advance the apparent interests of the other that shall be possible. It is apparently a war to the death, and the advantages are by no means altogether on the side of either party. The result, so far as the public are concerned, will be a great increase of telegraphic facilities and cheap rates; for the employes, increase of demand for their services, and for the telegraph companies a maximum of business and a minimum of net receipts.

The Automatic Telegraph System.

THE general introduction of automatic telegraph apparatus upon the main circuits of the Atlantic and Pacific Telegraph Company, will soon prove or disprove the reliability of the claims which have been made for it of advantages over other telegraphic systems. It will also solve other questions in connection with it, which have troubled some of our telegraphic friends, especially as to the effect which it will have upon the interests of telegraphic employes. Despite all the assertions and arguments to the contrary, we have never believed that the introduction of the automatic telegraph apparatus would result in diminishing the number of telegraph employes, or unfavorably affect their compensation. Many telegraphers have differed with us upon this point, and unscrupulous enemies of THE TELEGRAPHER have endeavored to use our recognition of the advantages of automatic apparatus to its injury.

It is, as we understand it, the purpose of the Atlantic and Pacific Company to introduce automatic apparatus upon all its main circuits as rapidly as possible, the experiments thus far made with it having already sufficiently demonstrated its advantages. Only through these advantages can the reduction of rates already made, and the further reductions proposed, be justified. It will be noticed that these reductions are upon the routes on which the automatic system is in use, and further reductions will be made as the use of the system is extended.

It would unquestionably have been much wiser for the Western Union Company to have secured the control of automatic telegraphy when it was in its power to do so, rather than to regard it contemptuously as a worthless factor in the telegraphic problem. Feeble and uncertain as were the earlier efforts to develop a system of automatic telegraphy, it was all along evident that time and experience would cure the defects, and that it contained a germ which would eventually develop into a perfected and valuable system. It is not safe at this age of the world, and in the light of past experience, to despise the day of small things. With a good automatic system under its control the Western Union Company would have been invincible. As it is, it has nothing fitted to cope with it. With improved lines, such as may now be had by the use of the improved compound wire and more perfect insulation, the capabilities of the automatic apparatus are almost incredible, and it is a tremendous advantage to the party which controls it.

The Telegraphic Situation.

THE principal belligerent operations in the pending telegraphic contest at the present time are being carried on at Washington in efforts to obtain some Congressional action affecting the interests of the Western Union Company. From such information as we have been able to obtain, as we have elsewhere stated, we do not think that in the short time which remains any radical, important or definite action can be had, but until the session is over it is probable efforts to that end will be continued.

On Monday last the reduction of rates over certain important telegraphic circuits, as detailed in the last number of THE TELEGRAPHER, went into operation.

The Western Union Company reduced at the same time, over the same routes, and to the same figures as its competitor. No more, no less. The Executive

Committee of the Western Union Company have authorized the President in his discretion to reduce the rates over routes which are covered by competing companies. So far that company has only followed the lead of the opposition in the matter of reductions notwithstanding Mr. ORTON's assertion that when his company did begin to cut it would be "to the blood."

Matters are gradually becoming more settled in the new Western Union building, but there is yet a great deal of work to be done before it will become entirely comfortable for occupation.

The reorganization of the Atlantic and Pacific lines, under the changed circumstances and conditions of the business, is proceeding as rapidly as possible. There is necessarily a great deal to be done to get the company in order for an active, bitter and prolonged contest, but it is gradually being accomplished satisfactorily.

Undoubtedly both parties now fully appreciate the magnitude of the contest which is before them, and while there is no very obtrusive demonstration on either side, both are at work strengthening themselves for the task, which is likely to tax their respective resources and energies to the utmost.

The Death of an Early Telegraph Inventor.

THE death of HARRISON GRAY DYAR, which occurred at Rhinebeck, N. Y., on the last day of January, is an event worthy of special mention, from his early connection with the invention of the electric telegraph. The statement which we print in another column gives the facts in relation to Mr. DYAR's connection with telegraphic invention, some of which will, undoubtedly, be new to most of our readers.

Mr. DYAR was, as it appears, twenty years ahead of Prof. MORSE in inventing and actually operating a practical electric telegraph system, and it is claimed for him that to him actually belongs the honor of being the inventor of the electric telegraph. His decease brings up anew the discussion of the question of the invention, and the evidence seems certainly very strong that to Mr. DYAR rightfully belongs the honor.

The change which has taken place since those efforts half a century since to develop the telegraph, and the present time, when it has become a universal and indispensable agent of civilization, is so great as scarcely to be realized by the present generation. Sir FRANCIS RONALDS, in England, and HARRISON GRAY DYAR, in America, were in advance of their age, and only as their connection with life is severed are their great achievements recognized.

The "Nondescript" Edison Organ.

THE "nondescript" organ of T. A. EDISON is no longer published in the post-office box of the Western Union Telegraph Company in this city; and one of its publishers and nominal editors has wisely withdrawn from his connection with it. In justice to the Western Union Company and Mr. ALLEN, the retiring proprietor, we make this announcement, as both are entitled to the credit of withdrawing their countenance from such a disreputable concern.

The "nondescript" still retains its proud preëminence as the only organ of the great professor of duplicity and quadruplicity, since the defection of EDISON from the Western Union interest has relieved the *Journal of the Telegraph* from that unpleasant position. It continues to laud the professor as the great telegraphic "I Am" and embodiment of all electrical and telegraphic ability and wisdom.

In keeping with its character and association, it displays its wonted economy of truth. We certainly never dignified it by crediting it with being a sub-organ of the Western Union Company. Whatever criticisms we may at times have felt called upon to make of that company, we never so grossly maligned it as that. We cheerfully concede to the "nondescript" all the credit it can derive as either an organ or sub-organ of

the professor of duplicity and quadruplicity. Neither have we, as it asserts, credited EDISON with being the "great professor of automatics." We have too much regard for the truthful character and the reputation of THE TELEGRAPHER for that.

The man is worthy of his "organ," and the "organ" of the man. Those who know either or both will appreciate the compliment (?)

Not Guilty of Bribery.

We have received a communication from VALENTINE BROTHERS, of Janesville, Wisconsin, denying the statement of our correspondent, NORTHWEST, that they had bribed or offered to bribe some operator to recommend their school, and tell applicants he learned there, and defying the writer to prove his assertion. As we have no desire or intention to do injustice to any person, we cheerfully give them the benefit of the denial.

Personals.

Mr. CHAS. D. HOYT has retired from the position of Chief Receiver of the Cable Department of the Western Union Telegraph Company, New York, to engage in mercantile business.

Mr. JOHN B. OLTMAN has been appointed Chief Receiver, Cable Department, Western Union Telegraph office, New York, in place of Mr. CHAS. D. HOYT. This is an excellent appointment, and the promotion is well earned by many years of faithful service to the company.

Mr. JOHN SHIRES has been transferred from the Delivery Desk of the Western Union Telegraph office, New York, to the Receiving Department, same office, in place of Mr. OLTMAN.

Mr. FRANCIS CLAIR succeeds Mr. JOHN SHIRES in charge of the Delivery Department, Western Union Telegraph office, New York.

Mr. T. G. KENNEDY is Night Chief Operator Southern and Eastern Circuits, Western Union office, New York.

Mr. ALBERT E. SINK has been appointed Night Chief Operator on Western Circuits, Western Union main office, New York.

Mr. S. S. BOGART, Jr., has been transferred from night to day Chief Operator of the Erie and Pittsburg Circuits, New York Western Union office.

Messrs. DENNIS HARMON, Jr., CHARLES F. HUTCHINSON and E. J. FULLUM have accepted positions in the cable department, Western Union New York office.

Mr. O. J. DEALY, Manager of the Cable Department in the Western Union office, New York, has resigned.

Mr. E. A. LESLIE has been appointed Chief Operator of the Cable Circuits in the New York Western Union office.

The Telegraph.

By Cable.

TELEGRAPH CABLE STEAMERS FIRED UPON.

MADRID, Feb. 16.—The Carlists on the northern coast have again fired on steamships engaged in the telegraph cable service.

The Gold and Stock Telegraph Company.

THE difficulties and litigation which have existed between the Gold and Stock Telegraph Company and the Manhattan Quotation Telegraph Company have been adjusted, and the two companies will hereafter work in harmony with each other. This is not a consolidation, but a working arrangement between the two companies in their mutual interests. Both will still be maintained and serve their respective patrons as heretofore.

From the first of March next the charge of the Gold and Stock Company to brokers and others furnished with quotations will be increased from \$10 to \$20 per month. Previous to the competition between the two companies the charge was \$6 per week. Twenty dollars per month is regarded as a reasonable price for the service rendered, and as cheaply as any company can afford to do the business in a satisfactory and effectual manner.

The Manhattan Company has never reduced its nominal charge to its customers.

Notes from the Western Union.

It is rumored that the iron flagstaff on the tower of the New Western Union Building was one of the "heads of difficulty" between President Orton and General Eckert, which the latter referred to in his "keerd." General E. said it wasn't strong enough, and President O. insisted that it was, and more too. How sad the former must have felt, when he gazed from the windows of the opposition on Thursday last, and saw that flagstaff bow before the gale (being weak in the roots) till it stood at an angle of 60 degrees, like a damaged lightning rod. Such omens are uncomfortable. As the philosopher remarked, "I utterly disbelieve in them, of course, but still I had a *leetle* rather not see the new moon over my left shoulder."

A gentleman from the third floor was escorting a vivacious and beautiful lady friend through the grand operating room the other day. She wanted to know why there was a week's washing hung up to dry across the room. Her gentlemanly *cicerone* explained the supposed object of it. "Bnt" she continued, "is it to keep the boys from looking at the girls, or the girls from looking at the boys?" He supposed it was the former, of course. "Well," persisted his fair companion, "if they are so homely you don't want the boys to see them, why don't you have them wear masks? It's a shame to make this palatial room look like a washerwoman's back yard!" The gentleman promised to submit this ingenious proposition to Mr. Mumford.

We don't believe a word of the story about a quarrel between Tillotson and the Centaur Liniment man about the monopoly of putting advertisements on the elongated clothes-horse in the new operating room. Still there can be no doubt something ought to be done to increase the business of the "department."

A scientific gent, who was inspecting the Western Union Building, mistook the Phelps transmitter in the C. N. D. for the celebrated quadruplex. When Van assured him that it was a much bigger thing, inasmuch as it was capable of transmitting a despatch in twenty different directions at once, simultaneously, he was astonished, and got out his note book and pencil. Happening, unfortunately, to lay his hand on one of the brass knobs, and getting 250 cups of "fluid" through his fingers, "sddent like," he bolted down stairs like a streak.

Proposed Consolidation of the American District and Fire Alarm Telegraph in San Francisco.

THE American District Telegraph Company of San Francisco, through its President, Mr. George S. Ladd, has made a proposition to the Board of Supervisors to take charge of the Fire Alarm Telegraph of that city, and to connect it with the District System. The proposition appears to be that the city should appoint and pay the employes specially required for the Fire Alarm Telegraph service, but that the District Company should take charge of the lines and apparatus and maintain them, returning them at any time they should be required to do so to the old quarters, without cost to the city.

What the advantage is to be to the company does not very plainly appear, but the proposition is strenuously opposed by Major Hammond, the General Manager of the Atlantic and Pacific Company in California.

The matter has been discussed at several meetings of the Supervisors, Mr. Ladd appearing for the District Company and Major Hammond for the Atlantic and Pacific Company in opposition. During the contest Major Hammond offered, on behalf of his company, to take charge of the Fire Alarm Telegraph and maintain and operate it without cost to the city.

At the last advice the matter was still under consideration.

The Guatemala, Central America, Telegraphs.

THE Government of Guatemala has made a contract with Mr. Stanley McNider for the construction of about three hundred miles of telegraph, in addition to the lines contracted for by Mr. McNider in October, 1872. The new lines will give the Government and the public prompt communication with the towns of San Marcos (office opened Jan'y 8), Huehuetenango, Quiche and Jalapa, and the Atlantic port, Izabel, and place Guatemala on a footing with the most advanced countries in telegraphic facilities.

Reduction by the American District Telegraph Company.

AT a meeting of the Directors of the American District Telegraph Company, held on Tuesday last, it was resolved that on and after March 1st the rental of instruments to subscribers should be reduced from \$2.50 to \$1 per month.

Foreign Telegraphic Notes.

THE total number of messages forwarded from postal telegraph stations in the United Kingdom during the week ended January 23d, 1875, was 342,067—an increase on the corresponding week of last year of 17,467.

At the half yearly general meeting of the shareholders of the Eastern Telegraph Company in London, January 28th, the Chairman said that the company had at last succeeded in getting a direct line through France, and the company would now have exclusive use of another reliable route to Egypt and the East. He also stated that at the present time there were only 23 messages a day to Australia.

Direct telegraphic communication is now established between the Bourse in Paris and London, and it is notified that all telegrams intended for the Paris Bourse should be written on the forms expressly provided for this service, which can be obtained on application at that office.

The Faraday, steam telegraph ship, will not return to Woolwich, as expected, but will shortly proceed to the North, in order to undergo some repairs rendered necessary by the heavy weather she has recently encountered.

The Central American Telegraph Company have received a telegram announcing the arrival of the steamship Hooper at Cayenne with the cables to duplicate the system of the West India and Panama Telegraph Company, and to complete the service between that port and Demerara. The cables are reported to be in perfect condition.

In Peru the telegraph question continues to be debated in Congress. A number of the members are opposed to the management of the lines passing into the hands of the Government, but it is probable that the measure will be carried.

Advices from Bogota state that Mr. Stokes, a representative of an English Submarine Telegraph Company, is at the capital to obtain a concession to lay a telegraph cable along the west coast of Columbia.

In Guatemala the telegraph has been extended to the City of Quezaltenango, which puts the capital in communication with the commercial and agricultural centre of the departments of Altos, one of the finest sections of the Republic. From Quezaltenango lines are constructed to San Marcos and to the port of Champerico.

Telegraphic and Electrical Brevities.

THE Pennsylvania R. R. Co. will introduce a new telegraphic arrangement for wrecking cars, consisting of a small table with a sloping cover, upon which the instrument will be placed. Beneath the table is a reel of cable wire, and upon the cover a patent clamp for severing and making connections. Each wrecking car will be supplied with the instrument, and connections may be made and communications opened in five minutes after arriving at any point upon the road.

Citizens of California are memorializing the Government to authorize the extension of telegraph lines from the Northern Pacific telegraph lines to the light-houses and life-saving stations on the coast of California, and make an appropriation therefor.

The Butler Telegraph Bill.

At the evening session of the House of Representatives at Washington, on Wednesday last, the bill "To establish certain telegraphic lines in the several States and Territories as post roads, and to regulate the transmission of commercial and other intelligence by telegraph" was reported from the Judiciary Committee, and Mr. Butler, of Massachusetts, who originally presented it, explained and advocated it. It was debated at considerable length. Mr. Butler moved the previous question, but the House refused to second it by a vote of 89 yeas to 77 nays—not two-thirds. Finally, the House adjourned without action, leaving it to come up as unfinished business on Thursday.

[From the Syracuse Journal.]

Death of a Distinguished Discoverer and Scientist.

On the last day of January, 1875, the Hon. Harrison Gray Dyar (uncle of Mrs. F. S. Smith, of this city), died at Linwood Hill, in Rhinebeck, N. Y., aged sixty-nine years and eleven months. Mr. Dyar was the inventor of the electric telegraph, and erected the first line, and despatched the first message over it, on the American continent. This may seem strange to our readers, as the credit for this great discovery has generally been conceded to Prof. Morse. But Mr. Dyar

erected his line on Long Island in 1826—ten years before Mr. Morse commenced talking about his discovery. The explanation is this: Mr. Dyar employed some assistants in getting up his line; when up, and promising success, one of these (to extort a concession of a share in the patent) commenced a suit against Mr. Dyar, claiming \$20,000 damages. Mr. Dyar was brought before a Judge Irving, of New York city, examined and the suits dismissed. But his troubles with his associates were not ended. Just at this time there broke out a great excitement in the country in regard to "bank frauds," in the large cities, and another suit was commenced against Mr. Dyar for conspiracy, connecting his discovery with these frauds by communicating secret messages from city to city, and he was actually obliged to flee from the city, by advice of friends, to prevent falling into the hands of the sheriff a second time—first to Rhode Island and then to France.

Mr. Dyar's counsel in these suits was Chas. Walker, a brother-in-law of Prof. Morse. About ten years after these transactions, in 1836, Prof. Morse began to talk about his discovery, and through the assistance of Amos Kendall, Prof. Henry, F. O. J. Smith, and others, he got Congress to aid him in putting up his experimental line between Baltimore and Washington in 1844—eighteen years after Mr. Dyar had erected his short line, and sent the first message, on Long Island.

Mr. Dyar, like many other great men, was somewhat singular. He was modest, retiring and reticent. When he made this discovery he was only about twenty-one years of age. He was an inexperienced young man from New England, without many friends or acquaintances in the then largest city of the country. He was, just as he was making one of the greatest discoveries in the world's history, treated as a criminal and conspirator, and actually compelled to seek safety in flight.

Mr. Dyar reached France, and commenced immediately to delve into the hidden mysteries of nature, and soon made other discoveries in chemical science, and was awarded therefor, from one of the royal societies of that country, the princely sum, in those times, of \$300,000. He remained abroad over twenty years, and then returned to New York city. There he invested his capital in Broadway and Fifth avenue property—the latter his place of residence. He also purchased a summer home on the Hudson, where he was at his death. About ten years since Mr. Dyar married a New England lady, who survives him, with two children, a son and daughter.

The following communication was published in one of the Washington papers in 1872:

THE FIRST TELEGRAPH.—AN INTERESTING LETTER.

WASHINGTON, D. C., Jan. 30, 1872.—To the Editor of the Evening Star: On reading your issue of Saturday evening, I noticed your remarks on the honors due to the originators and perfectors of "the telegraph system," and my mind was carried back more than fifty years, to the great race between the southern horse, "Henry," and the northern horse, "Eclipse," which took place on Long Island, and was won by the northern horse. It assumed in advance the character of a sectional political match, and the excitement raged so high that great efforts were made to convey the result to the city of New York in the shortest possible time. To accomplish this, a Mr. Dyar (whose Christian name I have forgotten) erected at his own cost telegraph wires, and successfully accomplished the object.

After this Mr. Dyar proposed to erect a telegraph line between New York and Philadelphia, and applied to the Legislature of New Jersey for the necessary powers to pass through that State. This request was not only unceremoniously refused, but Mr. Dyar was denounced as a wizard—a dangerous person to be permitted in the community. Vexed, disappointed and almost disheartened, the original projector was actually driven from his home and country, and found refuge in Europe, where his scientific abilities were appreciated and fully rewarded by the accumulation of large wealth. After the success of the telegraph he returned to this country, too late to claim what was justly his due, as the time prescribed by law to procure a patent had expired. Still, Mr. Dyar, with characteristic unselfishness, refused to go before a court and testify in a case where Mr. Morse had prosecuted for infringement.

I saw Mr. Dyar about the year 1850, when he informed me that then he had all the machinery, as used at the great race, stored in a warehouse in New York, and that it was the same in all particulars as that used by Mr. Morse. I think Mr. Dyar is still living in the city of New York, and can verify all I have said.

I do not write this as detracting an iota from the great honor justly due to Mr. Morse or others, whose efforts have established the telegraph, but to record facts which have transpired within my knowledge, and should appear in history as a comparison of the

past with the present, showing, as it does, the wonderful progress of the present age in arts, science and enterprise, and also of public opinion.

Respectfully yours,

ASA WHITNEY.

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13	72½	73	23½	24	32	32	62	75
15	72½	72¾	23¾	24	32	32	62	75
16	71½	72	21	21½	30	30	62	80
17	70¾	71¾	22½	22¾	29	29	62	75

Born.

WHEELER.—To A. F. WHEELER, Manager Western Union Telegraph Company, Salem, Oregon, a daughter, first "copy," ten pounds, both a "rattler" and "sounder." Bully for Gus! First fruits from the epidemic matrimonial which prevailed so extensively among the telegraphers in Oregon a short time since. WEBFOOT.

Died.

STALCUP.—At Washington, D. C., February 6, 1875, JOHN STALCUP, an operator in the Western Union Office in that city.

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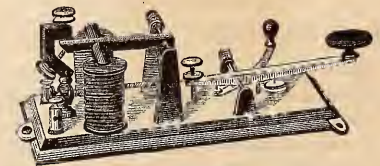
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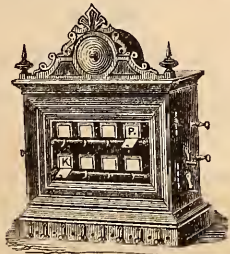
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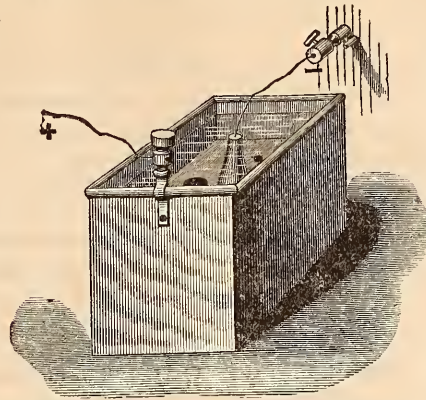


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now offer them to the public as the best Battery for Telegraphic and other purposes yet devised.
The Battery cell is made of lead, and forms one pole of the battery. Sulphate of copper is the only chemical required to be used.
These Batteries have been fully tested during the last year, although only recently offered for sale, and have proved to be superior to any other as regards efficiency, economy and durability. When once set up they require no attention for from four to six months, according to the service required of them.
Two sizes are made at present, but others will soon be ready.
No. 1 is a large square cell, and can be used as a local or for running motors. Price, \$2.25.
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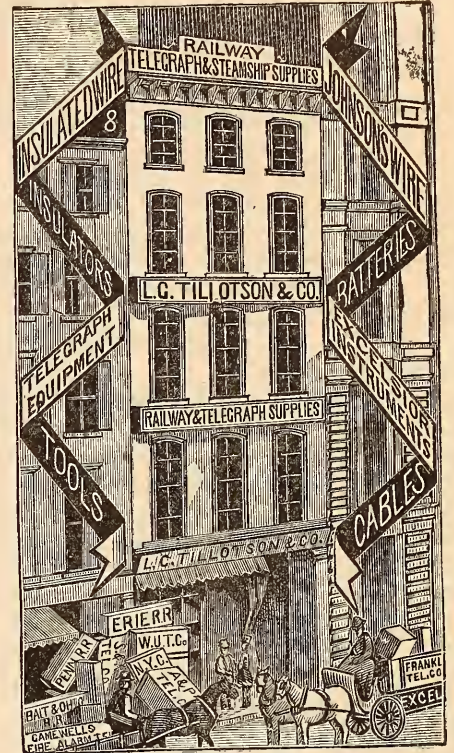
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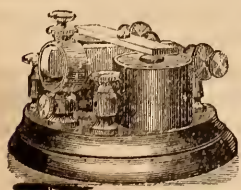
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OF

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has met with the universal approbation and commendation of the

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NO EFFORT, TROUBLE OR EXPENSE

is spared by the Proprietors to obtain and secure ANY POSSIBLE IMPROVEMENT which shall increase the

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of the system. They intend that, as far as possible, it shall be

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COMPOUND RUBBER COVERED WIRE

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We have made special arrangements to furnish this article for office purposes at a reduced rate.

ALSO, TO FURNISH

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of the usual size, with KERITE COVER, believing that it will exceed, in insulation for submarine purposes, ANYTHING HITHERTO MANUFACTURED.

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We offer for sale, among other novelties, a **SOUNDER** that will work practically with a single DANIELL cell, a **BATTERY** that does not require to be taken down but once a year, and the very best **MAIN LINE SOUNDERS** made

Our **CATALOGUE**, embracing a large amount of new matter and description, is now ready for distribution.

THE TELEGRAPHER
A JOURNAL OF
ELECTRICAL PROGRESS.

J. N. ASHLEY, PUBLISHER.

SATURDAY, FEBRUARY 27, 1875.

VOL. XI. WHOLE No. 450.

Original Articles.

The Kenosha Carbon Insulator.

By F. L. POPE.

If the history of all the experiments which have been made in telegraphic insulation in this country and in Europe could be written by a competent pen, it would form one of the most instructive, not to say amusing works that could possibly be imagined.

Mr. Shaffner, in his *Telegraph Manual*, has given us some glimpses of it, it is true, but as a whole, the subject still awaits its chronicler. The cloth and gum-lac insulation of the original Baltimore and Washington line, in 1844, was almost immediately superseded by a glass knob set upon a wooden pin. This proved to be a partial success, or, at least an essential improvement, and at once a host of inventive telegraphers set their minds at work to improve its form and to devise various shields and protections to prevent its fracture. A mere list of the different plans devised and adopted from that day to this would alone fill a column. But the end of the first quarter of a century of invention and costly experience found at

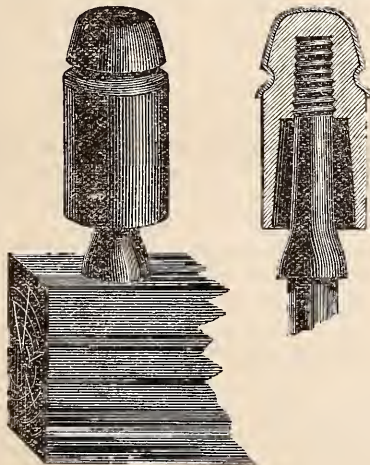


Fig. 1.

Fig. 2.

least 95 per cent. of the telegraph wire mileage of the United States still strung upon the glass insulator, and subject to all the grave inconveniences with which the use of that material has rendered telegraphers but too familiar. It is true that other and far superior methods of insulation had been devised, but like most other good things, they entailed a considerable increase in first cost. This fact operated as a bar to their rapid and general introduction. Thus the reign of the glass insulator remained for the most part unbroken—which, by the way, is more than could safely be affirmed as a rule of the insulator itself.

The importance of this subject was recognized by the more intelligent telegraphers at a very early day. I have before me a copy of the *American Telegraph Magazine*, of Dec. 15th, 1852. In an article upon insulation the editor, Mr. Donald Mann, says: "The improvement of telegraphic insulation is the most important matter now to be considered in the building and working of telegraph lines"—a remark which is as true to-day as it was twenty-two years ago. He further goes on to say: "Science has told us, ever since the first mile of telegraph was erected, that we should not rely upon glass as an insulator, and yet we have used it almost universally. Every one has observed that, whenever the weather is wet or foggy, any article of glass is covered with a thin film of water, and, of course, every 'insulator' on a line of telegraph is so covered with moisture. And when we reflect that on a line of telegraph five hundred miles in length there are 15,000 such imperfect insulators to conduct the fluid from the wire, we are at no loss to account for the dissipation of all, or nearly all the galvanism generated by the battery, and the consequent bad working of the line." Finally, after some further dis-

ussion of the subject, he closes with the following suggestion: "It is well known that *dry wood*, as an insulator, is inferior to no other material. Shellac is also as perfect an insulator as we have. Now saturate and cover dry wood with shellac varnish, and we have a cheap and nearly perfect insulator. Moisture does not condense on and cover a varnished surface as it does a glass surface."

In this crude suggestion of Mr. Mann's lay the germ of the invention of the Kenosha Insulator. The original idea was tried and failed. Exposure to the weather soon covered the varnished surface with minute cracks, which retained moisture, or allowed it to penetrate into the pores of the wood. A few years later the inven-

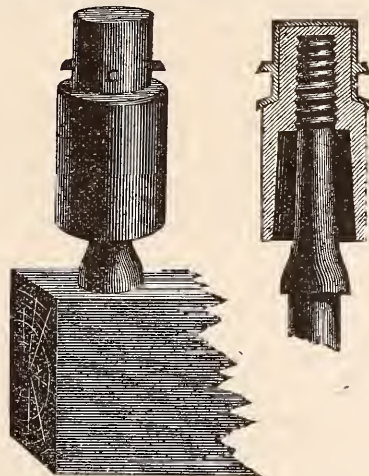


Fig. 3.

Fig. 4.

tion was again revived, the wood in this instance being coated with coal tar. This proved little, if any, better in practice than the original plan. Five or six years ago a new compound was discovered, which seemed to be admirably adapted to the purpose under consideration. The results of a somewhat extensive practical trial proved so satisfactory that in 1871 a manufacturing company was organized, consisting of several well known telegraph men, prominent among whom was Mr. Z. G. Simmons, of Kenosha, Wis., President of the North Western Telegraph Company. The new company immediately proceeded to establish a manufactory of insulators at Kenosha, and to introduce the new invention into practical use as rapidly as possible. During the first year or two many serious obstacles and drawbacks were encountered, such as seem inseparable from all new enterprises. Not only was the inevitable prejudice against innovations to be overcome, which in the case of insulators is, for obvious reasons, a very serious one, but there were imperfections in the process of manufacture which could only be made known by experience or actual use. In 1872 Mr. C. H. Haskins became connected with the company; his skill and knowledge as an electrician, and practical experience as a telegraph manager, has proved of great value in the development and perfection of the invention and of the processes of manufacture. Mr. Haskins introduced, among other improvements, the system of making a thorough actual test of every insulator before allowing it to leave the factory. In this way the standard of excellence has been gradually raised, and the sale and use of the insulator proportionally extended.

A few months ago the writer, in passing through Kenosha, took occasion to visit the establishment where

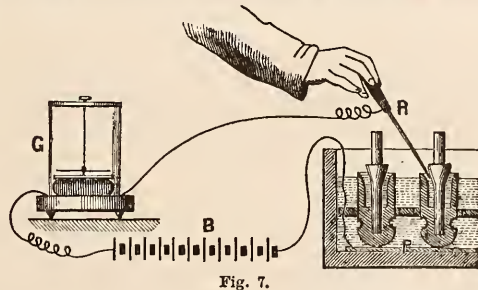


Fig. 7.

these insulators are manufactured. A brief description of the insulator itself in its different forms, and of the process of manufacture, will doubtless possess much interest for telegraphers.

Figure 1 represents the original form of the insulator, of which pattern a large number are made. It is shown as fixed upon a pin and inserted in a cross-arm. The same form may be used with a bracket similar to that of a common glass insulator.

Figure 2 is a sectional view, which exhibits the internal arrangement and the mode of construction. It will be observed that in form the insu-

lator is long, and of small diameter. The object of this is to give as great an insulating distance as possible from the supporting pin to the point where the line wire is attached. The small diameter also narrows the conducting surface, and thus adds to the electrical resistance. The upper part of the insulator, including the wire groove, is covered with a cap of sheet zinc, which is put on by machinery, by a process which will be explained hereafter, and which preserves the wood from splitting or being injured by the exposure of the end of the grain to the weather. The body of the insulator is of white wood, thoroughly kiln dried, and then coated with the insulating compound, which is composed of tar and charcoal flour, the tar being subjected to a process which gives it a certain degree of elasticity, and prevents it from cracking under the influences of changes of temperature. Brackets, pins and cross-arms are also treated by the same process. The surface of the coating, when finished, is of a glossy black, and highly repellant of moisture. It penetrates some distance into the body of the wood, and adheres to it with the utmost tenacity.

Figures 3 and 4 showed a modified form of the above insulator, in which the zinc cap is replaced by one of cast iron, provided with a projection for holding the tie wire, as shown. The peculiarities of its construction are sufficiently explained by the illustrations.

Figure 5 is a perspective view of the suspension or hook insulator, a form which combines superior insulating qualities with great strength as well as convenience in use. The body of this insulator is of maple, treated by the above described process. The peculiar form of hook used was devised by Mr. Haskins, and possesses many advantages. The objections to the ordinary forms of suspension hooks are well known. The line wire is cramped in placing it in the hook, and its tensile strength is often greatly injured by the operation. The vibration caused by the wind tends to still further injure the wire at the point where it is clamped. In Mr. Haskins' hook the line wire is secured by a tie wire. The arrangement is so clearly shown in figure 5 as scarcely to need description.

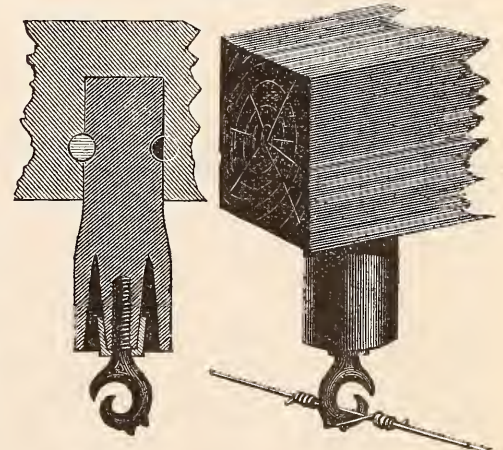


Fig. 6.

Fig. 5.

Figure 6 is a sectional view of this form of insulator. The projection of wood into which the hook is screwed is surrounded by a deep groove, and is covered with a malleable iron ferrule. The hook itself being also of malleable iron, the whole arrangement necessarily possesses great strength. The insulator is inserted into a hole bored in the under side of the arm, and is secured with a pin, in the manner clearly shown in the illustration.

There can be no doubt that, other things being equal, an insulator which holds the wire by suspension is preferable to one which is supported upon a pin above the arm. In a heavy shower the drops of rain falling upon the top of the arm are dashed into a fine spray, which often rebounds to the height of a foot or more, and thus a constant shower of water is thrown into the interior of the insulator, wetting the whole inner surface, and seriously affecting its insulating qualities. Again, it sometimes happens that wet snow will become piled up at the arm, so as to reach the wires, and cause a very serious leakage. The suspension insulator is free from both these objections, while it is not only a stronger but a far neater looking method of supporting the wires.

The process of manufacture in itself presents many interesting features. The factory is situated in the City of Kenosha, directly upon the shore of Lake Michigan, and in immediate proximity to a wharf for the convenience of unloading vessels bringing lumber and other material. The machinery is situated in a large two-story building, adjoining which is another building used as a storehouse and testing room. In the yard are two dipping and two baking houses. The machinery is driven by a steam engine of fifty horse power.

The raw material is received at the factory in the form of white wood and maple planks from the forests of Michigan.

The white wood planks are 2½ inches in thickness, and are used for the cap insulators, while the maple, which are used for suspension insulators, are thinner by half an inch. The white wood is cut into sticks 2½ inches square and 5 feet in length by a circular saw; and these are next turned into a cylindrical form by means of a machine resembling a hollow auger, and then cut into blocks about 4½ inches long, each one of which is an insulator in the rough. These blocks are then successively subjected to the operation of three different machines, the first of which shapes the inside of the insulator, including the socket for the pin, by means of a rapidly revolving cutter; the second cuts the screw thread in the socket, and the third shapes the top into a hemispherical form, and cuts the groove for the tie wire.

The sheet zinc, which is used for covering the upper portion of the insulator, is received at the factory in strips about five inches broad. A powerful swaging machine, in the second story of the main building, cuts from a strip, at a single blow, a suitably shaped piece of the metal, and forms it into a cup. Two other machines, by pressing this cup in dies, gives it a form resembling half an egg, and a fourth machine cuts the edge off evenly. Finally, this is firmly "spun" on to the wooden insulator, which has been prepared in the manner before described, and the latter, after having been cleaned out smooth by a rapidly revolving scraper, is then dropped through a trough to the floor below, to be taken to the dipping room. The suspension insulators go through a similar process, the hooks being screwed in by an appropriate machine.

The dipping houses are provided with large tanks filled with the insulating compound before referred to, which is kept in a semi-fluid state by the application of heat. The insulators are thrown into these tanks and thoroughly coated with the material. They are then placed in racks and taken to the baking houses, where they are subjected to a temperature of 250 or 300 degrees Fahrenheit for a period of thirty-six hours. The dipping and baking process is now gone through with a second time, after which the insulators appear in the glossiest of black coats, and after having been provided with pins or brackets, as the case may be, are ready for the testing room. The process of preparing cross-arms, by dipping in the compound and subsequent baking, is precisely the same as that employed for insulators.

The final operation of testing is conducted in a room especially fitted up for that purpose, at the northern extremity of the works. Large shallow tanks are provided, in which are placed, racks each capable of holding 210 insulators. These tanks are filled with water to such a height that when the insulators are placed in the racks in an inverted position, the rims will be just above the surface. Each insulator, before being placed in the rack, is dipped full of water. Figure 7 will serve to illustrate the manner in which the test is made. One pole of a battery of 500 cells of sulphate of copper gravity battery is connected with a metal plate, P, lying in the bottom of the tank, and the other pole to a delicate horizontal galvanometer, G. The instrument used at the time of my visit was a Varley galvanometer of about 900 ohms resistance, and a very sensitive instrument. The wire from the galvanometer is attached to a rod, R, having an insulating handle, which is thrust rapidly, in succession, into the water within each insulator. Of course, the slightest current passing from the inside to the outside of one insulator, would be at once indicated, and any insulator showing a leakage is condemned.

A record is kept of the results of the test of each lot, which I was permitted to examine. The defective insulators averaged only about one fourth of one per cent. of the whole, or say one in 400, which is a remarkably good showing. The defects usually arise from splits or cracks which are too minute to be detected by the eyes of the workmen during the process of manufacture. It would hardly be possible for a defective insulator to undergo such a severe test as that just described, and thus, by eliminating the causes of the defects discovered from time to time, the quality of the product has been enormously improved within the last two or three years. As an illustration of some of the difficulties which a new invention sometimes has to contend with, my attention was called to a large pile of insulators in cross-arms which had been condemned and taken down from a railroad in Western Pennsylvania. The insulators were of the suspension pattern above described, and had been shaved down with a drawing knife or hatchet, in order to get them into the holes in the cross-arm, which were a size or two too small for them. By this operation the insulating coating had been completely pared off, and the result, as a matter of course, was not favorable to the reputation of the insulator.

The capacity of the works at present is sufficient to turn out from 3,000 to 5,000 insulators, and about 1,000 cross-arms per day. The demand for them is rapidly increasing. They are used exclusively on the lines of the Northwestern Telegraph Company, and the Western Union Company are introducing them extensively on their lines in the Western States. The cost is but

little if any greater than that of glass insulators of good make and material; they are seldom broken or damaged in any way, while their high insulating qualities may be inferred from the test to which they are subjected at the factory. Their use thus far has been mainly confined to lines in the Western States. The electricians and telegraph managers of that section speak in high terms of their insulating qualities and durability in actual service.

The Kenosha Insulators are packed for shipment in boxes containing 100 each, and are kept for sale by the principal dealers in telegraph supplies throughout the country. Any desired information in regard to them may be obtained by addressing the Kenosha Insulator Co., Kenosha, Wis.

Correspondence.

We do not hold ourselves responsible for the opinions of our Correspondents. Our columns are open to free discussions on all Telegraphic subjects, without distinction of person or opinion.

No notice will be taken of anonymous communications.

Congress and the Telegraph.

WASHINGTON, D. C., Feb. 24.

TO THE EDITOR OF THE TELEGRAPHER.

THE telegraphic contest which is being waged between the Western Union and the Atlantic and Pacific Telegraph Companies seems to have been transferred for the present to Congress. Notwithstanding the vigor with which this has been waged thus far I have seen no reason as yet to change the opinion heretofore expressed, that nothing of any importance will be done. The backward condition of the legislation indispensable for carrying on the Government for the next fiscal year, and the brief time which remains to accomplish this, would of itself defeat it.

The evidently crowded condition of the columns of THE TELEGRAPHER warns me of the necessity of brevity. On Wednesday evening of last week Mr. Butler's bill "to establish certain telegraphic lines in the several States and Territories as post roads, and to regulate the transmission of commercial and other intelligence by telegraph," which had been recommitted to the Judiciary Committee, was reported and discussed at some length. In explaining and advocating the bill, Mr. Butler referred to the fact that since this bill was reported messages were sent between Washington and New York at half the previously existing rates, and asked if reporting the bill did so much good in fourteen days, what would be the effect of the passage of a bill that would bring these Telegraph Companies to their senses? This is an instance of special pleading—shrewd, perhaps, but not very disingenuous. Mr. Butler knows perfectly well that reporting his bill had nothing to do with the reduction of rates.

After debate the House adjourned, and the bill went over as unfinished business, and probably will remain unfinished until the end of the session.

In the Senate on Monday last, during the consideration of the Postal Appropriation Bill, Mr. Dorsey submitted, as an additional section, the Postal Telegraph Bill recently reported to the Senate from the Committee on Post-offices and Post-roads. This was, after debate, finally laid on the table, and Mr. Dorsey's demand for the yeas and nays on the motion was not sustained. This probably ends the Postal Telegraph Bill in the Senate for the present session, though Mr. Dorsey gave notice that he should call it up again.

The bill explanatory of the Page patent has been recommitted to the committee, and there is no prospect of obtaining final action upon it at this session.

The Sub-committee of the House Committee on the Judiciary are engaged in investigating the action of the Western Union Telegraph Company under Mr. Dawes' resolution, but do not seem to make much headway in establishing the charges upon which it was founded. Mr. Orton, of the Western Union Company, Mr. J. W. Simonton, of the Associated Press, and Mr. Somerville, the general Agent of the American Press Association, have been examined. Messrs. Orton and Simonton explained the relations between the Associated Press, and denied that there was any partnership in news between them, or that the Western Union Company was under any obligation to or did refuse to transmit reports for others than members of the Associated Press. The rates to the Associated Press were less because they were very large customers of the Telegraph Company. Mr. Orton also denied that the company had refused to transmit reports for any paper on account of criticisms or unfavorable comments on the company or its management, instancing the *New York Herald*, which had certainly been very free in its comments on the company, but which continued to receive its reports on its lines. The reason that certain papers were cut off was because they were being supplied with reports at exceptionally low rates, and were derelict in paying even the prices contracted for.

So far it does not seem probable that this investigation will amount to anything. The active operations against the company has compelled Mr. Orton to spend some time in Washington, and Mr. A. B. Cornell, one of the Vice-Presidents of the Western Union company, has also been here looking after its interests.

I understand that Mr. W. E. Sawyer has been experimenting with his system of automatic transmission over the Western Union lines between this city and New York during the last two weeks, and with good success, obtaining a high rate of speed, the telegraphic characters received on the chemically prepared paper being "clear cut" and entirely free from "tailings."

CAPITOL.

New Discoveries in Electrical Science.—What Next and Next?

The Discovery of the Anti-Friction Properties of Matter during the process of Electro-Chemical Decomposition Credited to Mr. George Little, the Anglo-American Electrician, Inventor and Patentee of the "American Electro-Chemical Rapid Automatic Telegraph System," now Performing Effective Service in this Country.

TO THE EDITOR OF THE TELEGRAPHER.

YOU, as also many of your numerous subscribers will, doubtless, be surprised at having your attention directed to an expired English patent of date April 8, 1867, copies of which may be seen in the Astor Library in this city, and in the United States Patent Office, wherein it is distinctly shown, and illustrated by elaborate drawings, that the passage of currents through conductors in contact with a liquid or moisture changes the frictional adhesion of the vibrator, and in order to regulate the same by the application of greater pressure, so as to work a secondary circuit, Mr. Little shows how to adapt a self-acting "Archimedean screw" to the vibrator, so as to control its rapid motion when under very delicate adjustment, evolution of hydrogen during decomposition driving the decomposing points of contact apart, brought about by the reactionary anti-frictional agency of the hydrogen.

RIP VAN WINKLE.

New York, Feb. 1, 1875.

A New Telegraphic Sounder.—The Quadruplex at the A. E. S. Meeting.

CHICAGO, ILL., February 8.

TO THE EDITOR OF THE TELEGRAPHER.

WE have been having another spell of weather and cold prairie winds since my last. February 2d and 3d were the about the coldest days this winter; the thermometer was not as low as it has been, but the velocity of the wind being greater (about fifty miles an hour), the cold was much more severely felt.

"Jim" Pettit, of the Western Union day force here, must be one of the luckiest men in the business in these parts, as I am told he was made a happy father, won a \$20 ring at a raffle, and got a "respectfully referred," all in one week's time. The first mentioned prize came "with a squall," January 31st, is of the male persuasion, and weighed eight pounds. When it arrived it immediately called for a pair of Indian clubs and performed a series of movements which lays Root and Stansbury away out of the sunlight. As an alarm to waken "Jim" any hour of the night, it's a decided success, and don't need to be wound up. This being the third edition for "Jim" the quality can't be beat. It's a "quad," and can work with ease all "four" sides, requiring at least four "operators" to keep it "petted." That's very poor punning, but I have been acting punster for several children's parties lately, and it's not a very good time of year for punning any way.

Since Edison, "the great professor of duplicity and quadruplicity," has gone back on W. U., as reported here, that little heap of scurrility we had dished up twice a month to us grows beautifully less. We are just beginning to discover the fountain head. Well, it's not the first ship that's been made to sail more secure by casting overboard the Jonah, and we Western boys are glad to see the change for the better.

The next meeting of the American Electrical Society promises to be very interesting. Mr. M. L. Lawson has made a fine large drawing of the quadruplex, four by eight feet, showing all the connections, which will be explained by Mr. F. W. Jones. It is also expected that Mr. Jones will explain a new system of "quad," his own invention, which, I understand, worked very satisfactorily in the Western Union office here on the evening of the 6th. I hope to be able to give you all the essential electrical points of this new "quad," shortly, and probably a wood cut, by which it can be fully explained to the readers of THE TELEGRAPHER.

I am pleased to see the interest the ladies are taking by replying to "Nihil Nameless," and hope they will not wait until they are called out by "Nihil Namelesses," or any other man, to do their duty in writing for THE TELEGRAPHER hereafter, but take hold and

do their share. I know there is talent among them as well as among the gentlemen, as the Chicago lady who replied to "Nihil" is well known here to be very well fitted by her education and acquirements to do good service in that direction. The communication signed "Jo." was well received here, and greatly commended for its telling hits on "Women's Mission," "The Coming Man," etc. I am a little more radical, however, than "Jo.," although not in for women's rights in the full acceptance of the term. I believe, "when a woman does as much work as a man, does it as well, and works as many hours to do it, she should have the same pay as a man—no more—no less." In justice, how can it be otherwise?

Before I close this already lengthy letter, allow me to offer the hand of good fellowship to "Double Six," at Albany. I hope he will keep on telling us what the "capitalists" are doing in the old Empire State, and that other localities will help to keep THE TELEGRAPHER the success it always has been, by following the example of OCCASIONAL.

The Arizona Military Telegraph.

SAN FRANCISCO, CAL., Feb. 10.

TO THE EDITOR OF THE TELEGRAPHER.

WHILE at San Diego last week I called upon Lieut. Theo. Smith, Superintendent of the Military Telegraph Line, built by the Government in the fall of '73, between San Diego, Cal., Yuma, Prescott and Tucson, Arizona Territory, an extension to which has been built between Prescott and Camp Verde, and another extension in process of erection between Tucson and Camp Apache. Lieut. Smith is a practical operator and electrician, a graduate of the Signal Service School of Instruction at Washington, D. C., and holds a second lieutenant's commission in this important arm of the War Department, and has full charge of the section of Military Telegraph as described. He assumed charge of the line soon after Congress turned the line over to the Signal Service Department, and has made many changes worthy of note. In November last eight operators from the Signal Office at Washington arrived at San Diego, and were stationed along the line, relieving civilian employes, who had refused to enlist for five years, at a salary of \$75 per month—the only alternative to their relief. Civilian employes are still retained in the persons of Mr. Jacob B. Smith, chief operator of the line between San Diego and Maricopa Wells, and manager of San Diego office; Mr. Patrick Kearney, chief operator between Prescott and Tucson, managing Prescott office; and Mr. R. H. Howo, at present constructing the extension between Tucson and Camp Apache. These three are well known as good, reliable operators, but will evidently be relieved as soon as their successors may be qualified, although the Superintendent has recommended their retention, the policy of the Department being to manage and work the lines by commissioned officers and enlisted men. Upon the recommendation of Lieut. Smith, a great reduction in rates for private business has been made, the highest tariff being 50 and 10. This for a telegram from Prescott to San Diego or Tucson, or between either of these three farthest distant points (being about 450 miles), is very low; in fact lower, I think, than will pay. They have increased the rates to the press, which is poor policy, and not likely to help build up the three newspapers in the Territory, or those in California which patronize the line. Territorial newspapers, and, in fact, all papers in new, sparsely settled parts of the country, have a great deal to contend with, and, when possible, should meet with encouragement rather than opposition from those from whom their supplies are obtained. When the reduction in private rates is taken into consideration, and the decrease of expense consequent upon a substitution of enlisted telegraphers at lower rates than the civilians they succeeded, the increase of the rates for press despatches seems unwarranted. Mr. Smith has established his headquarters at San Diego, not the least of reasons being the perfection of the climate and the pleasant associations and surroundings of that city in embryo. With Mr. McCabe as chief clerk he has ample time to perfect a system of compulsory education and advancement for those under his charge, which cannot fail to bring all to a point of ability by which transfers may be made without depression. One idea he is carrying out is the rule compelling all operators to copy the press despatches as transmitted between the principal offices, so that in time each will be as efficient as the other. Copies of these reports being mailed to him by each operator weekly, it leaves no room for avoidance of the duty, however averse they may be to it. As the duties of the employes are solely in the office, and the hours short, this system can be worked to advantage on this line. The operators, as at present stationed, are as follows: F. C. Kelly, Indian Wells, Cal. This office is on the mountains, on one side of which lies the great Colorado Desert, on the other side the arable land of San Diego County. Yuma office is in Arizona Territory, at the

confluence of the Colorado and Gila Rivers, and opposite the military post and reservation of Fort Yuma, Cal. This office does a heavy private business, and is in charge of Sergeant E. W. Bontelle. Stanwix, A. T., a repair office, William E. Guild operator. Maricopa Wells office is the repeating office for line repeaters, arranged so that San Diego, Prescott and Tucson, or the offices on these branches, may work with each other through Maricopa. A set of Milliken's repeaters, from L. G. Tillotson & Co., costing \$300, are at Yuma, doing good service this winter. Sergeant A. M. Geissing is in charge at Florence, Mr. Hull at Phoenix, and William C. Barden at Tucson, the seat of civil government of the Territory; Mr. Ramsay at Wickenburg, and William H. Storey at Camp Verde. The lieutenant informed me that, to enable him to carry out his system of coeducation, he had subscribed for THE TELEGRAPHER, as a telegraphic expounder, and for the *Journal of the Telegraph*, as a reference for tariffs, now necessary by their connection with the Western Union line at San Diego. These will be supplied free to the operators along the line. The line will soon be extended to Sauta Fe, N. M., Congress having appropriated an amount more than sufficient to close the gap between that place and Tucson, which are about 450 miles apart. Mr. J. W. Thompson is in charge of the Western Union office at San Diego, and well pleased with the change from Yreka, Cal. Don Marco Forster, a wealthy native ranchero, is manager at Las Flores. Richard Egan, Esq., J. P. (meaning, in this instance, Justice of the Peace, but might be construed into Jolly Phellow, if you knew him), has charge of San Juan Capistrano; Mr. Polhemus of Anaheim office, Mr. Clarke assisting. In my next will give the names of other telegraphers in Southern California.

It may not be out of place to remark that Wm. C. Bashford, at one time connected with the San Diego offices of the W. U. and Military, then under the joint management of William E. Smith, has just been elected City Treasurer of Prescott, A. T., by a flattering majority, considering the age of this rising young merchant. Prescott is the most important military office on the line, that place being the headquarters of the military department of Arizona, General Crook commanding, Colonel Chandler chief quartermaster; both of these officers manifesting great appreciation in the welfare of the telegraph. CLIX.

Western Union Telegraph Co. and Telegraphic Inventions.

TO THE EDITOR OF THE TELEGRAPHER.

YOUR correspondent, "Quien Sabe," in your last issue gave a somewhat vague idea that he knows of some one whose genius isn't appreciated by the Western Union magnates. Why did he not enter more into details? Now, in regard to his statement that every great invention in telegraphy during the past seven years has been "developed on opposition lines." This is a "glittering generality." He might have said *both* instead of "every," and then he would not have been correct. Assuming as I do that the perfection of the "duplex" and "quadruplex" are the only "great inventions" in telegraphy during that time, and regarding the "automatic" as a problematical utility, let us see how "Quien Sabe's" charge can be applied to them.

First, in regard to the duplex. This has been a subject of constant experiment with every one who had the merest smattering of knowledge of telegraphic science for years. And the Western Union lines were and are always open to people who think they have an idea or two on the subject and want to try experiments with new inventions. Those who remember Tom Edison as an operator in the W. U. Boston office will recollect the persistence with which he was always *experimenting*. And his experiments ranged from a device for annihilating cockroaches who stole his lunch, by means of a sheet of tin foil connected with a strong battery and a ground, up to the quadruplex—the idea of which was then faintly developed in his mind. And let me remark, by the way, that T. A. Edison has many warm friends in Boston, who will be slow to believe that the good qualities he then possessed (as well as others not so good) have deteriorated to the extent that some of THE TELEGRAPHER's remarks would lead its readers to suppose.

But to resume. Among the experimenters on the duplex Mr. J. B. Stearns was fortunate enough to hit upon devices which made it practicable. Being himself the President of an "opposition line," what more natural than that he should place his invention at its disposal.

Thus matters stood for some years. Meanwhile Mr. Stearns urged its advantages upon the Western Union officials with such persistence that they gave it a trial. Two trials, in fact, were made on their lines between Boston and New York. At each end operators of acknowledged ability were placed. Those in Boston were Mr. J. E. Wright and Mr. T. A. Davin, than whom

two better operators never handled a key. The result of both trials proved entirely unsatisfactory, and the Western Union officials rejected the duplex as of no practical importance. The writer has had experience of its working during those years on the opposition lines. He has stood over Mr. Tom Curry while receiving and seen him copy more from imagination than from any *Morse* to be heard on the sounder, and has wondered that such an instrument should have been retained in use, as it was for several years, in that state of its perfection.

Mr. Stearns continued his experiments until in 1872, I believe, he hit upon the use of a *condenser* in connection with his duplex. This proved the key that solved the problem. Again a test was made on the Western Union wires, resulting in its purchase at a price which was surely large enough to encourage inventors to continue their labors.

In regard to the "quad," no one will claim that it has not been brought to its present stage, at least, mainly on the Western Union lines.

Of the merits of automatic telegraphy I have nothing to say. "Quien Sabe" says the Western Union might have secured the improved automatic system on their own terms before it was "stolen," etc. Certainly they might, but they did not consider it worth while, and the wisdom of their failure to do so can be criticised with more judgment a year or even six months hence.

But how about the system having been "stolen" and conveyed to the A. & P. by the thief? Do the managers of that company stand before the public as receivers of stolen goods? I was under the impression that the A. & P., by absorbing the Automatic Co., thereby acquired the "system" as well as the wires and property of that company. How is it?

In this connection I may say that neither "Quien Sabe" nor any others need fear for the Western Union. They have several sets of the "quad," already, and as many more sets as may be manufactured before the "quad" patents are issued cannot be taken from them. This point was settled legally in the suit brought by them against the Franklin Co., to prevent the latter using the "duplex."

So in regard to the automatic, if there proves to be merit in it, the W. U. will obtain control of it sooner or later.

Another point of "Quien Sabe," viz., that the W. U. has in its employ some of the best telegraphic talent in the world, I am not willing to admit, in the sense he evidently intends—*scientific* talent.

Had he said "skilful telegraphers," no one would gainsay it. But I have yet to hear of an American electrician comparable with Varley, Sir Wm. Thomson and other foreign electricians. Moses G. Farmer, of Boston, ranks high as an electrician, as also Dr. Bradley, of Jersey City, and others, but they are *not* in the service of the W. U. Mr. Haskins, of Chicago, Mr. Prescott, of N. Y., and Mr. Milliken, of Boston, have each studied the science, and have made many improvements in the mechanical apparatus in use, but neither of these gentlemen could justly be ranked among "the best scientific electricians of the world," as "Quien Sabe" evidently means by "telegraphic talent;" nor would they accept such a flattering designation. The fact is, we of America, as a class, are remarkable for ingenuity—inventive genius; a skill in the adaptation of ideas to practical purposes. But the original ideas themselves have thus far, as regards telegraphy, been in the main supplied by foreign scientists.

In conclusion, I will only add that I fail to see the point of the allusion to General Braddock, and ante revolutionary times, in the last paragraph of "Quien Sabe's" communication; unless, indeed, he intends General Braddock as a prototype of the W. U. Company, and himself the Washington whose advice Braddock did not accept. However, the cases are too widely distinct to admit of such a comparison. At least, as a W. U. employe, I hope the alleged Braddock-like pigheadedness of the W. U. managers will not result so disastrously to the rank and file as the blunder of Braddock in the field. JOHN STERLING.

THE Sheffield Scientific School has just received a very important addition to its physical apparatus in an immense electro-magnet, together with the accessories necessary for the study and illustration of magnetic phenomena. This apparatus has been presented to the school by William Wallace, of Ansonia, who for many years made a special study of electricity and magnetism, and for his own use has constructed some of the largest and most efficient pieces of apparatus ever employed in this department of physics. This magnet is only second in size, it is believed, to one other in the country, which was made by Mr. Wallace a few years ago, and was purchased by the Stevens Institute of Technology. The Yale magnet weighs altogether nearly half a ton, and is capable of lifting, it is said, twenty times that weight, or over ten tons, when in full action.

THE TELEGRAPHER

DEVOTED TO THE INTERESTS
OF THE
TELEGRAPHIC FRATERNITY.

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The Telegraphic Contest.—How it Should be Conducted, and the Conditions Required for Success.

THE telegraphic as well as the general public are necessarily deeply interested in the contest which has suddenly assumed so much importance, for the telegraph business of the country. The present contest differs in many respects from those which have preceded it since the telegraph was established as an indispensable and important agent of civilization. New elements have been introduced which will tend, probably, to protract the struggle and render the ultimate result more doubtful than it otherwise would be.

The acquisition of the automatic system by the opponents of the Western Union Company is an important point, and tends to render the chances more equal than they would otherwise appear to be. Conceding to the much vaunted quadruplex, if the Western Union Company should be successful in retaining it, all that has been claimed for it, it cannot compete with the automatic in practical operation. The experience with the quadruplex thus far has by no means justified the claims which have been so strenuously urged in its behalf, and, as we understand, it has demonstrated the correctness of what has been stated in regard to its capabilities editorially and otherwise in THE TELEGRAPHER. With exceptionally good wires and insulation, and under favorable climatic conditions, and with really superior operative talent, it can be worked advantageously, otherwise it is of little advantage.

The management of the Western Union Company have apparently come to realize the necessity of a fast telegraphic system, and for the last two weeks, as we learn from our Washington correspondent, has been experimenting with an automatic apparatus patented by Mr. W. E. SAWYER, of the latter city, and, it is said, have obtained very good results. It has not so far developed as great rapidity of transmission as the LITTLE automatic, but has been worked up to from 400 to 500 words per minute. We do not know in what respect this differs from other automatic inventions, or whether it is clear of complications with or infringements of previous automatic patents. If it should be, very probably the Western Union Company will adopt it, and it will then be automatic against automatic.

There is one point upon which ultimate success very

materially depends, which, we fear, is not sufficiently appreciated by either party, and that is the necessity for decided improvement in the character of the lines upon which the instruments are to be worked. Improvement in apparatus will not be of as much importance as otherwise, unless the character of the lines shall be improved. The conductivity of the lines should be increased, especially if fast systems of telegraphy are to be successfully worked upon them. In the construction of new lines, especially, care should be taken to secure great conductivity and high insulation. With the compound wire as it can now be made, the copper being deposited at any desired thickness upon the steel core, the objections heretofore urged against it are entirely obviated, and conductors of great tensile strength and capacity of transmission can be obtained, combined with moderate size and weight of wire per mile. As this wire can be made and sold at relatively less cost per mile than iron wire of equal conductivity, we do not see why it should not come into general use for telegraphic purposes. There is certainly no necessity for continuing the use of glass insulation, as either the BROOKS or the improved Kenosha insulators are superior in every respect to glass.

Taking it for granted that there is to be no serious interference by Congress with telegraph interests for at least some years to come, the field is open for private telegraphic competition, and it should be conducted intelligently, and with a view not to temporary effect upon the prices of telegraph stocks, but to establish a permanent, successful and remunerative telegraphic business. If the personal feelings which enter into the present competition could be eliminated it would be all the better, although it might, perhaps, detract somewhat from the interest at the present time. With economical management and a disposition on the part of the telegraph managers to look rather to the legitimate profits of the business than to the money to be made by the fluctuations in the price of telegraphic shares and securities, we can see no reason why the telegraphs should not prove as remunerative in the United States as in the Dominion of Canada, where the President of a telegraph company recently declined a proposed grant of a thousand dollars for his services because the shareholders were only receiving 7 per cent. upon their investments, and where the telegraph shares of both companies are held at a premium.

We do not desire to see a cut-throat policy inaugurated in the telegraph business of this country, but that rates for telegraphic service should be maintained at a fair and reasonable standard. This is unquestionably the true policy, and that which will be most beneficial to all parties, the public as well as proprietors of telegraph property and telegraphic employes.

The Telegraphic Situation.

SINCE our last week's article on "The Telegraphic Situation," nothing of startling interest or importance has transpired in the telegraphic contest which has been inaugurated. Prest. ORTON, of the Western Union Telegraph Company, has been in Washington for the purpose of testifying before the Committee which is conducting the investigation under Mr. DAWES' resolution, and looking after the interests of his company generally, which are threatened with unfavorable legislation. Our Washington correspondent, CAPITOL, tells our readers of what has been transpiring in connection with telegraph matters in Congress, and it appears thus far to have been "much ado about nothing."

Aside from this, and the testing of Mr. SAWYER'S automatic apparatus on the lines of the Western Union Company between New York and Washington, we do not hear of anything of special note on that side. It is understood that the Western Union officials are pleased with the results of their experiments with the SAWYER automatic thus far, but we have not learned as yet whether it is proposed to adopt it.

Prest. ECKERT, of the Atlantic and Pacific Company, and the other officials of that company are busy reorganizing the service to meet the altered and enlarged condition of affairs, and are gradually getting matters into a satisfactory working order. Naturally there is a large amount of work to be done in this direction, and it is desirable that it should be substantially accomplished before the time comes when construction, reconstruction and repairs must be attended to. As the frost comes out of the ground the existing lines will require to be thoroughly overhauled and repaired, and put in the most complete order possible to accommodate the increase of business, which has already manifested itself to an encouraging degree.

We are informed that, since the reduction of rates was announced, there has been a steady and very satisfactory increase of business and receipts on the lines of the Atlantic and Pacific Company generally, and not merely on the routes upon which the reduction has been made.

The automatic apparatus has been got into operation at Buffalo, N. Y., and works very satisfactorily, and enables the company to transmit its business satisfactorily notwithstanding interruptions to a portion of its wires. In a few days the automatic system will also be in operation in the Cincinnati and Chicago offices of the company.

In this connection it is gratifying to know that the best talent in the employ of the company is used, and paid full salaries to work the automatic. The punchers and copyists, as well as transmitters, are required to be operators, and are found to be the most economical as well as the most reliable. The facility with which good Morse operators learn to work the automatic insures them against the much dreaded competition with "cheap labor" that has prejudiced many telegraphers beforehand against the automatic system. The operators in the Boston office of the A. and P. Co., for instance, with one week's instruction and practice became expert automatic punchers and operators, and required no further attention. The great increase of telegraphic business will, undoubtedly, notwithstanding the introduction of the automatic system, furnish remunerative employment to all who are engaged in telegraphy. Those who have been inimical to THE TELEGRAPHER because it has recognized the practicability and advantages of automatic telegraphy, and its inevitable ultimate adoption in connection with other systems in this country, will soon be convinced that we were right, and that the bugbears which they have conjured up in this respect are merely imaginary possibilities.

The Southern and Atlantic Company is working its line to New Orleans successfully, and report business as good. This company does not make much noise in this part of the country at least, but it is being carefully managed, and has established much needed competition over an important section of the country. This it has done against every possible obstacle and opposition that could be put in its way or brought to bear against it. It meets a necessity, and is popular wherever its lines go in the South.

The Dominion Telegraph Company.

WE print in another column the report of the Annual Meeting of the Dominion Telegraph Company, from which, and the Annual Report to the Stockholders, it will be seen that the company is, notwithstanding the depression of general business, in a flourishing and highly satisfactory condition. An additional investment of \$100,000 for extensions in the Provinces of Ottawa and Quebec during the present year, and another \$100,000 for extensions in the Maritime Provinces, to meet and make connection with the new cable, if it should be got in successful operation, was authorized. These sums are to be obtained not by incurring an indebtedness but by the issue of new stock, which, so great is the confidence of investors in the economical and honest administrations, can be readily and easily placed at par.

A noticeable feature of the report is the remarks of Mr. McMURRICH, the President of the Company, declining a proposed grant of \$1,000 for his services during the year, on the ground that he desired to see a larger dividend than 7 per cent. on the stock before accepting compensation.

The prospects of this company are most gratifying, and it is evidently managed in the interests of the stockholders and the public.

Its management and that of the Montreal Telegraph Company, its competitor, affords a marked contrast to that of most Telegraph Companies on this side of the line.

Unavoidably Postponed.

We have received from "Nihil Nameless" a reply to the communications which have been drawn out by his former communications in regard to female telegraphers. It was intended for this week's paper, but owing to its length and the pressure upon our columns, its publication is unavoidably postponed until our next issue. It will not, however, be damaged by the delay, and will no doubt be looked for and read with interest when it does appear.

Manifold Paper, Books, etc.

THE advertisement of Messrs. H. D. ROGERS & Co., of Cincinnati, Ohio, will be found of interest, and worthy the attention of all who have occasion to use manifold paper, books, train order books, etc. As patentees and manufacturers they are prepared to offer inducements to purchasers which will make it for their interest to deal with them. They are also the Western agents of L. G. TILLOTSON & Co., of this city, for the sale of their instruments and telegraphic apparatus.

Personals.

Mr. JOHN W. HAYS, Western Union Telegraph Co., Sandusky, Ohio, has accepted a position on the night force of same Co. at St. Louis, Mo.

Mr. ALBERT BREWER, late of St. Louis, Mo., has gone to Corsicana, Texas.

Mr. JAMES C. DE LONG, Little Rock, Ark., Western Union office, has been transferred to Marshall, Texas.

Mr. WALTER S. PEARSON is working for the Western Union at Denver, Colorado.

Mr. T. J. HERBEL, late of W. U., Kansas City, Mo., has been appointed Manager at Ellis, Kansas.

Mr. HENRY C. LUCKINGS has been appointed to a position on day force, Western Union office, St. Louis, Mo.

Mr. H. C. SPRAGUE, Kansas City, Mo., has been appointed Superintendent Telegraph L. L. & G. and Mo., Ft. Scott and G. Railroads, *vice* E. B. McDill, deceased.

Mr. CHARLES N. HART has been appointed Superintendent Telegraph of the St. Louis, Lawrence and Western R. R. at Lawrence, Kan.

Mr. JOHN E. STOCKMEYER of Dayton, Ohio, but late of Vincennes, Ind., is agent and operator at Carlyle, Ill., O. and M. R. R.

Mr. WINFIELD S. FRENCH is acting as substitute for Mr. CHARLES E. BURROUGHS, St. Louis, Mo., Western Union office, the latter having gone east to commit matrimony.

At a meeting of the Board of Supervisors, San Francisco, Cal., Feb. 9, Mr. Sims, from the Committee on Fire Alarm and Police Telegraph, reported that he had investigated the charges against Mr. GREENWOOD, Sup't of the Fire Alarm Telegraph, and that there was no truth in them.

Mr. WM. MORTON has been promoted to the position of Chief Assistant of the Fire Alarm Telegraph at San Francisco, Cal.

Mr. T. McLEOD, operator Fire Alarm and Police Telegraph, San Francisco, Cal., has been removed for neglect of duty.

Mr. J. S. URQUHART has been appointed operator in the office of the San Francisco, Cal., Fire Alarm and Police Telegraph, in place of Mr. T. McLEOD, removed.

Mr. HARRY MORTON has been appointed operator in

the San Francisco, Cal., Fire Alarm and Police Telegraph, in place of Mr. J. C. BLOOMER, resigned.

Mr. JNO. F. WALLICK, Sup't Western Union Telegraph Co., who suffered a broken leg by falling through a bridge at Cambridge City, Ind., some three weeks ago, is resting comfortably with no unfavorable symptoms.

Mr. H. DYHR, of the German Telegraphic service, who has been sent out by the German Government to examine the telegraphic systems of this country, arrived in New York on Sunday last.

Mr. D. DORAN has been appointed Superintendent of Construction and Repairs for the Atlantic and Pacific Telegraph Company.

Mr. M. C. BRISTOL, Superintendent of Construction for the Western Union Telegraph Company, was in the wreck on the Panhandle Railroad, near Mingo, Ohio, on the morning of February 19th, but escaped without injury. By this accident two sleepers' and an officer's car went down the bank, and taking fire, were entirely consumed. Gen. Manager McCULLOUGH, of the Pennsylvania Company, had three ribs broken.

Mr. WM. J. DEALY has been appointed manager of the Atlantic and Pacific office, No. 198 Broadway, New York.

Mr. MAWRY SMITH has been appointed manager of the city offices of the Atlantic and Pacific Telegraph Company in New York.

The Telegraph.

By Cable.

DESTRUCTION OF A TELEGRAPH LINE IN CHINA.

LONDON, Feb. 23.—Chinese fanatics have destroyed the telegraph line between Foochow and Amoy.

The Reduction on American District Rents.

THE reduction of rental of instruments by the American District Telegraph Company in this city from \$2 50 to \$1 per month, was not general, as stated in THE TELEGRAPHER last week, but applies only to the down town districts—the first, third and sixth.

Prospective Reduction of Telegraph Cable Charges.

Mr. ORTON, President of the Western Union Telegraph Company, has received the following telegram from the London manager of the Anglo-American Cable Company.

"On and after the 1st of May, 1875, the tariff from New York to the United Kingdom and France will be reduced to fifty cents per word, gold. This company's word system of charging messages will be extended to the continent of Europe and to all other countries, so far as this company's rates are concerned.

Foreign Telegraphic Notes.

THE total number of messages forwarded from postal telegraph stations in the United Kingdom, for the week ended Jan'y 30, 1875, was 339,733—a decrease on the corresponding week last year of 28,542.

The traffic receipts of the Eastern Extension, Australasia and China Telegraph Company (Limited), for the month of January, 1875, were £18,924, against £20,717 for the corresponding period of 1875.

The Eastern Telegraph Company's traffic receipts for the month of January, 1875, amounted to £37,730, and to £37,037 in the corresponding period of 1874.

The receipts on the Western and Brazilian Telegraph for the four weeks ending January 29 have been £10,566.

The Faraday, screw steam telegraph ship, the property of Messrs. Siemens Brothers, telegraph engineers, of Charlton, near Woolwich, has again pronounced or come up the river from Gravesend, where she has been lying since her return from the Atlantic, and she has been docked in the Thames to undergo the necessary repairs, instead of going to the north, as was at first understood to be intended.

The Telegraph Construction Company has declared a dividend on its shares of £1 16s. in cash, and a certificate of £5, represented in about equal proportions by ordinary shares of the Globe Trust and the Brazilian Submarine Telegraph, and is reported has still a large surplus in reserve.

THE German Princess Imperial visited the telegraph office in Berlin lately. There are many women employed there, and numbers have received their positions upon the recommendation of her Royal Highness. She went to see them and did not like their toilets. Next day

they received a circular directing a less extravagant style of dress, and forbidding them to wear their hair flowing in the sloven fashion.

Telegraphic and Electrical Brevities.

ON March 1st the Western Union Company will open a permanent office in the Board of Trade building, at Indianapolis, Ind., with Mr. Charles E. Weed in charge. Mr. Weed has been operator and agent at Morris, Ind., for twelve years past.

Suppose Gray's "Telephone," by means of which tunes are played by telegraph, were to be perfected to a degree equalling the use of the telegraph for transmitting words, wouldn't it then be a common thing for Strauss to sit at his far away home and play for parties to waltz at all telegraphic points where a ball might be in progress? Think of a concert by a cable, and by Listz, too!—*Louisville Commercial*.

The Western Union Company are fitting up an office in the Bates House, Indianapolis, Ind.

Annual Meeting of the Dominion Telegraph Company.

THE annual meeting of the Dominion Telegraph Company of Canada was held at noon on Wednesday, February 10, 1875, in the executive offices of the company, at Toronto.

Mr. J. C. Small read the notice calling the meeting and the annual report, as follows:

DOMINION TELEGRAPH COMPANY'S SIXTH ANNUAL REPORT.

The directors have great pleasure in placing before the shareholders their sixth annual report.

At the last general meeting, held in February, 1874, the directors recommended and obtained the sanction of the shareholders to an issue of additional stock to the extent of \$100,000, for the purpose of building new lines and enlarging the area to be traversed, thus increasing the capacity of the company to undertake a more extended and profitable business. The financial statement now placed before the meeting will show that this additional expenditure has been attended with the most satisfactory results, and the directors feel emboldened to ask from the present meeting a further expression of their confidence by voting additional supplies for the coming season. As the company's circle of operations is enlarged, fresh towns and villages are brought within its reach, and have to be included in the network of wire, thus increasing the company's general usefulness and ensuring to it a more general support from the public.

The lines built during the past year consist of from Peterboro' to Prescott, Lindsay to Bobcaygeon, Aylmer to Portage du Fort, Seaforth to Listowell, Listowell to Harriston, Tilsonburg to Port Burwell, Hamilton to Port Dover, Harriston to Wingham, Toronto to Whitby, Toronto to Weston, and St. Catharine's to Niagara. These, with the extra wires that have been strung from Prescott to Ottawa and Montreal, not only greatly increase our capacity, but also gives us an entire new route to these important points, in all exceeding 517 miles of pole line and 1,239 miles of wire. These additions bring up the total pole mileage to 3,102 miles, with 5,807 miles of wire and 305 offices.

The further extension of the company's lines recommended by the general manager to be made in the Provinces of Ontario and Quebec during the present year, will absorb about \$100,000.

The operations of the company in the Dominion of Canada have hitherto been confined to those two Provinces. Should the company succeed in forming a through cable connection with England and Europe *via* the maritime provinces, a very valuable new field for the company's operations will have been secured, and special provisions will have to be made to carry on the work.

We are also happy to be able to announce that we have secured, at a very reasonable figure, the use of D'Inville's Duplex, which has been in successful operation on our lines between Montreal and Toronto and Toronto and Buffalo for some time past. The adoption of this will enable us to double the capacity of our trunk lines at very little extra expense.

The directors have great pleasure in expressing their satisfaction at the manner in which the General Manager, Mr. Purkis, has discharged the important duties of his office. They have also to acknowledge the valuable services of the Superintendents, Mr. Neilson and Mr. Hosmer, and of Mr. Small, the Secretary.

The General Manager also reports that the employes and agents generally have worked heartily and faithfully for the interest of the company.

All of which is respectfully submitted.

JOHN McMURRICH, *President*.

Toronto, Feb. 10, 1875.

After which the financial statements were read. Hon. Mr. McMurrich said that the stockholders had

ing heard the annual report and the financial statements read, they could see that considerable progress had been made, which progress became more apparent by comparing our condition at present with former years. While this was gratifying to the directors, it was to the interest of the stockholders that this progress should not only be maintained but increased. The prospects of the company had never been so good as at present, and the capacity for work was very large. He might mention that a few nights ago 55,000 words had been transmitted over the wires of the company. A list of plans had been drawn up, to which it would be desirable to extend the company's connection, and the most profitable points would be selected for the present year. The duplex instrument had been obtained at a reasonable cost, and largely increased the capacity of the company. In Montreal the business had doubled within two months, and it was gratifying to know that the change of management there had produced the most satisfactory results. Improvements were being made in all directions, and a better and more independent class of men were being obtained. All this, he need not remind them, cost money; but he held it to be money well spent. The issue of new stock was alluded to in the report, and he wished to say that the adoption of the report would sanction the directors to issue stock not exceeding \$100,000. This would enable the directors to make judicious extensions in Ontario and Quebec. A further sum of \$100,000 may be required to build a line to the maritime provinces, but this sum was only asked conditionally upon the arrangements being effected with the English company that was laying the Atlantic cable to Nova Scotia. He moved the adoption of the report.

In reply to an inquiry he said that the additional stock would be issued at par, they had no difficulty in disposing of the last issue at par; and a much larger amount was asked for than could be given.

The report was then adopted.

Sheriff Waddell understood that the sum of \$100,000 was required at once, without respect to the cable arrangement, and he moved that the directors be authorized to make a fresh issue of stock, not exceeding \$100,000, for extensions in Ontario and Quebec.

Mr. W. S. Lee seconded, and motion was carried.

Sheriff Waddell said he thought it should be understood that the directors had power to issue additional stock for building a line through the maritime provinces, in the event of their completing their arrangements.

Sheriff Waddell moved, seconded by Col. D. E. Bolton, "That the directors are authorized to proceed with the contemplated arrangement for forming a cable connection via the maritime provinces, and if that object can be effected, the directors are authorized to make a fresh issue of stock, not to exceed \$100,000, requisite for the construction of the through line.

The motion was adopted.

Messrs. J. S. Crocker and C. C. Foster were reelected auditors for the company for the present year.

On motion of Sheriff Waddell, a vote of thanks to the President, Vice-President, Managing Director, Treasurer, and directors of the company for their efficient and zealous services, was adopted.

In response to a motion granting \$1,000 to the President and \$10 to directors for attendance at each meeting. Hon. Mr. McMurrich returned thanks, but said he wished to see the dividend more than 7 per cent. before accepting the very generous resolution that had been proposed. If it was the pleasure of the shareholders to increase the directors' fees a trifle he would not object, but he wished to be placed on the same footing with the rest of the board. He took this opportunity of saying that he had no desire to retain the position of President. The company was in a good position, and if some young man with more energy than he had would come forward, he would willingly give place to him. He was desirous of having more time at his disposal and less anxiety, and at some future election he would take it as a kindness to be re-elected.

The motion was amended to the effect that \$10 per attendance be paid to each director for the past and current year, and carried.

The following gentlemen were declared reelected directors, under the report of the scrutineers:

- HON. JOHN McMURRICH,
- JOHN I. MACKENZIE, Esq.,
- HON. WM. CAYLEY,
- JAMES MICHIE, Esq.,
- LOUIS MOFFATT, Esq.,
- HON. T. N. GIBBS,
- S. NELSON, Esq.,
- A. COPP, Esq.,
- W. F. McMASTER, Esq.

At a subsequent meeting of the directors, Hon. John McMurrich was reelected President, John I. Mackenzie, Esq., Vice-President and James Michie, Esq., Treasurer.

J. C. SMALL, Secretary.

Toronto, 10th February, 1875.

The Telegraphers' Mutual Benefit Association.

ASSESSMENTS 72 AND 73, ISSUED FEB. 20. 1875.

Death of E. S. Springsteen and John Stalcup.

E. S. SPRINGSTEEN, of New York City, (Certificate No. 1371, issued January 23, 1872), died at Greeley, Col., January 20, 1875, of consumption.

JOHN STALCUP, of Washington, D. C., (Certificate No. 930, issued Aug. 12, 1870,) died at Washington, February 6, 1875, of consumption.

Two dollars are due on above assessments from members whose certificates are numbered not above 2374; one dollar from those holding certificates between 2374 and 2387.

RECEIPT OF ASSESSMENTS—NEW YORK, JAN. 11, 1875.

ASSESSMENT NO. 71.

27, 179, 232, 237, 238, 242, 246, 258, 451, 453, 455, 457, 476, 478, 482, 509, 516, 804, 912, 922, 1153, 1217, 1273, 1450, 1531, 1562, 1579, 1619, 1632, 1715, 1716, 1731, 1786, 1798, 1799, 1915, 1922, 1926, 1941, 1974, 1975, 1976, 2015, 2037, 2081, 2083, 2141, 2177, 2190, 2237, 2248, 2253, 2262, 2269, 2272, 2275, 2276, 2320, 2329.

ASSESSMENT NO. 70.

1924, 2281, 2282, 2283.

ASSESSMENT NO. 69.

185, 186, 187, 695, 697, 705, 1071, 1400, 1504, 1531, 1613, 1670, 1741, 2151.

Members of the Association who look to THE TELEGRAPHER for receipt of assessments paid, will please take notice that an acknowledgment of the receipt of one assessment should be taken as a receipt for all previous assessments.

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Showing Lowest and Highest Prices each day during week.

Feb.	WESTERN UNION.	ATL. AND PAC.	AMER. DIST.		GOLD AND STOCK.	
			Bid.	Asked.	Bid.	Asked.
18	70¾ ... 71¾	21 ... 22¾	25 ... 29	62 ... 75		
19	71½ ... 72¾	22¼ ... 24	25 ... 29	62 ... 75		
20	72¼ ... 72¾	22¼ ... 24	25 ... 29	62 ... 75		
23	72½ ... 73¾	23 ... 24½	25 ... 28	62 ... 75		
24	72½ ... 73¾	23¼ ... 24	28 ... 32	62 ... 80		
..

Married.

BURROUGHS—JUDD.—At Little Falls, N. Y., February 23d, 1875, Mr. CHARLES E. BURROUGHS, of St. Louis, Mo., to Miss FANNIE JUDD, of Little Falls, N. Y.

Charley, may your matrimonial sky always be bright, your lines free from crosses and escapes.

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IMPORTANT NOTICE.

After JANUARY 1st, 1875, we will allow TWENTY CENTS for each used-up Porous Cell of this Battery that are returned to us free of charge, in good order. A change is made in the discount to the trade. A list will be furnished on application to

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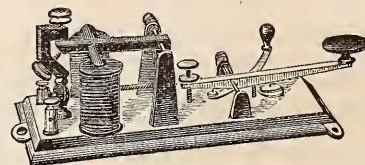
No. 40 WEST EIGHTEENTH STREET

or to

L. G. TILLOTSON & CO.,

8 Dey street, sole Agents.

THE FAVORITE.



Price, \$5.00.

Having reduced the price of these standard instruments, we are now prepared to furnish them to amateurs, students, academies, &c., with battery, connecting wires, chemicals, and one copy of "Telegraphy Made Easy," for \$6.50. Will be sent by Express, C. O. D.

Just published, "TELEGRAPHY MADE EASY." Sent to any address on receipt of 25 cents.

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Inventors of Electrical and Telegraphic arrangements are invited to communicate with the

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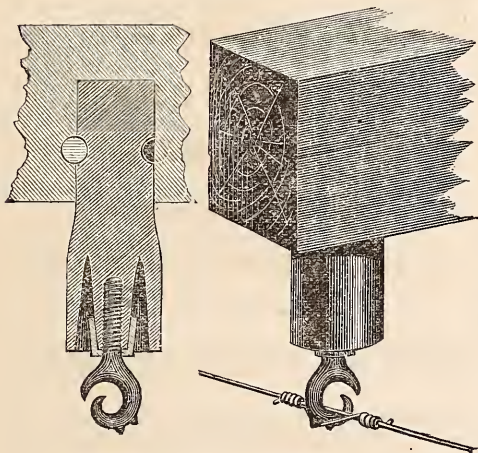
(P. O. Box 1,804),

NEW YORK.

THE KENOSHA INSULATOR CO.

**TELEGRAPH COMPANIES and
TELEGRAPH CONSTRUCTORS**

are invited to examine the merits of our new and improved patterns of



KENOSHA CARBON INSULATORS!

These insulators are made of wood, thoroughly baked, and covered with an INDESTRUCTIBLE COATING, highly repellent of moisture, which does not change nor deteriorate after years of exposure to the weather.

THE KENOSHA INSULATOR has now stood the test of SIX YEARS' actual service, and we feel warranted in stating that, although costing but little if any more than the ordinary glass insulator, its insulating qualities are on an average

MORE THAN TEN TIMES AS GREAT

during the prevalence of rain or fog.

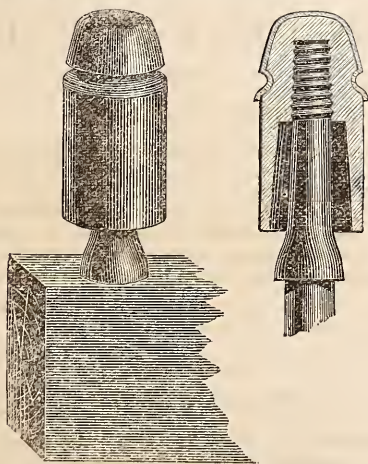
Immense numbers of these insulators are in use by

**THE NORTH WESTERN TELEGRAPH CO.,
THE WESTERN UNION TELEGRAPH CO.,**

as well as many RAILWAY and OTHER TELEGRAPH LINES, and they have invariably been found to give

ENTIRE SATISFACTION.

Besides the suspension insulator above shown, which is fitted with our IMPROVED WIRE HOLDER, arranged for a tie wire, and which does not cramp or injure the line wire, we manufacture several other patterns, among which is the



CAP INSULATOR, WITH PIN OR BRACKET,

which is fitted with a zinc protection, as shown in the above figure.

THE KENOSHA INSULATOR

is manufactured with the utmost care by skilled workmen and special machinery. Every individual insulator is TESTED IN WATER with a battery of 600 cells, and not a single imperfect one is allowed to leave the factory.

We are also prepared to furnish, at short notice,

CROSS-ARMS for any REQUIRED NUMBER OF WIRES, prepared with our patent INDESTRUCTIBLE INSULATING COATING, either with or without wire insulators.

These insulators are packed for shipment in boxes containing 100 each, and may be ordered direct from us, or through any of the leading dealers in Telegraph Supplies.

We are now prepared to fill all orders promptly, however large, and we guarantee all insulators furnished by us to prove entirely satisfactory.

THE KENOSHA INSULATOR CO.,

KENOSHA, Wisconsin.

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RELAYS, unequalled for beauty and strength;
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KEYS, various styles, including the SCHNEIDER KEY, just out, no legs, wire connections above the table.

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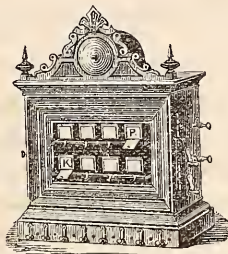
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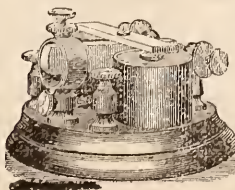
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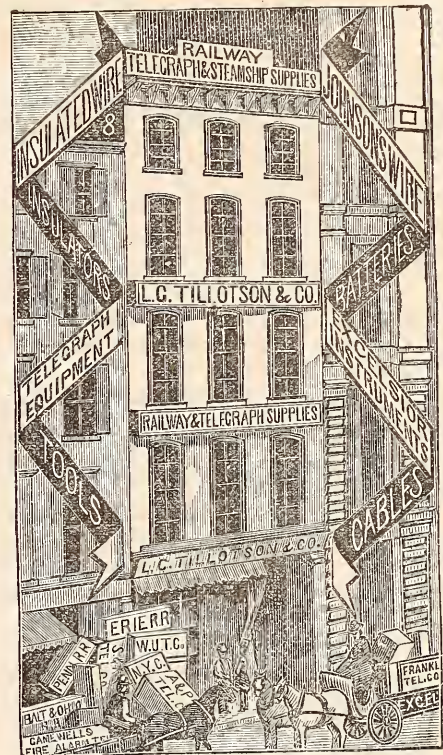
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THIS SYSTEM OF

FIRE ALARM & POLICE TELEGRAPH

WITH A CENTRAL OFFICE,

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UPON THE AUTOMATIC PLAN,

is now in operation in the following Cities, to which references
made for evidence of its great

SUPERIORITY, VALUE

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UNIFORM RELIABILITY.

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Cincinnati, Ohio,
Columbus, Ohio,
Cambridge, Mass.,
Charlestown, Mass.,
Covington, Ky.,
Detroit, Mich.,
Dayton, Ohio,
Elizabeth, N. J.,
Fall River, Mass.,
Fitchburg, Mass.,
Hartford, Conn.,
Indianapolis, Ind.,
Jersey City, N. J.,
Louisville, Ky.,
Lowell, Mass.,
Lawrence, Mass.,
Lynn, Mass.,
Mobile, Ala.,
Montreal, Canada,
Milwaukee, Wis.,

New York City,
New Orleans, La.,
New Bedford, Mass.,
New Haven, Conn.,
Newark, N. J.,
Omaha, Neb.,
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Providence, R. I.,
Quebec, L. C.,
Rochester, N. Y.,
Richmond, Va.,
St. Louis, Mo.,
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Springfield, Mass.,
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Taunton, Mass.,
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The Distinctive Features of these Systems of

Fire Alarm and Police Telegraphs

ARE,

First—The **Automatic Repeater**, through which the apparatus may be distributed in a combination of circuits, and the entire system successfully worked, without the constant personal attention of either operators or watchmen.

Second—The **Automatic Signal Boxes**.

Third—The **Electro-Mechanical Bell Strikers**, adapted to produce the full tone of the largest church or tower bells.

Fourth—The **Electro-Mechanical Gong Striker**, for hose and engine houses, by means of which the location of the fire is instantaneously communicated to the members of each fire company.

These Features combined form the

Only **PERFECT, COMPLETE and RELIABLE** System

OR

FIRE ALARM TELEGRAPH

IN THE WORLD.

It is a sufficient vindication of the claims which are made by the Proprietors of these systems of

FIRE ALARM AND POLICE TELEGRAPHS,

that they have sustained the test of more than twenty years of practical use, and that the efforts which have been repeatedly made to supplant them by other inventions have

COMPLETELY FAILED;

the few instances in which municipalities have been induced to adopt other systems having demonstrated their insufficiency and unreliability, and resulted in their abandonment, and substitution thereof of the

AMERICAN FIRE ALARM TELEGRAPH.

Messrs. GAMEWELL & CO. are the owners of the original *FARMER & CHANNING PATENTS*, one of the most important of which has just been extended for seven years, and during the past seventeen years have spared no expense or effort to secure improvements, and the Systems are now covered by

MORE THAN TWENTY PATENTS.

The most important improvement which the Proprietors have adopted and introduced is the

AUTOMATIC SYSTEM,

the introduction and operation of which involves so little expense, compared to the benefit which it confers, that even small communities can profitably adopt and maintain it.

The American System of

FIRE ALARM AND POLICE TELEGRAPHS

has met with the universal approbation and commendation of the

People, Municipal Authorities,

AND THE

PRESS

throughout the UNITED STATES and CANADA.

NO EFFORT, TROUBLE OR EXPENSE

is spared by the Proprietors to obtain and secure ANY POSSIBLE IMPROVEMENT which shall increase the

EFFICIENCY, RELIABILITY and ECONOMY

of the system. They intend that, as far as possible, it shall be

ABSOLUTELY PERFECT!

The amount of property which has been saved from destruction, and the number of lives which have been preserved through the general adoption of this system, throughout the UNITED STATES and the DOMINION of CANADA,

CANNOT EASILY BE ESTIMATED,

but that, in every community where it has been introduced for any considerable length of time, they have been enormous, **THESE CAN BE NO QUESTION.**

The cooperation of TELEGRAPHERS in securing its introduction into their localities is cordially invited, and

their efforts will be duly appreciated and compensated.

Any information desired in regard to the above system will be cheerfully and promptly furnished upon application at the office.

A pamphlet, setting forth more fully its advantages and superiority, has been printed, and will be supplied to Municipal Authorities and others interested in *Fire Alarm and Police Telegraphy*, upon application as above.

CHARLES T. CHESTER,
104 Centre Street,
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TELEGRAPH ENGINEER,

AND MANUFACTURER OF

INSTRUMENTS,

BATTERIES,

AND EVERY DESCRIPTION OF

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BUNNELL'S PATENT REPEATER.

These instruments are now made in two different styles, at \$120 and \$135 a set, consisting of two Relays, two Sounders, two Keys and Governor.

JONES' LOCK SWITCH-BOARD,

a most compact and reliable Switch, forming a clean spring-locked connection between any number of wires, occupying for each different connection only one square inch of space, and though made of the largest size, not subject to the warp and contraction of wood-work.

EXCLUSIVE AGENTS OF

A. G. DAY'S

KERITE,

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COMPOUND RUBBER COVERED WIRE

SUBTERRANEAN & AERIAL WIRES,

OF THE

HIGHEST INSULATION.

We are now prepared to furnish, after an experience of three years, an Insulated Wire which can be buried in the earth or exposed to rain and sun, or to the vapor of acids, without injury. Professor SILLIMAN, who has exposed it to the most destructive agencies, finds that it remains uninjured in an atmosphere of ozone, which would destroy gutta-percha in a few hours. It exceeds glass or any other known substance as a non-conductor.

We have made special arrangements to furnish this article for office purposes at a reduced rate.

ALSO, TO FURNISH

IRON CLAD CABLES

of the usual size, with KERITE COVER, believing that it will exceed, in insulation for submarine purposes, ANYTHING HITHERTO MANUFACTURED.

We shall be happy to furnish estimates for any amount and size of cable, which will be found to compete with any other construction, both in quality and price.

We manufacture the Genuine ELECTROPOION BATTERY, with Patent Platina Connection, introduced by us eight years since; also, THE ALPHABETICAL OR DIAL TELEGRAPH, now extensively used in this and other cities for private lines, being easily and quickly learned by any one.

We offer for sale, among other novelties, a SOUNDER that will work practically with a single DANIELL cell, a BATTERY that does not require to be taken down but once a year, and the very best MAIN LINE SOUNDERS made.

Our CATALOGUE, embracing a large amount of new matter and description, is now ready for distribution.

THE TELEGRAPHER

A JOURNAL OF
ELECTRICAL PROGRESS.

J. N. ASHLEY, PUBLISHER.

SATURDAY, MARCH 6, 1875.

VOL. XI. WHOLE No. 451.

Original Article.

The Experience of a Bashful Operator.

THINKING the following may prove of interest to the readers of THE TELEGRAPHER, I will relate to you the experience of a bashful operator in search of employment.

He commences by inquiring of every third person he meets where the telegraph office is. On being shown the exact location he takes up a position directly opposite, and burying his hands up to his elbows in his pockets, gazes wistfully upward toward the operating room, which is situated in the second story of the building. After thinking over the words he will use in making his application, he removes his hat, brushes up his hair, and makes a bold strike across the street, to go up stairs; but on reaching the stairway he imagines his face is flushed, and concludes he will walk up the street a short distance to regain his composure. But on returning to the stairway he is more nervous than before and another walk is resorted to. Then he makes up his mind that it is now or never, and runs hurriedly up the stairs, afraid if he lingers his courage will fail him. He puts on an air of nonchalance, knocks at the door, and is admitted into the room, which is filled with operators, both male and female. He immediately becomes the cynosure of all eyes, and not being accustomed to occupying such a conspicuous position, his self-possession gives way, words fail him, and he hardly knows what to do, but rallies sufficiently to inquire with a *gulp* if the chief operator is in. On being answered in the affirmative, and the chief being pointed out to him, he fixes his eyes with a determined stare on the spot, and looking neither to the right or left, steps rapidly along, tipping over a spittoon which happens to be in his way, he ejaculates "good morning" in hurried accents, and without waiting for the chief to reply he states his business. Not being in want of any operators, he tells our hero to call at some future time. Hearing a very audible chuckle from some of the lady operators, who are keenly enjoying his embarrassment, he turns towards the door, and vanishes hastily from our sight, the sweat starting from every pore of his body. He stops on the next corner to meditate on the coldness of this world.

A Remunerative Telegraph Construction Company.

THE Telegraph Construction Company appears to be about the most successful telegraphic enterprise that has ever existed, and somewhat embarrassed to know just how best to dispose of their profits. The following from *The Railway News* of London will be read with interest:

"We are glad to see that the directors of this company did not act upon the very bad advice which was given to them of applying the large profits which the company have made during the past year to the liquidation of its capital. The inconveniences, to say nothing of the doubtful character, in a legal point of view, of such a course, have already been explained in our columns. We hear that the profits in hand would have been sufficient to pay off the whole of the remaining capital of the company. A distribution equal in amount to nearly one half of the existing capital of the company has now been made, but by distributing it as dividend this capital is still left intact. The dividend declared is 36s. per share, and a certificate of £5, represented in about equal proportions by ordinary shares of the Globe Trust and the Brazilian Submarine Telegraph, and it is reported that the company have still a very large amount in reserve. The whole range of industrial enterprise cannot produce an instance of success equal to that which has attended the operations of this company. From its first establishment, now ten years since, the company has distributed, in the shape of dividends and bonuses, a total sum of £1,368,174. The capital, in fact, has been repaid back to the proprietors four times over in the space of ten years, and the company still retains a manufacturing establishment of first class character, and an amount of stock and

materials the value of which far exceeds the remaining amount of the capital.

The shareholders of this company owe much of the success of their undertaking to the practical experience which Sir Daniel Gooch, the chairman of the Great Western, has brought to bear in the management of its affairs. Thanks to the able supervision which has been shown, the company has not failed in any one of its undertakings for which it has contracted, while its competitors have been subject to many severe disappointments and have incurred many heavy losses. Comparisons are proverbially odious; but when we see how severe has been the disappointment, and how numerous the blunders, in connection with the attempt to satisfy the "great want of the age" by laying the so-called Direct United States Cable, how interminable is the litigation arising out of the attempts to complete the West Indian system of cables, and how serious have been the losses in connection with the La Plata cable, it would be ungenerous not to recognize the value of that practical experience which, in the management of the affairs of the Telegraph Construction and Maintenance Company, has enabled that company to attain to its present position, and secure for it practically the whole of the business connected with the manufacture of ocean cables in all parts of the world.

How to Rush a Patent Through.

It appears the best way to get a new patent rushed through and quickly issued is to apply at the presidential mansion. In a recent case—a telegraph contrivance—the President wrote a letter to the Commissioner of Patents, requesting him to take immediate action, for the reason that the invention was needed for use by the government, and had already been adopted on the government lines; whereupon the Commissioner issued a patent, "quicker," to use a homely expression, "than you could say Jack." But we think it will strike most of our readers, as it does ourselves, that the reasons assigned might have been more properly used for postponing instead of hastening the grant of the patent. In the case of a poor inventor, whose application has been long pending, the Patent Office should be as prompt as possible. But with respect to inventions for which the government patronage has already been secured, as in the present case, what possible difference can it make to the government whether the patent is granted to day or next month?

All unnecessary interference with the usual order of business at the Patent Office, whether by the President or any other public functionary, is pretty sure to create dissatisfaction, and should be scrupulously avoided. Instead of writing requests to favor the interests of his personal friends, it would be much better if President Grant would indite communications something like the following:

"To the Commissioner of Patents.

I am informed that many applications for patents are lying in your office unexamined, and that, in the class which embraces telegraph apparatus, there are cases filed more than a year ago, which still remain undisposed of. This is a crying shame and ought no longer to be tolerated. No class of individuals has done so much for the benefit of the country as our inventors, and when they apply for patents, every possible endeavor ought to be made by the Patent Office to give them a prompt and favorable hearing.

With the large corps of assistants under your command, numbering, as I understand, about five hundred persons, including one hundred examiners, is it not possible for you to bring up the business now in arrears, and in future have things attended to with more promptitude?

I see by your report for last year that you rejected between five and six thousand applications for patents. It must have required an immense amount of time and labor on the part of your people to hunt up reasons for this enormous mass of adverse decisions.

Do you fully realize that the majority of these five thousand rejected applicants are poor people, and that your rejections, especially if wrong, carry injury and disappointment into that number of families?

For my part, were I Commissioner of Patents, I would not hesitate to grant a hundred doubtful patents rather than take the risk of depriving one of my inventive countrymen of the full benefits which the law intended to give him.

I beg to remind you that the object of the Patent Office, as intimated in the Constitution, is to encourage the progress of the useful arts by the grant of patents to inventors. But if I were to judge from your great number of rejected cases, I should say that the Patent Office appeared to consider its prime duty to be to refuse to grant patents.

I have confidence in your ability to remedy the unsatisfactory state of things I have mentioned, and I shall look to you for immediate and effective action. 'Let us have peace.'
U. S. GRANT."
—*Scientific American*.

The Great Electric Lights at South Foreland (Eng.) Light Houses.

THE electro current is generated by means of large magneto electric machines, which are driven by means of belting connected with a steam engine. Each machine is composed of ninety-six helices mounted upon six gun metal wheels, each having sixteen helices. Between these wheels are placed the magnets, eight in each division, forty of which are composed of six layers or leaves riveted together, and sixteen the end ones, having three leaves. The magnets, which are mounted in frames, are stationary, while the helices revolve at the rate of 400 revolutions per minute.

The power absorbed by the machine alone, disregarding friction, is four indicated horse power. The power of a magneto electric machine is according to the gross attractive power of its magnets, each magnet having a certain lifting or attractive power, expressed in pounds. In the machines at South Foreland each of the six plate magnets will lift 108 pounds, and each three plate magnet will lift 54 pounds, making the attractive power of the magnets in one machine to be $40 \times 108 + 16 \times 54 = 5,184$ pounds. The proportion of the lifting power to the weight of a magnet is a good indication of its value, and, generally speaking, a magnet which will lift two and one half times its own weight is a good one. Each six plate magnet at South Foreland has a weight of 43½ pounds and will lift 108 pounds.

The machines are connected with the electric lamps placed in the lenses of the tower by underground cables. The carbons used in the lamps are 10 inches long by three eighths of an inch square, regulated by automatic apparatus, and are consumed at the rate of four inches per night for each lamp. The lenses are about the same size as ordinary third order lenses.

Presentation to Supt. Stewart.

MR. ROBERT STEWART, whose appointment to and acceptance of the position of General Superintendent of Telegraph for the Baltimore and Ohio Railroad has already been announced in THE TELEGRAPHER, was, on the 4th ult., presented with a silver ice tankard, goblets and salver, by the telegraph employes of the New York Division of the Pennsylvania Railroad Telegraph line, as a token of their esteem for and appreciation of their retiring Superintendent. The presentation was made on behalf of the employes by Mr. F. C. Reed, division operator in New York.

Mr. Stewart was greatly surprised and deeply affected at this demonstration, but finally recovered his equanimity sufficiently to return his grateful thanks for the honor done him, and addressed his associates at some length. The party then adjourned to the Howard House, where a collation was enjoyed. In the evening Mr. Stewart attended the operators' ball at Ferrero's Assembly Rooms, Tammany Hall.

Lighting Segars by Electricity.

A FRENCHMAN has recently brought out an invention called the Electrical Tinder-box, which is small enough to go into a segar case. It consists of a very small galvanic battery, put in action by touching a spring, the current heating a platinum wire sufficiently to light a segar or to set fire to cotton wool steeped in spirits or petroleum.

Miscellaneous.

THE SPECTRUM OF THE AURORA BOREALIS.—The late Prof. Angstrom, who at no time accepted the theory that the spectra of gases varied with the pressure, and temperature, and chemical process, advanced the opinion that the spectrum of the aurora borealis is composed of two different superposed spectra, the one consisting of extremely feeble bands of light, belonging to the spectrum of the negative pole, the other consisting of a single strong yellow line, which is characteristic of the aurora, and which Angstrom believed owes its origin to fluorescence or phosphorescence.

EARTHQUAKES AND MAGNETIC DISTURBANCES.—Mr. Lamont, Director of the Observatory at Munich, says that many cases are known where magnetic disturbances coincide with earthquakes, and states that, on April 18, he by chance saw the needle of the declination instrument receive a sudden jerk, the oscillations continuing for some time. After some days he received news that violent oscillations of the needle had been observed in Parma, and subsequent computations showed that the movement had begun at the same moment in Parma and in Munich; while, later still, reports were received of a violent earthquake occurring simultaneously in Greece.

Correspondence.

We do not hold ourselves responsible for the opinions of our Correspondents. Our columns are open to free discussions on all Telegraphic subjects, without distinction of person or opinion.

No notice will be taken of anonymous communications.

Why Women Should Not be Telegraphers.

CINCINNATI, O., Feb. 19.

TO THE EDITOR OF THE TELEGRAPHER.

"One point must still be very dark,
The moving why they do it!
And just as lamely can ye mark
How far, perhaps, they rue it."

Nihil seems to have been more unfortunate in his last article than in his first. In that he incurred the displeasure only of some of his own sex. In this he seems to have uncorked the vials of the fair and brought down upon his head the accumulated wrath of all the operators in the land who happen to differ with him in the "accidental circumstance of sex." Already the mutterings of the thunder are heard in the Heavens; the sky is overcast, the lurid lightnings are flashing, and the tempest is upon him. His mild toot upon his horn has called forth such a terrific blast as might well deter him from sounding another note.

It is a comforting circumstance, in this clashing of arms, that the notes of battle are thus far borne from afar. Viewing the ground that the ladies have taken, viz., "woman's rights," I fear I shall have to withdraw hereafter, for that battle will in all probability be as unending as the pilgrimage of the "Wandering Jew." Rivers of—ink will flow—thousands of innocent "coming men" will lose their scalps. But I will "speak mine opinion" before I retire.

The fair lady from Chicago, in speaking of the approaching Centennial, seems to mean that women will be found to have made a great advance. She has made a great change in position during the century about to close. As I have previously said, however, "Change is not always improvement," and I hope to be pardoned if I am yet unconvinced of the falseness of my position. She remarks, "Contact with others is refining in its tendency." I hope this is not intended as the statement of an inviolable law. If it is, and is true, away goes the time honored belief that "To touch pitch is to be defiled." Gold is a very pure metal when freed from its contact with baser substances, but it must first be separated from all contact with the elements with which it is blended ere its purity is manifest. She observes, also, "A lady will not part with more of her dignity and self-respect in giving telegraphic orders to workmen on a railroad than in giving her orders to the butcher." Are the cases parallel? In the first case she is probably surrounded by a mob of half savage men, far from her friends; in the second she is at home in her own castle, surrounded by friends. The butcher may be no better than the section hand, but her home is better than a railroad station. The butcher knows it to be his interest to be polite and attentive. Here I rest the case with "Aliqua." The fair Canadian champion has been more voluminous, and I shall be obliged to ask somewhat more space in replying to her. Please bear with me and I will be as brief as possible. She first attacks the good old times of "our fathers." I can pardon a resident of Canada the indulgence of a little spleen at the expense of my ancestors, while I reflect that they were the old fogies of Massachusetts. Their notions were sometimes straightlaced and narrow, but I question much if their children have much of which to be ashamed in the results of their beliefs. Their faults were many, but their steadfast earnestness of belief has made New England what it is. The way in which she refers to the creed of our grandmothers leads me to suppose that she rejoices in the freedom of the granddaughters from the superstitions of those old times. She says "Our grandmothers were taught to look upon marriage as the chief object in life." In defence of their teachings I will only say they had the advantage of being drawn from the Bible. From that source they drew the spirit of their laws and opinions, both political and domestic; and I am content to be classed among those (sadly behind the times I know) who are willing to believe that if we square our lives by the rules there laid down, we cannot go very far wrong. Nor will we find that we have much occasion, as we increase in years and wisdom, to change our views. We who are old foggy enough to believe in that old fashioned book are credulous enough to believe that Moses, and Solomon, and Paul drew their work from inspiration, and we do not pretend to be wiser than the Author. She laments the fact that young men hesitate to marry, and also complains that a large per cent. who do not hesitate, are worthless when they do marry. Agreed.

If the learning of telegraphy by the young ladies will make them any the readier to marry, or any the

better husbands after they are married, I say by all means let the young ladies learn, for the veriest idiot knows that there is improvement needed in this direction. But I cannot see that this will help matters much. I cannot see that knowing how to send and receive telegraph messages will any better fit a young lady for the position of housekeeper, for the business of ordering the home and the family, than "sitting idle." Will it make home any happier? the fireside brighter? the house tidier? that the wife has learned telegraphing at the expense of sewing and cooking? "Young ladies, members of large families, do not care to stay at home wasting their lives in unproductive idleness. Pray, why need they be idle? I have spent some years in observation, and I have yet to find, in ever so small a home, a good excuse for a really industrious cheerful girl to be idle. Does telegraphy open the only possible door to labor? One of those straightlaced notions of "our fathers" was that women and men should not spend too much time and money in dress. Possibly a reason for the backwardness of the young men matrimonially may be found in the fact that these old notions have been laid aside, and that, now-a-days, women who possess sufficient intellectual culture to render them attractive as companions, are generally sadly deficient in those matters of domestic and culinary culture and economy which would render them attractive as wives, and that the extravagant ideas which mostly possess them and attach to the prevailing fashions, render it necessary to possess wealth in order to bear the burden of a wife. She claims that commercial offices are better than railroad offices. Granted. Can the lady always get in a commercial office? or will not the necessity for bread compel her, as a man, to take what she can get? "Ladies should not claim privileges in offices not granted to men." Now I assert, without fear of successful contradiction, that it is impossible for a woman, from the very nature of her physical organization, to endure what a man of otherwise equal strength can endure without danger. And that, when the courtesies now extended to her shall cease, the fact will speedily be demonstrated that she is physically incapable of performing the labors which men now do in the telegraphic service.

For the present I shall bid adieu to "Jo," referring to her a general once more in concluding this article—already too long.

A word to "Lady." She announces herself as "an operator of six years' standing." Very creditable indeed. I have been sitting at the same work for nearly twice that length of time, and yet the conclusions that I have drawn from my experience are exactly opposite, though drawn from very similar premises. "If she has a spark of decision she can clear her own office of loafers," and yet she admits that, with all her decision (of which I conclude she imagines herself abundantly possessed), she could not prevent the frequent use of indecent language on election night. Did the matter of ejecting them from the room every few minutes cool the breath of shame upon her cheek? I do not mean to be offensive, but I mean to ask a plain question. When "the drunken Texan, the roughest of his class," had left her office, did not the pure heart of the woman long for the protection of home, "where no one would dare to molest her or make her afraid"? Did his prompt obedience, when ordered to leave, atone for insulted womanhood? Does the fact that the morals of the "Southwestern Railroad" (noted for the rough character of its employees) "underwent a change for the better—were completely revolutionized"—prove that it is always safe to trust our sisters in such places? She calls the employes "desperadoes." Can she, by any argument, convince the fathers of the land that they are not injuring their daughters by sending them among such men? Would she advise her sister or her friend to go among them? "I wish to enter an emphatic protest in behalf of the 'more civilized West.'" Then follows the experience of the lady among the "desperadoes who manage the trains" "in the civilized West."

"Oh, consistency, thou art a jewel!"

"I believe any self-respecting girl can follow telegraphing anywhere on this continent without annoyance." I will not suggest the Comanche country as a place to begin in. But I will say that I would as lief trust a friend of mine, one whose heart and mind I valued more than I prized her grit, among the savages, as in a telegraph office alone in the night, in some isolated country place, such as the night be compelled to accept were the profession to be monopolized largely by the ladies. And this brings me to the end. My original ground, and that which I yet maintain is, that the tendency to dull the finer sensibilities and blunt the pure, more womanly feelings, is simply manifested.

All the ladies have agreed that their presence in the profession will elevate it. I will not deny it. One says: "We lose a little; we gain a great deal." I answer: The elevation of the entire profession would not compensate, in my mind, for the slightest blot upon the fair fame of the poorest girl who now earns

her bread at the key. I do not wish the ladies to think I lack in respect for them—I have said I do not. But I respect woman so much out of the profession, and I so much fear its tendencies, that I do not want her to be in it. I am sure that if the ladies who have so forcibly contributed to your paper upon this subject could know how earnestly I feel, how fully I believe that "woman is to man what he thinks her to be," and how earnestly I deplore the fact that they choose the profession, they would sooner charge me with any other fault than unfriendliness or narrowness of mind. Woman is nature's fairest work—she should also be her purest. *Vivevale.* Nihil Nameless.

An Arctic Spell.—Anxiety for the Quadruplex.—Telegraph Matters Generally.

ALBANY, N. Y., Feb. 22.

TO THE EDITOR OF THE TELEGRAPHER.

SINCE my last letter we have had a spell of weather which would have delighted a Polar bear, but which produced quite a contrary effect upon your readers of this section. To illustrate: At the Dudley Observatory, on Saturday morning, February 13th, the mercury indicated eighteen degrees below zero; at Poughkeepsie, a passenger train on the Rutland and Washington Railroad was frozen fast on the track, and detained over four hours, with the thermometer about thirty-four degrees below zero; at Warrensburgh, Warren County, N. Y., near Lake George, the mercury seemed to have lost all its ambition and dropped to forty-one degrees below.

In consequence of the bad management of our excellent heating (?) apparatus, the temperature ranged from fifty to sixty degrees above zero in the operating room, which rendered "roasts" and "hot boxes" things to be desired and sought after. Perhaps there are others who have had the same experience. If so, they will know how to sympathize with us.

This unfortunate office seems to be a regular stopping place for epidemics. On Monday, the 15th inst., we were again afflicted. This time it broke out in a new form, consisting in a general scrubbing and oiling of tables. The fever is supposed to have been brought on by the expectation of a visit from a certain official. It seemed to have little respect for persons, as it attacked all grades, from the manager down to the dummy boy. Old things passed away and all things became new under the magical touch of soapy water and sweet oil, and yet the electrician came not.

Considerable anxiety was exhibited about this time on account of the non-arrival of the quadruplex instruments, which were expected several days before. About three o'clock one day a long box arrived, which was speedily "gone for" by the manager, who supposed he had a sure thing on the "quad." This time his disgust may be imagined, for upon being opened it was found to contain nothing but old books and messages from a country office.

A new use for the Bank Alarm Telegraph has been discovered by a Troy youth, who appears, from all accounts, to be a very practical sort of a chap. In speaking of the discovery the Troy *Whig* says: "An alarm was given at the second precinct station house last evening, about nine o'clock, on the bank telegraph circuit, when four or five policemen hastily repaired to the signal box in the Mutual Bank, expecting, no doubt, some serious difficulty in that establishment. The ears of the night guardians were fully realized, upon reaching the bank, by finding that a clerk in the institution had found it necessary to go into the cellar after a scuttle of coal, and being of a mild and timid nature, thought that he would call upon some one to accompany him on his perilous journey to the lower regions. He therefore sounded the alarm above referred to, but when the policemen arrived they utterly failed to extend the desired sympathy and protection."

Some persons seem to have considerable trouble to get the Callaud battery through their heads (which, perhaps, is not to be wondered at, considering the size of the jars and that of the heads). The operator at a way station recently said to the repeating office: "Wait a minute; I'm fixing my battery; will take your message as soon as I get the wheels in the jars."

Among other improvements which are about to be made by the Western Union is the reinsulation of nearly all the wires on the Hudson river route between Albany and Manhattanville, comprising six through and two short wires, making in all about one thousand miles of line. The old hard rubber hook insulators, which now render those wires almost useless in bad weather, are to be replaced by glass and porcelain insulators of the regular W. U. pattern. The estimate of material calls for 31,680 glasses and pins, besides several hundred pounds of nails. The work will be commenced as soon as supplies can be furnished, and will be done under the direction of Mr. George C. Thompson.

By the time this reaches you it is expected that the quadruplex will be in use for regular business between

New York and Albany. Further mention of its working will be made in my next. Notwithstanding the statement made by *The Operator*, some time ago, that the Gamewell Fire Alarm Telegraph system is a failure, it has been in successful operation in this city for about seven years, and gives the most unqualified satisfaction. Albany is acknowledged to have one of the best fire departments in the country, and its efficiency can be traced, in a large measure, to its excellent system of Fire Alarm Telegraph. The Fire Commissioners have recently decided to put up eight additional alarm stations—making seventy-three in all. Mr. William Cull, better known to “old timers” as “Billy” Cull, is Superintendent of this department, and is “the right man in the right place.”

DOUBLE SIX.

The Western Union Female Telegraphers Done in Rhyme by One of Themselves.

CHICAGO, Feb. 20.

TO THE EDITOR OF THE TELEGRAPHER.

WB are having very pleasant winter weather just now.

News items are very scarce. The following lines, which you will notice by the second verse are written by “a woman,” were lately found by the Western Union Janitor in the ladies’ lunch and dressing room, and purchased at an enormous price, although rather on the machine poetry style. It will probably do no harm to show the girls here what one of their number thinks of them, especially when they were not intended for print. Here they are—

The Chicago Western Union girls,
What a happy, healthy throng;
I daren’t tell their ages,
That would be doing wrong.

Of looks and dispositions, though,
I will tell you what I can—
Excuse all seeming deficiencies,
Remember I’m not a man.

First I notice Mrs. T.,
With hosts of friends beset;
She’s such a pleasant lady,
Our handsome, dark brunette.

Now let me notice Miss “J.,”
A blonde, stately and tall;
Though distant in her way
She is beloved by all.

Next comes Miss J. H.,
A handsome, fair haired maid;
Her agreeable, winning ways
Have broken hearts, ’tis said.

The sprightly, fair Miss D.
Has very long brown curls,
Besides a loving disposition;
She’s a favorite ’mongst the girls.

Now, who’s that delicate girl,
Who acts so very cute?
She’s a beauty to behold.
You needn’t say you “knew it” (Nute).

Lou E. is a bashful maid,
With soft brown eyes so shy;
Don’t dare to look at her,
She’ll blush and almost cry.

Lillie S. is full of fun;
A gay, bright young lass;
If any game is under way
She’ll never let it pass.

Zid Snell is a wicked piece,
Very fond of fighting duels;
Always on some mischief bent,
Her eyes sparkle like jewels.

She is a talented artist,
This her drawings off have proved;
They are certainly very solemn,
But we behold them unmoved.

Lizzie V.’s our favorite one—
Beauteous belle of the room—
Admired by great and small,
Her brightness banishes gloom.

What a merry, hazel eye
And brown—almost curly hair—
We couldn’t do without her,
So gentle and so fair.

We’re not going to forget
Little Jennie with the flaxen hair,
Bright eyes and rosy cheeks,
The fairest of the fair.

She is very kind and gentle,
And always sure to please;
But she’s the very mischief
If there’s any one to tease.

Almost forgot them? Very easy,
They were out (’pon honor),
Mrs. Louderback and Annie Veasy,
As well as Mrs. O’Conner.

I’ll now finish my rhyme,
But won’t forget little Sue,
She’s full of poetic wit—
Well, good bye, girls—adieu!

It is evident that these lines must have been written nearly a year ago, as Miss J. H., mentioned above, is now “breaking hearts” at Buffalo. Miss D. has become Mrs. F. W. Jones, of this city. “Nute,” i. e. Miss Alice Nute, is diving deep into the mysteries of phonography in this city. Lillie S. (Miss Smethells) has gone with the M. C. R. R., and Mrs. O’Conner has gone on a visit to Ireland.

OCCASIONAL.

The Telegraphers of the N. Y. & O. M. Railroad Lines.

IN THE WILDS OF JERSEY, Feb. 15.

TO THE EDITOR OF THE TELEGRAPHER.

NOT wishing to go ahead too fast, I will retrace and bring up the rear.

Mr. S. D. Blanchard, of Cook’s Falls, N. Y. & O. M. R. R., has been transferred to De Ruyter, N. Y., same road, as operator of this and the Utica, Ithaca and Elmira R. R. Sile is now at home, where we, perhaps, will hear of him no more, because rumor has it that at this early age he thinks of settling down.

There have been some changes in operators on N. J. M. Railway, which were noticed in THE TELEGRAPHER of January 23, most of which were promotions.

Mac, of “P. O.” has gone to “D. G.” Mr. P., of “M. C.,” has taken “P. O.” stations as agent, and the youthful Knapp has been appointed operator under Mr. P. Knapp was a student under Harris at “J.,” and his first position was “relief man,” but has not as yet been caught napping. We wish him success.

A young man, by name D. T. Eckerson, who learned of Mr. G. at “N. D.,” succeeds “G.,” who has married, gone West, and settled down at Newfoundland, N. J., station on the same road, as agent and operator, in place of Mr. E. B. Clay, who is now off the road; but whether Mr. C. was discharged or not I am not able to state.

And still another has learned and stepped into the ranks. Willie Plitorft, who learned at “C. H.,” has gone to “W.” as night man. He’s a sounder, and bids fair to beat the automatic. He has a great many faults, like all new beginners, but “with all thy faults we love thee still.”

In the distant horizon we see another making rapid strides to reach our lines, who, we think, will not disgrace the profession. May luck follow our young friend Willie Cass at “C. H.”

A new office has been established by the A. and P. at Union Hill (H. N.), in Jersey City, for testing purposes. It is a short distance from Weehawken cable house, North River. The Midland wires run in here before crossing the river, also the A. and P., and the Franklin wires.

An instrument has been placed in Supt. Lewis’s office at Jersey City, call “S. O.” Mr. L. and Div. Clerk Bond are the operators.

And still they come! Mike, at “J. C.,” expects soon to knock for admission to the ranks. He says, “Opposition is the life of trade,” and on this principle has, in company with W. and M., brought into life the “Ghost Telegraph Company.” Thereby hangs a tale, which will be made known shortly. Tom Thumb is connected with this line.

We are sorry to see so many of our profession taking so little interest in THE TELEGRAPHER, the only paper that takes so much interest in the operators of the globe, and yet they do not support it. One says, “Pshaw! two dollars a year is too much—can’t stand it,” and yet I know of operators going out with their friends and spending twice that sum in drinks, or something of that kind, that does them no good but a great deal of harm. I close this by saying to all telegraphers, support your supporter—THE TELEGRAPHER. P’S AND Q’S.

The Western Union and American District Telegraphs and Telegraphers in St. Louis.

ST. LOUIS, Mo., Feb. 22.

TO THE EDITOR OF THE TELEGRAPHER.

THE winter here has been one of unusual severity, yet we have had but few snapped wires. Notwithstanding the inclement weather, the Western Union have been building and rebuilding in Colorado.

The American District was introduced in this city late last fall under the superintendency of Mr. Durant, of New York. They have met with considerable success, and their circuits are being rapidly extended. Wires are now being strung between each of the courts and the general office, at 214 North 6th street. The object is the economy of time, by doing away with the necessity of lawyers waiting until their cases are called.

But few changes have been made in the W. U. office in the past year, and I will venture to say that a more reliable or better corps of operators can’t be got together.

Mr. Wm. W. Cummings is chief; A. E. Van Tyne

ass’t chief of this office; Mr. John L. Cassidy warms them up on the Cincinnati wire, while Mr. Thos. P. Wheeler holds down one side of the Chicago duplex, and Mr. Theo. P. Cook the other; Mr. Edward A. Keen amuses himself keeping New Orleans and Memphis clear, and calling out “a. i.” on 11 north; Mr. John A. Topliffe takes care of New York and a diekey luncheon; Mr. William J. Fay holds Long Horn No. 1 level (if he don’t sleep much); Mr. H. C. Mahoney says Little Rock and Montgomery keep him busy; Mr. Edward L. Parmelee—old genial Ed.—persists in getting cramps, and tries to drive the key on Omaha wire through the table. It’s fun—not mad—oh, no! Mr. James W. Cook is growing gray on Kansas City wire, and is the most amiable man in the office at noon if he’s got lots of business and C. N. D’s.

Mr. W. S. French likes Pittsburg and Indianapolis, but he won’t buy tobacco; Jimmie O’Toole says he wishes H. W. C. had taken that powder and saved him much work on day “report;” Mr. A. G. Thompson takes care of Quincy and 13 east, while Mr. Murphy does likewise on Keokuk and Vandalia; Mr. K. Eckert is in love with Springfield, Mo., Southeastern 2 and 1 east. Our old friend Deacon Joseph Purcell exchanges with “Ux.,” and leaves a full No. slip at night; Mr. Napoleon J. T. Briggs is happy with Cairo and Davenport by his side, and so is Mr. Sam Cassidy with beautiful Belleville and Decatur; Mr. H. Eckert likes Moberly, and knocks down on 1 south and 4 west, as well as 3 south; he will do, eh? Messrs. King and Lucking distribute on the city circuits.

Mr. Chas. J. Lawson is night chief; Mr. Jas. S. Nelson has got a soft thing with N. Y.; Fred Maxon sleeps on specials on Cincinnati, and Geo. Huddleston clears N. O. and H., while W. R. McDonald scoops them in on Long Horn; W. H. Loper takes it on manifold, while old reliable Sid. B. Fairchild hands it to the West and keeps a full break sheet; James A. Murray is growing thin on Chicago; cheer up Jimmie, my boy. Now, there’s Charles F. Day, just as good looking and happy as ever, works Jefferson City. (Name the first one for me.) John McNevin lost his bet, but he, with J. W. Hays, Joseph McElvaine and Richard Hollohan take a personal interest in keeping business cleared up all around; Peter Grichatt is the man that comes on at 11 P. M. and remains till 7 A. M. (Segars.) Chas. E. Burroughs has gone East to duplex, and rumor has it that two or three more of the boys are figuring how much it costs for board for two.

Go all ye and do likewise. Geo. Huddleston and Van Tyne’s daughters are soon to make their debut in society. Frank Keene has been visiting his parents at Titusville, Pa., and returns to us fresh as a rose. C.

Western Union and Automatic Telegraphy.

TO THE EDITOR OF THE TELEGRAPHER.

I SEE by your issue of this date that some Electrochemical Automatic Telegraph experiments have been tried over a line of the Western Union Company. Will you permit me through your columns to say that the patent referred to of recent date, January, 1875, infringes on the following patents, granted to me of dates October, 1870; February, 1872; April, 1872; July, 1872; said patents covering the broad claim to the use (in an Electrochemical Automatic Telegraph) of inductive condenser coils, magnetic inductive current coil within a coil, shunt within a shunt, so-called non-inductive resistances, depolarizing batteries, secondary rows perforations used for the purpose of throwing a neutralizing charge into the main line, with the use of alternating currents. The above extra features being clearly set forth in connection with my “American Electrochemical Rapid Automatic Telegraph system.” GEORGE LITTLE.

Passaic City, New Jersey, February 27, 1875.

The Postal Treaty with Canada.

THE postal treaty between the United States and the Dominion of Canada, which was negotiated in the latter part of last year, went into effect on the 1st of January. Under its provisions letters can be sent from any part of this country to any part of the Dominion for three cents. The one cent postal card does not require an additional stamp if directed to Canada. Newspapers require a cent stamp only, but all postages must be fully prepaid. So far as postal arrangements are concerned the relations of the United States with the Dominion are now precisely the same as those between each State of the Union, except that, when not fully prepaid, letters to Canada are not forwarded.

Dreadful!

THE nondescript says, “THE TELEGRAPHER is an advertising sheet, without pulsation!” Who would have thought it? To be not only an advertising sheet, but also without pulsation, is really dreadful!

THE TELEGRAPHER

DEVOTED TO THE INTERESTS
OF THE
TELEGRAPHIC FRATERNITY.

SATURDAY, MARCH 6, 1875.

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The Telegraphic Investigation and Proposed Legislation of Congress.

AS WE predicted, the attempt to secure legislation to regulate telegraph companies and their management and operations from Congress, have not been successful. MR. BUTLER'S bill, reported by him from the House Committee on the Judiciary, got as far as unfinished business, and there it stuck until Congress expired. While there were some good features and provisions in this bill, as a whole it was injurious and mischievous, and we are glad that it has failed to become a law. There can be no valid or reasonable objection to a legal provision which shall compel telegraph companies, in the interest of the public, exchanging business with each other without being subjected to unusual or onerous conditions and restrictions; or which shall compel them to receive and transmit messages from each other's employes upon the business of their competitors, upon payment, of course, of the usual tolls therefor. Had MR. BUTLER'S bill only aimed at so much, we think it would have had a much better chance of becoming a law. It was intended to do much more than this, and it failed, as we believe all similar bills will fail hereafter.

We have already published a brief synopsis of the report which accompanied the bill from the committee and have not space enough, even if it were desirable at this late day, to print it more in detail. We find in this report, however, a communication from Mr. E. D. L. SWEET, as executive manager of the Atlantic and Pacific Telegraph Company, which has attracted our attention, and whose statements have somewhat surprised us. The communication of Mr. SWEET is as follows:

*Executive Office of the Atlantic and Pacific
and Franklin Telegraph Companies,
New York, Jan. 20, 1875.*

Dear Sir—In the course of our business at Chicago it has sometimes become necessary for our managers at Omaha and Chicago to send messages to each other over the lines of the Western Union Company. These messages have been received by the Western Union Company and the regular tolls collected until recently. For some reason, unknown to me at this time, the officers of the Western Union Company at Chicago have declined to take certain messages. These messages are, to all intents and purposes, the same as any message from a private party which might be handed in at any office. They are signed by Mr. Towler (our manager), in his private capacity, and the regular tariff of the Western Union Company tendered. This is not the only instance that may be named of a refusal of

the Western Union Company to receive messages coming from persons supposed to be in the service of the Atlantic and Pacific Telegraph Company; but it seems to me the most striking case that has occurred of the violation of the laws which should govern telegraph companies, and furnishes an argument in favor of the passage of the bill recently introduced by Mr. McCrary.

I submit this information, that you may, if deemed proper, furnish it to him, or any member of the Committee to whom the bill has been referred.

Very respectfully,
E. D. L. SWEET,
Executive Manager."

We did not suppose that at this late day any telegraph manager would assume the responsibility of refusing messages tendered in the ordinary manner, and with the amount of tolls exacted for such business. Under existing laws telegraph companies are undoubtedly liable for refusing to receive, transmit and deliver despatches, even though they may be from and intended to facilitate the business of their competitors.

When years ago we were engaged in active telegraphic pursuits, the rivalry and competition between telegraph companies was at times very active and bitter, but we have never known of an instance, personally, when messages were refused by one because upon the business and intended to facilitate the operations of a competing company. Such action is an outrage, and in violation of the legal obligations and duties of a telegraph company.

Telegraph companies are accorded certain rights and privileges, and are subject to reciprocal duties and obligations, and one of the principal of these is to receive, transmit and deliver all proper messages tendered to them upon which the regular charges are paid. This is an imperative duty, and one of which they cannot be permitted to divest themselves at will.

So far as we have learned up to the time this is written, the investigation by the House Judiciary Committee of the action of the Western Union Company has amounted to nothing. We are not yet aware what the report of the committee was, but shall probably receive it in time to publish the conclusions arrived at next week. As we understand it, the Western Union officials succeeded in purging the company of the offences charged against them specifically, and upon which that investigation was founded. Whether the matter stated in Mr. SWEET'S letter was brought before them we have not as yet heard.

Our sympathies are naturally with the telegraph companies in these persistent attempts which have been for some years past made to raid upon them in the interest of outside parties, or on behalf of a government telegraph system. We have opposed and do oppose the latter as unwise, impolitic, and contrary to the interests not only of telegraph companies and telegraph employes but of the public also. The battle has been substantially fought out, for some years to come at least. If telegraph managers will conduct their enterprises with a fair degree of wisdom, and with a view to satisfy the public requirements as well as to make money for their stockholders, government telegraphy is dead in this country. Only by such an unwise and illegal policy and action as is charged by Mr. SWEET, can a government telegraph system obtain further standing or serious consideration from Congress or the people. Their safety is now substantially in their own hands, and if they are plagued by government telegraph schemes, it will be their own fault.

Underground Telegraph Lines.

WE have repeatedly commented upon the urgent necessity for putting the telegraph lines, in large cities especially, under ground. New York is encumbered with unsightly telegraph poles, and covered with a network of wires, which are constantly and rapidly increasing in number. That some subterranean telegraph system must eventually be adopted here is unquestionable. In 1872 a charter was granted by the Legislature to a corporation which proposed to accomplish this work. It is understood that this corporation proposes to commence operations this spring. We are

not fully advised of their plans or the method of laying down and maintaining the lines which is proposed, but that something effectual in this direction is needed is daily becoming more apparent.

A reporter of the *New York Tribune* interviewed President ORTON, of the Western Union Telegraph Company, on Monday last, in regard to the probable course of his company in reference to this matter, and elicited the following, which we transfer to our columns as matter of general interest and importance:

"President Orton, of the Western Union Telegraph Company, having returned from Washington, resumed his duties at his office yesterday. In response to inquiries concerning the probable course of his company with regard to the underground system of telegraph wires, Mr. Orton said that he was disposed to diminish the unsightliness of the appearance of the telegraph wires above ground as much as possible. The proposition to place the wires underground was one which required careful consideration, as it would be an extensive and expensive experiment. If New York were a finished city, like London or Paris, perhaps such a system might be created and operated satisfactorily. In this city, however, there was no permanence in anything, more especially anything under the thoroughfares. The municipal authorities, gas companies, and private persons, are tunneling the streets continually, and would be apt to play havoc with any system of underground wires.

In London, Mr. Orton said, there is not complete satisfaction with the underground system, and the aerial wires are increasing in number yearly. In Paris, however, where there is a complete system of sewers, the underground wires work to perfection. Much had been said on the subject of the Western Union aerial wires in New York City. Mr. Orton remarked that, while disposed to diminish their unsightliness, his company had as good a right to have wires above ground as Commodore Vanderbilt had to run his cars on the surface of Fourth avenue until he saw that the public convenience and his own interest would be advanced by placing them beneath the surface. While ready to maintain their rights the Western Union Company was disposed to facilitate public comfort as much as possible. It was not unlikely that experiments would be undertaken in the business section some time this year, to discover whether the underground system is sufficiently feasible and economical in this city to justify any change.

"As Mr. Orton had cited the case of the sinking of the Fourth avenue tracks, wherein the city had paid one half of the expenses, the reporter asked if the Western Union Company intended to suggest a like scheme for the placing of subterranean wires. Mr. Orton said that if any proposition of that kind was made to the Western Union Telegraph Company it would receive the most careful consideration. Upon being further asked if it was the intention of the Western Union Company to cooperate with its competitors or the Underground Telegraph Company in the matter of the subterranean wires, Mr. Orton said that the Western Union Company had the right to sink their wires, and in any steps which they might take it was not likely that they would share their facilities with competitors."

All Quiet Along the Lines.

THERE is an absolute lack of anything of an exciting nature in connection with telegraphic matters this week. The only notable incident, so far as we have been informed, is the introduction of the automatic apparatus in the Atlantic and Pacific office at Chicago. The automatic system is now being worked between Buffalo and Chicago successfully, and will soon be introduced on other routes and in principal offices of the company. The A. and P. officials express themselves highly gratified at the success achieved in working the automatic on its wires, and have found it of great advantage in disposing of the rapidly increasing business of the lines.

We hear very little of the quadruplex of late, and are inclined to think that it has practically had its day, and that the fact, which we have stated from the first, is beginning to be realized that it has been greatly overrated, and that there remains a good deal of improvement to be made before it shall prove as advantageous and valuable as has been claimed.

MR. ORTON returned from Washington, and has been engaged in his ordinary duties here since last Monday. The adjournment of Congress on Thursday last will relieve him and the company from the necessity for watching matters so closely at Washington as they

have been obliged to do of late, in order to neutralize the persistent efforts which have been made to secure unfriendly legislation.

Some comment was caused last week by the report that the Western Union Company were endeavoring to negotiate another loan in addition to the \$5,000,000 understood to have been recently made in London. It transpired eventually, however, that this was a portion of the former loan which had not been disposed of.

The work upon the new building is being pushed forward as rapidly as possible, and matters inside are gradually getting into shape. It will, however, be some weeks before everything is completed.

An Art Criticism.

THE *Daily Graphic* of this city has been laboring for some months under an acute attack of Western Unionophobia, superinduced by over-indulgence in government telegraphic literature. Lately the disease appears to have spread from the "intellectual" to the "aesthetic" department, and the sufferings of the patient have been truly agonizing! On Thursday of last week the *Graphic* came out with a cartoon representing a dismal cave inhabited by a terrific beast with seven heads and ten horns (supposed to represent the monopoly), in the act of being defied by a somewhat vixenish looking female, bearing a shield inscribed "free trade in news and cheap telegraphing." Whether or not this is intended to typify an actual occurrence which took place at the Western Union office the same afternoon, we cannot pretend to say, but the coincidence was at least a somewhat funny one. This much is certain, that the prototype of the *Graphic's* amazon came off second best in the contest, and bad to "step down and out."

On Saturday the *Graphic* was on hand with another cartoon representing President ORTON driving a car of Juggernaut, drawn by winged steeds, over the prostrate bodies of the editors of the various daily journals attached to the New York Associated Press. WHITE-LAW REID, of the *Tribune*, seems to stand a pretty fair chance of getting out of the way, by which we presume the artist means to typify his supposed leaning towards the JAY GOULD combination, which will enable him to escape from beneath the chariot wheels of the victorious ORTON. The artist has made a great hit on the PROX's portrait. It looks more like him, if possible, than he does like himself. Pitch into them, *Graphic!* only don't let your artist commit the inexcusable mistake of putting his Western Union wires on BROOKS' insulators, thereby making it necessary to label the cross-arms "W. U. Tel. Co.," as the small boy did his picture of a horse!

The New York Telegraphers' Club.

It is proposed to organize an association of telegraphers in this city, to be known as the "New York Telegraphers' Club." This association is intended to be for social purposes only, and to promote sociability and fraternity among the large number of persons engaged in telegraphic pursuits in this city. If the movement is successful, as it certainly ought to be, it is designed to furnish rooms in some convenient locality, which shall be comfortably fitted up and provided with reading matter, etc., at which telegraphers, when not on duty, can pass an hour or two in cultivating each other's acquaintance and companionship, and enjoy reading, music and innocent amusement.

We cheerfully cooperate in such a praiseworthy undertaking, and hope all telegraphers in this city and vicinity, who are so situated that they can do so, will participate in the proposed organization. There has been heretofore too little sociability among New York telegraphers when off duty, and properly conducted, an organization like that proposed to be established will accomplish much good.

We are requested to give notice that a meeting will be held to effect a permanent organization in the auditor's office, fifth story of the new Western Union

building, March 16th, at 5.30 o'clock, P. M. All telegraphers are cordially invited to be present at the time and place above mentioned, and participate in the proceedings. It is not intended to be restricted to the employes of the Western Union Company, but to include all engaged in telegraphic service in this and adjoining cities.

The Nondescript Edison Organ Badly Afflicted.

"THE thief doth fear each bush an officer," is a saying which is very forcibly illustrated by the mental condition of the publisher of the *nondescript* EDISON organ. The last number of that scurrilous sheet gives evidence that the publisher has "got 'em bad." We fear that his stimulant must be a very bad quality of "tanglefoot," and that his mind, what little there is of it, is disturbed, and his mental vision makes a "fool of his other senses," and he sees "snakes" and noxious animals, which are in fact but the baseless fabric of over-indulgence.

We have been exceedingly amused by the *nondescript's* description of the publisher of THE TELEGRAPHER posting "in hot haste" to President ORTON, to induce him to "squelch us," the *nondescript* aforesaid. Calm your fears our insignificant friend, for we haven't had the pleasure of speaking with Mr. ORTON for more than a year—consequently, we haven't asked that gentleman to "squelch" you. If anything could be more amusing than the *nondescript's* fearful apprehensions of our influence with the President of the Western Union Telegraph Company, it would be his assumption that we aspire to the position of organ of that company, and look for crumbs from that "official table."

If it will at all relieve your maudlin apprehensions, rest assured that THE TELEGRAPHER does not aspire to be the "organ" of the Western Union or any other telegraph company. We represent the *telegraphers* of the country, and that is sufficient for us. Our principal recreation and amusement is in reading the ravings of the *nondescript*, and we semi-monthly enjoy a hearty laugh over its feeble attempts at blackguardism of THE TELEGRAPHER, its publisher, and those who contribute to its columns. So accustomed have we become to these, that we shall really miss it when it "steps down and out."

By the way, the *nondescript* shows its appreciation of THE TELEGRAPHER by stealing *verbatim* its prospects from us. We do not object to this, except that it is too good for such a sheet, and is a fraud upon its readers, for while it truthfully describes THE TELEGRAPHER, it is utterly inapplicable to the sheet which appropriates it from our columns.

The Reduction in Cable Tolls.

WE briefly announced in our last number the proposed reduction in tolls for messages to Europe by the Atlantic Cable to fifty cents per word, gold, to be made on the 1st of May next. This is a very large reduction upon the rates now charged, and will, doubtless, have the effect to largely increase the number of messages, and will popularize ocean telegraphy. Whether it will add to the gross revenue of the Anglo-American Company remains to be seen, but we think it will. The facilities now provided for the business, our cables being in good working order, exceed the demand, consequently it is the part of wisdom for the company, without reference to probable competition, to endeavor to add to the amount of business to be done, especially as this additional business will not very greatly increase the cost to the company of working the cables.

The Electric.

We have received the first number of a new telegraphic journal, the publication of which has been commenced at St. Louis by Messrs. J. W. McDONALD and FRED. B. MOXON, entitled *The Electric*. The publishers are operators in the Western Union Telegraph office at St. Louis. The paper is to be published semi-

monthly. In their salutatory the publishers say: "*The Electric*, we think, meets a demand that has existed west of the Mississippi since the establishment of the telegraph."

The paper makes a creditable appearance for a first number, and is free from the objectionable features which have characterized some similar efforts elsewhere, heretofore. We heartily welcome this new aspirant for journalistic fame and profit, and it has our best wishes for its success.

Personals.

Mr. JOHN Q. MASON, formerly of the Chicago, Ill., Western Union night force, is employed at Moberly, Mo.

Mr. J. C. DELONG, formerly of Kansas City, Mo., is at present operating at Marshall, Texas.

Mr. C. M. SMALLS has been appointed manager of the Denison, Texas Western Union office, *vice* Mr. Meyerhoff, resigned.

Mr. W. B. RICE, of Albany, Oregon, has been appointed chief operator of the Oregon and California Railroad telegraph lines in place of Mr. J. J. KENNY, resigned. This is an excellent appointment and well deserved promotion.

Mr. J. P. MCKEEVER, an old veteran, who has been officiating at Oil City, Pa., W. U. office, has left for—no one knows where.

Mr. BAUSMAN, formerly of Pittsburg, Pa., succeeds Mr. MCKEEVER in the Oil City, Pa., W. U. office.

Mr. C. A. BOLTON, an ex-telegrapher, has been assisting at Oil City, Pa., W. U. office, during the great rush of business about the first ten days in February.

Mr. GEO. ROSS, for some time connected with the Atlantic and Pacific office at Oil City, Pa., has accepted the position of counter clerk at the Western Union office in that place. He gets along admirably in his new field of labor.

Mr. S. C. STOUT has been appointed assistant operator and agent at North Wales, Pa., No. Penna. R. R., *vice* W. S. YOCUM, removed.

Mr. M. R. MILLER has been appointed assistant operator and agent at Quakertown, Pa., N. P. R. R., *vice* Mr. F. ROEPPER, resigned.

Mr. T. GRIFFITH has been appointed manager Western Union office at Canon City, Colorado.

Mr. F. C. MILLS has been appointed manager, W. U. Telegraph Company's office at Slaughter, Colorado.

Mr. C. D. HAYS, Central City, Col., W. U., has accepted a position at Austin, Texas, with the same company.

The Telegraph.

Removal of Miss L. H. Snow.

THE removal of Miss L. H. Snow from the position of chief operator of the city wires, and manager of the female department of the Western Union main office in this city, which took place on Thursday, February 25th, caused much comment among the telegraphers generally. There are many versions of the matter in circulation, but it appears that the immediate cause of this action on the part of her superiors was her refusal to submit to and obey certain rules and regulations of the office, which applied to her as well as to the other chief operators. Miss Snow had occupied the position for many years, originally with the American Company, and after the consolidation, with the Western Union Company.

Miss F. L. Daly has been appointed to the position vacated by Miss Snow.

Boston, Mass., Telegraphic Notes.

On the 19th of last month the Western Union opened a branch office at 218 Devonshire street. It is the finest telegraph office in New England, and is in charge of Mr. Jos. H. Clark. The office will do business principally with Claflin's (Ch.) and other mercantile offices in New York.

Mr. Wm. J. Parritt has been transferred from the Western Union main office to 218 Devonshire street.

Mr. A. B. Churchill takes the place of Mr. Parritt at 109 State street.

Charley McCoy has returned from his two weeks' vacation, and appears more fat and florid than ever.

Mr. W. S. Dodge has been transferred from the main office to the new post-office (Po.) as manager.

Miss Sarah A. Hodges and Mrs. Beardslee have taken positions in the ladies' department, vice Miss M. S. Bumpos and Miss M. E. Brady, resigned.

Mr. Chas. H. Davies is working the second Associated Press wire, nights, at Worcester, Mass. QUILP.

Foreign Telegraphic Notes.

THE Eastern Telegraph Company have just opened a new route to Egypt, across France, via Marseilles and Malta. They have leased a special wire for this purpose from the French government.

The telegraph cable between England and Guernsey was repaired on 7th February.

The telegraph cable between the Lizard, Cornwall, and Santander, in Spain, is broken, and the Caroline, one of Mr. Henley's ships, which is on the spot, was about to repair it.

The Union Steamship Company's steamships Asiatic, African and Angican, sailing from Plymouth, England, on the 6th, 16th and 26th of the month, respectively, will touch at Madeira on the outward voyage, for the purpose of receiving on board telegraph messages addressed to places in Cape Colony.

The number of messages transmitted from postal telegraph stations in the United Kingdom for the week ended February 6, 1875, was 342,892—a decrease on the corresponding week of 1874, of 24,284.

Telegraphic and Electrical Brevities.

THE order requiring prepayment in all cases on half rate messages sent by Western Union lines, has been revoked by President Orton, and such messages may hereafter be sent "collect" on the guaranty of payment by responsible customers.

The Western Union Telegraph Company have extended the facilities for business on the West Side by making a delivery office of the office in the Butter and Cheese Exchange. The Exchange is also provided with the reporting instruments of the Gold and Stock Telegraph Company, and there is a private line from the Exchange to lower Wall street, over which information relative to sugar, teas and other groceries is constantly obtained.

Mr. George Little has just received through his attorney, Lemuel W. Serrell, Esq., of this city, from the Emperor of the Russias, a voluminous patent, printed entirely in the Russian language, for his American Electro-Chemical Rapid Automatic Telegraph system.

Legislation in Regard to Telegraphs in Canada.

A BILL has been presented to the Parliament of the Dominion of Canada, in regard to the rights of telegraph companies in the Dominion, and especially of telegraph cable companies, whose cables are landed on its shores. The provisions of this bill we have not seen, but understand that it differs materially from the one which was passed last year, but which failed to receive the royal assent, and therefore did not become a law.

It is, however, evidently regarded as antagonistic to the interests of the Anglo-American Company, as, at a hearing before the Committee on Railways, Canals and Telegraphs, on Thursday of last week, Lord William Hay, a director of that company, addressed the Committee at some length, and explained how seriously the proposed legislation would affect their interests, and maintained that the company had a legal, moral and equitable right to land their cables in Nova Scotia.

Quotations of Telegraph Stocks at N. Y. Stock Exchange,

Showing Lowest and Highest Prices each day during week.

Table with columns for dates (Feb. 25-27, March 1-3) and stock prices for Western Union, Atl. and Pac., Amer. Dist., and Gold and Stock.

QUERY.—Why didn't she take along the elevated clothes horse, with its snowy muslin drapery? Will they pack it up and send it after her?

New Patents.

OFFICIAL COPIES of any U. S. Patent issued since July 18 1871, including drawings, specifications and claims in full, sent free to any address for 25 cents each. Address F. L. POPE, P. O. Box 5503, New York City.

For the week ended January 12, 1875, and bearing that date.

158,715.—TELEGRAPHIC SIGNAL APPARATUS. Joseph W. Kates, Richmond, Va. Filed Sept. 28, 1874.

1. The combination of the perforated non-conducting tapes D, with a grooved drum A, placed upon one and the same shaft with the mainspring of a clock gearing, so constructed and arranged that the withdrawal of the tapes winds up the spring, and the reaction of the spring, when the tapes are released, winds up in turn the tapes for transmission of the signals, substantially as described.

2. The perforated non-conducting tapes D, in combination with the insulated spring seated wheels G, the insulated wheels J, and the wires N, connecting the wheels J of one tape with the contact wheels G of the next, substantially as and for the purpose described.

3. The combination, with the stud d, of the loose wheel R, the spring seated insulated catch S, and the wire a, for the purpose of opposing the motion of the clock-gearing when the spring is wound up, and shutting the circuit from the operating parts until the tape, which has been drawn out, is released, substantially as described.

For the week ended January 19, 1875, and bearing that date.

158,787.—TELEGRAPH APPARATUS. Thomas A. Edison, Newark, N. J. Filed Aug. 13 1874.

"Electromotograph" in which the mechanical action of an armature is obtained by electro-chemical decomposition. A pivoted stylus, included in a circuit, is carried in one direction by the friction of a moving fillet of chemically prepared paper. When the current passes the friction is lessened by the decomposition effected thereby, and a tractile spring moves the stylus in opposite direction.

1. A moving surface in contact with a yielding vibrator, through which pulsations of electricity are passed when such surfaces in contact are of such a character that the friction will be varied by the electrical condition, substantially as set forth.

2. A vibrator, in combination with means for adjusting the pressure of the vibrator on the moving surface, and of the yielding force that moves the vibrator in the opposite direction to that derived from the moving surface, substantially as set forth.

3. The combination of a yielding vibrator, operated substantially as set forth, with a secondary circuit actuated by such vibrator, substantially as specified.

4. A telegraph instrument with a vibrator that is controlled by electro-chemical decomposition.

158,868.—INSULATING COMPOUNDS. Isaac Smith, New York, N. Y., assignor of one half his right to George A. Chapman, same place. Filed Jan. 16, 1874.

The insulating material herein described, the same being a homogeneous mixture of shellac, asbestos, coal tar, oak black, and paraffine, in the proportion substantially as set forth.

158,889.—ELECTRO-MAGNETIC GAS LIGHT APPARATUS. E. E. Bean, Boston, Mass. Filed Aug. 5, 1874.

Pressure of air upon diaphragm moves a rod controlling valve, until the rod be checked by a detent attached to the armature. At the moment of checking a circuit is completed at the burner tip through a wire attached to a pivoted lever, also moved by the rod impinging on a wire at burner. This causes the magnet to attract its armature, releasing the detent, and allowing the rod attached to diaphragm to continue its movement, completely opening the valve, breaking the circuit at the burner to cause a spark, and closing another circuit to next lamp in series.

1. The combination, with the diaphragm g and rod f, of the rocking lever v, spring wire x z, the circuit breaking wire c, and the metallic pole n, as and for the purpose herein described.

2. The combination, with the electro-magnets o p, and the armature b, of the swinging frame 3, having catch or recess 2, lever v, insulated wedge 7, springs r l, and their insulated posts q s, and the wires k k' k'' k''' k'''' l l', as and for the purpose herein set forth and described.

158,897.—ELECTRO-MAGNETIC BURGLAR ALARMS. Richard J. Brittain, Newark, assignor to John Middleton, Newark, and J. J. Thatcher, Caldwell, N. J. Filed Feb. 27, 1874.

Name drum, rotated by a spring, and indicating point attacked, is held by a drop pin, H, and detent N. Circuit closed at any point causes armature to release drop pin, closing circuit to magnet controlling detent and operating alarm, sounding alarm and allowing name drum to rotate and bring to view name of point attacked.

1. The rotating name drum M, or disk, actuated by a spiral spring or weight, in combination with a drop pin, H, and electro-magnets C and D, substantially as named, and for the purpose specified.

2. The combination with the name drum and alarm bell, of a single magnet and armature, operating to simultaneously release the name drum and sound the alarm bell, substantially as set forth.

158,927.—AUTOMATIC TELEGRAPH APPARATUS. Merritt Gally, Rochester, N. Y. Filed May 11, 1874.

1. The combination, with a perforator for preparing message matter for telegraphic transmission, and with a transmitter therefor of an intermediate device, controlled in certain operations by the paper passing from the perforator to the transmitter and in turn controlling the transmitter in its action, substantially as and for the purpose specified.

2. The transmitting or receiving mechanism, in combination with the circuit S' S', operated substantially as and for the purpose specified.

3. The combination, with a series of instruments connected to the same or to different circuits, of an electrical or mechanical connection, for controlling any or all the instruments from any one thereof, substantially as specified.

4. The tripping circuit M' M', with connector E, by means of which the transmitting or receiving movement is interrupted by the tension of the ribbon N, substantially as specified.

5. The combination, with a main line transmitting wire and instruments therefor, of an additional line wire, for controlling the instruments of the transmitting line as to their intervals of transmission, substantially as specified.

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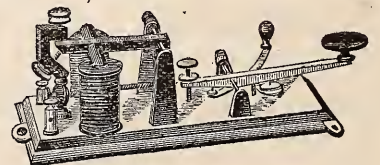
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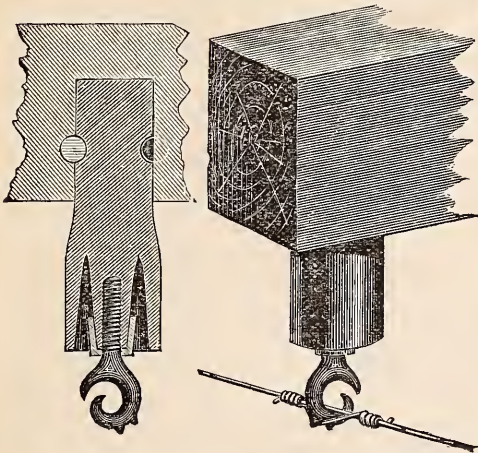
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KENOSHA CARBON INSULATORS!

These insulators are made of wood, thoroughly baked, and covered with an INDESTRUCTIBLE COATING, highly repellant of moisture, which does not change nor deteriorate after years of exposure to the weather.

THE KENOSHA INSULATOR has now stood the test of SIX YEARS' actual service, and we feel warranted in stating that, although costing but little if any more than the ordinary glass insulator, its insulating qualities are on an average

MORE THAN TEN TIMES AS GREAT

during the prevalence of rain or fog.

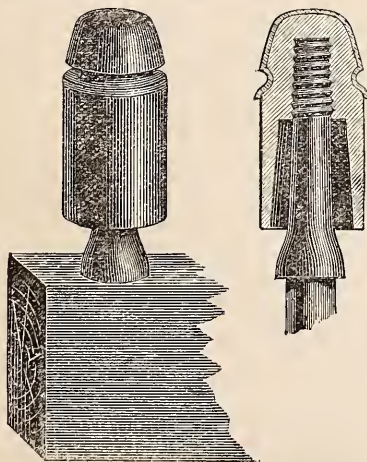
Immense numbers of these insulators are in use by

**THE NORTH WESTERN TELEGRAPH CO.,
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as well as many RAILWAY and OTHER TELEGRAPH LINES, and they have invariably been found to give

ENTIRE SATISFACTION.

Besides the suspension insulator above shown, which is fitted with our IMPROVED WIRE HOLDER, arranged for a tie wire, and which does not cramp or injure the line wire, we manufacture several other patterns, among which is the



CAP INSULATOR, WITH PIN OR BRACKET,

which is fitted with a zinc protection, as shown in the above figure.

THE KENOSHA INSULATOR

is manufactured with the utmost care by skilled workmen and special machinery. Every individual insulator is TESTED IN WATER with a battery of 500 cells, and not a single imperfect one is allowed to leave the factory.

We are also prepared to furnish, at short notice,

CROSS-ARMS for any REQUIRED NUMBER OF WIRES, prepared with our patent INDESTRUCTIBLE INSULATING COATING, either with or without wire insulators.

These insulators are packed for shipment in boxes containing 100 each, and may be ordered direct from us, or through any of the leading Dealers in Telegraph Supplies.

We are now prepared to fill all orders promptly, however large, and we guarantee all insulators furnished by us to prove entirely satisfactory.

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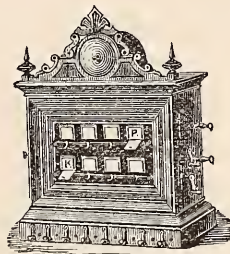
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FIRE ALARM TELEGRAPH
IN THE WORLD.

It is a sufficient vindication of the claims which are made by the Proprietors of these systems of

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that they have sustained the test of more than twenty years of practical use, and that the efforts which have been repeatedly made to supplant them by other inventions have

COMPLETELY FAILED;

the few instances in which municipalities have been induced to adopt other systems having demonstrated their insufficiency and unreliability, and resulted in their abandonment, and substitution thereof of the

AMERICAN FIRE ALARM TELEGRAPH.

Messrs. GAMEWELL & CO. are the owners of the original *FARMER & CHANNING PATENTS*, one of the most important of which has just been extended for seven years, and during the past seventeen years have spared no expense or effort to secure improvements, and the Systems are now covered by

MORE THAN TWENTY PATENTS.

The most important improvement which the Proprietors have adopted and introduced is the

AUTOMATIC SYSTEM,

the introduction and operation of which involves so little expense, compared to the benefit which it confers, that even small communities can profitably adopt and maintain it.

The American System of

FIRE ALARM AND POLICE TELEGRAPHS

has met with the universal approbation and commendation of the

People, Municipal Authorities,

AND THE

PRESS

throughout the UNITED STATES and CANADA.

NO EFFORT, TROUBLE OR EXPENSE

is spared by the Proprietors to obtain and secure ANY POSSIBLE IMPROVEMENT which shall increase the

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RELIABILITY and

ECONOMY

of the system. They intend that, as far as possible, it shall be

ABSOLUTELY PERFECT!

The amount of property which has been saved from destruction, and the number of lives which have been preserved through the general adoption of this system, throughout the UNITED STATES and the DOMINION OF CANADA,

CANNOT EASILY BE ESTIMATED,

but that, in every community where it has been introduced for any considerable length of time, they have been enormous, **THESE CAN BE NO QUESTION.**

The cooperation of TELEGRAPHERS in securing its introduction into their localities is cordially invited, and their efforts will be duly appreciated and compensated.

Any information desired in regard to the above system will be cheerfully and promptly furnished upon application at the office.

A pamphlet, setting forth more fully its advantages and superiority, has been printed, and will be supplied to Municipal Authorities and others interested in Fire Alarm and Police Telegraphy, upon application as above.

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a most compact and reliable Switch, forming a clean spring-locked connection between any number of wires, occupying for each different connection only one square inch of space, and though made of the largest size, not subject to the warp and contraction of wood-work.

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We are now prepared to furnish, after an experience of three years, an Insulated Wire which can be buried in the earth or exposed to rain and sun, or to the vapor of acids, without injury. Professor SILLIMAN, who has exposed it to the most destructive agencies, finds that it remains uninjured in an atmosphere of ozone, which would destroy gutta-percha in a few hours. It exceeds glass or any other known substance as a non-conductor

We have made special arrangements to furnish this article for office purposes at a reduced rate.

ALSO, TO FURNISH

IRON CLAD CABLES

of the usual size, with KERITE COVER, believing that it will exceed, in insulation for submarine purposes, ANYTHING HITHERTO MANUFACTURED.

We shall be happy to furnish estimates for any amount and size of cable, which will be found to compete with any other construction, both in quality and price.

We manufacture the Genuine ELECTROPOION BATTERY, with Patent Platina Connection, introduced by us eight years since; also, THE ALPHABETICAL OR DIAL TELEGRAPH, now extensively used in this and other cities for private lines, being easily and quickly learned by any one.

We offer for sale, among other novelties, a SOUNDER that will work practically with a single DANIELL cell, a BATTERY that does not require to be taken down but once a year, and the very best MAIN LINE SOUNDERS made

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THE TELEGRAPHER

A JOURNAL OF
ELECTRICAL PROGRESS.

J. N. ASHLEY, PUBLISHER.

SATURDAY, MARCH 13, 1875.

VOL. XI. WHOLE No. 452.

Original Articles.

The Telegraph in the West Twenty-five Years Ago.

BY OCCASIONAL.

We are too much in the habit, these "fast times," of looking ahead. I propose at present to imitate not the example of Excelsior, and look ahead, but like Lot's wife, to stop and look back. A friend of mine, a member of the American Electrical Society, had recently the good fortune to become the possessor of (among other old papers) a copy of *The True Democrat*, printed at Oshkosh, Wisconsin, August 31st, 1849, and *The Fond Du Lac Republican*, of January 11th, 1850, and by him I am permitted to use any portions of them interesting to the fraternity. The sections of country that these papers were published in at this time were probably as well provided with rapid means of communication as a great many larger places a good deal nearer Plymouth Rock, yet we find that the people were very well satisfied with the facilities, as "a tri-weekly mail had just been established from Fond Du Lac to Neenah, the mail leaving Oshkosh for Fond du Lac and Neenah every Monday, Wednesday and Friday, returning every Tuesday, Thursday and Saturday." "A steam saw mill was to be erected at Bntte Des Morts that fall!" About this time Queen Victoria was talking of visiting Ireland, and Dublin was to be illuminated. In France they were debating the question of the liberty of the press. M. Thiers was at this time chief of the movement to make the President Consul for ten years, at which time the Count of Paris would attain his majority, and thus pave the way for a return of legitimacy.

In Italy Pope Pius had refused to return to his capital on the terms proposed to him by the ministerial portion of his followers, but had issued a proclamation to his subjects imploring blessings upon them, and promised them he would appoint a ministry to conduct the government.

Kossuth had issued a stirring proclamation for the Hungarian Republic to the nations of Europe, lashing their apathy and invoking their sympathy and assistance, while the triumphant Generals, Georgy and Bem, gained victory after victory, and Prussia was offering to assist Russia against Hungary.

The brig *Eureka*, fitting out for California, "had obtained leave of the British Government to pass through the St. Lawrence."

What would the readers of some of our large dailies nowadays think if, instead of the usual "cable news," "Beecher scandal," etc., they should see something like the following from *The Democrat*, already spoken of: "Isn't it provoking? Here we are over time, press waiting and the mail not in. We are anxious to wait for the last mail, so as to give our readers the benefit of the latest news, but this time it hasn't come," etc.

It is hardly to be wondered that the people of those days thought the telegraph should be classed with such things as "mesmerism," "witchcraft," and the like, when their education was so limited that a great many wealthy persons could scarcely write a proper advertisement. The following, clipped from the same paper as the editorial excuse (for the non-appearance of the news by mail) just preceding this, may have been written by our paternal grandfather, but we must give it nevertheless. It reads as follows: "At Burrough's Hotel, Neenah, Winnebago County, Wisconsin, will be found at all times plenty of 'hog' and 'homminy,' together with as choice a variety of other 'fixins' as the country and market will afford." Guess the folks those days wasn't afraid of triphinae.

I might fill *THE TELEGRAPHER* with the rich, old fashioned yarns this paper contains, or quote a column or two about the gold excitement, and how folks who got the gold fever in those days started for the Pacific coast with ox teams; the surveying expedition to the Falls of St. Anthony, the cholera ravages, the new wire suspension bridge which had just been completed across the Ohio at Wheeling, the political controversy between the Whigs, Free-soilers, Democrats and Free Democrats, or I might tell you how bidders on gov-

ernment contracts at that time put in their bids; how one party offering six hundred and one dollars higher than the highest bid beat the party who bid five hundred dollars more than anybody else, but this would hardly be strictly speaking telegraph news. The following gleanings, however, from this *True Democrat* may be interesting: "Judge McKindley, of the United States Supreme Court, had just granted an injunction in the Circuit Court in Tennessee against the use of the telegraph lines, established by O'Reilly in favor of Professor Morse," very much disgusting the editor of *The Democrat*, who remarks that "in Ohio the decision was right the other way," that "these things of courts, decisions, etc., are necessary, but they work most outlandish sometimes." "It was about this time that Davenport, of Vermont, invented a machine for producing rotary motion by electricity and succeeded in printing a paper by magnetic power," the editor tells us, and then facetiously remarks, "Professor Morse (as he styles himself) applies this invention to transmitting intelligence from one point to another, and gets a patent for his invention."

"Bain and House invent a great improvement in the manner of that transmission and get a patent therefor." The editor of this paper claimed at this time that "O'Reilly purchased the systems of Bain and House and established lines for the introduction of this system, when 'the learned professor' prosecutes them for infringement of his patent, and the Court sustains him."

The editorial concludes, "We believe in law, but it should conform to right." Claiming that Davenport was the real inventor, or rather the real genius, "that he gains nothing—is not known—and that the last 'improver' is ousted by the magic of set phrases under the interpretation of grave judges, who, nine times out of ten, have no more conception of the science of magnetism, and the principles that Davenport's intellect grasped and applied to the benefit of man, than a certain domestic of Balaam." It is pretty certain this editor was not "a Professor Morse man" by any means, and that his style of calling a set of judges asses was about as neat as could be gotten up at this late day. It is probably well he did not have Judge Wood, of Manitoba, to deal with, or he might have had to answer for contempt of court, like "Luxton," of the Fort Garry *Free Press*.

I could not probably close this article better than by quoting the remarks of the *Fond Du Lac Republican*, of January 11th, 1850, on the advent of the telegraph at that place. It is as follows: "Morse's Telegraph line is here, and is in successful operation. According to the contract, Colonel Hotchkiss agreed to have the office open here on the 1st of January, 1850. The wires reached Fountain City on the 5th instant, only five days after the contract time.

"This shows a promptness which is truly commendable, particularly when we consider how cold the winter has been thus far. Colonel Hotchkiss leaves for Oshkosh and Neenah to raise funds for the immediate extension of the line. There is wire enough here now to extend seven miles toward Oshkosh, and is being put up as fast as possible.

"The poles to this place are heavy (thirty to the mile), and so far as our experience in telegraphic lines goes, we have one of the best lines in the West. Col. H. has associated with him in the construction of the line from Fond Du Lac to Green Bay Mr. A. A. Parker, a gentleman of experience in that business. Let the people of Oshkosh, Green Bay, etc., sustain the line that fulfils its agreement with its stockholders.

"Colonel Hotchkiss has been chosen President of the Milwaukee, Galena and Chicago line, which passes through Madison.

"Between the two papers at this place we hope to be sustained in the issue of a daily slip, containing the doings of Congress and the Legislature, as Col. H. holds out encouragement for supplying both presses with telegraphic reports for the papers and for daily slips. Mr. C. H. Hotchkiss, son of the contractor, will work the key at this place, and we believe that our reports will be accurate."

The Albany, N. Y., Western Union Telegraph Office and Contents Entirely Destroyed by Fire.—Speedy Re-establishment in New Quarters.

BY DOUBLE SIX.

ON Friday night, March 5th, the Western Union Telegraph office in Albany, N. Y., was totally destroyed by fire. Before entering upon the details, it may be interesting to hear a brief synopsis of the history of the old Museum Building, which has been occupied as a telegraphic headquarters for many years by the American Telegraph Co., and the N. Y., Albany and Buffalo Telg. Co., and latterly by the Western Union.

The building was erected in 1830, by Messrs. Thorpe

& Spragne, who were at that time quite prominent stage proprietors. It was first occupied by a Mr. Trowbridge as a museum, which was then considered the best collection of its kind north of New York. It was for a number of years the only place of amusement in the city. It was in this building that Barnum first gained notoriety for one of his greatest humbugs—"Joyce Heth." Its history, extending over a period of 45 years, if written, would fill a small volume. Its location, on the corner of Broadway and State street, made it one of the most desirable business stands in the city. As near as can be learned from the conflicting accounts which have been given, the fire originated about ten o'clock, P. M., in the newsroom of W. P. Prentice, on the first floor, State street side. One of the messenger boys was the first to discover it and at once gave the alarm. The fire department responded promptly; but, unfortunately, some of the hydrants were frozen, and so, before a stream could be brought to bear, the flames had burst through the partition in the rear of the newsroom into the triangular space in the centre of the building. This gave them a very strong draft, and as they rushed upward they dashed through the windows and rolled down the stairway like a fiery flood, and as the building was but a tinder box at the best, it was soon a mass of roaring flames.

The operators on duty had barely time to escape with their lives—Mr. Waterbury getting his hair slightly singed while running the gauntlet on the stairs. A second alarm was sounded and the reserves were brought upon the ground. Eight steamers were now hard at work but their efforts to save the two upper stories were entirely unavailing, and their attention was directed more especially to the protection of the adjoining property. For two long hours the firemen fought the fire fiend like tigers, until at twelve o'clock they conquered and the fire was under control. Several instances of daring bravery are recorded as additional proofs that the Albany fire department is unsurpassed.

Of course it was impossible to save anything from the upper floors, and so 20 sets of Morse instruments, 6 sets of Milliken repeaters, 1 set of Stearns' bridge duplex, 1 set of (whose?) quadruplex, 1 tangent galvanometer, 2 rheostats, the new switch which was put in a few years ago, all the books and files of business, dating back several years; a large quantity of supplies, including 50,000 No. 2 blanks, and 1,000 cups of Calland gravity battery, were totally destroyed. Lastly (and I came near forgetting it), our celebrated heater, whose loss is the least lamented of any. Some of the boys sarcastically remarked that, for once, the operating room was warm enough to satisfy the most cold-blooded man on the force. The loss to the W. U. Co. is estimated at \$4,000, and total loss about \$50,000. Through the courtesy of Supt. Tillinghast and W. A. Graves, of the N. Y. C. & H. R. R., an arrangement was made to open an office in the Union Depot, in the "Da." office of that company.

Supt. Brown was telegraphed, and by six A. M. arrived at the scene, and by eight o'clock A. M. circuits were arranged ready for the transaction of all the usual business, which was done, and that promptly too. The only break which occurred in the business of the company was the loss of the Associated Press despatches after ten P. M., which, as it happened, were unimportant. A detachment of operators were sent to Troy, to assist in handling the northern repeated business. Several wires were connected from the Exchange street to the State street lines, making through circuits for New York and the West. By this arrangement there was really no serious interruption to business by the disaster. The warmest thanks are due to chief operator Ira S. Kineh, of the N. Y. C. & H. R. R. telegraph office, who was on the point of leaving the city with his family, but on hearing of the state of affairs, generously gave up all his own plans and "buckled down" to the work with an energy and understanding of what was wanted befitting the occasion. On Saturday negotiations were entered into for the renting of a portion of the Exchange Building, which is Government property, and is situated directly opposite the old office, in which to open a temporary office. Considerable trouble was experienced on account of the opposition of a competing company, who occupy a small space on the first floor; but, upon telegraphing to Secretary Bristow, President Orton received permission to occupy the rooms as desired. In the meantime supplies of all kinds had been arriving by passenger trains, in large quantities, coming in by the car load, so that there was no lack of materials wherewith to go to work. On Sunday a small army of repairers, carpenters, battery men, etc., were busily engaged in fitting up the new quarters. One section of the switch formerly used in N. Y. main office was set up in the rooms formerly used as the Treasury Department of the N. Y. C. & H. R. R. telegraph. Into this the wires were run and thence distributed to the instruments, which were arranged on a wide shelf running the entire length of the room, on the north side, and on five quartette tables, which were placed

on the opposite side of the room, on one of which was placed a new quadruplex to replace the one destroyed. Two stoves were set up in this room to keep the boys from having the blues. The two rooms in the rear of this operating room were converted into battery rooms. Mr. Gerrit Smith, who will always be a welcome guest to the Albany boys, was here doing his share of the work.

The receiving office is now located in the room formerly occupied by Thos. Squires & Sons, hankers and brokers, and is in the same building, corner Broadway and State st., directly opposite the old quarters. The Museum Building will probably be put in first class order as soon as possible. As yet we are unable to learn anything definite as to future arrangements, but will keep you "posted" when anything of interest develops itself.

Correspondence.

We do not hold ourselves responsible for the opinions of our Correspondents. Our columns are open to free discussions on all Telegraphic subjects, without distinction of person or opinion.

No notice will be taken of anonymous communications.

Duplex and Quadruplex on the Wires and at the American Electrical Society's Meeting.— Miller and Summers on Lightning Rods.—Telegraphic Notes, etc.

CHICAGO, ILL., February 27.

TO THE EDITOR OF THE TELEGRAPHER.

OH! I have got lots to tell you. I have been taking a rest and sleeping with one eye open since I last wrote to you. There has been but little "quadruplexity" (that's original, copyright secured; charge every man a dollar that is found using it, and use the money to take chances on "Billy" McMillan's diamond pin or Jim Pettit's ring).

Until quite recently I am told the duplex has been in use again between New York and here in the Western Union, and the "quad." has had a rest. Dr. Nicholson, of Cincinnati, has been here lately trying to make his system of quadruplex work between here and Cincinnati. I could not get an electrical description of it. There was some trouble developed in placing it in a long circuit that was not noticed when worked in an office circuit, as the Dr. claims it worked all right then. I believe he is now trying to overcome this new difficulty. Messrs. Summers and Jones, Western Union electricians, kindly furnished the Dr. with wire, batteries, etc., to make his tests.

In a recent letter I spoke of Mr. Andrews starting out as an artist. I have since that time seen several pictures that he has finished; one of Mr. Strong, night report man of Western Union office here, and one of Mr. Cushing, who works the Cincinnati wire nights in the same office. Both pictures do Mr. Andrews much credit. There has been a great deal of sickness among the fraternity here lately. Several of the A. and P. men have had to lay off, and a great many of the Western Union men have also been disabled. Messrs. Hurd, of the Milwaukee duplex, McCulloch, of the Quincy line, and Whiteomb, of the Dubuque line, on the Western Union day force, were among the number, and several of the night men whose names I could not learn. The three gentlemen named have again gladdened the office with their presence, however. The wife of Mr. Armstrong, of the Detroit wire of the Western Union day force, has been so ill recently as to require his absence from the office. Mr. E. S. Swift, of the Western Union day force here, had the misfortune to lose his mother, a very estimable Christian lady; she died last Monday and was taken east for burial. Mr. Dean, formerly manager of the Pacific and Atlantic Company at Galena, Ill., has, nearly ever since the consolidation of that company with the Western Union, been more or less disabled by something like the writer's palsy and general nervous prostration. Over six months ago the doctor forbade him even thinking of telegraphy. His estimable young wife, who was manager of the Western Union office, same city, at the time of their marriage, is still in charge of that office. Mr. Dean is very reticent on account of his having to remain dormant, as he is quite a practical electrician. He is allowed to write a little now, and, no doubt, letters or an occasional paper from some of his acquaintances would be acceptable.

There is probably no railroad here in the west that is any better managed, if as well as the C. B. and Q. I noticed an arrangement at one of their switches which, although not strictly telegraphic news, might interest some of your many readers. It is the safety switch at the Great Eastern crossing in the southwestern part of this city. About 800 feet west of the regular crossing is a switch for transferring freight cars to the Belt Railway track. If from any cause this switch should be turned wrong a train from the west could not be stopped in time on the short

track to avoid running into a train at right angles if one should be passing at that time on the Great Eastern. To obviate the chances for any such catastrophe occurring, a safety switch to display danger signals (if track not right, or safety signals if all right) is placed 800 feet still farther west, so that the train might be stopped twelve or sixteen hundred feet from the crossing, if necessary. Some of our other railroads leading out of Chicago might make some of the dangerous places safer at their crossings by similar contrivances.

I have information from a reliable source that on the 19th four messages were transmitted simultaneously over one wire in one direction on an office circuit, by Mr. Elisha Gray, of this city, with his telephone, and that they were recorded with a clear down stroke on four Morse sounders. On the 26th two more sounders were arranged on the same wire, and six messages were sent as above described.

The meeting of the American Electrical Society, on their last regular meeting night, was a grand success in every particular; there was a very large attendance of resident members. The President and Vice-presidents all being absent, Mr. E. M. Barton was called to the chair *pro tem*. The minutes of the last meeting were read and approved. Among the new members elected were the following well known gentlemen: Chief operator, H. W. Plum, Western Union, Chicago; Mr. Johnson, manager Western Union office, Cincinnati; Mr. E. M. Barton, secretary, Western Electric Manufacturing Company, Chicago; Mr. Annette, Cheyenne; Mr. C. C. Reed, of Michigan Central Railroad Telegraph, and Mr. Stevens, of the Fire Alarm Telegraph, Chicago. Mr. F. W. Jones, of Chicago, read a very interesting paper on the quadruplex system of Edison and Prescott, and also explained the system of Dr. Nicholson, of Cincinnati. The drawings which Mr. Jones used to explain the connections were some of the finest I ever saw, and were the handiwork of Mr. M. L. Lawson, of the Western Union night force in this city. They were presented to the society by Mr. Lawson, and a vote of thanks were tendered him for the same, as well as to Mr. Jones for the able manner in which he explained the "quad." I cannot attempt a description of his explanation. I am in hopes I can get the paper for publication in THE TELEGRAPHER.

A very able and lengthy paper on lightning and lightning rods, by Mr. I. N. Miller, of Chillicothe, O., the corresponding secretary of the society, was read by the recording secretary. Its extreme length would preclude its publication in THE TELEGRAPHER, and for this reason I did not make any effort to obtain a copy of it. It was very interesting, and would be of great benefit to your readers. Its reading called forth a good many remarks by the members present, all conceding it was a very able document. It deprecates the present system of insulating rods from buildings, claiming that to be of any service a lightning rod should be a better conductor than the building, even when the building has become thoroughly wet. That the earth plates to the lightning rods, as now manufactured, are not properly constructed, do not have enough earth surface, etc. That instead of fine pointed rods the tops of the rods should be blunt, and present more attraction for the electric cloud than the building, by being placed a great deal farther above the building than as at present arranged.

Mr. Summers thought, from the drift of his friend Miller's remarks, he had overlooked the fact that no matter how much surface was used for the earth plates, and how high rods were placed above the roofs of the buildings, the whole building would become charged by any cloud coming near enough to make use of the rod for a conductor, and that the rod should be connected to every conceivable conducting substance on the house, to be of any service at all in such an emergency.

After indulging in some personal plesantries, jokes, etc., the meeting adjourned.

On the 10th Dr. Hill, of the firm of G. H. Bliss & Co., completed the task of laying the cable through the new tunnel to the crib out in the lake, and made the connections complete at both ends preparatory to the letting in the water. This cable is intended to be used to communicate with the man at the crib, who is completely cut off from civilization, otherwise it will be a great convenience to the city authorities, as it will not be necessary, as heretofore, to send out a tug to give directions to the man in charge of the water works there, but it will be done by means of the electric spark. The instruments used are nothing but sounders and keys, and a dot code of signals are used. The cable is a two-wire conductor, with No. 9 wire wound spirally on each conductor, and both served with tarred hemp. It was contracted and paid for by the city government. It is the intention of the authorities, after the lighthouse is placed in working order, to have a signal service station established at the crib for the purpose of taking observations. As the crib is about a mile and a half out in the lake this will be quite an important signal station.

OCCASIONAL.

Congress and the Telegraph.

WASHINGTON, D. C., March 8.

TO THE EDITOR OF THE TELEGRAPHER.

Now that the Forty-third Congress has ceased to exist, I will conclude my present series of communications for THE TELEGRAPHER by a very brief statement of its action or non-action in regard to matters connected with telegraphy and telegraph interests.

No report was made to the House by the Judiciary Committee in regard to the investigation had by that committee under the resolution of Mr. Dawes. That investigation failed to substantiate the charges made against the Western Union Telegraph Company. About all that was developed by that investigation was what may be regarded as sharp practice attempted by the Atlantic and Pacific Telegraph Company, in bunching their messages, received from customers when their lines were down, and sending as one to their managers over other lines, thereby making the difference between the first ten and the following words, which the Western Union refused to send.

Mr. Butler's bill remained unfinished business to the end of the session. There could never have been any chance to pass it except on a sudden cry of "odious monopoly," and a rushing it through under the effect of such cry upon the minds of members. It had no show after the refusal of the House to pass it on the night when it was reported. There has never been a time since when it could command fifty votes.

The bills of Messrs. McCrary and Dorsey, like most measures introduced at the request of interested parties, got buried under legislation that had motive power, and now sleep in peace.

The provision requiring the removal of telegraph poles, and the substitution of subterraneous cables or wires on the Capitol grounds, and the approaches to the Capitol, was passed in accordance with the plans for improving and beautifying the grounds around the Capitol, which are hereafter to be known as the "Capitol Gardens." Some \$200,000 were appropriated in addition to the money already spent for this purpose.

Through age and hard use the fire alarm telegraph in this district has become entirely worn out, the machinery rusty and the wires rusted out. So great was the necessity for the reconstruction that at the last hours of the session the Senate inserted an appropriation of \$75,000 in the Deficiency Bill to rebuild it, and the House, in a conference report, agreed to it. Gamewell & Co. will have the contract, and the work is to be pushed right through, without waiting for a disastrous fire to demonstrate its necessity.

The schemes for Government telegraphs are regarded here as being practically dead, and can only be revived through the action of the telegraph companies themselves. With an active competition for the telegraph business of the country the rights and interests of the public will be adequately protected, and only the establishment of a great telegraphic monopoly can have the effect to induce Congress hereafter to entertain favorably any proposition to transfer to Government ownership and management the telegraphs of the country.

CAPITOL.

A Western Union Telegraph School.—The New Management of the Atlantic and Pacific Company.

SAN FRANCISCO, CAL., Feb. 17.

TO THE EDITOR OF THE TELEGRAPHER.

In speaking of matters pertaining to telegraphy on this coast, it will not be out of place, perhaps, to mention that there is at Oakland, Cal., a school of practical telegraphy, as great a contrast to the aptly termed "plug factories" as could possibly be. It is under the patronage of the General Superintendent of this division of the Western Union Telegraph Company. Students undergo an examination before a Board consisting of the General and the Assist. General Superintendents and the Electrician, to define their ideas of general business knowledge and education. Only those apparently mentally capable, and possessed of sufficient education to fit them for positions as telegraphers after they have acquired the art, are accepted as students. They then pay a certain sum per month while receiving tuition, and of course, as it is to their interest to perfect themselves as soon as possible, they don't waste much time. The school is situated over the Western Union office at Oakland, and is under the direct charge of Mr. B. R. Bates, manager of that office. The operating room is neatly and comfortably fitted up for the accommodation of about ten students, the full compliment being now at work. Registers are provided to enable each to see his or her own writing as they make it on the key, and when it is perfectly recorded it is assured it has been correctly sent. This one of many details shows the nicety of arrangements for making the pupils good Morse operators.

"Fritting gerse" is not allowed. Branch lines of the Western Union Telegraph Co., as well as short circuits of new beginners, are connected with this school, so that they may be made familiar with a practical working of a line, and learn what so many pay little if any heed to, the art of using the left hand on the adjusting spring. Electrical works for the rudimentary and higher schools are to be found here, bearing marks of perusal. Two of the graduates of this school are now occupying positions as managers of active working offices, and show their training by their ability to handle the business passing through their hands. So much has been said, and justly too, of these so-called "Telegraph Institutes" throughout the country, which never have nor ever will turn out a practical operator, that when I found this exception I could not fail to notice it.

The Atlantic and Pacific Telegraph Co. inaugurate the new era in management by neatly fitting up the receiving and delivery departments, and making room for the manager's office. A tasty partition of wood and glass keeps the public and employes in their proper sides of the business line. Ample and comfortable writing desks for public use are also provided. The office of the General Manager has been fitted up on the second floor, from whence to the third floor the operating room has been removed. Here they have more commodious and comfortable quarters. The officials and employes of this office consist of the following gentlemen: Maj. R. P. Hammond, General Manager; F. L. Vandenberg, General Superintendent; J. G. Bloomer, Manager San Francisco office; with Messrs. Thos. H. Berry, Con Dwyer, Frank Medina, R. A. Kuhoe, John F. Fitzpatrick and John Milliken, operators; Edwin Reese, receiver; W. F. Berry and Frank Murtha, delivery clerks. I understand the company are building two more wires to Virginia City, to accommodate the increase of stock business, which is simply enormous, keeping two wires of this company and three of the Western Union busy during the rush, which is between 9 A. M. and 5 P. M. They are also extending their wire to Los Angeles, in Southern California, where it will connect with a network of four branch lines already in successful operation. In another letter will give some more of the names of Pacific Coast telegraphers and their whereabouts.

CLIX.

Changes, Resignations and Promotions.—A Newspaper Fight, etc.

ALBANY, OREGON, Feb. 17.

TO THE EDITOR OF THE TELEGRAPHER.

MUTATION seems marked upon all things. To-day "Kenny has resigned" passed over our wire, and as our "ponies" clicked off these three words they were received with sorrow and regret, for Kenny has been our chief for a long time—nearly three years—and during these years he has been the gayest of the gay, and certainly none of the boys can feel it more than myself, for during this time our intercourse has always been pleasant and almost brotherly, for our size created a sort of bond of union between us, as we jointly enjoyed the reputation of being the champion "light weights" on the road—our combined "heft" only bringing down 180 lbs.—whom any ordinary man could carry off under his arm. "We were little—but oh, my!" we made it lively notwithstanding our size. Truly Kenny was one of the boys, and no more will be heard the familiar "Ky." at B., but he will "hereafter until further notice" obligingly attend to the wants of customers in a grocery and provision store in Frisco—his old home, where his parents reside. Farewell, Johnny. May you strike it rich in whatever you engage, and at some future time may Oregon welcome you fondly to her embraces once more.

Will B. Rice, of Albany office, has been promoted chief operator for the O. & C. R. line, succeeding Mr. Kenny. As this gentleman is of a very modest and retiring disposition, the "least said the better," and we'll drop him by saying he remains at Albany, in accordance with his own request, and will at the same time discharge the duties of his new position.

For some weeks past the good people of this part of the "moral vineyard" have been watching a war which is almost as savage as the celebrated Modoc war, but the pen is trying to prove itself mightier than the sword, as it's a newspaper war. For over four years the two dailies at Portland have been taking "press" together, and known as the "Portland Associated," but for a year or two a rivalry has been growing between the papers—the *Oregonian* and *Bulletin*—until at last it has got so bitter it is now the desire of each paper to crush its antagonist. A few weeks ago the former effected arrangements with the "Cal. Associated," whereby they could publish the eastern reports as early as in San Francisco—quite an improvement, surely—at a large increase in cost, the burden of which to be borne by the *Oregonian*, which was to reap the benefits of it to the exclusion of the *Bulletin*, which paper could not obtain these reports. Of course it

was a move to "freeze out" the latter paper, and it was supposed there would be a *cave* soon. The cry of "monopoly" was raised, and as a large majority of our population are Grangers, you can imagine how feverish it immediately became. Instead of the *Bulletin* "caving," it continues to appear "on time" with full despatches, and also the *Oregonian* "specials," saying that "as the *Oregonian* was kindly bearing the sole expense, they proposed to furnish them also," and so it contrives to do; but how these "specials" are obtained is a "conundrum," as the boys say. Suspicions are rife that the "grapevine" telegraph is working good—probably *underground*. How this will end the Lord only knows, but it hardly seems possible for the *Oregonian* to continue long to bear the sole expense, unless it should soon succeed in its game of "freeze out;" but I suppose time will develop this, like many other mysteries.

I hear it rumored that the W. U. propose to put on an "all night" force in their Portland office. This is something they have never had there yet, and I understand it's only for press business. How true it is I cannot say, but my informant was very sanguine and ought to know, if anybody not in the immediate circle does.

Among the recent changes we miss Mr. Chas. E. Parks from Junction. Charley is one of 'em. "Has been into a good many things," like some of the rest of the old Pacific coasters. For many years he held a responsible position as express messenger under Ben Halliday, when he, years ago, was proprietor of the "Overland Stage Co.," prior to the completion of the Pacific Railroad. While discharging his duties in this capacity an attempt was made to rob the "team," and as there was one hundred thousand in treasure aboard, a pretty good haul would have been made; but Charley and the rest staved them off and captured the would-be robbers, but in the *melee* received 27 buck shot into his person—pretty nearly enough for one time—and eventually suffered the loss of a leg from injuries received at this time, which reduced his nervous system so that ever afterwards he was only a wreck of what he had once been. As soon as Ben turned his attention to "railroading" in Oregon, he sent for Charley and gave him the position at Junction, under good pay—showing that Oregon's railroad "King" don't forget his old employes; but Charley, though he ever did the best he could, "couldn't muzzle the thing," as he himself characteristically expressed it. We were sorry to lose him, but climate not agreeing with him or his family he sought pastures new, but we sincerely hope he may have the best of luck in whatever he undertakes. Mr. Geo. F. Craw, an old O. & C. boy, succeeds Mr. Parks at "Jn."

Mr. Hamlin succeeds Mr. Craw at Aurora, and as this gentleman is a first class railroader, that station will swim along nicely. Mr. J. M. Fish is now an operator in this superintendent's office, and not chief operator, as some one erroneously reported to THE TELEGRAPHER a short time since.

In working with "W." at Salem we have to be very deferential—'cos why? Wheeler has a bran new "darter," 10 lbs., first "copy" and first "report" from the matrimonial epidemic which raged so remorselessly some time since in Oregon.

But those last few thoughts perplex me, and I long for my cherished meerscham to soothe my agitated brain, so I will "drop" on my self and "rest."

WEBFOOT.

Profanity of Telegraph Managers.—Criticism of "The Telegrapher."—An Ambitious Operator.

TO THE EDITOR OF THE TELEGRAPHER.

By the article of your correspondent, "Occasional," in your last number, I am led to think his idea of what constitutes "mauliness" less exalted than it should be. Does he think that, if a manager violates a rule and uses foul and insulting language to a subordinate, that subordinate would show "mauliness" in retorting with similar language? Yet that is precisely the meaning his remarks convey. I think "Occasional" would do a service to the profession by giving the name of this scurrilous manager. I can hardly believe that the Western Union Company have in their employ a manager who is guilty of abusing or insulting the men under his authority, as asserted by "Occasional." I do not assert that there are not managers who use profanity. On the contrary, it is a melancholy fact that profanity is one of the two great vices of the male portion of our profession—the other being the use of tobacco. From superintendents to messenger boys those two vices are common to all.

Now, profanity is very wicked, as we have all been taught, and I am not going to defend it. It is a habit which, when contracted in early life, is very hard to reform. But when "Occasional" tells us that the juteut of W. U. Rule 34 was that "ladies might perform service in the same room with gentlemen with-

out subjecting themselves to insult," he is entirely mistaken. Were such the fact, the rule would be felt by all as a standing insult to the male portion of the employes of the Western Union Company. The fact is, that rule, like others relating to the "operating department," was framed only to secure proper discipline in the offices and on the wires of the company, and is seldom strictly enforced, except in cases of flagrant violation of its provisions, the penalty for which is usually an ignominious dismissal from the service. I know a certain telegraph superintendent in New England who is a most genial, good-natured man—kind and obliging to his subordinates, and, in fact, a model superintendent every way, and yet I have heard that man, in a moment of vexation, utter the most original, eccentric, double-distilled-fluid-extract of the article called profanity that I ever heard, and the same gentleman would summarily discharge an operator who should use such language in a dispute over the wires, and justly too.

Considerable feeling has been expressed in this vicinity, as well as by correspondents in your columns, in regard to the course of THE TELEGRAPHER in advocating the automatic system. Some of this criticism has been harsh and unjust. No one can deny the right of the editor to express his views on this or other subjects, but it is the general sentiment, so far as my knowledge extends, that THE TELEGRAPHER, being preëminently devoted to the interests of Morse operators—who, as a body, consider the automatic system inimical to their interests, whatever may be its merits, viewed from a "progressive" standpoint—it would be more in keeping with the professed character of the paper if the personal opinions of the editor on this subject were made subordinate to those of THE TELEGRAPHER as the "operator's paper." Or, at least, that the extravagant and often ridiculous effusions of certain advocates of the automatic system, notably the "Claimant," should receive less space and prominence.

The "Claimant" is doubtless an estimable gentleman, and perhaps a man of genius, but I submit that his talent for producing literary compositions is extremely mediocre, and that his effusions lack two prime necessities—sense and interest. If the irrepressible gentleman must relieve his teeming brain, it would be a relief to your readers if he would, to use a phrase much in vogue just now, "Go hire a hall."

An interesting little story was told me not long ago about a "youth to fortune and to fame unknown," who left the bleak shores of Lake Ontario for the equally desolate coasts of Duxbury Bay, to take a position in the French cable office, and how he struggled to hold his end up, but finally "weakened" and retired "in good order," as the war despatches used to say, and now he is laboring at an interior burgh, and there is a vacancy at Duxbury. It was very affecting, but conveys a moral.

JOHN STERLING.

Severe Atmospheric Conditions.—Afflictions.—Telegraphic Changes.

February 25.

TO THE EDITOR OF THE TELEGRAPHER.

I HAVE had nothing to write you about since my last but snow, snowdrifts, and delayed trains, and that is getting too monotonous to even think of. The thermometer has not been on its knees so much lately, but it seems as if the snow would never get settled and stay there till Spring would assist its exit. It is as much of a surprise and rarity to see a train on time in this section, at this time, as it is to have one late in the more favorable seasons of the year. From the date of my last up to the 17th and 20th trains on some parts of the Milwaukee and St. Paul road had not succeeded in getting through, and very few of the roads in Northern Iowa, Northern Minnesota, and Northern Wisconsin have been able to run trains with any degree of regularity.

In a former communication I spoke of the affliction of Supt. Hankinson, of the Northwestern Telegraph Company, in the severe illness of his wife. Although she has in a measure recovered, he has been still more severely afflicted by the death of his sister in Minneapolis a few weeks ago. Vexing afflictions come not singly.

Very few changes occur at this season of the year in this section—one or two only recently. Mr. L. H. Long, of the Northwestern Telegraph Company's Green Bay, Wis., office, has been temporarily relieved until business brightens up again. He is at present visiting his brother at Chicago. This necessitates the manager's taking report there, a job which "M." don't like particularly, although "he's there every time." It is currently reported that Mr. E. B. Jennings, receiving and delivery clerk and assistant operator of the Northwestern Telegraph Company's Minneapolis office, will resign shortly, to go into the hardware business at Sacramento, Cal. He will be very much missed, as he is capable of doing about three men's work.

NORTHWEST.

THE TELEGRAPHER

DEVOTED TO THE INTERESTS
OF THE
TELEGRAPHIC FRATERNITY.

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The Telegraphic Outlook.—Inflated Stocks and their Effects upon Telegraphic Competition.

THE active competition which has recently been developed for the telegraph business of the country, has attracted general attention to telegraph matters. The outlook for the future in telegraphy is being actively canvassed, not only by those immediately interested, but also by the public generally.

In considering the future of telegraphy in this country it is indispensable that the manner in which the capital stocks of the leading telegraphic organizations have been suddenly inflated should be taken into the account. That the nominal capitals of these organizations represent much more than the value of the actual investment, cannot be questioned. In this respect, however, they do not differ materially from other enterprises, which require a considerable amount of capital for their development and conduct. The principle of watering the stocks of incorporated companies has been carried to a ruinous extent in this country, and has imposed heavy burdens upon the people, grievous to be borne.

In this respect our Canadian neighbors have been much more reasonable, and, consequently, telegraph investments there are more remunerative to investors, and the public can be served at more reasonable rates. While in Canada the Montreal Telegraph Company has paid a regular ten per cent. dividend, and the Dominion Telegraph Company, a younger and less extensive organization, seven per cent. to their stockholders for several years past, dividends upon telegraph shares this side of the line have been the exception and not the rule, and this, notwithstanding the more general use of the telegraph and the higher rates charged for telegraphic service.

With proper, careful and economical management there is no reason why telegraphic investments should not pay here as remunerative profits upon the actual capital invested, and the real value of the lines and business. It cannot reasonably be pretended that the forty-one millions of capital, and five to seven millions of bonds of the Western Union Company, or the ten millions of capital of the Atlantic and Pacific Company, represent the real values of the property and business of those companies respectively. The actual price paid by the original investors represent, in fact, but from ten to forty per cent. of the nominal amount. The effect of this inflation, or watering of stocks, is to discredit telegraphic investments, and either prevent

dividends altogether or make them of a comparatively small percentage. It necessitates, also, the maintenance of higher prices for telegraphic service, and creates dissatisfaction on the part of the public, and lays the companies open to attacks from which it is very difficult to defend them. If it were possible to reduce the nominal value of the shares fifty per cent. they would more nearly represent the actual value, and there would be little doubt of the ability to earn and pay regular and satisfactory dividends upon that amount.

It is time that in this country the vicious principle of watering the stocks of large public corporations should be done away with. And another point is of equal importance, and that is that stockholders should look more closely personally to the management of the companies in which they are interested.

We regard the placing of the shares of telegraph companies upon the list of the Stock Exchange as an unfortunate matter for real telegraphic interest. As now managed they are not held for investment, but the proprietorship is changing daily, and those who hold them do not look to the business of the companies for remuneration, but to the fluctuations in quotations from day to day. All sorts of tactics are resorted to to advance or depress the quotations, and the shares are made the footballs of "bull" and "bear" operators, who generally know little and care less as to the real permanent interests involved.

Very recently we have seen measures introduced in Congress affecting the interests of telegraph companies, and it is well understood that the purpose intended to be accomplished was not useful legislation, but the temporary effect which such action would have in Wall street.

We do not know that it is possible now to reform this, but if possible it certainly ought to be done. The telegraph is a matter of universal interest and importance, and it should not be subjected to the manipulation which is inseparable from speculation, and the gambling upon which Wall street lives and thrives.

A Perfect Safeguard Against Conflagration.

THE importance, reliability and value of the system of protection against the spread of conflagrations, introduced by the Automatic Signal Telegraph Company of this city, has been several times referred to in our columns. This company has succeeded in introducing this invention extensively in the offices, stores, warehouses and buildings occupied for business purposes generally, and with most excellent and satisfactory results. It has been the means of the suppression, with merely trifling damage, of fires which would otherwise have undoubtedly proved very destructive.

The latest instance of this kind occurred on Thursday evening, the 4th instant, when a fire was accidentally kindled in the extensive warehouse of Messrs. E. H. Van Ingen & Co., on the corner of Broadway and Broome street. Within a few moments after the fire commenced to burn the circuit was closed in the thermostat, the alarm given at the rooms of the Insurance Patrol, who were thus immediately notified of the location of the fire in the fifth story of the building, and it was at once extinguished by the patrol, the entire damage done not amounting to over ten dollars. Had this fire got well under way it would have been exceedingly difficult to suppress, and the damage, from the valuable character of the building and stock, must have been very heavy.

The following letter to the company, acknowledging the great value of the invention, is appended for the satisfaction of our readers:

"488, 490 and 492 BROADWAY, }
Corner Broome street, }
March 5th, 1875. }

To the Automatic Signal Company: The great value of your invention for the protection of property from fire was signally proved to us last evening, when a fire broke out in the fifth story of our building. Before it had obtained any considerable headway it had announced its existence, through the agency of

your signals, to the Insurance Patrol, who, immediately appearing on the ground, quickly put an end to the danger.

That the inestimable value of your automatic signals will become universally recognized we have no doubt.
(Signed), E. H. VAN INGEN & Co."

We understand that arrangements are being made for the introduction of this valuable system in Boston and other cities, and from its excellent and salutary working in this city we should suppose that there would be no difficulty in securing its favorable consideration wherever valuable property is exposed to destruction by fire. Had it been in operation in Boston, before the fire occurred which devastated so large an area of the business portion of that city, there is no doubt but that disastrous conflagration would have been prevented.

The Telegraphic Situation.

WE are not in a position to communicate anything of an exciting or startling nature in regard to the telegraphic situation. The adjournment of Congress, without legislation upon telegraph matters, has left the telegraph companies at liberty to work out their several plans and arrangements without additional legal interference, and has relieved the telegraph officials from the necessity of spending time and money to counteract efforts to secure the intervention of Congress for or against either.

The Western Union Company is engaged in an effort to secure their title to the quadruplex patent which is about ready to issue. The question is, whether the whole patent shall be issued to the Automatic Telegraph Company, as the general assignee of the great professor of duplicity and quadruplicity, or two thirds to the professor and one third to Mr. GEO. B. PRESCOTT, in the interest of the Western Union Company. It is understood that the decision of the Commissioner of Patents, who has heard arguments for the respective parties, will be given this week. Both parties, as usual, are confident of success.

The Atlantic and Pacific Company is making progress in its new arrangements, and getting matters in more satisfactory working condition. The automatic is in daily and constant use on the lines of this company, and is found to be a great advantage in disposing of its increased and constantly increasing business. No attempt has been made as yet to work it on a through circuit between New York and Chicago, though this will be done before long.

Nothing further has been done in the matter of reduction of rates. It is understood, however, that the A. and P. Company will further reduce on the routes on which the automatic system is worked in due time.

The telegraph wires South, both of the Western Union and Southern and Atlantic Companies, have been considerably damaged by freshets, but are now in working order generally. Business generally is represented to be fair, and the prospects for the future good.

To sum up, we may say that all is quiet along the lines. When anything of interest transpires the telegraphic public will, of course, hear of it through THE TELEGRAPHER.

Speculation in the shares of the Western Union Company is active, and the price has steadily advanced through the week.

To our Correspondents.

FOR the last few weeks we have been much gratified at the renewed and increased interest in THE TELEGRAPHER, manifested by the pressure of correspondence seeking a place in its columns. As a consequence, however, although we devote all the space practicable to the accommodation of our correspondents, some of their favors are compelled to wait, what we presume the writers must consider an unreasonable time, before they appear in print. This is unavoidable, however, and our friends must have patience, with the assurance that their contributions are appreciated, and shall be afforded space as soon as possible.

We don't wish to discourage anybody from writing—the more the better—but we hope that they will endeavor to express their views as briefly as is compatible with clearness. We are especially desirous of receiving contributions of news, personals, etc. Remember that, however familiar certain matters may be to the writer, they are likely to be news to ninety-nine out of every hundred readers of THE TELEGRAPHER, and as such will be of interest. Send us all the news of interest, or likely to be of interest telegraphically, possible; and don't forget to supplement your contributions to the columns of THE TELEGRAPHER by efforts to increase its circulation and the number of its readers.

A Busy Time Ahead.

THE winter which is just closing has been one of unusual severity. It is many years since we have had such a protracted season of extremely cold weather, and it is to be hoped that the experience may not be soon again repeated. The consequence of this continued low atmospheric temperature has been the penetration of the frost deep down in the earth, in many places below the depth at which telegraph poles are set. As the frost comes out of the ground it will be likely to prove very troublesome to the telegraphs, upheaving the telegraph poles, and causing very general disarrangement, and, it is to be feared, causing much interruption to telegraphic communication.

The accumulations of snow and ice are of course very great, and as these are resolved into water again by the advent of spring, there will undoubtedly be experienced very extensive and disastrous freshets, which will add still more to the telegraphic troubles. The intense and steady cold of the last two months has afforded very excellent insulation to the wires, and has concealed faults which would otherwise have been made manifest and removed. These will now appear, and be aggravated by the effects of the changing season; and we fear that for the month to come the lives of many telegraphers, and especially of the linesmen, will be made rather burdensome by this accumulation of difficulties.

That there is a busy time ahead for all who are required to keep telegraph lines in order and successful operation, there can be no doubt.

Of course, every telegraph Superintendent will have considered the approaching difficulties, and have made such dispositions to meet them as is possible with the means provided and at his disposal. Most of them are unavoidable and chargeable to the climate, but they are none the less annoying on that account. They are expensive, also, and the loss in business cannot but prove a somewhat heavy item. However, all concerned must make up their minds to bear the evil with equanimity, and repair the damage as speedily as possible. Lines which were originally poorly constructed, and which have not been properly maintained, will of course suffer the most, but even those which have been most carefully built cannot be expected to escape altogether. The early spring in this climate is always trying to the telegraphs and to the patience of telegraphers, but the present is likely to be even more so than usual; all of which, as it can't be cured, must be endured.

Worthy of Emulation.

THAT the present are hard times has been an excuse and explanation sent in from some of the old friends of THE TELEGRAPHER for not being able to forward to us as large lists of subscribers as usual. We acknowledge the validity of the excuse, so far as it goes, but we are under obligation to a lady telegrapher in Canada for ignoring this plea. By her individual efforts she has obtained and forwarded to us within the last two weeks forty new subscribers, and promises to raise the list up to a hundred before she will rest satisfied with the result of her canvassing on behalf of the telegraphers' organ. This is an indication of what may be accomplished by energy and persistence in a good

cause. Who of the other friends of THE TELEGRAPHER will emulate her example? It should not suffice that the subscription list of THE TELEGRAPHER should be maintained—it should be and may be largely increased. We hope our friends, male and female, in the States are not going to allow themselves to be surpassed in this good work by this energetic young Canadian lady telegrapher.

Removal of the Associated Press Office.

THE office of the Associated Press in this city has been removed from the corner of Broadway and Liberty street to the new Western Union building. The new office is in the eighth story, and is much more spacious and well ventilated than the rooms formerly occupied. It is located in the story above the operating room, which is a great convenience to all concerned.

As the dummy only ascends to the fifth story, those engaged in the Associated Press office are not deprived of their favorite pastime of stair climbing, but cannot fail to be gratified by the consideration that, without any extra labor, they are so much nearer heaven than they could ever hope to be in the old office.

The change of location is a decided improvement, and we doubt not will be fully appreciated by our old time friends and associates, who serve the press as faithful and laborious collectors and dispensers of telegraphic news.

Destruction of the Albany (N. Y.) Western Union Telegraph Office and Contents.

WE are indebted to our attentive correspondent and contributor, "Double Six," for a graphic and interesting account of the destruction of the Western Union telegraph office and the entire equipment by fire, which occurred on Friday evening, the 5th inst. This is the most extensive and complete destruction of a large telegraph office which has occurred since the great Chicago fire. Through the energy and enterprise of the officials and employés, and the great resources of the company, but slight interruption to the business was caused, and new quarters, directly opposite to the former location, were secured and speedily fitted up with new apparatus, batteries, furniture, etc., and business proceeded as usual.

Personals.

MR. H. C. SPRAGUE has been appointed Supt. of Telegraph for the Missouri River, Fort Scott and Gulf, and the Leavenworth, Lawrence and Galveston Railroads in place of Mr. E. B. MCDILL, deceased. His office is at Kansas City, Mo.

MR. CHARLES N. HART has been appointed Supt. of Telegraph of the St. Louis, Lawrence and Western Railroad, with office at Lawrence, Kansas.

The Telegraph.

Dividend of the Western Union Telegraph Company.

AT a meeting of the directors of the Western Union Telegraph Company, held on Wednesday, the 10th instant, a dividend of two per cent. on the shares of the company, for the quarter ending March 31st, was declared payable on and after April 15th.

The San Francisco (Cal.) Fire Alarm and Police Telegraph.

THE Committee on Fire Alarm and Police Telegraph have reported to the Board of Supervisors of San Francisco, Cal., against the adoption of the proposition made to the city by the American District Telegraph Company, to take charge of and work the fire alarm system, for the reason that the City and County Attorney has decided that such a proposition could not be legally entertained.

A New Military Telegraph Line.

Lieut. THEO. SMITH, Superintendent of the Government Telegraph, and Mr. J. B. Smith, of the office in this city, leave this morning for Arizona, to be absent in the Territory two or three months. Lieut. Smith

goes out to superintend the construction of the new line to Apache, in which work Mr. J. B. Smith will also be engaged. We wish them a good time, and hope to see them back again hearty and happy as usual.—San Diego (Cal.) Union.

Foreign Telegraphic Notes.

THE report of the directors of the Telegraph Construction and Maintenance Company recently issued, shows the following excellent financial results of the business, and the condition of the company:

"The accounts for the year show a net profit of £371,381, to which is added £19,359 brought from last year's account, making a total divisible profit of £390,741; of this £22,410 has been appropriated to the payment of an interim dividend of five per cent. on the capital of the company, leaving £368,331 to be dealt with. Of this sum the directors propose to distribute as dividend in cash £67,230, being at the rate of £1 10s. per share, or fifteen per cent., and making, with the amount already paid, a total dividend of twenty per cent. in cash, free of income tax. The directors further propose to distribute £186,750, being £5 per share, represented by fully paid up shares in the Brazilian Telegraph Company, and ordinary shares of the Globe Telegraph Company, making a total distribution of £276,390 in cash and securities for the year, carrying forward to the next account a balance of £114,351."

The total length of the cables actually laid by the company during the year 1874 was 5,973 nautical miles.

The steps taken for extending the system of submarine telegraphy along the West Coast of South America were retarded through unavoidable delay in carrying out the necessary negotiations with the Government of the United States of Columbia, but it is believed that the arrangements will soon be satisfactorily concluded.

Messrs. Morton, Rose & Co., of London, invite subscriptions for an issue of £1,030,000, six per cent. sterling bonds of £100 and £200 each of the Western Union Telegraph Company. The issue price is 87½ per cent. This issue has been authorized to provide means for redeeming the bonds of the company falling due within the present year, to the amount of £4,188,900, so that to that extent the debt of the company is not increased. Interest on the bonds is payable March and September.

A Parliamentary return shows that at the close of the year 1873 there were employed in the United Kingdom 2,472 persons in connection with the telegraphic service on railroads.

The directors of Hooper's Telegraph Works state that, after deducting £10,000 for depreciation of plant and machinery, and £15,000 for depreciation of the two ships, Hooper and Great Northern, there is a profit of £84,308, or, after payment of the sum due to Mr. Hooper, an available balance of £51,529. A dividend of 15s. per share was paid in July last, and another of £1 per share is now recommended (being at the rate of 17½ per cent. per annum), leaving £7,779 to be added to the reserve fund, which is thereby increased to £35,231.

The report of the Indo-European Telegraph Company, to be submitted at the meeting on the 26th ult., recommends a dividend of five per cent. for the year.

The traffic receipts for messages by the Direct Spanish Telegraph for the month of January last amounted to £1,654, against £1,271 for messages in December last.

The fourth International Telegraph Conference is to be opened at St. Petersburg, as has been already announced, on the 1st of June next. Of the twenty-four governments who have joined the convention all have already signified their intention to attend. Twenty cable companies have likewise accepted. From the United States telegraph companies no reply had been received a few days ago. Of States not hitherto represented three have been asked; of these, Brazil has definitely accepted, and favorable replies are anticipated from Japan and the River Plate States.

The total number of messages forwarded from postal telegraph stations in the United Kingdom, during the week ended the 13th of February, 1875, was 342,197—a decrease on the corresponding week of last year of 10,229.

The receipts of the Submarine Telegraph Company for the month of January amounted to £8,573, and for the corresponding month of the preceding year to £8,706.

The cable steamer Sydney Hall, with cable and the electrical staff on board, for the completion of the circuits of the Montevideo and Brazilian Company, in conjunction with those of the Platino Company, has left North Woolwich for the River Plate.

Telegraphic and Electrical Brevities.

Mr. McCLELLAND, of the telegraph operator on the Pennsylvania Railroad who was convicted of criminal negligence...

The Quadruplex Patent.—Contest for Original Title.

A SPECIAL despatch to The World newspaper, of this city, from Washington, D. C., the 9th inst., says: An important question, covering the issue of a patent for rapid telegraphy...

A Telegraphic Electrical Society at the Antipodes.

A TELEGRAPH Electrical Society has been formed by the officers of the Electric Telegraph Department, and from the first quarterly report, just submitted, it appears the society now numbers 89 members...

"The Heart Bowed Down."

AT the Annual Ball of the Telegraphers in New York, our esteemed and gifted correspondent, Mr. George Cumming, sang with great good taste and feeling, "The Heart Bowed Down."

Quotations of Telegraph Stocks at N. Y. Stock Exchange,

Showing Lowest and Highest Prices each day during week.

Table with columns: Month, Western Union, Atl. and Pac., Amer. Dist., Gold and Stock. Rows for March 4, 5, 6, 8, 9, 10.

New Patents.

OFFICIAL COPIES of any U. S. Patent issued since July 1st 1871, including drawings, specifications and claims in full, sent free to any address for 25 cents each.

For the week ended January 19, 1875, and bearing that date.

158,890.—ELECTRO-THERAPEUTIC BATHS. J. Becker and W. D. Hoffman, Sigourney, Iowa. Filed Aug. 3, 1874.

- 1. The tube G, provided with internal conductor and binding screw, as and for the purpose specified.
2. The doubly adjusted electrodes K K in a bathing closet, as and for the purpose set forth.
3. The evaporating vessel arranged within the closet, and provided with hinged top and nozzle for connection with the tube, as shown and described, to allow a general or special delivery of vapor.

158,928.—TELEGRAPHIC APPARATUS AND CIRCUITS. Merritt Gally, Rochester, N. Y. Filed Jan. 13, 1875.

- 1. The combination, with the telegraphic line A, of the circuit C, with a receiver, a relay, or a repeater, E, and automatic switch for operating the connection between the line A and circuit C, substantially as and for the purposes specified.
2. The combination of the circuit C and a battery, with and connected to the main line on opposite sides of the magnet I, substantially as and for the purposes specified.
3. The combination of the line A and double sets of station instruments, with circuits crossed from side to side in either or both directions, substantially as and for purposes specified.
4. The combined manipulating key and receiver, relay or repeater, consisting of a magnet armature and key lever, substantially as specified.

REISSUES.

6,239.—ELECTRO-MAGNETIC FIRE ALARM TELEGRAPHS FOR CITIES. W. F. Channing, Providence, R. I., and Moses G. Farmer, Salem, Mass. Patent No. 17,465, dated May 19, 1857; extended seven years. Filed Dec. 18, 1874.

- 1. The signal system herein described, consisting of a series of signal stations scattered at intervals through a whole city or town, or any part thereof, and telegraphically connected with a common centre or point, or with each other, by one or more signal circuits, by which means a constant communication may be established and maintained between all parts of a city or town, however extended, and with the centre or centres at which the signal circuit or circuits converge or meet, so that the moment a fire occurs its existence and locality may at once be known at the centre of the system, and efforts for subduing it be properly directed.
2. The alarm system herein described, consisting of a series of alarm stations distributed throughout a whole city or town, or any part thereof, and telegraphically connected with a central station by one or more alarm circuits, by which means a public alarm of the existence and locality of the fire may be given at different points.

6,240.—ELECTRO-MAGNETIC FIRE ALARM TELEGRAPHS FOR CITIES. W. F. Channing, Providence, R. I., and Moses G. Farmer, Salem, Mass. Patent No. 17,355, dated May 19, 1857; extended seven years. Filed Dec. 18, 1874.

The fire alarm telegraph, embracing in its construction the alarm system for striking the number of the district upon the alarm bells, and the signal system for communicating the number of the station at which the fire occurs, to all the signal stations, as well as for communicating an alarm to the central station, as described.

6,241.—ELECTRO-MAGNETIC FIRE ALARM TELEGRAPHS FOR CITIES. W. F. Channing, Providence, R. I., and Moses G. Farmer, Salem, Mass. Patent No. 17,355, dated May 19, 1857; extended seven years. Filed Dec. 18, 1874.

- 1. A signaling apparatus, consisting of an electric circuit, a sounding or recording mechanism, and several automatic circuit breakers adapted to give determinate and different signals, substantially as described.
2. A signaling apparatus, consisting of an electric circuit, a sounding or recording mechanism, and several automatic circuit breakers, adapted to give determinate and different signals, substantially as described, and a device whereby the several circuit breakers, after being put in motion to break or close the circuit for signaling, shall automatically be stopped in position to restore the circuit to its normal condition or to correctly commence a repetition of the signals, as described.
3. A signaling apparatus, consisting of an electric circuit, a sounding or recording mechanism, and an automatic circuit breaker adapted to give determinate signals, and a device whereby said circuit breaker, after the giving of such a signal, shall automatically be stopped in such manner that a signal may be repeated by a direct forward movement, as described.
4. An electric circuit and a circuit breaker, permanently organized with two or more groups of circuit breaking or circuit closing points, the several groups being separated by spaces greater than the spaces separating the individual points of the groups, substantially as and for the purpose described.
5. The combination, with the same electric circuit or dependent circuits, of a manual circuit breaking key for general telegraphing, and an automatic circuit breaker adapted to give determinate signals, substantially as described.

6,244.—ELECTRO-MAGNETIC FIRE-ALARM APPARATUS. M. G. Farmer, Salem, Mass. Patent No. 23,060, dated Feb. 22, 1859; extended seven years. Filed Dec. 18, 1874.

"Village system," wherein signal boxes and electro-mechanical alarms are in same circuit, dispensing with central station. The combination, with same electric circuit, or dependent circuits, of two or more signal boxes, constructed to operate substantially as described, and one or more electro-mechanical alarm mechanisms, constructed to operate substantially as described, as shown and specified.

For the week ended January 26, 1875, and bearing that date.

159,215.—METALLIC TELEGRAPH POLES.—R. D. Radcliffe, Albany, N. Y. Filed Jan. 19, 1875.

The angle or T bars, cores and the exterior bands are interlocked without riveting or bolting, so that they can have no longitudinal movement independent of each other. A metallic skeleton post or pole, comprising the combination of central core pieces, external bands and intermediate longitudinal angle or T bars interlocked or positively connected with the same, by the means described, at required points in the length of the post or pole, to prevent independent longitudinal movement of the bars, as set forth.

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After JANUARY 1st, 1875, we will allow TWENTY CENTS for each used-up Porous Cell of this Battery that are returned to us free of charge, in good order. A change is made in the discount to the trade. A list will be furnished on application to

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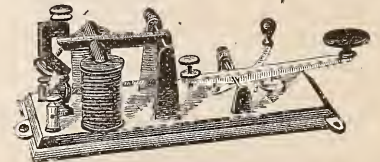
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Price, \$5.00.

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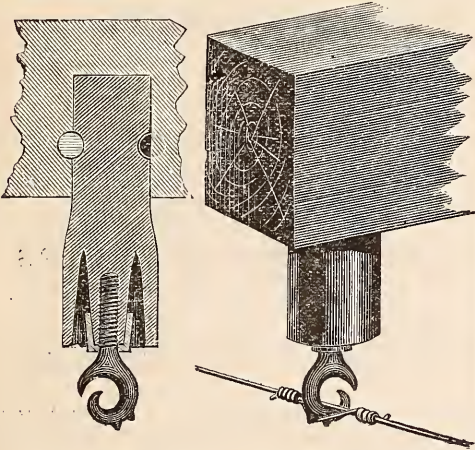
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TELEGRAPH COMPANIES and
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KENOSHA CARBON INSULATORS!

These insulators are made of wood, thoroughly baked, and covered with an INDESTRUCTIBLE COATING, highly repellent of moisture, which does not change nor deteriorate after years of exposure to the weather.

THE KENOSHA INSULATOR has now stood the test of SIX YEARS' actual service, and we feel warranted in stating that, although costing but little if any more than the ordinary glass insulator, its insulating qualities are on an average

MORE THAN TEN TIMES AS GREAT

during the prevalence of rain or fog.

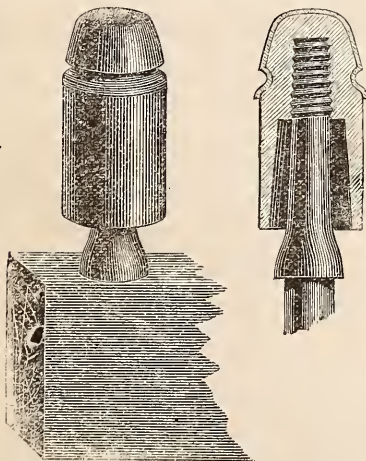
Immense numbers of these insulators are in use by

THE NORTH WESTERN TELEGRAPH CO.,
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as well as many RAILWAY and OTHER TELEGRAPH LINES, and they have invariably been found to give

ENTIRE SATISFACTION.

Besides the suspension insulator above shown, which is fitted with our IMPROVED WIRE HOLDER, arranged for a tie wire, and which does not cramp or injure the line wire, we manufacture several other patterns, among which is the



CAP INSULATOR, WITH PIN OR BRACKET,

which is fitted with a zinc protection, as shown in the above figure.

THE KENOSHA INSULATOR

is manufactured with the utmost care by skilled workmen and special machinery. Every individual insulator is TESTED IN WATER with a battery of 500 cells, and not a single imperfect one is allowed to leave the factory.

We are also prepared to furnish, at short notice,

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These insulators are packed for shipment in boxes containing 100 each, and may be ordered direct from us, or through any of the leading dealers in Telegraph Supplies.

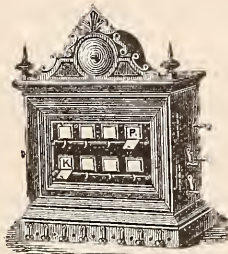
We are now prepared to fill all orders promptly, however large, and we guarantee all insulators furnished by us to prove entirely satisfactory.

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KENOSHA, Wisconsin.

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RELAYS—COMBINATION SETS; BOX and POCKET RELAYS.
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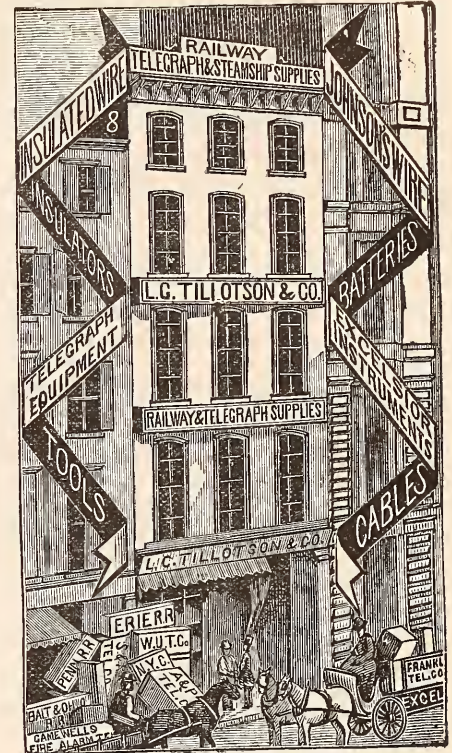
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These Features combined form the

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Is a sufficient vindication of the claims which are made by the Proprietors of these systems of

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that they have sustained the test of more than twenty years of practical use, and that the efforts which have been repeatedly made to supplant them by other inventions have

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Messrs. GAMEWELL & CO. are the owners of the original *FARMER & CHANNING PATENTS*, one of the most important of which has just been extended for seven years, and during the past seventeen years have spared no expense or effort to secure improvements, and the Systems are now covered by

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the introduction and operation of which involves so little expense, compared to the benefit which it confers, that even small communities can profitably adopt and maintain it.

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has met with the universal approbation and commendation of the

People, Municipal Authorities,

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is spared by the Proprietors to obtain and secure ANY POSSIBLE IMPROVEMENT which shall increase the

EFFICIENCY,

RELIABILITY and

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of the system. They intend that, as far as possible, it shall be

ABSOLUTELY PERFECT!

The amount of property which has been saved from destruction, and the number of lives which have been preserved through the general adoption of this system, throughout the UNITED STATES and the DOMINION OF CANADA,

CANNOT EASILY BE ESTIMATED,

but that, in every community where it has been introduced for any considerable length of time, they have been enormous, THERE CAN BE NO QUESTION.

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OF THE

HIGHEST INSULATION.

We are now prepared to furnish, after an experience of three years, an Insulated Wire which can be buried in the earth or exposed to rain and sun, or to the vapor of acids, without injury. Professor SILLIMAN, who has exposed it to the most destructive agencies, finds that it remains uninjured in an atmosphere of ozone, which would destroy gutta-percha in a few hours. It exceeds glass or any other known substance as a non-conductor.

We have made special arrangements to furnish this article for office purposes at a reduced rate.

ALSO, TO FURNISH

IRON CLAD CABLES

of the usual size, with KERITE COVER, believing that it will exceed, in insulation for submarine purposes, ANYTHING HITHERTO MANUFACTURED.

We shall be happy to furnish estimates for any amount and size of cable, which will be found to compete with any other construction, both in quality and price.

We manufacture the Genuine ELECTROPOION BATTERY, with Patent Platina Connection, introduced by us eight years since; also, THE ALPHABETICAL OR DIAL TELEGRAPH, now extensively used in this and other cities for private lines, being easily and quickly learned by any one.

We offer for sale, among other novelties, a SOUNDER that will work practically with a single DANIELL cell, a BATTERY that does not require to be taken down but once a year, and the very best MAIN LINE SOUNDEES made

Our CATALOGUE, embracing a large amount of new matter and description, is now ready for distribution.

THE TELEGRAPHER
A JOURNAL OF
ELECTRICAL PROGRESS.

J. N. ASHLEY, - - - - - PUBLISHER.

SATURDAY, MARCH 20, 1875.

VOL. XI. WHOLE No. 453.

Original Articles.

The Insulation of Lightning Rods.

THE *Journal of the Telegraph* publishes an article on "Electricity," the object of which seems to be to combat the utility of insulating lightning rods. It says that "the patentees; in their energetic efforts to make a market for their wares, have tried to reopen certain questions which were settled long ago." I infer that one of the questions to which he refers as being settled is that insulating lightning rods is "an absurdity." Now, if that question was settled, and "as indeed Dr. Franklin perceived a hundred years ago," how is it that "in the memory of the oldest inhabitant" that insulation, or its equivalent, the placing of the rod as remote from the building as possible, and with as few attachments as would hold it in place, has been practiced?

If "the most important law of electricity is that it seeks what is called a state of equilibrium," then the means by which it seeks that equilibrium are of some importance also. To these, however, I shall have occasion to refer hereafter.

I can hardly appreciate the proposition which "familarly illustrates the idea of these currents of varying tension by reference to the spectacle of a teakettle or boiler filled with water, which, when first placed on the fire, sends forth from an opening gentle clouds of vapor. As the heat increases the steam rushes out with a spiteful hiss; and finally, when it has acquired sufficient tension, if the means of escape are inadequate, it hursts the boiler with a violent explosion. * * * Hence the insulation of lightning rods is not only an absurdity, but it is also a grave error." If the electricity to which a building is exposed were generated in itself, I could see how "the insulation of lightning rods would be an absurdity," but as the electric discharge usually comes from without, I cannot see how this illustrates the position assumed. Neither can I perceive how "the insulators, to some extent, arrest the flow of currents of rarefied electricity." The rod is only attached to the insulator, without diminishing the size of the conductor, or in any way interposing any obstacle to the flow of the electricity, except the mere contact to it. There is no affinity or attractive force in the insulator to or for the electricity, therefore there can be no arrest of the flow. Then following immediately after the last quotation, it reads, "On the other hand, the insulator amounts to nothing as a barrier against a discharge of lightning, which can pass through it, or leap the short distance between the rod and the building." Here is a plain contradiction in these two sentences. The first declaring that the insulation does arrest the flow, and the next succeeding one declaring that the insulator amounts to nothing as a barrier against a discharge of lightning.

That "the insulation of telegraph wires is frequently referred to by lightning rod men" may be true, as they certainly illustrate the action of electricity as well as it can be illustrated, because it is the same thing upon a smaller scale. It is true that "currents of electricity of low tension are used for telegraphing," but whether it is lower than that which all telegraph wires are constantly, though imperceptibly, carrying off from the atmosphere, is a question yet to be solved. The object of insulating telegraph wires is to secure the passage of all, or as large a portion as possible of the battery current through the entire circuit of the line, that its force or power may be utilized at the most distant point—not to "postpone" its action—and the restoration of the equilibrium, through the whole circuit of the wire as rapidly as possible; and the purpose of insulating a lightning rod is to "promote" the restoration of the equilibrium as rapidly as possible, by preventing the electricity from passing into the building by means of any substance that would give additional conductivity to the charge. It is through the rod that the equilibrium—the most important law of electricity—is effected; therefore, it is of the utmost importance that it should be properly arranged in all its parts, to give free passage to any charge that may come in contact with it. "The relative conductivity power is worth considering, for upon this power depends the safety of the building; that is to say, if iron is used it

must be proportionately larger than copper. In other words, copper being six times a better conductor than iron, the former, one sixth in size, would be equal to the latter six times the size; so that if iron is used it should be six times larger than copper." To my mind the smallness of modern lightning rods is their great fault. They may be large enough to carry safely ninety-nine charges over it, while the hundredth would surcharge them, and not being able to carry the whole charge, a portion would pass into the building by any substance, or even jump the space between the rod and it, thereby causing great destruction to property. Therefore, the first element in a lightning rod should be its size or conducting power. 2d. Its perfect continuity, i. e., equal in all its parts. 3d. A ground connection that shall be equal to the conducting power of the rod. 4th. Well pointed and elevated, so as to lead off silently all the electricity possible.

These are the essentials for a good lightning rod. If the rod be sufficiently large, it may be connected directly to the building without insulation, as the electricity will follow the best conductor; but if the rod is small it should be insulated, as the danger from an electric discharge is much greater from above than from the earth or building.

Saved by Telegraph; or, in the Nick of Time.

BY BEN BREESE.

In the early part of 186— I received orders to report at B—, in the southern part of Pennsylvania, to perform the arduous duties of telegraph operator, ticket agent, and others, which in those days came under one head, and the compensation for which was limited to a very small amount. B— was a county seat, and here were held the courts of the county. I arrived during the closing hours of a murder trial; the man was convicted by circumstantial evidence and was sentenced to be hanged. Great efforts were made to obtain a reprieve, but all seemed to be of no avail. My office was at the depot, nearly a mile from the village and court house, which was obscured from view by a forest for nearly a quarter of a mile. The day of execution had arrived and no reprieve had been received, but the friends of the doomed man entertained great hopes that the reprieve would be sent by telegraph that morning. They had sent a telegram to the Governor and were momentarily expecting a reply. The clock had struck eleven and no reply had been received. I called H., but they had received no message. The hour of the execution was fast approaching; the friends of the doomed man were almost frantic with anxiety and sorrow. They had left the office and given up the last hope, as the execution was to take place at twelve o'clock. I was preparing to leave the office for dinner, when I heard H. calling me. I quickly answered the call. It was now eight minutes of twelve. It was the reprieve! I nervously copied the message, and, not waiting to give "O. K.," rushed madly out of the office without coat or hat, reaching the court yard where the execution was to take place—pushing by the soldiers who were guarding the jail yard, greatly excited, and yelling at the top of my voice, I was quickly admitted by the gatekeeper, and delivered the message to the Sheriff just as he was pinioning the arms of the doomed man.

The execution was stayed, and I received the heartfelt thanks of his anxious friends. A new trial was granted, and the man who was convicted by circumstantial evidence was proved to be innocent by the confession of the real murderer, who, in the first trial, had been the fiercest and bitterest witness in the prosecution. He was a short time afterward hanged. Again we have an instance of the achievements and benefits of the electric telegraph, which have been so often demonstrated since its first introduction by Prof. Morse.

Mr. I. D. Purkis and the Dominion Telegraph Company.

We have received the following for publication:

TORONTO, Feb. 11, 1875.

To the Hon. John McMurrick, President of the Dominion Telegraph Company.

MY DEAR SIR: It is with sincere regret that I feel it due to myself to resign the responsible charge I have held in the company for the past five years.

You and the executive are well aware that the relations between the secretary (Mr. Small) and the writer have been for some months past of a most unpleasant nature; in fact, I may say this has been the case since the time of his appointment, brought about by his meddlesome interference, and otherwise imprudent conduct, while neglecting the duties of his own department.

With a sincere desire to carry out my trust faithfully, and in such a way as to give you and your associates as little trouble and annoyance as possible, I have en-

deavored to work along amicably, and by such supervision as I could give, to keep his department working as satisfactorily as might be under his management. The late protracted investigation must have impressed your mind with the fact that it is only "hoping against hope" to expect the restoration of an amicable feeling. It is true you have fully sustained me throughout the investigation, and endeavored to define more clearly our respective spheres, with a view to lessen the chances of further unpleasantness; but having had cause to withdraw my confidence and respect, nothing can again restore them. The duties of your general manager are not light, and to carry out his important trust successfully, I hold he should have the hearty assistance of the secretary, and that officer should be a gentleman of judgment and discretion, capable and willing to render such assistance, instead of imposing many of his duties on the general manager's department. The manner in which the secretary's department has been conducted has given me a good deal of anxiety and annoyance, and convinced me, at least, of his unfitness for the important position. Holding these views of the secretary (which, I believe, are concurred in by Superintendent Neilson), I cannot, in justice to myself, retain a position which makes me responsible for the general affairs of the company, and I therefore beg to retire, and shall deem it a favor if you can conveniently relieve me by the 30th of April next, and in the meantime I shall do all in my power to be in a position to hand over my trust in the best possible condition to my successor.

Again expressing my regret at leaving, and thanking you cordially for the many kind considerations I have received at your hands, and wishing the company that continued success for which we have ever worked,

I remain, my dear sir,
Your obedient, respectful servant,
(Signed), I. D. PURKIS,
General Manager.

Extract from the minutes of a full meeting of the Board of Directors, held on Wednesday, the 24th day of February, 1875, at the head office of the company:

"The President having laid before the Board the resignation of the General Manager, Mr. Purkis, after full deliberation the following decision was come to:

"It is with regret that the directors feel that no alternative has been left them but to accept the resignation of Mr. Purkis, to take effect, according to his own wish, on the 30th of April next. In taking leave of Mr. Purkis, after a connection of nearly five years, the Board desire to express the kindly feeling which they have ever entertained towards him, and their appreciation of his past services."

The above is a true copy.
(Signed), J. C. SMALL, Secretary."

The Atlantic and Pacific Telegraph Company on the Pacific Coast.—Extensions of the Line.

IMPORTANT improvements have been recently made in the general offices of the Atlantic and Pacific Telegraph Company in this city. The office on the ground floor of No. 507 California street has been renovated and generally altered, to accommodate the necessary business of the company. The receiving and delivery clerks now have their desks on the right hand side upon entering. The partitions which separate them from the main floor are all attractively grained in imitation of oak. J. G. Bloomer, the Manager, has an inviting little private office in the corner. On the left hand side, upon entering, is to be found a row of six desks for the use of patrons of the line. These are divided from each other by small partitions of frosted glass set in frames. The office is altogether very attractively fitted up, and is suggestive of a decided transformation when the old dingy quarters are recalled in one's memory. Major Richard P. Hammond, the General Manager, occupies neat and commodious quarters on the floor above. The operating room is on the third floor. It has also been newly fitted up. Four day operators and one night operator are constantly engaged at work here. The Atlantic and Pacific Telegraph Company is constantly extending its lines on this coast. F. L. Vandenberg is General Superintendent of the Pacific Division. He reports that the company will soon have in operation a new line to Ogden and another to Virginia City—making six eastern wires in all. The company will soon be in telegraphic communication with Los Angeles. A gap between the southern terminus of the Southern Pacific Railroad and San Fernando has to be closed, when the communication will be complete. This will soon be accomplished, and the line will next be extended to San Bernardino.—*San Francisco Chronicle.*

The total number of messages forwarded from postal telegraph stations in the United Kingdom for the week ended February 20th, was 347,108—an increase on the corresponding week of 1874 of 20,612.

Correspondence.

We do not hold ourselves responsible for the opinions of our Correspondents. Our columns are open to free discussions on all Telegraphic subjects, without distinction of person or opinion.

No notice will be taken of anonymous communications.

Surprise and Indignation at the Acceptance of the Resignation of Mr. I. D. Purkis, General Manager of the Dominion Telegraph Company.

TO THE EDITOR OF THE TELEGRAPHER.

THE resignation of Mr. Purkis, as manager of the Dominion Telegraph Company, is the most interesting topic now under discussion in Canadian telegraphic circles, and is the cause of deep regret both to the stockholders and employes of the company. He resigns on account of serious trouble he has had with Mr. Small, the secretary of the company, whose inefficiency and insubordination annoyed and embarrassed Mr. Purkis to a very serious extent, and put an end to any possibility of that mutual good will and harmony of action, without which it is impossible for two such high officials to work together in the interests of the company. The secretary was formally charged by Mr. Purkis with neglecting his own duties and interfering too much in his superior officer's; with disobedience of orders, and transgressing in many cases his proper official authority, and other grave faults. The Board of Directors fully sustained him in all these charges, and passed a vote of censure upon the secretary, but did not make him resign. Of course, this was not sufficient to satisfy Mr. Purkis, who rightly considers the secretary's conduct highly detrimental to the interests of the company, and knows it is impossible for them to act harmoniously together; therefore, he resigned—the only manly course he could pursue under the circumstances. The acceptance of his resignation occasioned great surprise and indignation among the stockholders, and had a very depressing effect on the stock. Holders who, previous to it, were firm at 108½ came down to 105, while buyers were not offering better than par. The stockholders have entered a protest against the acceptance of Mr. Purkis's resignation, and it is expected that the Board will reconsider the matter. They have placed themselves in a very bad position, and the only way in which they can get out is by inducing Mr. Small to resign, as Mr. Purkis's services cannot be retained on any other terms. His retirement would be an irreparable loss to the company, as it would be almost impossible to secure another man of equal experience and ability. The company is young yet, but has already grown rich, and prospered beyond the most sanguine expectations of its originators and supporters, and it is generally admitted that its unprecedented success is mainly attributable to the untiring zeal and judicious efforts of Mr. Purkis, under whose management it has been brought triumphantly through the many financial and other troubles which once threatened to prove fatal to the enterprise. He has been a telegraph manager since 1849, and his long experience, thorough acquaintance with all the details of the business, splendid abilities, both natural and acquired, sound judgment, energy and application, combine to make him one of the best managers that could possibly be found anywhere. The acceptance of his resignation by the Board of Directors is about the most suicidal policy that could well be imagined, for, while it would be a very easy matter to get a far better secretary than Mr. Small, it will be almost impossible to get another manager as good as Mr. Purkis. It is only natural that great dissatisfaction and indignation should be expressed at the idea of the Executive Committee accepting the resignation of an able and efficient superior officer, and retaining an inefficient subordinate, and the stockholders have not been at all backward about signifying their disapproval of such a step. Personally Mr. Purkis is immensely popular, being affable in his manners, strictly honorable in all his dealings, and in every way fully entitled to "the grand old name of gentleman;" while Mr. Small may be briefly and accurately described as the very reverse of all this.

OBSERVER.

Another Protest Against the Retirement of Mr. I. D. Purkis.

KINGSTON, March 10.

TO THE EDITOR OF THE TELEGRAPHER.

ALTHOUGH I am a regular subscriber for THE TELEGRAPHER I have never before contributed to its columns. But the high esteem I have always manifested for our general manager, Mr. I. D. Purkis, would be hypocritical indeed were I to remain silent in regard to his retirement from the management of this company. It is a well established fact, that by

Mr. Purkis's able management of this company he brought Dominion Telegraph Company stock up from 85 to 110. He brought the company from the very doors of bankruptcy, and placed it in its present prosperous and profitable state. He has the esteem of every employe under him. A more popular gentleman, not only with his employes but also with the public, could not be found; and he is a gentleman who has proved himself irreproachable as a general manager. Still, in the face of all these facts, his resignation was accepted.

The great cry, some years ago, throughout Canada, was "Down with this telegraph monopoly—up with an opposition company and give us reasonable rates." Now, mainly through Mr. Purkis's indefatigable efforts, he has at last succeeded in giving to the country both a strong opposition and low rates; therefore, the people and press (not being ignorant of these facts) have taken the matter up, and with one voice condemn the action of the Board of Directors in accepting his resignation.

Every employe of this company heard the unwelcome news with deep feelings of regret, and hundreds of letters and messages were immediately forwarded to Mr. P. by his employes and the patrons of the company, expressing their regret and tendering him their sympathies. Stockholders and patrons of the company have forwarded petitions to the President, condemning the action of the Board in accepting his resignation, and requesting them to reconsider the matter, and expressing a desire to see Mr. P. immediately reinstated as general manager of the company.

I sincerely hope the matter may yet be satisfactorily arranged, and Mr. P. reinstated, as I am perfectly satisfied (after five years' service under him) another man to properly fill his place cannot be found. Besides, it is very unfair to him to be driven from the company by the causes set forth in his resignation, after working steady a lifetime, and when his aims have just been so handsomely achieved. I hope that Mr. Purkis will still remain at the helm, where he has so successfully managed the affairs of this company in the past.

R. J. EITBECK,
Manager D. T. Co.,
Kingston, Canada.

Regret at the Resignation of Mr. Purkis.

LONDON, ONTARIO, March 9.

TO THE EDITOR OF THE TELEGRAPHER.

THE shareholders and many friends of Mr. I. D. Purkis in this part of the province have heard with surprise and regret of his intended withdrawal from the General Managership of the Dominion Telegraph Company.

The cause of Mr. Purkis's resignation is a difficulty with Mr. Small, the Secretary, who has not performed his duties to the satisfaction of the manager. Mr. Purkis is well known in telegraphic circles, being one of the oldest and most experienced telegraphers in Canada.

It is sincerely hoped that the Board of Directors will reconsider their acceptance of Mr. Purkis's resignation, and not lose the services of one who enjoys the honor of having established the only successful opposition telegraph company yet started in the Dominion.

ELECTRICITY.

Quadruplex.

TO THE EDITOR OF THE TELEGRAPHER.

THE manifold praises of the Edisonian Quadruplex have been on many lips; its achievements, prospective and otherwise, recounted by the press. That gem of latter-day telegraphic journalism, *The Operator*, has lent its (organic) support, and even the careful conservative *Journal of the Telegraph* unhesitatingly endorsed it as an unqualified success in every respect.

Relying on these positive statements, an outside observer, unacquainted with its construction and its intricacies, would be led to have an unbounded faith in its capabilities, as asserted by its supporters, of quadrupling the capacity of a single wire, with equal facility and as perfectly as it is doubled by the duplex inventions and apparatus of Stearns and others.

That the advantages of this invention have been, to say the least, greatly exaggerated by its supporters, is evident to any one who examines carefully the principles on which the system is based, and the mechanical problems involved in the successful application of the same.

One of the most difficult electro-mechanical problems known to telegraphic inventors, viz., "the closing of one circuit through one set of points at precisely the same instant of time another circuit is opened through another set of points," must be accomplished before the present quadruplex can take rank in the list of perfectly reliable improvements in telegraphy.

With our superior American telegraphic talent, the deciphering of broken and almost unintelligible signals

is to some extent practicable, which, with the registering apparatus of other countries, would be impossible.

No contrivance has yet been invented for sending two messages on one wire in the same direction at once, without interfering with each other. Numerous efforts to do so have invariably failed.

I admit that perhaps Mr. Edisou has arrived nearer a practical realization of this idea than any one heretofore. In his method one series of signals are given by increase and diminution of battery influencing a common relay magnet at the receiving station; the other series by reversals of the sending battery producing signals on a polarized relay. The reversing transmitter closes two points before it opens two others, consequently there is a period of time when the sending battery gives no current to the line, necessitating a "breaking up" of signals on the common relay whenever closed during the act of reversal.

This is a difficulty fatal to the transmission of two non-interfering signals in the same direction.

To prevent sending currents from affecting the receiving instruments, Stearns' "Wheatstone Bridge" arrangement for duplex is used. This combination constitutes the salient points of this quadruplex.

Further research may finally overcome the imperfections of the invention. In its present condition it cannot by any means be relied upon, either as to carrying capacity or accuracy. I hazard the prediction that until decided improvements are made in the direction indicated, or a completely new arrangement substituted, free from such glaring deficiencies, the successful working of the system will be found impracticable.

If, as is currently reported, the large sum of \$750,000 was paid for the assignment of the patent when issued, it is only another illustration of the fact that inventions of questionable utility often command more money than those of real merit.

CON SPIRITO.

Defence of the Protection Life Insurance Company.

CHICAGO, March 1.

TO THE EDITOR OF THE TELEGRAPHER.

IT was the thing most remote from my mind, when I sent you the account of the Protection Life Insurance Company's banquet, to give that company a gratuitous advertisement in THE TELEGRAPHER. I merely intended it for telegraph news, but as a correspondent over the *nom de plume* of "One who Knows, not an Insurance Agent," has taken exception thereto, and in so doing given utterance to misrepresentations in regard to that company, I feel that it is my duty to reply, not only on account of my veracity in calling attention to the merits of the company being called in question, but also as an act of justice to the company. The main feature and burden of his complaint seemed to be that the city papers where he is located "contained a telegram from Chicago of still another judgment against the company;" and goes on to state that the suit whereon the judgment was obtained, "with the jury out but five minutes," was brought "by the widow of one of the oldest policy holders of the company." Does this fact, if it be true, warrant the assertion that the company is "a delusion and a snare," as characterized by this writer? and is the assertion that "this is but one of many similar cases with companies who pretend to afford such a cheap insurance to their patrons" calculated to scare any of your readers out of taking a policy in this company? The writer must have a very poor opinion of the business qualifications of the fraternity if he thinks those of your readers who want insurance would take for granted as true the assertions of an unknown correspondent, when they could obtain the names of persons right here in Chicago and elsewhere, of those who have also had experience with this same concern, and who have received every cent of their insurance. A well known insurance company sustained a loss six months ago, by the death of a gentleman in the far west, whose heirs reside in Minnesota. Besides being insured for a large amount in the company mentioned, he also had insurance for large amounts in other companies. As this well known company thought there might be some irregularities in regard to the gentleman's demise, the most rigorous examination into the details was made, and the policy is yet unpaid and will cause a lawsuit. Is this company any the less thought of? When we look at such things without personal prejudice, which is evidently not the case with your correspondent, they look differently. The company that will stand a lawsuit on a doubtful case is much safer to insure in than one which would pay a loss without any proofs of death; and if the Protection has stood a lawsuit and got beat in this or any other case, it is very far from demonstrating that it is an unsafe company to insure in. A life insurance policy, be it ever so simple in its contract between the insurer and insured, is a complicated affair, and its provisions should be well understood before accepting insurance; a question answered wrong, no matter whether through ignorance or knowingly, subjects the policy to forfeiture in

case it is proven that such is the case. I am unable to learn if such a case exists as far as the Protection is concerned, but wish to make it clear to your readers, if such a case does exist, it is no reason why parties who want cheap insurance should give this company a wide berth, as the thousands of losses they have paid, without being forced to do so by law, show that this is no game to fight every loss, as we are continually being told by the anonymous circulars and insurance press of the old line companies, which are put into the hands of members of the Protection at every street corner almost. Any of the fraternity who will take the trouble to send for circulars or papers to the company or any of its agents, or read the remarks of the *Chicago Times* (one of the most independent papers ever published) in regard to the Protection, can be fully satisfied that my former advice "to those who wanted cheap and reliable insurance," was in perfect good faith. With the class of persons who still cling to the antediluvian idea that to insure your life is a direct insult to your Maker, I have no sympathy, nor would I argue a moment with such a person; but to those who are ready to appreciate the benefits of life insurance I am willing to show that cooperative companies do not "steal the livery of heaven to serve the devil in," nor do "they at least raise hopes that are destined to be disappointed;" neither is uncertainty a prominent feature of this class of insurance and everything connected with it—as far as the Protection is concerned, at least. The amount the policy will yield is certain, all policies having been paid in full for the past three years. The assessments are made every month, and adding the ten cents for collection, a \$2,500 policy has cost me from two dollars and forty-three cents to two dollars and sixty-six cents per month; at no time have they exceeded or been less than that amount for a year and a half. I am between 26 and 40 years old. The entrance fee is \$14 for a policy for this amount and \$2 for medical examination; this sum, \$16, being followed the second year and every year afterwards by four dollars yearly dues, which, with the monthly assessment, constitutes the bugbear of "uncertain assessments." Your readers can average this and compare it with the cheapest rates of any life insurance company and see what the difference will be and how favorable the Protection will appear. According to law the insurance companies in Illinois are obliged to deposit securities with the State treasurer of \$100,000. The Protection has \$139,000 deposited and a capital paid up besides of \$200,000. Besides this, every State has its insurance laws, which the Protection has to comply with when it begins business there. The company differs only from other life companies in its way of doing business—hence the opposition of old line companies. The printed papers of the company will explain in regard to all the details, cost of other sized policies, etc. "The tenure of membership" and "the claim to indemnity" is just as certain in the Protection as in any other company. Its losses will not be greater in proportion to its membership than any other company, neither will it cost more nor as much to pay them as in other companies. "He who dies first," as a matter of course, don't pay as much as he that dies last, but if he who dies first had his choice he would rather pay more and live to pay as much as the last one; and when he does die, if he don't die till the last one, his friends get more than he paid in and he don't need it. When we look upon insurance on life as we do insurance against fire, "simply as an investment," not as a "tempting of Providence," etc., then we will begin to be sensible. All the other assertions of your correspondent, such as "the last man receiving nothing," "young paying too much," "old paying too little," "originators of the plan not understanding it," "gotten up to make money," "future will repeat the past," "the plan ultimately will fall to pieces," and that "all who have anything to do with it will be disappointed and deceived," is all "old line" balderdash, as he himself knows. In conclusion, I would say that the officers are men well known for their honesty and uprightness, as any one can ascertain by examination in the proper way.

INSURANCE, AND POLICY HOLDER No. 17,283.

The Telegraphs and Telegraphers of the Philadelphia and Erie Railroad.

NORTHWEST OF PENNA., Feb. 26.

TO THE EDITOR OF THE TELEGRAPHER.

The plan suggested by "Occasional," of Chicago, for getting up communications for THE TELEGRAPHER meets my views, and I will accordingly contribute my mite.

Not having seen any news from this section of the country, I will try and represent the Philadelphia and Erie line by giving a list of the stations, names of operators, etc., along the Middle Division. Telegraph matters are very dull, there being no changes made, but I will commence with Renovo, the terminus and

headquarters of the division. The town is beautifully situated on the north bank of the west branch of the Susquehanna River and between high and precipitous hills. The lines run through a very rough and mountainous country. Here are located the principal shops of the P. & E. road. The train despatching is done by Messrs. W. Irwin, Ed. D. Gardner and Erastus R. McCloskey—working eight hours each. The operators are Messrs. Chas. Utley, H. Garner—working half day and half night (12 hours each)—and P. H. Hayes, the ambitious youth of Rathbun City. He has attained quite a taste for billiard playing, and is a competent judge of a good segar. He works the through railroad and W. U. wires, with hours from 8 A. M. till 5 P. M.

Mr. Irwin is also chief operator, and has the management of the wires over the Middle Division. He is the oldest man on the road, having worked here since the division was first opened by Col. J. J. Lawrence, then Superintendent, in 1864.

Messrs. Gardner and McCloskey were promoted from the ranks within the past few years.

Mr. S. O. Malin, who was train despatcher (nights) on this division several years since, but lately chief operator and despatcher on the Bald Eagle Valley Division, was on the 1st of January promoted to the position of assistant train master on the Baltimore Division, with headquarters at York, Pa. Miss Flora Taggart is operator at Westport, the next station west. J. A. Van Daniker is operator and agent at Keating. Messrs. Chas. F. Golden, days, and Jno M. Given nights, at Round Island.

At Driftwood is the Junction of the Alleghany Valley Railroad, and the office is in a neat two story frame building located at the junction. It is on the second floor and is handsomely furnished. The wires of both roads are in the same office and run by Messrs. David B. Reed, C. W. Fisher and Wm H. Miller, days, and Mrs. S. Miller nights, at Sterling (watering station). Mr. Howard Laughton is day man at Cameron. At Emporium, the junction of the B. N. Y. and P. Railway, there is a night office run by Mr. Jas. L. Miller. At the station are Messrs. Jno. D. Logan, days, and George W. Corion nights; Miss Tina Dobson, days, and Miss Susan L. Chadwick nights, at Rathbun. At St. Mary's (the town of lager beer and pretzels) is Mrs. E. J. Clarke, days, and Mr. Byron F. Burdick nights.

Miss Annie M. Hayes (now the oldest operator on the division) days, and Miss E. A. Taggart nights. Miss Annie McKee is manager of the W. Union office over in the city.

Mr. E. K. Stevens is day man at Johnsonburg. Mrs. A. A. Johnson and her sister, E. A. Abbott, are the operators at Wilcox.

At Kane, the summit of the Alleghany Mountains and the western terminus of the division, are Messrs. Jno. B. Skelly, days, and James M. Fay nights, on the Middle, and Messrs. P. Small and W. A. Atherly on Western Division. Mr. Richard B. Donaldson, "extra artist," is working at Ridgway nights vice Miss Taggart, sick.

Mr. Jas. R. McAvoy, the skilled and obliging "line-man," keeps the wires in good shape on the division. He has been on the road since it was first opened.

With one exception the telegraph offices on this division are separate from the depot buildings, and conveniently arranged for the business of the road.

THE WANDERER.

Telegraphic Notes, Notions, Personals, etc.

CHICAGO, March 8.

TO THE EDITOR OF THE TELEGRAPHER.

We had a terrible storm here and all through the northwest on the 3d; very few roads were able to get trains through on time and some not at all. Since that time we have had alternately a stormy and a pleasant day until Saturday, since when we have had very pleasant weather. Mr. L. H. Long is at present subbing for one of the Northwestern Railroad Company's operators at Fort Howard, Wis., the latter being on the sick list. A great deal of sickness still exists among the fraternity here; "Ed." Whitford, of the W. U. Buffalo wire day force, and Charlie Robison (the old "vet."), of the W. U. night force, have both been down. Charlie's old enemy, the rheumatism, is after him again; he is able to be around with a cane again. I notice our friend "Armstrong," of the W. U. office, again on the street, as smiling and happy as of old, and upon inquiry ascertained his amiable young wife is now convalescent and in a fair way to recover.

"I'll cut you with this razor—I'll cut you deep, honey." Such were the words, in a careless undertone, that reached the ears of the boarders of one of our first class west side hash factories a few afternoons ago. The sounds proceeded from a room occupied by three of our well known "Knights of the Key." It took less time than it takes me to write this, for a goodly number to rush to the door, where, fearless for personal safety, they listened breathlessly

for further manifestations. "Now, what's the use in my taking it? I'll only have to be getting relief every few minutes and make the manager cross." "Well, you must take it; take it now or we'll go for you." "Where's my razor?" At this juncture the crowd could wait no longer, being certain somebody was going to be murdered; while one excited boarder shouted "police," the others forced the door open, which, by the way, was not locked, and found—two of the boys forcing another to take a seidlitz powder on account of some pretended breach of decorum he had committed by some of his witty sayings. The laugh was on the boarders, but they don't understand how operators can find any fun fooling with razors and seidlitz powders, both being quite effective.

It has just come to our notice that Supt. Towler, of the A. & P., is married and has been for some time; don't know how true it is.

There is a great deal of complaint among the W. U. night men about that "darned old noon hour," and it does seem as if some way might be devised so as not to rob the night men of their only recreation, a whole day of rest and recuperation from the toil of the night. I will probably refer to this subject again.

OCCASIONAL.

Appreciation and Patronage of The Telegrapher.—The Electric, Automatic, etc.

CHICAGO, March 3.

TO THE EDITOR OF THE TELEGRAPHER.

"OCCASIONAL" gleans the news so closely in this vicinity that it is hardly worth while for any one else to attempt a letter from the "Garden City," but lest you should construe our silence into non-appreciation of your efforts to furnish a clear, simon pure telegraph journal, devoted entirely to the interests of the fraternity, we throw in our mite. Some forty numbers of THE TELEGRAPHER are taken in this office, read, and what is better, paid for before being read. It has become a thing of rare occurrence to near one operator ask another to lend him his TELEGRAPHER, while previous to the appearance of *The Operator*, but half a dozen copies of THE TELEGRAPHER were taken, and borrowing was the order of the day. *The Electric*, a spicy little sheet published on the 5th and 20th of each month, in St. Louis, by Messrs. J. W. McDouald and Fred B. Moxon, has made its appearance in our midst, Mr. Tierney being the Chicago agent. It is printed on plain paper, is very unpretentious and full of fun; we bespeak for it quite a liberal patronage here if it is wise enough to let THE TELEGRAPHER alone. If not, it may go to rest, with *The Switch*, *Fraternity*, etc., who at their birth seemed to think, as *The Operator*, that they were destined to supplant THE TELEGRAPHER.

Ed. Angell, secretary to manager Swain, of the W. U. office here, is, I am informed, a "single man" again, ready for fresh conquests, having recently been divorced from his second wife, "and yet he is not happy."

The Atlantic and Pacific Company have the Automatic in fair working order here now, but are not as yet working it up to its full capacity.

CONSERVATIVE.

Coming Events Cast Their Shadows Before.

TO THE EDITOR OF THE TELEGRAPHER.

THERE was, at the time President Orton made the assertion that the Western Union Company claimed to own all the patents to be issued upon duplex telegraphy for which applications were then pending, an application on file for nearly one year in the U. S. Patent Office, for a duplex telegraph system so far ahead of even the wildest dreams of the quadruplexionists, that I dare not now venture to offer anything more than a mere hint upon the functions of this new invention. And as, of course, the W. U. Co. would not claim to own anything that is worthless and totally inoperative, even this incomplete skeleton of a description may be of interest to your readers. Without adding any new transmitting or receiving instruments, and without the least change in the instruments now in use in any system of single telegraphy, this new system makes possible the simultaneous communication between any four offices on one line, without any intermediate ground connection; and this, too, with as effective a working current for each office as the best duplex now in use. It is, in fact, nothing less than a

REAL DUPLEX.

The well worked and well managed Indo-European line has obtained—in the year 1874—an increase of 45 per cent. on its receipts, they having risen from £54,897 in 1873 to £79,456. The Government have agreed to reduce the rent payable by the company for the use of the land and cable wire from £12,000 to £6,700 per annum.

THE TELEGRAPHER

DEVOTED TO THE INTERESTS OF THE TELEGRAPHIC FRATERNITY.

SATURDAY, MARCH 20, 1875.

THE TELEGRAPHER:

PUBLISHED EVERY SATURDAY at 38 VESEY ST.

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J. N. ASHLEY, Publisher,

(P. O. Box 5503.)

38 VESEY ST., New York.

Activity of Telegraphic Invention.

THAT there is at the present time great activity of telegraphic invention is evident. This has been much stimulated lately by the importance given to such inventions, through the competition that has recently assumed such prominence for the telegraph business of the country. This competition has always existed to a greater or less degree, but until lately it has not, since the consolidation of the Western Union, United States and American Telegraph Companies, under the Western Union organization, been of a very pronounced or important character. The Western Union Company has had things pretty much its own way, and its managers have been inclined to regard their competitors as of not much account, and ready to be "consolidated" whenever it should be considered politic to take them into the mammoth organization.

New elements have recently entered into the contest, which threaten to give that organization a much more vigorous contest than any which it has had to encounter since the United States Telegraph Company was consolidated out of existence.

To both parties improved apparatus has become of vital importance, and, consequently, telegraphic inventors who, for some years past, have been regarded as bores and nuisances, suddenly find themselves in favor, and their claims to notice, recognition and acceptance, listened to with respectful attention. All parties are now desirous of securing the advantages which may be derived from a development of the greater capacity of telegraph lines and apparatus. The fact has become recognized that the party which shall avail itself of these most fully will possess a decided advantage over its competitor or competitors.

That this state of telegraphic affairs affords the opportunity for the inventive talent and genius of the country which has hitherto been wanting, is unquestionable. Those who have, or suppose they have valuable telegraphic improvements to bring out and develop, are not slow to recognize the fact, and accordingly they are pressing forward vigorously with their inventions and improvements. A number of these have already been secured by the Atlantic and Pacific combination; some of them, of course, merely to be shelved and kept away from the Western Union, and others to be tested and adopted if found really advantageous and practicable. Among these stands first and foremost the automatic system, which has been

dragging along for the past five years, but which, under the new auspices, is demonstrating its value and importance. The duplex system of D'Infeville has also been secured by the Atlantic and Pacific and the Southern and Atlantic companies. Other inventions are being tested which promise important results, and unless the Western Union managers shall act with more than their usual vigor and promptness, they will find themselves outwitted by their competitors, whose action is not hampered and retarded by similar entanglements of red tape. The much vaunted quadruplex, upon which the Western Union managers built such "great expectations," is by no means secured to them, the title being in dispute, and not improbably to be eventually wrested from them. All that the Western Union Company is sure of thus far is the duplex invention of Mr. STEARNS, and it is claimed that even this is subject to a prior patent of Mr. MOSES G. FARMER, which that company does not own, but which, if it is what is claimed for it, they will do well to speedily secure.

We do not regard the quadruplex, in its present shape at least, as of anything like the value and importance which has been claimed for it. What improvements may hereafter be made in it we cannot say; but until it is very materially improved we do not regard it as worth the money which is being spent to secure and introduce it.

That the result of all this inventive activity is likely to be the development of further important improvement in telegraphic apparatus, we think is certain. Telegraphy has entered upon a new era, and the telegraphs of the future are no doubt destined to prove an immense advance upon anything which has been witnessed hitherto. If there be less of pure science among the electricians and telegraphers of this country than of Europe, they can certainly demonstrate their superiority to their European brethren in practical development in the telegraphic art.

[From the Scientific American.]

A New Telegraph Alphabet.

To the Editor of the Scientific American.

THE ordinary Morse telegraph alphabet, consisting of dots, dashes and spaces, answers very well when a register is used, and the signals are recorded on paper; but since the sounder instrument has almost entirely superseded the register this alphabet is defective, as the sound of a dash is very much like the sound of a dot with a succeeding space. This fact suggested to my mind the idea of forming an alphabet which would consist entirely of dots and spaces, and thus lessen the liability to mistakes in transmitting messages by sound. I selected an article in a newspaper, ascertained how many times each letter occurred in it, and arranged them in tabular form, placing the letter which occurred most frequently first, thus:

Table showing letter frequencies: E.....154 times, R.....69 times, G.....25 times, V.....14, N.....112, L.....57, F.....24, K.....5, T.....108, C.....52, Y.....22, J.....3, A.....99, O.....52, P.....20, X.....1, I.....82, D.....51, B.....17, Q.....0, S.....69, H.....49, M.....17, Z.....0, U.....40, W.....16

The alphabet was then formed by denoting the first letter in the table by the simplest character possible—that is a single dot; the second one is denoted by two dots, the third one by dot, space and dot, thus:

Table showing letter representations: E - - - R - - - - G - - - - W - - - -, N - - - L - - - - F - - - - V - - - -, T - - - C - - - - Y - - - - K - - - -, A - - - O - - - - P - - - - J - - - -, I - - - D - - - - B - - - - X - - - -, S - - - H - - - - M - - - - Q - - - -, U - - - U - - - - W - - - - Z - - - -

Addison, Mich.

JOHN MILLIS.

Such an alphabet as the above would be very useful for amateur and private lines, and could be worked on a single stroke bell with considerable rapidity as well as on a MORSE sounder. Anybody will learn to read it by sound with very little difficulty. An alphabet on this principle is used in this way on some lines in and about Cincinnati and other western cities. The

alphabet may be arranged in the form of a table, for convenience of reference, as follows:

Table with 7 rows and 6 columns: 1 E T I L H P J, 2 N S C U B X, 3 A O G M Q, 4 R F W Z, 5 D V, 6 Y, 7 K

To transmit any given letter strike first the number of dots indicated by the figure in the left hand column, and then, after a brief pause, the number above it in the top line.

For rapid work, such as ordinary commercial telegraphing, the above alphabet would take more time and render the liability to error greater than it is at present. Most of the errors in telegraphing, other than those from bad copy, are due to the spaced letters, of which there are now but five in the MORSE alphabet, while in Mr. MILLIS's alphabet there are no less than nineteen. But when sent at a moderate rate of speed, the latter is much the easiest of the two to read by sound.—[ED. TELEGRAPHER.]

Literary.

THREE MONTHS ON THE CONTINENT.

WE have received from Mr. W. H. K. GODFREY, of Waterbury, Conn., a copy of a work printed by him for private circulation, entitled Three Months on the Continent. The author in the preface disavows the habit of so many persons who go abroad and then return and write a book. The matter contained in this little volume was originally a hastily written series of letters to the Waterbury American, and is now published in book form at the request of friends, and mainly for private circulation. It is, however, an interesting volume, and the author has no occasion to apologize for its publication, even if it were intended for general circulation.

Mr. GODFREY, in May last, was called to Europe by business engagements, and was absent for three months, during which time he visited a considerable portion of the Continent of Europe, and he evidently travelled with his eyes open, and his observations are recorded in a very clear and interesting manner. He has taken pains to collate a large amount of information in regard to the places visited and the objects seen, and the work will repay perusal.

Appended to the book is a description of a visit to the northwest region of our own country, made by Mr. GODFREY in 1873, and which also appeared originally in the American.

As a writer, Mr. GODFREY is clear and simple in his style, without the straining for effect which characterizes so many amateur literary contributors, and he succeeds admirably in placing before the reader the impressions which are caused by the scenes and places visited.

This little book possesses the more interest for us and for telegraphers generally, from the fact that we were for some years associated with the writer as operator on the old New York and Boston House telegraph line, a business which he retired from many years ago, still retaining however, his regard for the profession, and for those yet engaged in its active duties.

The book is very beautifully printed and bound, and is worthy a place in any library.

The Nondescript Edison Organ's Blackguardism.

WE have received several communications for publication indignantly responding to the filthy blackguardism and falsehoods of the nondescript EDISON organ in its attacks upon THE TELEGRAPHER, its publisher and contributors. Our space is too valuable to be occupied with these, and while we are grateful to our friends for their kindness, we would merely say that, as for the blackguardism, "it is characteristic of the publisher of the nondescript; and as for its

falsehoods in regard to the circulation, etc., of the paper, they are characteristic of his *confreeres* and principal assistants, contributors, and boon companions, especially the great professor of duplicity and quadruplicity, EDISON. They don't injure us or THE TELEGRAPHER, as their animus is well known, as also their falsity.

We have already occupied too much space in replying to the filth of this disreputable publication in regard to ourselves and the paper. We cannot hereafter condescend to notice any *personal* attacks from that source. So the publisher, the professor of duplicity and quadruplicity, etc., can fire away at us to their hearts' content, and to the full gratification of their low lived and contemptible natural instincts and character.

American Fire Alarm Telegraph.

THE merits and reliability of the American Fire Alarm Telegraph System, of which Messrs. GAMEWELL & Co. are the proprietors, are so generally known, and have been demonstrated so thoroughly by many years of practical use in nearly every city of any importance, and in many of the less important cities and villages in the country, that competition has proved practically useless. Even on the Pacific Coast none but GAMEWELL & Co.'s system meets with recognition. The Construction and Maintenance Co., of San Francisco, who are agents for this system, have just closed a contract for introducing it in the City of Portland, Oregon. The City of St. Louis, Mo., has also ordered an additional hundred boxes, in order to render its system more complete and effectual. Other important contracts are nearly closed, which are likely to make the present an active and profitable year for this enterprising firm.

A New Arrangement.

THE friends of Mr. JESSE H. BUNNELL, late of Philadelphia, will be pleased to learn that he has become connected in a practical business capacity with the enterprising firm of L. G. TILLOTSON & Co., of this city. Mr. BUNNELL is well known as a telegraph electrician and inventor of ability, and has heretofore invented, manufactured and introduced many new improvements in telegraph instruments, which have received the approbation of telegraphers generally and become recognized for their practical merit and beauty.

In connection with so extensive and well equipped an electrical establishment as that of Messrs. TILLOTSON & Co., he will have an excellent opportunity for the general introduction of his well known specialties, together with additional results of his experience and inventive skill and talent, which will no doubt prove satisfactory to their numerous patrons, as well as to his personal friends.

The Protection Life Insurance Co.

WE print a communication from Chicago in defence of the Protection Life Insurance Co., and in reply to a former communication over the signature of "One Who Knows." With this communication we close the discussion in the columns of THE TELEGRAPHER, as such a discussion is inferminable, and outside the province of this paper. The pressure upon our columns of legitimate telegraphic matter will not admit of our further departing from our rule of devoting the paper exclusively to telegraphic and electrical subjects.

Personals.

Mr. CHAS. E. BURROUGHS has returned to St. Louis with his bride and bears the affliction nobly.

Mr. JAS. A. MURRAY, of St. Louis, Mo., is off on a month's leave of absence, looking after his farming interests at Adrian, Michigan. James is the fortunate possessor of considerable property in the Badger State.

Messrs. A. E. VAN TINE, T. P. COOK and H. C. MAHONEY, of the Western Union Telegraph Co., St. Louis,

Mo., played a match game of billiards, French carom, at Mussey's billiard parlor, on the evening of the 6th instant, Mr. MAHONEY winning by four points. The game was very close and was watched with much interest by a large crowd of spectators, who frequently applauded when a fine or brilliant play was made. The game was 300 points, and averaged as follows: VAN TINE, 3-19-67; COOK, 4-16-1; MAHONEY, 4-2-7.

Mr. LESTER, of the New York duplex, in the Western Union office, and Mr. FRED McMULLAN, of the Gold and Stock, Chicago, Ill., who have been laid up with the measles, have recovered and are again attending to their duties.

Mr. "WARLEY" COOPER has general charge of the Baltimore and Ohio Railroad General Agent's office, near the corner of LaSalle and Washington streets, at Chicago, Ill., as telegraph operator.

It is rumored that Mr. O. M. STONE, of Chicago, Ill., has been promoted and gone to Baltimore, Md., for the B. & O. R. R. telegraph.

Mr. EMERY has been transferred from Chicago, Ill., A. & P. office to the Omaha, Neb., office, of the same company.

Mr. MAYNARD HUYCK has recently been appointed night manager of the Atlantic and Pacific Chicago office. This is an excellent appointment.

It is rumored that Mr. RUDD, the present day chief of the Atlantic and Pacific Chicago, Ill., office, will go to Detroit in a few days to arrange for the introduction of the automatic system on the lines of the company there. Mr. DAN SWRETT is prominently mentioned as Mr. RUDD's successor.

Mr. FORTIER, of the W. U. Chicago, Ill., day force, who has been confined to his room recently by a severe abscess in the mucous membrane of the mouth, has recovered and returned to duty.

The Telegraph.

District Telegraph Company in San Francisco, Cal.

ARTICLES of incorporation of the American District Telegraph Company were filed March 5th, in the office of the County Clerk, at San Francisco, Cal. The purpose for which the corporation is formed, are: "To erect, maintain and operate in the City and County of San Francisco telegraphic lines connecting the offices of the corporation with the residences, offices and houses occupied by its patrons, and with other points, for the purpose of transmitting fire alarm, police, messenger and other signals; to send and receive telegraphic messages; to maintain and operate telegraphic and signal systems other than its own; or to purchase, lease, or make other contracts concerning the same; to do a private fire alarm, police, delivery and general messenger business; and generally to do everything appertaining to the business of a city telegraph." The Directors are George S. Ladd, James Gamble, Monroe Greenwood, Stephen D. Field and James T. Boyd. The capital stock is \$125,000, divided into 1,250 shares of the par value of \$100 each. It is intended to establish in the city several districts, and to have a central office in each. The estimated length of the telegraph lines is one hundred miles. The amount of capital stock actually subscribed is \$50,000.

Proposed Legislation Compelling Telegraph Companies to put their Wires Underground.

ON Friday last, March 12th, Mr. Daly introduced in the Assembly at Albany a bill to abolish telegraph poles in cities in this State, and put the wires underground. The bill provides that within six months after the passage of the act in all cities of the State containing more than 200,000 inhabitants, telegraph companies shall be required to place their wires beneath the surface of the street or sidewalk; and the use of telegraph poles within the city limits shall cease, and the local authorities in charge of streets, avenues, and all public thoroughfares in such cities shall cause the same to be removed within the same period.

This bill would apply only to the cities of New York and Brooklyn. It is hardly probable that so important an act, and one involving so great a change and such large expenditure of money, will be passed at this session. It requires very careful consideration and perfection, in order not to work injustice to existing companies and interests. The time (six months) within which the change shall be effected, is too short, and in any such act should be extended to at least a year.

We think that it is desirable and inevitable that the wires should eventually go underground in large cities, but we do not wish to see any crude legislation on the subject that will subject telegraph interests to unnecessary inconvenience and expense.

Telegraphic Instrument Test.

A NUMBER of telegraphic instruments have been for some time in operation upon the Government lines between the Capitol and War Department, constructed and arranged upon a plan invented by Mr. Merritt Gally, of Rochester, N. Y. This test of the instruments is being made to allow the Government officials an opportunity to examine the system, which is also attracting considerable attention from parties interested in telegraphic matters. The important feature of this system arises from the fact that at a comparatively little expense, and but little change of instruments, a common telegraphic line, with instruments arranged for single transmission, as per the old Morse system, may be converted into a line for transmitting messages in both directions simultaneously, with ability to drop copy at either, or both of the messages at any or all of the way stations of the line, and that no divided currents are employed, and therefore double batteries and resistance coils are dispensed with. No accuracy is required in the balancing of batteries. In reference to this point, it may be said that the line above referred to has been operation with batteries over 25 per cent. out of balance, and still a margin of over 20 per cent. remained for the adjustment on instruments. The invention, therefore, seems to possess considerable merit, and it is believed that it may be made successful and safe to place even in the hands of the most ordinary operators. Preparations are being made to place Mr. Gally's invention not only on other of the Department lines but also on those of the signal service.

The Atlantic and Pacific and the Western Union Telegraph Companies, as well as others, are also looking into the merits of the invention, with a view to its adoption, should it prove in every way satisfactory.

The most ingenious and perhaps most important instruments exhibited by the inventor are those for automatic transmission, in which the objections urged against the automatic in common use seem to be entirely obviated. The invention is emphatically "automatic," a single operator with a keyboard not only preparing and accumulating the message matter for transmission, but at will transmitting any portion of the same to its proper destination, having perfect control of his entire work, even over a number of lines, while sitting at a single instrument. He also exhibits an instrument which requires no perforated message strip, but by means of a peculiar but simple mechanism accumulates message after message, held within the instrument until such time as the line can be secured, when, by the stroke of a single key, they are sent into the line complete.—*Washington (D. C.) Republican.*

Foreign Telegraphic Notes.

It is not often that a telegraph ship has to pass the ordeal of a military bombardment. This has happened to the Caroline, while laying a short cable on the Spanish coast. The Carlists have driven her from her work, and she has since been engaged in repairing the Lizard cable.

The Standing Committee of the Dominion House of Commons has reported the Marine Telegraph Bill, having first inserted a clause declaring that the Act does not affect any right of an existing company to compensation, if such a right there be, should that company be excluded from the shores of the Dominion.

A telegram from Copenhagen states that the Great Northern Telegraph Company has received a telegram from China, stating that the land line from Foochow to Amoy has been destroyed by persons hostile to the construction of telegraphs. The material was also destroyed or carried away, but the members of the telegraph staff remain unmolested.

Six wires, operated with Hughes' printing telegraph instruments, are now worked, connecting the London Stock Exchange and the Paris Bourse.

The Submarine Telegraph Company have declared a dividend for the six months ending December 31st, at the rate of 16½ per cent. per annum, less income tax, payable on and after March 1st.

The Telegraph Construction and Maintenance Company of London had constructed, at the close of 1873, 37,211 miles of telegraph cable, to which was added 5,973 miles laid in 1874.

The "Sydney Hall" recently left Messrs. Siemens' works at North Woolwich with a cable for the Montevideo and Brazilian Telegraph Company, and would soon be followed by the "Ambassador" with the cable manufactured to replace that lost in the La Plata.

The "Hooper" has successfully laid the cable between Trinidad and St. Croix, the insulation of which is reported to be superb.

The members of the telegraphic staff of Cuba and Puerto Rico have addressed a memorial to the Minister for Transmarine Affairs, complaining that vacancies

arising in those islands are supplied by telegraphists from Spain, and that thus they are deprived of the prospect for promotion.

Telegraphic and Electrical Brevities.

Messrs. FOOTE and RANDALL have sold to the Gold and Stock Telegraph Company all their patents for this country for printing telegraph inventions.

A fire at Gloucester, Mass., on Monday last, burned out the office of the Western Union Telegraph Co. at that place. The instruments were saved.

The dividend of two per cent. on the shares of the Western Union Telegraph Company, declared on the 10th inst., is payable April 15th to shareholders of record on the 20th of March, and the transfer books will be closed from the 20th inst. to April 16.

A Telegraph Manager in Trouble.

Mr. J. FRANK MORRISON, night manager of the Baltimore, Md., Western Union office, has been discharged, for allowing the contents of certain important despatches, which passed between the Presidents of the Erie and the Baltimore and Ohio Railroad Companies, to get into the possession of a reporter of the Baltimore Gazette, and which were published in that newspaper. He has also been prosecuted for misdemeanor, which, under the laws of Maryland, is punishable by imprisonment for three months, or a fine of \$500.

Proposed Legislative Reduction of Telegraph Tolls in Ohio.

IN the Lower House of the Ohio Legislature, on Wednesday last, the 17th inst., a bill was passed to regulate charges for telegraph messages, so as to reduce the present rates about twenty per cent.

Merited.

ON the 10th inst. the following message passed over the O. & C. Railroad telegraph line: "Portland, Feb. 10, 1875—All operators O. & C. R. R.—W. B. Rice has been appointed Chief Operator, vice J. J. Kenay, resigned. His instructions will be obeyed accordingly. Signed—C. D. Failing, Superintendent." Promotion was never more worthily bestowed or more honestly earned. Bill is among the best manipulators of chain lightning, and is the most popular operator on the line. 'Ror for Bill!—The Albany (Oregon) Register.

Obituary.

MR. ABEL GUYOT.

THE Journal Le Havre announces the death of this gentleman, which occurred at Havre on the 9th of February.

From this journal we learn he entered the telegraph service in the humblest capacity in 1853. At the time of his death he was Inspector, having by his merits advanced through all the lower grades to that position.

On account of his able management of the telegraphs, including the Semaphoric system, during the siege of Havre by the Prussians in 1872, he was decorated with the title of Chevalier of the Legion of Honor, a title that is rarely conferred, and only in acknowledgment of the most undoubted merit.

He was a gentleman of high attainments and a member of many of the societies of learning and science.

He was secretary of the Commission de Perfectionnement. This commission embraced some of the most eminent electricians of France, including Gauguin, Blavier, DuMoncel and others.

M. Guyot wrote the reports of this commission upon the various subjects of their investigation—a labor that could be performed by none except a thorough electrician.

It was his report upon batteries that brought to notice the Callaud and its subsequent adoption in France. The first Callaud pattern of the plates that came to this country was sent by him, and his report, which appeared in the Philosophical Journal, was the first introduction of that battery in this country.

Considering that he has always lived in France and been actively engaged since a lad in the telegraph service, he wrote and spoke in English with remarkable clearness, so much so that one would scarcely realize it was not his native tongue.

M. Guyot died of a lingering and painful internal malady, which defied the skill of the most eminent physicians. He was about 45 years of age.

He has been a subscriber to THE TELEGRAPHER for the past eight years.

The Telegraphers' Mutual Benefit Association.

RECEIPT OF ASSESSMENTS—NEW YORK, March 10, 1875.

ASSESSMENT No. 73.

2, 4, 16, 21, 28, 38, 54, 59, 60, 64, 65, 67, 77, 80, 82, 86, 88, 90, 91, 95, 98, 113, 121, 131, 138, 145, 146, 157, 176, 177, 179, 181, 188, 201, 202, 208, 211, 215, 217, 220, 235, 245, 254, 269, 274, 276, 277, 280, 286, 289, 301, 302, 312, 342, 344, 346, 349, 351, 352, 367, 383, 385, 398, 402, 405, 413, 418, 434, 447, 464, 467, 509, 510, 532, 536, 545, 547, 549, 553, 554, 564, 576, 585, 587, 592, 594, 603, 604, 615, 622, 626, 655, 662, 663, 664, 665, 669, 672, 685, 715, 721, 731, 740, 742, 787, 799, 815, 821, 830, 832, 842, 843, 858, 859, 873, 880, 886, 912, 916, 917, 923, 932, 941, 978, 1000, 1013, 1023, 1024, 1038, 1039, 1054, 1104, 1126, 1127, 1143, 1144, 1147, 1154, 1169, 1173, 1175, 1178, 1182, 1183, 1199, 1208, 1232, 1252, 1255, 1260, 1267, 1276, 1282, 1298, 1300, 1304, 1306, 1325, 1329, 1333, 1345, 1357, 1364, 1365, 1368, 1394, 1402, 1403, 1404, 1409, 1410, 1440, 1484, 1485, 1489, 1516, 1517, 1518, 1532, 1550, 1554, 1555, 1568, 1569, 1571, 1572, 1590, 1593, 1594, 1615, 1619, 1623, 1630, 1635, 1652, 1658, 1684, 1687, 1688, 1695, 1708, 1709, 1710, 1713, 1724, 1735, 1743, 1790, 1811, 1812, 1815, 1831, 1839, 1840, 1841, 1852, 1862, 1894, 1901, 1906, 1919, 1943, 1944, 1950, 1965, 1970, 1986, 2019, 2021, 2026, 2027, 2028, 2030, 2038, 2040, 2041, 2044, 2049, 2057, 2066, 2069, 2072, 2082, 2084, 2097, 2119, 2135, 2138, 2150, 2162, 2164, 2172, 2174, 2178, 2180, 2183, 2184, 2185, 2199, 2203, 2204, 2205, 2206, 2212, 2213, 2214, 2221, 2228, 2229, 2233, 2234, 2240, 2241, 2242, 2243, 2244, 2254, 2257, 2259, 2273, 2287, 2289, 2309, 2310, 2312, 2322, 2330, 2331, 2333, 2334, 2335, 2336, 2337, 2338, 2340, 2341, 2342, 2343, 2344, 2345, 2347, 2350, 2354, 2355, 2356, 2360, 2379, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411.

ASSESSMENT No. 72.

8, 29, 555, 2239, 2275, 2276, 2277, 2280, 2285, 2288, 2290, 2305, 2311, 2367, 2368, 2371, 2375, 2376, 2377, 2378, 2380, 2381, 2382, 2383, 2384, 2385, 2386.

ASSESSMENT No. 71.

6, 175, 178, 273, 294, 319, 347, 579, 692, 766, 1134, 1135, 1136, 1139, 1295, 1511, 1678, 1722, 1727, 1778, 1854, 1921, 1994, 2063, 2182.

Members of the Association who look to THE TELEGRAPHER for receipt of assessments paid, will please take notice that an acknowledgment of the receipt of one assessment should be taken as a receipt for all previous assessments.

Quotations of Telegraph Stocks at N. Y. Stock Exchange.

Showing Lowest and Highest Prices each day during week.

Table with columns: March, WESTERN UNION, ATL. AND PAC., AMER. DIST., GOLD AND STOCK. Rows show bid and asked prices for various dates in March.

New Patents.

For the week ended January 26, 1875, and bearing that date.

159,028—ELECTRO-MAGNETIC DENTAL TOOLS.—Geo. F. Green, Kalamazoo, Mich, assignor to Samuel S. White, Philadelphia, Pa. Filed January 13, 1871.

Drill driven through gearing from the spindle of the revolving electro-magnet, which is mounted on the same frame with the drill. Cam wheel upon drill serves to impart a reciprocating motion to a file, saw or burnisher, which may be attached to the frame.

- 1. The combination, substantially as hereinbefore set forth, of an electro-motor and a dental instrument, upon which it is mounted.
2. The combination, substantially as hereinbefore set forth, in a dental implement, of a permanent magnet, a rotating electro-magnet, and gearing actuated by the rotating magnet.
3. The combination, substantially as hereinbefore set forth, of a dental instrument with an electro-motor and a reversing button mounted thereon, for the purposes described.
4. The combination, substantially as hereinbefore set forth, of the magnets, the socketed spindle, and the casing.
5. The combination, substantially as hereinbefore set forth, with an electro-motor, its driving gearing and casing, all mounted on a common frame of a detachable tool holder, for the purposes described.
6. The combination, substantially as hereinbefore set forth, of a dental instrument, an electro-motor mounted thereon, and a reciprocating tool holder.
7. The combination, substantially as hereinbefore set forth,

of the horseshoe magnet, the rotating electro-magnet and the frame B, for the purposes described.

8. The combination, with the frame of a dental instrument, of the electro-motor, the spindle, the gear wheel and the cam wheel M, for imparting to the tool either a rotary or a reciprocating motion, substantially as set forth.

159,083—ELECTRICAL INDICATORS FOR LETTER BOXES.—Henry R. David, New York, N. Y. Filed Sept. 23, 1874.

The weight of the letter tips the balanced platform, thus closing the circuit to a distant electro-magnetic alarm.

The letter receptacle or box provided with a balanced platform, that is moved by the weight of a letter, in combination with a circuit closer and connectious to a distant alarm or indicating apparatus, substantially as set forth.

A NEW ARRANGEMENT. L. G. TILLOTSON & CO.

have much satisfaction in announcing that they have formed a connection with Mr. JESSE H. BUNNELL, late of Philadelphia.

In addition to their hitherto extensive Catalogue of Telegraphic and Electrical Goods, Mr. Bunnell's inventions—including his Giant Sounder, Champion Learner's Instruments, etc., etc.—will now be manufactured by this house and on sale at their warehouses.

Our new Catalogues will soon be ready for distribution, and we shall continue our discount of 20 per cent. from List Prices on all Telegraph Instruments, including Mr. Bunnell's specialties.

Estimates and equipments furnished promptly for Telegraph Lines of any length.

L. G. TILLOTSON & CO.,

8 Dey street, New York,

Corner Chestnut and South Fourth streets, Philadelphia.

Referring to the above notice, I beg to inform my friends and the telegraphic fraternity generally, that I have associated myself with the well known house of L. G. TILLOTSON & CO., who, with the most extensive and best appointed Telegraph Instrument Manufactory in America, will hereafter manufacture all articles of my invention. I will, as heretofore, give particular attention to the design and construction of special work in Instruments, Switches or large offices, etc., in which departments my experience as a practical telegrapher is always at the service of my friends. I respectfully solicit the patronage of my old customers in my new place.

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IMPORTANT NOTICE.



After JANUARY 1st, 1875, we will allow TWENTY CENTS for each used-up Porous Cell of this Battery that are returned to us free of charge, in good order. A change is made in the discount to the trade. A list will be furnished on application to

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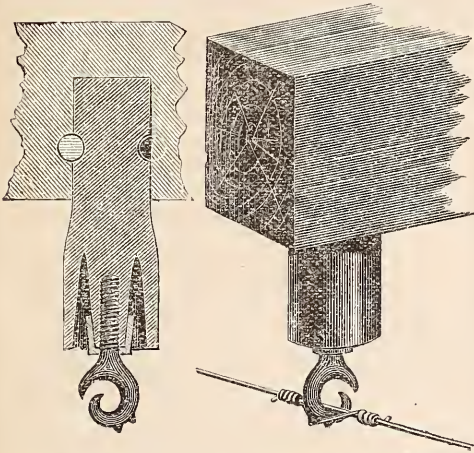
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**TELEGRAPH COMPANIES and
TELEGRAPH CONSTRUCTORS**

are invited to examine the merits of our new and improved patterns of



KENOSHA CARBON INSULATORS!

These insulators are made of wood, thoroughly baked, and covered with an INDESTRUCTIBLE COATING, highly repellent of moisture, which does not change nor deteriorate after years of exposure to the weather.

THE KENOSHA INSULATOR has now stood the test of SIX YEARS' actual service, and we feel warranted in stating that, although costing but little if any more than the ordinary glass insulator, its insulating qualities are on an average

MORE THAN TEN TIMES AS GREAT

during the prevalence of rain or fog.

Immense numbers of these insulators are in use by

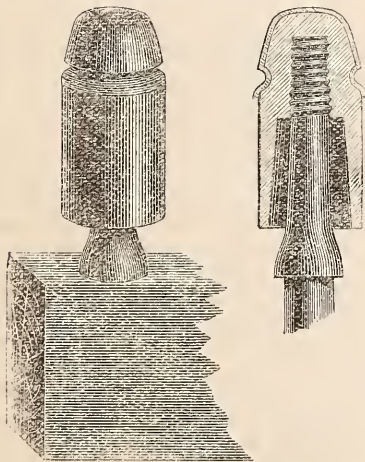
THE NORTH WESTERN TELEGRAPH CO.,

THE WESTERN UNION TELEGRAPH CO.,

as well as many RAILWAY and OTHER TELEGRAPH LINES, and they have invariably been found to give

ENTIRE SATISFACTION.

Besides the suspension insulator above shown, which is fitted with our IMPROVED WIRE HOLDER, arranged for a tie wire, and which does not cramp or injure the line wire, we manufacture several other patterns, among which is the



CAP INSULATOR, WITH PIN OR BRACKET,

which is fitted with a zinc protection, as shown in the above figure.

THE KENOSHA INSULATOR

is manufactured with the utmost care by skilled workmen and special machinery. Every individual insulator is TESTED IN WATER with a battery of 500 cells, and not a single imperfect one is allowed to leave the factory.

We are also prepared to furnish, at short notice,

CROSS-ARMS for any REQUIRED NUMBER OF WIRES, prepared with our patent INDESTRUCTIBLE INSULATING COATING, either with or without wire insulators.

These insulators are packed for shipment in boxes containing 100 each, and may be ordered direct from us, or through any of the leading dealers in Telegraph Supplies.

We are now prepared to fill all orders promptly, however large, and we guarantee all insulators furnished by us to prove entirely satisfactory.

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KEYS, various styles, including the SCHNEIDER KEY, wire connections above the table.

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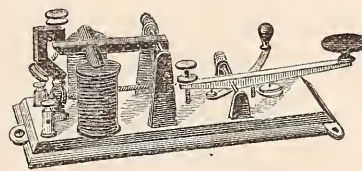
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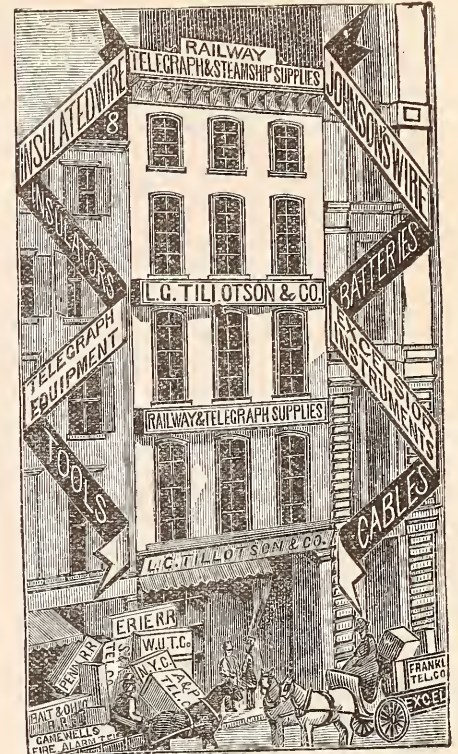
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POLICE TELEGRAPH.

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THIS SYSTEM OF
FIRE ALARM & POLICE TELEGRAPH
WITH A CENTRAL OFFICE,
OR
UPON THE AUTOMATIC PLAN,

is now in operation in the following Cities, to which references
made for evidence of its great

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AND
UNIFORM RELIABILITY.**

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| Buffalo, N. Y., | Newark, N. J., |
| Baltimore, Md., | Omaha, Neb., |
| Chicago, Ill., | Philadelphia, Pa., |
| Cincinnati, Ohio, | Pittsburg, Pa., |
| Columbus, Ohio, | Portland, Maine, |
| Cambridge, Mass., | Peoria, Ill., |
| Charlestown, Mass., | Providence, R. I., |
| Covington, Ky., | Quebec, L. C., |
| Detroit, Mich., | Rochester, N. Y., |
| Dayton, Ohio, | Richmond, Va., |
| Elizabeth, N. J., | St. Louis, Mo., |
| Fall River, Mass., | St. John, N. B., |
| Fitchburg, Mass., | Springfield, Mass., |
| Hartford, Conn., | San Francisco, Cal., |
| Indianapolis, Ind., | Savannah, Ga., |
| Jersey City, N. J., | Syracuse, N. Y., |
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| Lowell, Mass., | Taunton, Mass., |
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ARE,

First—The **Automatic Repeater**, through which the
apparatus may be distributed in a combination of circuits, and
the entire system successfully worked, without the constant per-
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Second—The **Automatic Signal Boxes**.

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Fourth—The **Electro-Mechanical Gong Striker**,
for hose and engine houses, by means of which the location of
the fire is instantaneously communicated to the members of
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These Features combined form the

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IN THE WORLD.**

It is a sufficient vindication of the claims which are made by
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**FIRE ALARM
AND
POLICE TELEGRAPHS,**

that they have sustained the test of more than twenty years of
practical use, and that the efforts which have been repeatedly
made to supplant them by other inventions have

COMPLETELY FAILED;

the few instances in which municipalities have been induced to
adopt other systems having demonstrated their insufficiency
and unreliability, and resulted in their abandonment, and sub-
stitution therefor of the

AMERICAN FIRE ALARM TELEGRAPH.

Messrs. **GAMEWELL & CO.** are the owners of the
original *FARMER & CHANNING PATENTS*, one of the most
important of which has just been extended for seven years, and
during the past seventeen years have spared no expense or effort
to secure improvements, and the Systems are now covered by

MORE THAN TWENTY PATENTS.

The most important improvement which the Proprietors have
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the introduction and operation of which involves so little ex-
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is spared by the Proprietors to obtain and secure ANY POS-
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ECONOMY**

of the system. They intend that, as far as possible, it shall be

ABSOLUTELY PERFECT!

The amount of property which has been saved from destruc-
tion, and the number of lives which have been preserved
through the general adoption of this system, throughout the
UNITED STATES and the DOMINION of CANADA,

CANNOT EASILY BE ESTIMATED,

but that, in every community where it has been introduced for
any considerable length of time, they have been enormous, **THREE
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*The cooperation of TELEGRAPHERS in securing its in-
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Any information desired in regard to the above
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A pamphlet, setting forth more fully its advantages and
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JONES' LOCK SWITCH-BOARD,

a most compact and reliable Switch, forming a clean spring-
locked connection between any number of wires, occupying for
each different connection only one square inch of space, and
though made of the largest size, not subject to the warp and
contraction of wood-work.

EXCLUSIVE AGENTS OF

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COMPOUND RUBBER COVERED WIRE

SUBTERRANEAN & AERIAL WIRES,

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Professor SILLIMAN, who has exposed it to the most destructive
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We have made special arrangements to furnish this article
for office purposes at a reduced rate.

ALSO, TO FURNISH

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of the usual size, with KERITE COVER, believing that it will
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We shall be happy to furnish estimates for any amount and
size of cable, which will be found to compete with any other
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We manufacture the Genuine ELECTROPOION BATTERY,
with Patent Platina Connection, introduced by us eight years
since; also, the ALPHABETICAL OR DIAL TELEGRAPH,
now extensively used in this and other cities for private lines,
being easily and quickly learned by any one.

We offer for sale, among other novelties, a **SOUNDER** that
will work practically with a single DANIELL cell, a **BATTERY**
that does not require to be taken down but once a year, and the
very best **MAIN LINE SOUNDERS** made

Our **CATALOGUE**, embracing a large amount of new matter
and description, is now ready for distribution.

THE TELEGRAPHER

A JOURNAL OF
ELECTRICAL PROGRESS.

J. N. ASHLEY, PUBLISHER.

SATURDAY, MARCH 27, 1875.

VOL. XI. WHOLE No. 454.

Original Articles.

The Conductivity and Insulation of Telegraph Lines.

BY DAVID BROOKS.

It is often supposed the size of the wire conductor or its conductivity is a measure of its working capacity. When the insulation is unvarying or a constant the strength of current is approximately in proportion to the size of the wire; and, on the other hand, when the conductivity is a constant, the strength of current is increased by increasing the insulation.

The working capacity of a circuit is measured more by the margin or difference between the conductor and its insulation, both being considered as conductors.

Strength of current or strength of signals is not so desirable as action that is free from interference or counteracting effects. In a mechanical sense, force is less desirable than celerity and regularity of movement, conditions incompatible with a low degree of insulation.

In practice the working capacity of a circuit is dependent more upon its degree of insulation than the low resistance of its conductor. For example, a circuit of one hundred miles, with a No. 5 gauge wire for conductor, with poor insulation, has not the capacity of a No. 11 wire with perfect insulation, or the large wire in hard rain has not the capacity of the small wire in dry, cold weather, both being insulated with the common insulators of the country. The margin between the insulation and the conductor in the conditions of the smaller wire is immensely greater than in the conditions with the larger wire.

Leaving out of question the article manufactured by the writer, there is a very great difference in the insulators in use throughout the world as regards their insulating properties in unfavorable weather. In 1867, while on a tour in Europe, standard sets of insulators were procured as specimens from eleven nationalities. In England four sets were obtained, representing the kinds in use by the telegraph companies. During the past eight years these insulators have been used for comparative galvanometrical tests, and the records preserved. Highest among these stands the Prussian, as manufactured in Paris of French porcelain, and the lowest are the English. The highest English is lower than the Swiss glass insulator, which is the lowest of those used on the continent. The best English is more than twenty times below the Prussian. That the standard of insulation in England is very low there is other evidence than these recorded measurements.

Mr. Culley, in his Hand-Book, fifth edition, gives the insulation resistance of two circuits, "better situated as regards insulation," Belfast to Dublin, as 131,300 units each per mile in rain and "working well." Never have I seen so poor an insulation in this country, except for short portions in cities. With the insulators used in England it would appear almost impossible to avoid such a state of affairs in rain. To lessen these difficulties they are obliged to use very large wire conductors—No. 4, Birmingham gauge, on all the main circuits, being employed, and, in some instances, No. 3; weight per mile, 775 and 909 pounds, respectively.

Another means is the use of ground wires upon the posts, to carry the leaking current to the earth and prevent "confusion of signals."

Further, the use of a separate and independent battery for each circuit. In the London office alone there were, in 1873, forty thousand cells employed.

With such an amount of leakage they must necessarily operate on the open circuit system, and this involves the use of a battery wherever transmission is performed. This system has some advantages, but is not economical.

In France and Prussia a different state of affairs exists. Reference is made to these nationalities because their circuits are longer, consequent upon covering a larger territory.

In these countries the large conductors are five millimetres in diameter. The weight of these wires are about 525 pounds per mile, and are called the international lines, because they are worked direct from

capital to capital, distances more than twice the length of the longer circuits in England.

Upon these circuits the Hughes printer is employed. The capacity of these instruments is about twice that of the Morse, or is so rated by the officials of England, France, Prussia and Belgium. Two operators perform with these instruments with one wire as much as four operators in this country with one wire, using the double transmission system.

For the ordinary circuits in France a wire of three millimetres is used; weight, per mile, about two hundred pounds.

In Prussia the ordinary lines are two and a half millimetres in diameter; weight, about 150 pounds.

The officials of these countries, Prussia and France, state they have no difficulty in operating these wires in rain with the Hughes printer at its full speed and capacity. These instruments are used on all the important circuits. In the main office, Paris, seventy-five of these instruments are employed. In London fifteen, and those on the shortest circuits. The reason given for not using them on the longer circuits in England was that they were unable to operate them in unfavorable weather.

The minimum price of a despatch in France and Prussia is about half a franc. It was raised temporarily in France as a means of revenue to provide for the debt incurred with the late war with Prussia. In England the minimum is one shilling, or about two and a half times greater.

There is a commendable ambition in each of these countries to bring the use of the Telegraph within the means of all the people—to cheapen the rates. Can any one give a reason why it is so much more expensive in England, except on account of the poor insulation in that country? The wires in England are more than twice as large as those of the former countries; they cost fully double; it requires twice as many wires and operators to perform the same amount of service. In each of those countries the Telegraphs are maintained as a public convenience and not as a source of revenue; but if we are to believe the statements circulated in this country, the administration of the Telegraph in Great Britain is attended with a very heavy deficit, notwithstanding these greater rates charged for transmission.

In an article recently published by Mr. Culley, Chief Engineer of the British Telegraphs, he refers to the use of wires of large diameter as follows:

"The most decided effect of substituting wire of $\frac{3}{100}$ th of an inch for that of $\frac{1}{100}$ th of an inch (the latter being more extensively used) is the absence of the inconveniences resulting from defective insulation. This advantage has been actually demonstrated many times in practice. Comparing two wires put up between the same cities and equally well insulated, it has been discovered that by means of the large diameter wire the signals are reproduced distinctly, and that the communication is perfect, while in using the wire of small diameter the transmission is more difficult on account of the weakness of the current. The correctness of Ohm's law has been thoroughly confirmed by these experiences."

Ohm's law may be thoroughly confirmed by these experiences, but it is also a more striking demonstration of the expense of poor insulation. $\frac{3}{100}$ th of an inch diameter galvanized wire weighs 800 pounds per mile; a $\frac{1}{100}$ th of an inch diameter wire about 400, or half as much as the former.

In the same paper he states "the longest circuits are from London to Cork, and from London to Aberdeen, which is from four hundred and thirty to five hundred and sixty miles respectively."

The longest circuit of this country, from San Francisco to Ogden, one thousand miles, has a No. 9 wire, but portions running over the mountains are of No. 11 steel. So far as resistance of conductors are concerned, the advantages are in favor of the London Aberdeen line, in the proportion probably of 5 to 1. In England about twenty posts are used to the mile. On the San Francisco Ogden line, twenty-five; say there are twice as many insulators on the latter; as regards number of insulators, this circumstance is in favor of the English line in the proportion of 2 to 1.

We now come to the quality of the insulation. Mr. Culley says on the long circuits the double bell insulator is used. In 1868 a set of these double bells, with Ebonite covered stalks, were placed side by side for galvanometrical tests and comparison with a set of the insulators taken from those furnished for the San Francisco Ogden line. The comparative tests in rain in favor of the latter for the past six years are more than 1,000 to 1. Nor has this San Francisco Ogden circuit during this time been in the least affected by rain. It is in the direct line from San Francisco to New York, and commercially one of the most important circuits in the country.

The defective character of the insulation in England is admitted by every person connected with the Telegraph, but the cause is often stated to be their peculiar climate; very humid and smoky. The rains are very frequent, but they are light rains, the air is seldom

fully saturated, and the rains are of short duration compared to the rain storms of this country. Ordinary insulators in this country in rain are affected proportionately as the air becomes charged with moisture. In the winter months this often occurs, and is notably the case when the ground is covered with melting snow, and the rain is from the South. North-east storms begin with the wind from the Northeast. Usually the wind changes to the East and South and finally clears up with the wind from West or Northwest. During the portion of the storm when the wind is from the Southeast and South, the air is charged to its full capacity, or total saturation. It is during this time that the ordinary glass insulator is most affected. When the storm is accompanied by the wind changing in the other direction, that is from Northeast to North, and finally to Northwest, then the insulation is much less affected, because the atmosphere is seldom charged to over 80 per cent. of full saturation.

With the English insulator the case is different. Five minutes of moderate rain brings it down to its minimum of resistance, a point at which it remains until the weather clears.

In the same paper referred to, of Mr. Culley, he states about 20 per cent. more can be transmitted automatically over a $\frac{3}{100}$ inch diameter wire than a $\frac{1}{100}$ on lines 300 miles in length. (On a line of that length, but of less conductivity than a $\frac{1}{100}$ inch wire in this country and the better insulation, four times as much is transmitted as on the larger wire automatically in England.)

All the later and improved methods and processes, such as automatic and double transmission, require the better degree of insulation, and fail of accomplishing their full measure, more from defects in this particular than any other cause.

The English labor under the disadvantage of a smoky atmosphere, and in that respect have more to contend with than we do. On the other hand, in cities their wires are under ground and out of the influence of such causes. The Belfast and Dublin lines in Ireland are less affected by such causes than the majority of lines in this country. In this country the insulation in the cities is most affected. In Philadelphia the atmosphere is quite clear for a city, especially so when we take into consideration the large extent of its manufactures. The reason of this is the coal used here is the anthracite. It gives very little smoke, but a gas arises from its combustion that produces its effects upon insulators. In this locality an ordinary glass insulator in rain shows a resistance of from four to six million units when measured with a battery of ten cells. In the country, outside of the city, the same insulators in corresponding weather will show a resistance of from sixty to one hundred millions; its insulation appears at least tenfold better. In the city in this locality the glass insulators are clean from exposure to rain; but if we take an insulator from the neighborhood of the gas works—one that is coated with soot—its resistance in rain is less than a million. While such an insulator is much worse than one that is apparently clean, yet the latter are seriously affected. The gases from combustion unite with the moisture of the atmosphere and form an acid solution, and it is a solution of this nature upon the insulator which conducts in an immense degree compared to the pure rain of the country. The great difference in the resistance of the pure rain water of the country and that collected in the cities is a measure of the impurities contained in the latter. These impurities, in some instances, increase its conductivity hundreds of times.

In Pittsburgh two miles of line, about sixty common glass insulators, in rain, gave an insulation resistance of less than a million units per insulator. These insulators were up not two years and were coated with soot.

The patent insulator is not affected by these conditions. It is as repellent of acids as of moisture. It can be used to immense advantage for the insulation of wires in cities. To simply insulate the wires in the cities in this country will raise the total insulation of the lines a hundred per cent. or more.

It is about seven years since the present insulator was introduced. There have been more than a hundred certificates given of its performance, and not a single complaint of its insulating qualities. But its merits are not rested upon the opinions of those who have used them. If they do not fully and completely protect the good working of lines from the effects of humidity, rain, smoke, &c., in any climate or country, there will be no charge for their use.

Scene

on St. Louis and Cincinnati Duplex, on evening of March 16th, "MC," at "A" and "NO" at "C":
C. Calling—"a a a."
A. Answer—"I I I a."
C. Keeps on calling.
A. Continuous answering, "I I I a."
C. Finally splutters "Oh! come over on this side; there is but one man here."

Important Decisions of the Commissioner of Patents.

In the matter of the applications of Thomas A. Edison, assignee, &c., No. 94, 95, 96, 97, 98, 99 and 100, for Letters Patent for alleged "Improvements in Duplex Telegraphs," filed September 1, 1874.

(The Commissioner recites the history of the applications, assignments, &c.)

THE issue before the Commissioner is to whom shall the patents be granted? In determining this question the Commissioner must be guided entirely by the record. He has not the authority of a court to go outside the record to consider evidence as to outstanding equities. The only question he can decide is, Who on the record possesses the legal title to the inventions? He must issue the patents accordingly, if the requirements of the office in such cases provided have been complied with.

In the investigation of this matter, I have come to the conclusion that it is not necessary for the Commissioner to determine whether the assignment from Edison to Harrington, dated April 4, 1871, covers these inventions or not. However this question may be determined finally, there is no evidence that the inventions described in the applications were in existence at the time that this instrument was executed. This is not even claimed by Harrington; he has simply said there is no evidence, they were not then in existence.

But in a court of equity one of the first requirements made of Harrington would be to prove affirmatively that Edison had perfected these inventions when he executed the assignment of April 4, 1871. In the absence of such proof the probabilities must guide. These are all against the existence of the inventions at the time. The applications were filed more than three years after the date of the assignment. The first record made by Edison, in the Patent Office, in any way connected with these inventions, was sometime in 1873, when he filed his first caveat relating to duplex telegraphy. It is also worthy of notice in this connection that Edison is a very fertile inventor, as the great number of patents obtained by him within the last few years conclusively shows. These applications extend a series, commenced not long ago, to the number of one hundred. It must be remembered, too, that there has been great activity in inventions relating to telegraphy for a number of years past, and sharp competition has existed between inventors of various improvements. It is incredible, under these circumstances, that an inventor like Edison would allow such valuable improvements to lie three or four years after completion without applying for patents. In the absence of positive evidence on this point, I must follow the presumption, which is so strong in this instance as to amount almost to a certainty, that the inventions described in these applications were not *in esse* when the agreement was made between Edison and Harrington. If, then, this deed included these inventions in unmistakable terms, no legal title in them passed thereby to Harrington; the instrument can have the force of an executory contract only. *Gibson vs. Cook*, 2 Blatchf., 144; *Curtis on Patents*, 4th ed., Sec. 183, n. 2, p. 206.

The legal title to these inventions, then, was entirely in Edison at the time he executed the assignment to Prescott, and he alone had the right to convey any interest in the inventions or patents granted therefor. This right he exercised with all due formality, when, in 1874, he conveyed an entire half interest in the inventions to Prescott. Whether this was done in violation of an outstanding contract is not material to the present discussion. Prescott became the legal assignee of Edison, and, upon the execution of the assignment of 1874, Edison and Prescott became the possessors of the legal title to the entire inventions.

Edison is now estopped from contradicting his deed of assignment to Prescott. It is hardly necessary to cite authorities on this point, and I will only refer to *Reusselaer vs. Kerney, et al.*, 11th How., 297, and *Bowman vs. Taylor*, 1 Webster's Patent Cases, 292. It may be alleged, however, that the same doctrine should be applied to the deed of Edison to Harrington, of 1871, and that then the rule that an "estoppel against an estoppel setteth the matter at large" would operate. But an estoppel arises alone upon a recital of a particular fact. "There is," said Lord Tenterden, delivering the judgment of the court in *Doe D. Jeffreys vs. Bucknell*, 2 B. and ad. 278, "a want of that certainty of allegation which is necessary to make it (the deed) an estoppel." Lord Holt lays it down, in *Salby vs. Kidley*, 1 Show., 59, that *general recital* is not an estoppel, though recital of a particular fact is. *Doe vs. Oliver*, 2 Smith's Leading Cases, Howe and Wallace's notes, 7th ed., 610.

The deed in question contains no recital or description whatever of any particular invention or patent then in existence. It is vague in its terms and executory in its nature; and for the latter reason, as well

as for its uncertainty, an estoppel cannot be considered as arising thereupon. *Doe vs. Oliver, ibid.*, 620.

The discussion of this case might rest here, I believe, in the perfect certainty that if the necessary formalities have been observed the Commissioner must necessarily order the patents to issue to Edison and Prescott. But I am still more strongly confirmed in this opinion by the fact, as I believe, that Prescott is the owner of some interest in these inventions, whatever effect may be given to the Harrington contract. If a Court of Equity shall hereafter carve out a two thirds interest in the patents granted, and give it to Harrington, the deed of Edison to Prescott will still take effect upon the lesser interest if the grantee chooses to enforce it. 1 *Suydam on Vendors*, 347; *Brown vs. Jackson*, 3 *Wheaton*, 453; *Waters vs. Travis*, 9 *Johns.*, 450; *Turnbull et al. vs. Weir Plough Co.*, 7 *O. G.*, 173.

Whether in this contingency Prescott can enforce the contract to the full extent of the one third interest remaining in Edison, or whether the terms and conditions of the grant were such that it can be enforced only to the extent of one half of Edison's remaining interest, is not material to this discussion. Upon the record before me Prescott, in my opinion, has an indefeasible right to some interest in the inventions described in these applications. This fact makes the necessity of joining Prescott with Edison as the sole possessors of the legal title to the inventions still stronger.

The only question left is to determine whether the assignment to Prescott is in such form as to authorize the Commissioner to issue the patents to Edison and Prescott, as assignees of the former. On this point it is only necessary to say that the assignment is in the very words of the form which has been sent out by the Patent Office for years past in its yearly official edition of Rules of Practice. The practice has been invariable for years past to issue patents to the assignees whenever assignments in this form are put on record prior to the issue. I see no reason whatever for departing from this rule in this instance. In the absence of any decision by a higher tribunal invalidating patents thus granted, I think the Commissioner should follow the practice which, so far as my knowledge extends, has never been questioned heretofore.

The applications are remanded to the principal examiner, and the patents will issue to Edison and Prescott, as assignees of Edison.

March 20, 1875.

JNO. M. THACHER,
Commissioner of Patents.

Correspondence.

We do not hold ourselves responsible for the opinions of our correspondents. Our columns are open to free discussions on all telegraphic subjects, without distinction of person or opinion.

No notice will be taken of anonymous communications.

The Female Operator Discussion Useless and Unprofitable.

TO THE EDITOR OF THE TELEGRAPHER.

OF all "weary, stale, flat and unprofitable" discussions, that on "Why Women should not be Operators" seems to me the most senseless. I commend to "Nihil Nameless" the example of Mrs. Partington attempting to drive back with her mop the surging flood of the Atlantic ocean from her kitchen floor. Lady operators are an established fact, and whatever may be our views of the "sphere of woman," we may as well accept the situation, and drop that subject. I say let the dear creatures have all they can do of the work, and all they can get of the pay. The former will be large enough, and the latter small enough, I'll warrant.

The present condition of our social system demands more opportunities for women. Marriage, as an institution, is, according to statistics, on the decline, and women *must* live. Already they are pushing their way into nearly every trade and profession—law, medicine, book-keeping, and the coarser trades—even agriculture (see a late number of the *Atlantic Monthly*, January, I believe), and why not telegraphy? It is a neat occupation, and eminently feminine. What can be more pleasing than to see a corps of pretty girls industriously at work at their several desks? One has, perhaps, a slight frown on her brow—"Oh, such horrid writing." Another is laughing at some remark that fellow at A—has made. A third has just told some one to "wait," and, with her key open, proceeds to cut up and demolish an orange. Another has a "tidy" nearly completed. Still another is writing a note to some one in the "gentlemen's room," and so on, and yet "Nihil" wants to make out that the darlings are soiling their spotless purity by this occupation! "Nihil's" talk about "half savage railroad men" is all bosh, and he knows it. Women need not necessarily emi-

grate to Texas or the frontiers of civilization to practice the profession. And as for railroad men in the Middle, and Eastern, and many Western States, a large experience with them has taught me that, dirty, rough and uncultivated as they are, a more generous, good-hearted class of men does not breathe, nor a class who have more respect for their mothers, wives and sisters, or would quicker resent and punish insult or ill treatment offered to a woman in their presence. That is the stuff our Northern and Eastern railroad men are made of, and "Nihil" offers a gratuitous insult to a class of men who are intimately connected with the telegraph department of most of the railroads in the land.

Then, too, could anything be more ridiculous than his argument that because contact with pitch is defiling, therefore contact of human beings with each other in social intercourse must be so? Yet that is precisely his argument against "Aliquae's" remark, "contact with others is refining." But it would require too much space to point out all his misrepresentations of correspondents from whom he quotes. One more instance. He quotes from "Jo," "Young ladies, members of large families, do not care to stay at home wasting their lives in unproductive idleness"—and proceeds to ask, "Why need they be idle?" The meaning of "Jo" is too obvious to require explanation, yet "Nihil" deliberately ignores it, and gives the words "unproductive idleness" a meaning to suit his own narrow argument. True young ladies need not be idle in the common meaning of the word. There is always house work, or fancy work, or sewing to occupy her time, but these occupations contribute little if anything to the cost of her maintenance, which must come from the labor of the father or brother. Feeling that she is a burden to him, she longs for some means to earn her own livelihood, and until that means is possessed she feels that her life is being wasted in unproductive idleness.

"Nihil's" arguments throughout are most illogical and unreasonable. Either his ignorance is most profound or his willful misunderstanding of the obvious meaning of "Aliquae," "Jo," and others, amounts almost to malice.

"Nihil" goes out of his way to exalt the Puritan character. This was quite unnecessary, as all that could be said in favor of his and my ancestors has been said by far abler writers, and the fact remains that those ancestors were a cold, austere, and bigoted people, with little charity for the erring, and none for those who differed in religious belief. They sacrificed the love which should bind the family together to a harsh sense of religious duty—bringing up their children in fear instead of love. Their God was a God of wrath, not of love. They could baulk men like Roger Williams, and those who will read Hawthorne's "Scarlet Letter" will get an idea of their treatment of the weak and sinful. Is it to be wondered at that it is among the descendants of that race, in that same New England, that the opposite extreme of liberalism and infidelity has its strongest seat in our day?

But to return to "Nihil." Until he can bring forward better arguments against femininity in telegraphy he will do well to hold his peace.

JOHN STERLING.

"Nihil Nameless" Annihilated.

TORONTO, March 8.

TO THE EDITOR OF THE TELEGRAPHER.

"Now that my action is entered and known to the whole world," is the way Mrs. Quickly is represented as putting it on a certain occasion when she brought an action against Sir John Falstaff. "Nihil Nameless" seems to take the same modest view of his own importance; fondly imagines that the whole telegraphic world is looking at his doings and reading his sayings, lost in wondering admiration of his sublime sentiments and brilliant way of expressing them. The delusion is manifest. The whole world had more interesting subjects than Mrs. Quickly and her "action" to think about in those days; and the telegraphic world of to-day has a great many more interesting subjects than even such a wonderful literary phenomenon as Nihil to devote its attention to. Because three lady operators flattered the dear youth's vanity by taking the trouble to show the falsity of his assertion that telegraphy is an unsuitable occupation for women, he straightway takes credit to himself for having "uncorked the vials of the fair," and brought down upon his head the accumulated wrath of all the lady operators in the land. If he imagines there are only three lady operators in the land, surely his sad forebodings about the weaker sex monopolizing the profession are rather premature and uncalled for. Inspired by the grandeur of his theme, he waxes eloquent and even poetical; informs us that he hears the mutterings of thunder in the heavens; the sky is overcast, the lurid lightnings are flashing, and the tempest is upon him. It may be on account of my stupidity in not knowing how to adjust, so as to get a proper view of the terrible scene, but for the life of me, I can't see where the tempest comes in. The lurid lightning

must surely be a freak of his too vivid imagination—the muttering of thunder must be the echo of that last domestic storm he had with Mrs. Nihil, who perhaps learned the “black art” of sending and receiving messages before making a conquest of him, and in consequence is “sadly deficient in *culinary* culture and economy.” So far as my observation goes, his “mild tort” was answered by toots equally mild, though perhaps more effective; am inclined to think that the ladies are not quite so lavish in their expenditure of “accumulated wrath” as to pour it out on such trivial occasions; don’t suppose they would have taken the slightest notice of his feeble war whoop but for the fact of its coming out in such a highly respectable paper as THE TELEGRAPHER. The conceit of some of the “Lords of Creation” is simply marvellous. But what a grand thing imagination must be when it enables its happy possessor to hear “terrific blasts” and “clashing of arms,” and “notes of battle borne on air,” which are quite inaudible to ordinary ears. A terribly brave man must Nihil be, and of a warlike turn of mind, for although perfectly well aware that “rivers of ink will flow” (original idea, that), and though “thousands of innocent ‘coming men’ will lose their scalps,” he valiantly declares his intention of speaking his opinion before retiring; and he proceeds to do so in a way that, in his own estimation at least, cannot fail to convince his fair opponents. It might if the simple fact of his making an assertion proved it to be true and infallible. But dogmatic assertion is not always conclusive reasoning; making a simple declaration is not always establishing a fact; therefore, I may be pardoned for saying I fail to see the force of his arguments, which strike me as being weak and illogical. (I know Nihil will admire that last sentence, because it is built in his favorite style of literary architecture—on exactly the same plan as his own pet sentence, “change is not always improvement,” &c). He goes to work systematically, and, metaphorically speaking, takes up each of his fair victims in turn, and gives her “a good setting down;” but I’ve no doubt they will survive it, and show their ability to defend themselves (if they think it worth while, that is), and come out in the winning side after all, in spite of the redoubtable Nihil.

Last winter we had a man from Cincinnati working here, whose proud boast it was that he could do more loafing in less time than any other man in the office, and he proved his right to the claim so effectually that he soon got “marching orders” for a more genial clime, where the natives would be better able to appreciate his peculiar talents than we industrious Canadians are. His fellow citizen, “Nihil Nameless,” can, without fear of contradiction, claim the equally proud distinction of being able to use more and bigger words to express fewer and smaller ideas than any other aspirant to literary fame whose letters have graced the columns of THE TELEGRAPHER. Although his best article is so terribly long, he does not advance any *new* arguments, but reiterates and enlarges upon his old ones with an ingenuity and perseverance worthy of more general appreciation.

My friendly remarks are made from a very laudable motive—in the cause of humanity. If Nihil’s last outburst were passed over in silent contempt he would probably mistake indifference for conviction, and in consequence, grow too conceited to live, or, at least, to see his fellow operatives live comfortably with him.

He pathetically complains that he has been so unfortunate as to incur (undeservedly, of course) the displeasure of both his own and the opposite sex. Well, I feel for him, but hope he will be able to find consolation in the thought that genius always thrives best when trampled upon, and if he continues to espouse such a very unpopular cause, his genius will be quite likely to get enough of the necessary stimulant to bring it to a glorious development. As he himself once informed us, ’tis impossible to crush the irrepressible “Nihil Nameless!” DOR.

After the Fire.—Telegraphic Notes and Personal.—A New Defect in the Quadruplex.

ALBANY, March 23.

TO THE EDITOR OF THE TELEGRAPHER.

OUR new quarters in the Exchange building are very comfortable and convenient; any further description of them is hardly necessary, as everything is arranged temporarily, in anticipation of another transfer, which it is hoped will take place on or before the 1st of June.

The Exchange is to be demolished in the course of a few months, to furnish a site for the new Government building. It is rumored that another story is to be added to the Museum building, which will probably be a French roof of corrugated iron, surmounted by a tower; this is, however, mostly conjecture, nothing definite having been decided upon as yet.

The A. and P. are to occupy the first and third floors of No. 444 Broadway, two doors above the old W. U. office, as soon as repairs are completed.

A receiving office has been opened by the W. U. in the ladies’ waiting room of the N. Y. C. and H. R. R. depot, the operating being done in “Da” office; to accommodate this business three loops have been built connecting the depot with the main office.

The river at this point is in unusually bad condition, and lively times are anticipated when the spring freshet takes place. The ice is from two to three feet thick, and the cables, carrying twenty-seven working wires, were frozen solid in the ice at the shore ends, but have been cleared as much as possible by cutting it away; nevertheless, serious results are feared in case of a sudden break up.

Mr. Fred. H. Lawrence, an old Albany telegrapher, and late Superintendent of Telegraph for the Leavenworth, Lawrence and Galveston Railroad, has returned to Albany, and has been appointed chief clerk to S. E. Mayo, General Ticket Agent of the A. and S. and R. and S. divisions of the Del. and Hud. Canal Co.

Mr. H. S. Morse, another old telegrapher, formerly Superintendent of Telegraph for the Albany and Susquehanna Railroad, but more lately Superintendent of the above road, has resigned, and is succeeded by Mr. C. D. Hammond, late train despatcher for the R. and S. Railroad, at Troy.

Mr. Joseph Angell has been appointed Superintendent of Telegraph for the Del. and Hud. C. Co., with headquarters at Albany; division extending from Binghamton to Montreal.

Daly’s bill, introduced in the Assembly some time since, provides that “within two months after the passage of this Act in all cities of the State containing more than 200,000 inhabitants, telegraph companies shall be required to commence the work of placing their wires beneath the surface of the street,” etc., the work to be finished and poles entirely removed “on or before the 1st day of January, 1877,” and to be under the supervision of the city officials.

I unintentionally omitted to mention in my last the valuable services rendered by our popular manager, Mr. J. H. Rugg, on the occasion of the late fire. The following, from the *Sunday Press*, is a well merited compliment:

“Manager Rugg, who was appointed to his position but a short time since, had his executive abilities put to the test very promptly by the late fire, and he has proven that he was the right man put in the right place. He restored the office to working order within a few hours after its total destruction, and now he has constructed an entire new office, embracing all the multitudinous paraphernalia of a telegraph office. He has in the Exchange building a suite of rooms which are as capable of service as were those in the Museum building, and those were the accumulations of years. Such energy is worthy of special note.”

During the week succeeding the fire Chief Engineer McQuade and Justice Clute were engaged in a searching investigation as to its origin. Several witnesses were examined in connection with the case, but nothing was elicited which would justify a suspicion of its being the work of an incendiary. Notwithstanding this fact, Chief McQuade, Assistant Clute and the Fire Commissioners feel convinced, from the surrounding circumstances, that the premises were set on fire. Being unable to go further, and having nothing upon which to base even a suspicion, a further investigation was abandoned.

Another serious defect in the quadruplex was discovered here yesterday. It was found impossible to work it up to its full capacity while the Callaud battery was frozen up solid. I offer this for the benefit of those who are so eagerly watching for defects, and who are so blind to anything of value in the system.

While one party are perhaps over estimating the value of the system, the other are running quite to the other extreme. It seems strange that there remains no one disinterested enough to treat the subject fairly and squarely. I have yet to see an article on this subject which does not bear on its face the stamp of prejudice toward one side or the other.

DOUBLE SIX.

The Proper Points for Lightning Rods.

CHILLICOTHE, O., March 17.

TO THE EDITOR OF THE TELEGRAPHER.

IN your issue of March 13th, appears a communication from “Occasional,” of Chicago, who, while speaking of the late meeting of “The American Electrical Society,” takes occasion to comment upon my article, read before the society, and in doing so, seems to have unintentionally misrepresented certain parts of the article. He quotes me as saying, “That instead of fine pointed rods, the tops of the rods should be blunt, and present more attraction for the electrical cloud than the building, by being placed a great deal farther above the building than at present arranged.” I said nothing of the kind. On page 4 the following passage occurs: “Blunt points might be used more than sharp ones, but I think a rod extending three or four feet above a building, being a good conductor itself, and having a

perfect connection with the earth, would not be fused off until it was no higher than the building, while the present generation existed.” This is all I said about rods being extended above buildings. I did not say that rods should end in blunt points to present greater attraction, etc. I think it makes very little difference whether the points are blunt or sharp. That is not a vital point. Sharp points offer greater attraction than blunt ones. I don’t think a fine point is necessary, and consequently don’t believe in paying two or three dollars apiece for them when blunt ones are just as good. When a building is charged by induction, the shape of the points of the rods does not enter into the consideration. It is only when a direct discharge occurs that the points become matters of importance. Fine points will collect a greater amount of electricity from the atmosphere than blunt points. But the point I made was, that if the rods were sufficient conductors, and had perfect connections with the earth, electrical discharges would follow them to the earth, because electricity follows the best conductors. If the rods are better conductors than the buildings themselves, they (the rods) will get the greater part of the discharge, regardless of the form or shape of their points. If the rods are not better conductors, they had better be removed.

I did not entirely overlook the point noticed by Mr. Summers, although I did not give it the mention it deserves. On page 16, the following occurs:

“It may be safely accepted as absolutely certain, that any building having rods, such as ordinarily used, extending from its projecting points to the earth, and there connected with gas or water pipes; also, being in connection with metallic roofs, spouting, etc., if there be any, is perfectly safe from the effects of lightning.” I. N. MILLER.

A Gay and Festive Telegrapher.

TO THE EDITOR OF THE TELEGRAPHER.

I’VE been thinking, as how idle better write something for your paper. Em. say’s as bow she know’s it would please you and the “Boys” to hear from me. Em. helps me to spell when she’s not busy. She says that some times I leave out *letters*. she’s “8” today and can’t help me. So your kind and indulgent readers must excuse me if I make any mistakes. I reckon, as how ime not much of an “Operator” kause I cant do “Gramar and Algebra” and it troubles me a little to *write free* on account of a *Wart* on my Thumb, where it *wiggles* when the Pen’s agoin. I read THE TELEGRAPHER, and felt bad when I seen that “piece” about “Grammar and Algebra.” Kause ide just about made up my mind to be a *star*. My name is—hold on, I want to say some more afore I sign—ide give the Boys a “puzzle,” but I might “Kick the Bucket” or git up and git, and leave a *blank* that would be hard to fill in—kause its a good’n. I worked the following out of an old cigar stub I saw on the floor—

- Three fourths of a cross..... T
- A circle complete..... O
- A perpendicular with two semicircles to meet. B
- An erect angle standing on two feet..... A
- Two semicircles..... C
- “ “..... C
- And “another circle complete”..... O

Grand Total.....Tobacco.

This is “DISTRACTION OF MORTIFICATION” on the Brain.

If the Editor fetches this out, I may write again. For * * * * * *Ime gay and happy Boys—you bet your boots I am—*

That’s a good song that I got up, but I can’t let it out just now. I hear “K 2” after me, so ime off. Excuse a sudden *pucker*. OLD CROSS-ARMS.

Cheap Galvanic Battery.

A CORRESPONDENT of the *Scientific American* describes a battery which was set up by an Englishman in his employ two years ago, and which he has used ever since. It consists of a cylindrical glass vessel, eight inches deep, and about the same in diameter. On the bottom of this vessel a circular sheet iron plate is placed, with an insulated wire extending from the iron plate over the top of the jar. This plate is covered to the depth of one or two inches with sulphate of copper. Another iron plate is suspended above the sulphate of copper, and soft water is poured in until the upper plate is covered to the depth of one or two inches. Thus made up and the circuit completed, the battery will come up to its power in two or three days; but if needed to work at once, an eighth of an ounce of sulphuric acid should be added. The plates are arranged horizontally one above another, and both are of iron. If the upper plate is a quarter of an inch thick it will last a year. These iron plates work well, and can be had everywhere at a trifling expense.

THE TELEGRAPHER

DEVOTED TO THE INTERESTS
OF THE
TELEGRAPHIC FRATERNITY.

SATURDAY, MARCH 27, 1875.

THE TELEGRAPHER:
PUBLISHED EVERY SATURDAY at 38 VESEY ST.

ELEVENTH VOLUME.

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J. N. ASHLEY, Publisher,

(P. O. Box 5503.)

38 VESEY ST., New York.

The Title to the Quadruplex Patents.—Decision of the Commissioner of Patents in Favor of Mr. Geo. B. Prescott.

THE devious ways and complications with antagonistic interests, which are characteristic of the noted professor of duplicity and quadruplicity, are constantly bringing his quondam friends before the public as contestants for their presumptive rights in his so-called inventions. The latest development of this character is the contest before the Commissioner of Patents in regard to the title to certain patents applied for by T. A. EDISON for improvements in duplex or quadruplex telegraph apparatus. The history of this matter has not as yet been published, and a brief statement of the facts will be of interest.

During the summer of 1874 experiments were made on the lines of the Western Union Telegraph Company of these devices for a quadruplex or double duplex system of telegraphy. The results obtained were considered so satisfactory that it was given out officially and unofficially by the managers and officers of the company as a remarkable success, and as likely to prove of great importance and value in the future operation of telegraphs by increasing the capacity of the wires for the transmission of signals. As is usual in such cases, the advantages claimed for the quadruplex were, to say the least, fully as great as the facts warranted.

For what were at the time considered adequate considerations, and at the earnest request of EDISON, MR. GEORGE B. PRESCOTT, the Electrician of the Western Union Company, with the knowledge and consent of the managers of the company, entered into partnership with EDISON to bring out and further develop the inventions. Having been warned of the characteristics of EDISON, and the probability that at a certain stage of the business he would, upon some pretence, or without any pretence, go back upon him and the company if his inventions were really of any value, MR. PRESCOTT took the precaution to have regular articles of agreement drawn up, which were duly entered into and executed on the 19th of August, 1874. By this agreement the patents when issued were to be assigned equally to said EDISON and PRESCOTT, the applications therefor being specified as numbered 94, 95, 96, 97, 98, 99 and 100.

In this agreement and assignment it was stipulated as follows: "Third. That neither of said parties will sell, assign, or otherwise dispose of the whole or any part of his interest in said invention, or letters patent

therefor, or any of them, without the written consent thereto first obtained of the other party."

It is further alleged that at and subsequent to this date PRESCOTT and EDISON were negotiating with the Western Union Telegraph Company for the sale and purchase of these inventions, and that on the 10th of December, 1874, EDISON received from that company \$5,000 on account of the purchase, although the price had not been definitely fixed. It is further alleged that on the 30th of December following EDISON and PRESCOTT proposed a sum as full compensation, which was subsequently and before any withdrawal of the offer, accepted by the company.

About this time, however, EDISON, characteristically, entered into negotiations unbeknown to his partner, PRESCOTT, with Mr. JAY GOULD, and on the fourth of January executed a Power of Attorney to that gentleman, giving him power and authority (irrevocable) to sell, assign, transfer and set over unto any person, persons or corporation, his right, title and interest, etc., in these inventions. Having thus disposed of his rights to two antagonistic parties, EDISON was seen no more at the office of the Western Union Company, and the efforts of Mr. PRESCOTT to obtain an interview with his quondam partner, the great professor of duplicity and quadruplicity, from that time until now have been unavailing.

On the 23d of January Mr. GEO. HARRINGTON, the President of the Automatic Telegraph Company, and partner of EDISON in inventions for automatic and fast telegraphy, applied to the Commissioner of Patents for the issue of the same patents to himself and EDISON, two thirds to the former and one third to the latter. This application was made under certain articles of copartnership between said EDISON and HARRINGTON, entered into October 1st, 1870, and a general assignment and power of attorney executed on the 4th of April, 1871, by EDISON, covering all his inventions in automatic and fast telegraphy.

This application of Mr. HARRINGTON was accompanied by a letter from EDISON of the same date, in which he states that the arrangement with Mr. PRESCOTT was made under an erroneous impression, and withdrawing the request for the issue of said patents to himself and Mr. PRESCOTT, and uniting with Mr. HARRINGTON in his petition.

It was under these circumstances that the question of title arose, Mr. PRESCOTT naturally objecting to being thus summarily ousted from his rights, and claiming that the patents should be issued to himself and EDISON, as requested in the original application.

The question to be decided by the Commissioner was not as to the equities of the several parties, but as to the *prima facie* title to the patents. Mr. HARRINGTON claimed that the double duplex or quadruplex was a *fast* system of telegraphy, and, therefore, included under the general assignment to him from EDISON of a two thirds interest in all such inventions and patents issued or to be issued to EDISON.

It was denied on the part of Mr. PRESCOTT that the quadruplex could properly come under the designation of *fast* telegraphy, as it did not increase the speed of transmission over any single circuit, but merely increased the capacity of the wire, by enabling four sending and four receiving operators to use it at the same time.

To substantiate this claim numerous extracts from THE TELEGRAPHER, *Scientific American*, *Journal of the Telegraph*, and other scientific and telegraphic publications, reports of the American, Western Union, National and Automatic Telegraph Companies, scientists and inventors in this country and Europe, etc., were submitted to show what the meaning generally attached to the term *fast telegraphy* is.

It was also argued that the assignment to Mr. HARRINGTON, the inventions not having been made at the time it was executed, did not transfer any right touching the inventions, and could not confer any *legal* title to them, and that EDISON "being still possessed of all the rights he ever had to them on August 19,

1874, he transferred an interest to PRESCOTT, who took immediately a *legal title* to be half owner in the letters patent when issued."

We have not space to give all the points made in the case, nor is it necessary for a proper understanding of the premises. The Commissioner of Patents has rejected the later request of EDISON to issue the patents to himself and HARRINGTON, and has decided that the previous assignment to PRESCOTT of a half interest is valid, and will be recognized so far as the Patent Office is concerned. The patents are not yet ready to issue, and may not be for some time, as, we understand, there are some questions of interference yet to be decided.

Mr. PRESCOTT and the managers of the Western Union Company naturally feel much gratification at this decision of the Commissioner in their favor. It is true that this does not necessarily settle the matter, as it yet can be taken into the courts to determine the equities of the several parties, but it necessitates the opponents of Mr. PRESCOTT and the company commencing the proceedings and first establishing their case as plaintiffs. Whether any further action is intended we are not advised.

All that the great professor of duplicity and quadruplicity seems to have accomplished is to divest himself of all interest in these patents. He acknowledges in his letter to the Commissioner that he had sold two thirds of his invention to Mr. HARRINGTON, and his agreement with Mr. PRESCOTT, which the Commissioner holds to be valid, at least so far as the title is concerned, disposes of a half interest to that gentleman; after selling one sixth more than the whole interest he disposes of the balance to Mr. JAY GOULD as his attorney. The question, therefore, as to who owns the quadruplex, is a conundrum which will afford a good field for legal ingenuity to solve. The only point which seems to be entirely clear is that EDISON has no interest in it. The ability of the professor to get parties who may deal with him into a mesh of legal complications is unquestionable, and we should suppose would greatly encourage his *numerous* friends—the fortunes of each of whom he is always ready to assure, as he takes them up one after another, and sometimes, as in this case, several of antagonistic interests at the same time. Great is the professor! Who is his prophet?

President Orton Goes to Europe.

MR. WILLIAM ORTON, President of the Western Union Telegraph Company, was erroneously announced by the city newspapers to have sailed for Liverpool on Saturday last. This was an error. He had engaged passage for that day but postponed his departure, and will sail to-day. We understand that Mr. ORTON goes out on business of the Western Union and International Telegraph Companies mainly. During his absence he will contract for a new cable for the International Company, to be laid between Key West and Punta Rasa, Florida, which, when laid, will duplicate the entire telegraph system of the International Company. That company now has two good cables between Key West and Cuba, and also two cables between Key West and Punta Rasa, but the old cable is very defective and requires to be replaced.

It may not be generally known that the Cuba Submarine and the West India and Panama Telegraph Companies have a submarine telegraph system in operation which connects all the West India Islands and the Isthmus of Panama. A second line has been laid over a portion of this route, and the system extends to South America. A message can now be sent to Brazil, for instance, by this system of lines, and by the Western Union and International, without the necessity, as heretofore, of being first sent to Europe. All that is required to duplicate the communication between the West India and South American telegraph system is an additional cable between Key West and Punta Rasa, about 120 miles in length, and this will be laid as soon as it can be made and sent over.

The Floods and the Telegraphs.

AS WE suggested as probable, two or three weeks ago, the telegraph companies are experiencing a good deal of trouble and interruption from the spring floods and freshets, consequent upon the accumulations of ice, which the very severe winter has caused in the streams throughout the country. It seems somewhat absurd to speak of floods and freshets when the mercury sticks uncomfortably near the bulb of the thermometer, and, as we write, see from our window a thick snow storm in progress—the sixth, we believe, since March commenced.

A week or ten days ago, however, a few days' thaw and heavy rains partially broke up the ice, which gorged at several places, and caused a great destruction of bridges, railroads and telegraph lines, and property generally. The return of arctic weather suspended this for the time, but it is likely to be renewed with additional damage before long.

It keeps to'egraph officials and linemen very busy, and postpones any active operations in construction of additional lines until matters become more settled.

Although at the South the ice does not interfere with the lines, that section is being visited with tornados and floods, which are about as damaging to the telegraphs, and makes it difficult to keep the wires in successful operation.

However, all things have an end, and in a few weeks we shall probably be complaining quite as vigorously of the heat, dust and drought. Thus is constantly illustrated the truth of the old saying, "Man never is—but always to be—blessed."

Brooks' Patent Insulators.

WE would call attention to the new advertisement on the last page of THE TELEGRAPHER of the BROOKS Patent Insulator. The superiority of these insulators has been demonstrated by extensive use in this country and Europe. These insulators are now being manufactured largely in England by Messrs. SIEMENS BROS., and are sent to all parts of the world with the most satisfactory results. Mr. SIEMENS says, in a letter to Mr. BROOKS, that "every report from them is highly flattering."

The principal objection to these insulators heretofore has been the increased first cost; but, as will be seen from the advertisement, Mr. BROOKS has made a very considerable reduction in price, which will no doubt add to their popularity and the demand for them.

Personals.

Mr. JERRY BORST, recently of the A. and P. Company, New York, has accepted a position on the regular night force with the Western Union, at the corner of Broadway and Dey streets.

Mr. E. S. RISDON, who resigned at Duxbury, Mass., a few months since, to take charge of his father's estate in Philadelphia, on the death of the latter, returns to the profession now, having accepted a position on the W. U. night force, corner Broadway and Dey streets, New York.

Mr. O. F. STOW has resigned his position on the W. U. night force, corner Broadway and Dey streets, and returns to Cleveland, Ohio, to engage in other business.

Mr. WILLIAM D. WEST, formerly of the Western Union office at New Orleans, is working for a private telegraph line at Quarantine, La.

A. G. THOMPSON, W. U. telegraph, St. Louis, Mo., has resigned, to accept appointment as Purchasing Agent and Travelling Auditor of the St. Louis and Southeastern Railroad office at St. Louis.

Mr. M. S. BACON, of Houston, Texas, has been appointed Manager of the Western Union office at Nebraska City, Neb.

Mr. JAS. C. DE LONG has been transferred from the Marshall, Texas, to the Shreveport, La., Western Union office.

Mr. FRANK LEAHY has been appointed operator in the Supt's office of the O. and C. R. R., Portland, Oregon, vice Mr. J. M. FISH, resigned.

Mr. J. H. WOODRUM, agent and operator at Gervais,

Oregon, O. and C. R. R., has resigned on account of ill health.

Mr. H. D. HAMLIN has been transferred from Aurora to Gervais, Oregon, O. and C. R. R., as agent and operator, vice Mr. WOODRUM, resigned.

Mr. S. B. HENDEE has returned and been reappointed agent and operator, O. and C. R. R., at Gervais, Oregon.

Mr. CHARLES H. DAVIS, late of Elmira, N. Y., but more recently of the Western Union office at Duxbury, Mass., has accepted a position as second press operator (nights) in the Worcester, Mass., office of the same company.

Mr. E. D. L. SWEET, General Manager of the Pacific Division of the Pacific and Atlantic Telegraph Company, is in New York for a few days.

Mr. W. C. HUMSTONE, formerly Sup't of the City Division of the A. and P. Telg. Co., has been transferred to the Pacific Division, and has gone to Detroit, Mich., where he will make his headquarters for the present.

The Telegraph.

Additional Facilities of the Pacific and Atlantic Company.

THE Atlantic and Pacific Telegraph Company have recently made an arrangement under which they now operate all the wires over the route of the Oswego and Midland railroad. They have heretofore had one wire in use on that route, but under the new arrangement they come into possession of two wires, the whole length of the road, and a third wire on certain sections. This will give them an additional outlet in case of interruption of the wires on the other routes, and is a material increase of the facilities of the company.

Resignation of Superintendent D. H. Bates, of the Western Union Company.

MR. D. H. BATES, Superintendent of the district of the Western Union Company which is generally known as the New York and Washington district, has resigned that position, and retires voluntarily from the service of the company. His resignation takes effect April 10th.

The Superintendent of the San Francisco Fire Alarm Telegraph Exonerated.

THE majority of the Finance Committee of the Board of Supervisors of San Francisco, Cal., to whom had been referred for investigation certain charges made against Mr. Greenwood, the Supt. of the Fire Alarm and Police Telegraph, after examination, reported, exonerating him from the same, but disapproved of his granting leaves of absence of two weeks to the employes, thus weakening his force, without consultation with the Fire Alarm Committee.

After the Telegraph Poles.

IN the Board of Aldermen of this city on Thursday last a draft of a resolution was offered by Alderman Billings to have the telegraph poles removed and the wires laid underground. He stated at length their inconvenience and danger, and suggested that the work be completed within one year from the passage of the ordinance, under a penalty of \$25 fine for each pole left standing after that time; and that an appropriation be made for the removal of all of the poles used by the police department, the same to be removed within one year after appropriation is made; and that all due care be taken that no damage be done to water or gas pipes, and that citizens be as little inconvenienced as possible.

Referred to the Committee on Streets.

Foreign Telegraphic Notes.

THE Central American Telegraph Company announce that they have received information to the effect that the line from Para to Cayenne and Demerara, as also the lines from Trinidad to Saint Croix and Porto Rico, have been successfully completed, thus giving direct telegraphic communication between Brazil, the West Indies, and North America. These lines will, in accordance with agreements, become the property of the West India and Panama Company.

The total number of messages forwarded from postal telegraph stations in the United Kingdom for the week ended the 27th of February, 1875, was 350,846—an increase on the corresponding month last year of 21,600.

The Eastern Extension (Australia and China) Tele-

graph Company's traffic receipts for the month of February last were £16,415, against £17,706 for the corresponding month of 1874.

The traffic receipts of the Eastern Telegraph Company for the month of February amounted to £32,765, against £31,084 for February, 1874.

The traffic receipts of the Western and Brazilian Telegraph Co. for messages for the four weeks ended February 26, amounted to £8,842.

The number of messages sent by the lines of the Cuba Submarine Telegraph Co. during the month of February was 2,079, estimated to produce £2,200, as against 683 messages producing £478 in the corresponding month of last year.

The directors of the Brazilian Submarine Telegraph Company have declared an interim dividend for the quarter ending December 31st, of 2s. 6d. per share, or 5 per cent. per annum, free of income tax, payable on the 25th inst.

It is announced that the support already received from the shareholders of the Anglo-American Telegraph Company for a division of the stock is large and influential. The requisition list will close on Monday next, at noon. With respect to the proposal to divide the stock, the directors of the company have, it is understood, expressed their opinion that it is undesirable that such a division should take place.

The traffic receipts of the Great Northern Telegraph Company for the month of February amounted to 256,146fr., against 293,206fr. last year, and its total traffic receipts 1st January to 28th February, to 522,167fr., against 617,672fr. last year.

The traffic receipts of the Direct Spanish Telegraph Company (Limited) for February were £1,104, against £1,654 in January. The Lizard and Santander cable was interrupted during the whole of February.

The Secretary of the Direct Spanish Telegraph Company announces that the communication with Spain via Santander is restored, and that the cable is again open to public traffic.

The total number of messages forwarded from postal telegraph stations in the United Kingdom for the week ended March 6, 1875, was 352,293—an increase on the corresponding week last year of 15,314.

The Great Northern Telegraph Company's traffic receipts for the month of February last amounted to 256,146fr.; last year to 293,206fr. Total traffic receipts from 1st January last to the 28th February, 1875, 522,167fr.; and for the same time last year, 617,672fr.

The receipts of the Submarine Telegraph Company for the month of February, 1875, amount to £8,246, against £8,344 for the corresponding month of 1874.

The Duplex in France.

The *Telegraphic Journal* of March 1st says:

"Mr. Stearns is in Paris busily applying his duplex system to the Hughes printing apparatus, which is the favorite instrument in France, Morse being nowhere. He has been very successful between Paris and Versailles, Rouen and Havre. Mr. Stearns is sure to be successful anywhere, for he certainly is one of the ablest practical electricians of the day. It is very gratifying to see how his success, and that of his countrymen generally, fail to produce the smallest symptom of national jealousy in England. Truly, in telegraphy Anglo-Americans form but one nation."

Released from Imprisonment.

MR. JOHN L. McCLELLAND, the telegraph operator who was convicted of criminal negligence in allowing two trains to collide at the Bergen cut of the Pennsylvania railroad, has been discharged from jail, the Board of Chosen Freeholders having remitted the fine of \$200, which he was unable to pay.

Organization of a Telegraphers' Club.

THE following report of a meeting of the telegraphers of New York and vicinity, for the purpose of organizing a Telegraphers' Club, was intended for publication last week, but was not received in time.

Pursuant to the notice published in THE TELEGRAPHER of March 6th, between twenty-five and thirty telegraphers and telegraph clerks met in the auditor's office of the Western Union Telegraph Company, corner of Broadway and Dey streets, on the evening of Tuesday, the 16th inst. This was an adjourned meeting of the Ball Association, the object of which, as has heretofore been stated, was to consider the feasibility and advisability of organizing a permanent association of the telegraph employes of New York and the adjoining cities.

The minutes of the previous meeting of the Ball Association were read and approved, after which a general discussion took place as to the feasibility of forming a Telegraphers' Club for social purposes, etc., to be composed of telegraph operators and clerks connected with the telegraph business in New York City and vicinity. After a general interchange of the views of those present on the subject, the opinion being unanimous in favor of such an organization, a draft of a Constitution and By-laws was read by Mr. James Lyman.

A list was then opened for signatures of persons desiring to become members of the organization, all present enrolling their names for that purpose. A permanent organization was then effected, under the name of "The Telegraphers' Club of New York and Vicinity."

The initiation fee was fixed at \$5, and \$1 per month as monthly dues from each member.

Messrs. Theo. Williams, E. A. Leslie, and Chas. of Newark, N. J., were appointed a committee to solicit operators and clerks of the several telegraph companies to join the club.

On motion, the consideration of the Constitution and By-laws was postponed until the next meeting, with the exception of the article relating to the election of officers, which was adopted.

The election of permanent officers of the club was then had, resulting as follows:

- President, D. W. McNerny.
- First Vice-President, Thos. Brennan.
- Second Vice-President, E. A. Leslie.
- Corresponding Secretary, J. A. Ashurst.
- Financial Secretary, G. W. Sawyer.
- Treasurer, James Lyman.

Board of Trustees.

Messrs. M. W. Doren, G. D. Merrill, W. H. McEnroe, E. C. Boileau, J. W. Burham, L. B. McCarthy, W. S. Williams, C. L. Chase and P. V. DeGraw.

The appointment of committees was deferred until the next meeting. The meeting was then adjourned until Thursday evening, the 25th inst., at eight o'clock P. M., in the same place.

It is the desire of all concerned, in organizing this club, to have it understood that it is not a "Western Union" club, but a telegraphers' club, and all telegraphers and telegraph clerks are eligible to membership, and all such were invited to attend the meeting on Thursday evening last and enroll themselves as members.

Quotations of Telegraph Stocks at N. Y. Stock Exchange,

Showing Lowest and Highest Prices each day during week.

March.	WESTERN UNION.		ATL. AND PAC.		AMER. DIST.		GOLD AND STOCK.	
	Bid.	Asked.	Bid.	Asked.	Bid.	Asked.	Bid.	Asked.
15	76 1/2	77 1/2	22 1/2	24	30	33	..	..
19	76 1/2	77 1/2	23 1/2	24	30	33	..	..
20	75 1/2	76	23	24	30	33	65	75
22	75 1/2	77	23 1/2	23 3/4	30	38	..	..
23	76 1/2	77	23	23 1/2	30	38	..	..
24	76 1/2	77	23 1/2	24	30	33	65	73

New Patents.

OFFICIAL COPIES of any U. S. Patent issued since July 1st 1871, including drawings, specifications and claims in full, sent free to any address for 25 cents each. Address F. L. POPE, P. O. Box 5503, New York City.

For the week ended February 2, 1875, and bearing that date.

159,460.—AUTOMATIC AND AUTOGRAPHIC TELEGRAPHS AND CIRCUITS. William E. Sawyer, Washington, D. C. Filed October 19, 1874.

1. The combination with a main line of a series of transmitting styles, a commutator, by which the transmitting styles are brought into circuit *seriatim*, and one recording style, substantially as set forth.

2. The combination of a main line, a series of transmitting styles, a commutator, and one recording style.

3. In a chemical telegraph, the combination, with transmitting apparatus, comprising a series of transmitting styles and a commutator of a receiving apparatus having but one recording style, which distributes the impulses gathered into circuit by the commutator.

4. The method of signaling and recording signals, consisting of concentrating into the line at the transmitting end, by means of a commutator, the impulses proceeding through a series of transmitting styles, points or rollers, in certain relative positions, and distributing said impulses at the receiving end by relatively changing the positions of the recording or marking style or styles during the passage of said impulses, so as to deposit an impulse at the same relative point upon the receiving paper as the transmitting style from which such impulses proceeded occupied upon the message transmitted, by which means the commutator and recording styles at the receiving end corresponding to the transmitting commutator and styles are avoided.

5. The combination of a main line, a series of transmitting styles, a commutator consisting of a series of contact pieces or

rollers in groups or divisions, a function of which series, groups or divisions, is to place the transmitting styles in circuit *seriatim*, and one recording style for each such series, group or division, substantially as shown and described.

6. The combination, with a line of a receiving apparatus in which recording style or styles pass across the sheet, strip or roll of receiving paper, each style moving in one direction, instead of vibrating back and forth, thus drawing actual or imaginary lines across the sheet, strip or roll of paper, instead of lengthwise of it, substantially as set forth.

7. The combination in a receiving apparatus with one or more recording styles of mechanism for giving the style or styles a continuous motion, or a motion in one direction transversely of the paper upon which the message is recorded, substantially as set forth.

8. The combination, with mechanism for imparting motion to transmitting or receiving apparatus, of an air receptacle and valvular passages for the purpose, first, of driving the mechanism, and then of checking or bringing it to a stop, substantially as shown and described.

9. The combination, with the metallic drums and their shaft, of a cam for producing a longitudinal reciprocation of the drums, as set forth.

10. The combination, with the metallic drums, of the rocking frame, the electro-magnets and circuit connections for giving a reciprocating rotary motion to the drums, as set forth.

11. The combination, with the metallic drums and their shaft, of the rocking frame, the electro-magnets and circuit connections, and a cam for giving a simultaneously longitudinal reciprocating and a reciprocating rotary movement to the drums.

12. The combination, with a main line and its battery, of an induction or an electro-magneto-electric apparatus, the current induced by which serves to electrically bridge a break or lessen a resistance in the circuit in which it flows, as set forth.

13. In a chemical or copying telegraph the method of obtaining an insulating writing surface upon a metallic surface, consisting of transferring the lines of writing first formed in a prepared ink upon paper to a metallic surface lithographically, or by fixing the paper to the metallic surface, and washing off from the metallic surface either that portion of the message paper which is blank, or that portion which is covered by the lines of writing, as set forth.

14. The method of treating the received message, consisting of subjecting the paper to a bath, and thus removing any discoloration excepting the electrolytic discolorations, as set forth.

15. The combination of a line with an induction coil or coils and a mechanical circuit changer, for the purpose of clearing a line of tailings independently of the transmitting apparatus or process, substantially as shown and described.

159,869.—ELECTRIC BURGLAR ALARMS. H. E. Walter, Richfield Springs, N. Y. Filed July 7, 1874.

When the circuit is broken a "blocking piece" supports the weighted armature when desired, and prevents it falling back and releasing the clock work. The blocking piece is operated by a switch lever outside the box, and indicates by a tell-tale whether the armature is supported or not.

The blocking piece *m* and the tell tale *o*, in combination with the armature lever *k*, electro-magnet *f*, switch *s*, and clock work alarm, substantially as and for the purposes set forth.

Married.

BALDWIN—LARCOMBE.—At Martinez, Cal., March 6, 1875, Mr. B. BALDWIN, Manager of the Western Union Telegraph office, Pacheco, Cal., to Miss FLORA LARCOMBE, assistant in the Martinez, Cal., W. U. office.

PARMALEE—FISHER.—At the residence of the bride, St. Louis, Mo., March 16, 1875, by Rev. Father Tobin, of the Cathedral, Mr. EDWARD L. PARMALEE, of the Western Union Telegraph Co., to Miss LOTTIE FISHER.

Eddie, your friends all wish you and yours long life, prosperity and happiness, and a little "Parm" to pull your silky locks.

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Referring to the above notice, I beg to inform my friends and the telegraphic fraternity generally, that I have associated myself with the well known house of L. G. TILLOTSON & CO., who, with the most extensive and best appointed Telegraph Instrument Manufactory in America, will hereafter manufacture all articles of my invention. I will, as heretofore, give particular attention to the design and construction of special work in Instruments, Switches or large offices, etc., in which departments my experience as a practical telegrapher is always at the service of my friends. I respectfully solicit the patronage of my old customers in my new place.

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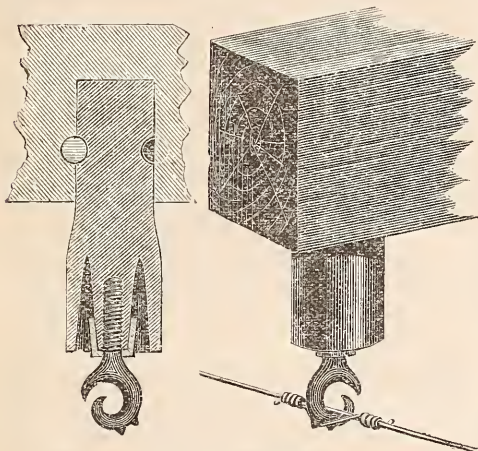
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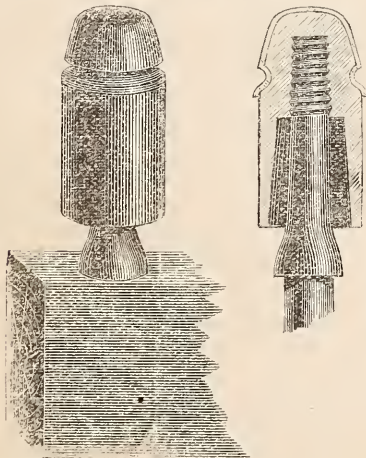
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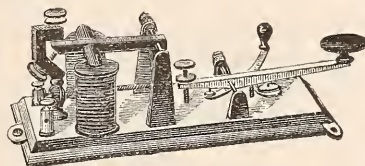
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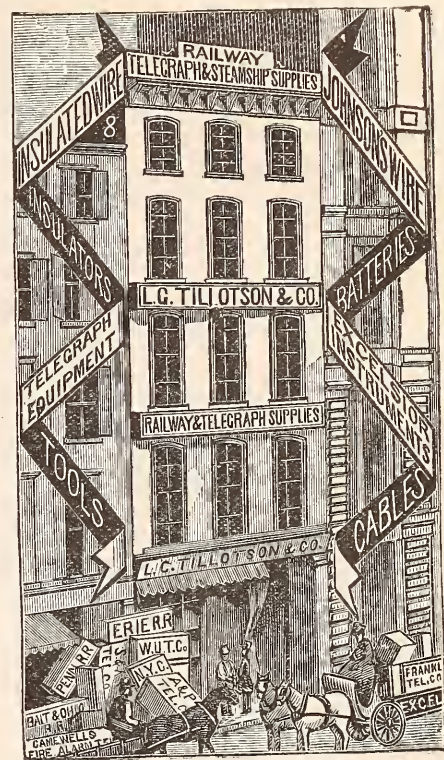
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No notice will be taken of anonymous communications.

Explanatory.

TO THE EDITOR OF THE TELEGRAPHER.

In my communication to you, in your issue of the 20th of March last, anent the resignation of Mr. Purkis, there is one expression which I wish to explain, as I find that some of your readers take from it a different impression from what I intended it to convey. In describing Mr. Small as being the reverse of affable in his manners and honorable in his dealings, I did not mean to imply that he was unfair, or at all dishonest, or anything of that sort, but simply that he lacked that frankness and nobility of mind which made Mr. Purkis so popular. To the best of my knowledge and belief Mr. Small is perfectly honest in his business relations—if he were not, it is scarcely likely he would hold the high position he does in such a good and reliable company as the Dominion is. My letter was not written on account of any personal spite, but for the sake of keeping your readers posted in regard to interesting events in telegraphic circles here; and my remarks on Mr. Small were only meant to express the view most of the company's employes seem to take of his conduct.

OBSERVER.

Meeting of the American Electrical Society.—Sad Affliction of a Telegraph Supt.—Telegraphic Notes, &c.

CHICAGO, ILL., March 20.

TO THE EDITOR OF THE TELEGRAPHER.

THE regular meeting of the American Electrical Society was adjourned on last Wednesday evening until the third Wednesday in April. Mr. Elisha Gray was expected to be present to explain his Telephone to the members of the Society, but he was unexpectedly called away from the city a few days previous to the meeting, and could not return in time. This was a great disappointment, as a large number of the members were in attendance. As there was no business of particular importance to come before the meeting it was adjourned as stated above.

Mr. R. H. Hankinson, Assistant Supt. Northwestern Telegraph Company, was in Chicago on the 9th, and visited the different telegraph offices of our city. He was on the way to Grand Rapids, Mich., to take his wife home, she having, it was thought, so far recovered as to be taken home; but she suddenly had a relapse, and died while Mr. H. was on his way from Chicago to Grand Rapids. Her remains were taken to Minneapolis, Minn., and buried the following Sunday. Mr. H. has the heartfelt sympathy of the fraternity at large in this his second and greatest bereavement—he having buried his sister in Minneapolis a short time ago, as was recently stated by "North West" in your columns.

I understand some of the boys in the W. U. office tried to "put up a job" on McRobey a few nights ago, by getting Mac on the printer book and having "Sam" Wallace "sush" him as only "Sam" knows how to do, "but it wouldn't wash." Mac put it down in fine style for a few minutes, when he "smelt dot miece," and turned the laugh on the projectors of the scheme.

Col. Baldwin, a jolly, gray haired old gentleman, who had done some effective military telegraph service during the late "unpleasantness," paid the W. U. office a visit recently, and was shown around by Mr. Summers. Mr. Baldwin is now in the gas business.

I am credibly informed that the Western Electric Manufacturing Company are putting up an addition to the switch board in the W. U. office here, and that very soon gravity batteries will take the place of all the acid batteries in use in the Chicago office. I hope to give a more detailed description when all is complete and settled.

A good deal of well founded complaint is made by operators on account of the shape of the chairs they are obliged to use. They are made with the chair seat lower at the back than in front, and the arms on the chairs prevent the chair from being pulled up close to or under the table, so that there is no support for the operator's back. A chair for a telegrapher to work comfortably in should be as high, if not higher at the back part of the seat than in front, and if with any arms at all on it only enough to brace the back of the chair. Then it could be drawn up until the body would be brought close to the table, and the operator, either receiving or sending, could lean back and rest as he worked, and not be obliged to curve his spine in order to bend over far enough to get to his work, and have no support to his back. The front legs of the chair should be a great deal shorter than the back ones, and if any "pitch" at

all to the seat of the chair, it should be forward. A cheap, common wooden kitchen chair would be far preferable, made in this way, to the costly arm chairs now in use.

The days of snapper sounders being over as a novelty, the rage now is to ascertain how many words you can form out of the letters spelling your name. "It's lots of fun."

The recent heavy snow north of us has made sad havoc, delaying trains, breaking wires down, etc. Some of the roads have been blocked for a whole week.

The time of year for trying the "Boys'" patience is fast approaching. We had a few days' siege of it recently—dark, cloudy and damp, and everybody out of humor.

One of the Benedicts who got an order for "a lot of *Baby wood*" instead of "*Baby food*" is excusable, as I suppose, as he has no "sonnders" of his own yet, but "*Relay*" I think it's too "*Rich*."

OCCASIONAL.

The Telegraphers of the Pacific Coast.

SAN FRANCISCO, CAL., March 15.

TO THE EDITOR OF THE TELEGRAPHER.

SOME changes having been made in the following offices recently, will give the force now in each: Virginia, Nev., Western Union, George Serf, manager; Sam. Rankin, chief operator; David Crawford, John Morison, W. H. Murphy, A. B. McCoy, A. McPhee, and H. H. Smith, operators. The Atlantic and Pacific force comprise Mr. W. S. Bender, manager; N. L. Boydston, H. M. Bennett, and Samuel Kimbeer, operators. Gold Hill, Nev., Western Union office is managed by Mr. Samuel W. Chubbuck, assisted by Thomas Booth. Sacramento, Atlantic and Pacific force, Chas. M. Cogan, manager; M. W. Wilder, chief operator; H. L. Pray, H. C. Marks, T. P. Lee, operators. The Western Union force consists of John P. Allen, manager; John Leach, chief operator; John Egan, night chief; George Pardon, John B. Bennett, B. C. Shearer, G. W. Jackson, Miss Godah Coles and Miss Alice Kearney. We hear that Mr. John Egan, who now holds a commission as second lieutenant in the Sarsfield Guards, was attached to the Major General's staff during the Lieutenant's recent visit to this city. "He have a *sword*," but somehow was omitted in the reception tendered to King Dave, of the bread and ham islands; but it is understood one of the Lieutenant's highly embossed cards has been forwarded to the American Minister at Honolulu, to be presented to His Highness Kalakaua, with Doc's "73" attached.

In Southern California recent changes place the following gentlemen as herein mentioned: Mr. T. Hunt relieving Mr. W. R. Barker at Los Angeles, as assistant; Mr. Chas. J. Shepard being still in charge of the office as manager. The Atlantic and Pacific Company have opened new offices at Anaheim, where he who styles himself "Count" Alexis de Parwinhoff, "a Russian exile, who eschews tobacco, but not "caviare," may be found; "they say" he's quite a ladies' man; J. J. Ashe, at Wilmington; J. K. Banks, Downey City; J. T. Gifford, of Norwalk; L. E. Mosher, Elmonte; W. H. Moulthrop, Sparta; R. L. Eames, San Fernando; Thomas McAffery, at Los Angeles, as chief operator. Four lines radiate from this office, and all being extended (with a fifth in prospect), keep Mr. McAffery very busy. Many of the above mentioned names will be found at present on your subscription list. Of those not now subscribers, but admirers of the telegraphers' paper, many are waiting a chance to get a two dollar greenback in exchange for the coin they use. Post-office orders are cashed at par in New York still; so don't be afraid to "chip in" your "mite," ladies and gentlemen.

These ladies have been appointed to take charge of the City Line offices of the Western Union Telegraph Company: Miss "V." Storer at Front street, corner Sacramento; Miss Merrit, Washington street; Miss Ware, at Cosmopolitan Hotel; Miss Littlejohn, at the Grand; Miss Bryant, at the Occidental; Miss Nicol, at corner Fourth and Townsend streets. They all contribute toward keeping the only gentleman, Mr. John A. Smith, at the Market street office, as embarrassed as a young lady without pias.

P. S.—No swearing on this line. CLIX.

The Great Western Railroad Telegraph.

KINCARDINE, March 10.

TO THE EDITOR OF THE TELEGRAPHER.

NOT having seen anything in THE TELEGRAPHER from this part of the country, I send you these few lines. Corresponding, in my opinion, is not one of the best things to do in this world. In fact, I would rather be sitting in a cosy room smoking my pipe and reading THE TELEGRAPHER than to be writing. But the case stands this way: if I don't write and let our friends

on the other side of the line know we are still among the living, no one else will, seemingly. I think it a great shame that some one more capable does not take it in hand to correspond for THE TELEGRAPHER regularly, and I sincerely hope that in future some good, responsible person will take note of this, and correspond regularly hereafter.

Business on the Great Western Railway has been very rushing this winter; but on the Wellington Grey and Bruce and Southern Extension branches of the G. W. R. business has been at a stand still for the last few days. This is owing to the immense quantity of snow which has accumulated and completely blocked the roads. The company are doing their utmost to clear the roads, and in a few days we may expect a big rush of business once more.

Palmerston is our despatching office, and here there are three as good operators as ever slung lightning. This is strong language, but, nevertheless, true. Messrs. A. B. Munson, "Mu," and J. R. Brand, "J," day dispatchers, and Mr. Shirk, "W. S.," night despatcher, are operators who are not to be despised. They are kept very busy, and it's amusing to hear them complain about the weather at times.

"J." the other day mildly remarked to me that he was sick and tired of weather and everything else (no wonder, the line having been down for three or four days). I merely answered him, saying, have patience, old man, Job had patience, and things will be all right in the spring. To my surprise, he offered to bet me a V that Job never learned telegraphing, and still more, never could. As I am not a betting man, I took a back seat, and listened to "Mu" giving a ping operator a piece of his mind. When "Mu" gets in this mood you have got to stand and bear it the best way you can, as he never does this without a good cause or reason. But he is looked upon by all operators who work under him as a kind and obliging operator. With these few remarks I will close, hoping that in the course of time I shall hear more remarks from the operators in Canada, through THE TELEGRAPHER, than heretofore.

BENZIN.

Telegraphy Adapted to Females.—Female Operators Welcome.

TO THE EDITOR OF THE TELEGRAPHER.

I PRESUME it is not in the slightest degree necessary for me to state here in the beginning that this is my first attempt, for you will doubtless arrive at that conclusion long ere you have finished this *attenuated* piece of literature; but the truth must be told at all times, and I state this for the benefit of the limited few, who, otherwise, might be enraptured with my eloquence, and ascribe this production to the pen of "Oney Gagen," or some other among the more fluent spoken of our friends. For the benefit of those who do not appreciate this effort, I will state that I am not at all sensitive, and any attempt made to ridicule or malign will be utterly futile.

I have read THE TELEGRAPHER with a great deal of interest lately, and among the articles in which I have been particularly interested are the replies of the ladies to "Nihil Nameless."

It is to be regretted that "Nihil" had not spoken his thoughts long before, and thus the sooner have called forth "Lady" and Jo." to refute his statements in such a charming manner.

I fully coincide with "Lady" as to the influence exerted upon gentlemen operators who work in company with ladies, and cannot help wondering in what portion of this "wicked world," and among what manner of citizens, "Nihil's" lot could have been cast that he should so underestimate the value of the refining influence of the "gentler sex."

In regard to his wish that in future women should not learn telegraphy with intention of following it as a means of livelihood, I am not prepared to state whether it is for their interest so to do or not; but comparing salaries of "lady operators" with those received by women who are engaged in other employments, should think our business, if not exactly suitable, at least not unsuitable to them; this, however, it would, perhaps, be better to refer to the ladies themselves, as they certainly should be the best judges in such matters.

While I am about it I may as well speak of one thing concerning "female telegraphists" which has troubled me for some time, and which I have always considered extremely unjust.

I believe that even in my brightest days I was never considered a prodigy of brilliancy, and this may be the reason why I never could understand why a lady operator, quite equalling, if not excelling men in ability, should receive two thirds as much salary. I do not write with the expectation of doing any good, but could wish, for the benefit of the "weaker sex," that the question might be agitated. Methinks the ladies could plead for themselves right manfully in this cause. Surely "the laborer is worthy of his hire," but reverse, and it reads, "her hire is unworthy of the laborer," which we think applies here exactly.

A man is better able to withstand the long hours of weary, confusing labor which operators in general have to endure, and if by patient, unswerving perseverance, the woman becomes a first class operator, and does the work quite as well as the man, and we think, is rather more to be relied upon, should she not receive quite as much pay? We think so; but as I said before, my powers of understanding are limited, and, perhaps, some of our more enlightend brethren might satisfactorily explain this. It is my humble opinion that we cannot get too many ladies into our ranks; and for one I say, "Ladies, come one, come all!"

That which has been previously discussed through the columns of your paper in regard to the average social and moral standing of operators, as far as my own personal knowledge and acquaintance extends, is dolefully true, and it appears to me that matters in this respect get no better very fast, so let us have more girls to give tone to our business, and let them have larger salaries, please! ZERO.

An Application from a Plug.—A Well Deserved Compliment.—Telegraphic Notes and Personals.

St. Louis, Mo., March 9.

TO THE EDITOR OF THE TELEGRAPHER.

The following letter was received by Mark Crain, chief operator, Kansas City, Mo.:

"New Hartford Ills March 6th 1875 to mr telegraph operator.

allow me to Drop you A few lines Asking information i am out of A Situation and Would like if you Can Give me Some information In Regard to work. if you Can cite me to an office or night work i will Pay you well for your Trouble. if you can Do anything for Me Please communicate With me at once And oblige Yours respectfully

J. K. d.

oPerator."

It is evident that the author of the above is fresh from college.

Thermometer still hovers around 35 degrees above. No deaths have been reported from spring fever as yet. Tom. W—— is a likely victim, unless Miss V. at "Ch" can hurry him a little.

The American District have reduced Box rent from \$2.50 to \$2 per month.

The appointment of Col. R. C. Clowry, Assistant General Superintendent, is a very deserved compliment to that gentleman. No man has done more to advance the interests of the Company than Mr. Clowry. He is a zealous and hard worker. The Colonel's district now embraces Missouri, Kansas, Texas, Colorado, New Mexico, Arkansas and part of Nebraska and Louisiana. B. F. Woodward, Denver, Colorado, and L. C. Baker, Little Rock, Arkansas, are Mr. Clowry's assistants. A slight reduction in the force at Dallas and Honston, Texas, was necessary, but I understand that these men will be provided for as soon as an opportunity offers.

Mr. I. McMichael is still Mr. Clowry's chief clerk, and E. H. Brown, Esq., continues to be the able and efficient manager here, and approves the boys' "due bills" in a manner very gratifying to them.

C. Dougherty is C. N. D. man, and has charge of the gold and stock department, which has become a very prominent feature of St. Louis.

John A. Hobbs and A. E. Haquette, for many years receiving clerks, have resigned and gone into business for themselves. Messrs. Halloban and Guignon are their successors.

In Texas the grass is high enough for grazing purposes, and the trees are resuming their foliage. C.

Resignation of Manager Swain, of the Chicago, Ill., Western Union Office.

CHICAGO, ILL., March 26.

TO THE EDITOR OF THE TELEGRAPHER.

We were very much surprised this morning to hear it rumored that Mr. F. C. Swain, manager of the operating department of the Western Union Telegraph office in this city, would sever his connection with that company the first of April. Of his future plans we are not apprised. Mr. Swain's retirement from the position he has held so long is a great surprise to the telegraphers in this section, and various rumors (too idle to mention at present) are afloat as to this sudden change. A number of gentlemen have been named as his permanent successor, but it is as yet not known outside official circles who it will be. Upon inquiry, I find that none of the Western Union operators seem to know what changes will take place. I am quite reliably informed, however, that Mr. C. H. Summers will assume the duties, at least temporarily. This resignation will doubtless cause a number of changes, and a great deal of anxiety will exist until

it is settled as to who will "ascend the throne," and then no doubt the disappointment of some who seek the place, and of some who really expect it, will be as great as is the anxiety now to know who the "happy man" will be. As far as I have conversed with the W. U. operators, a majority of them would seem to favor the appointment of Mr. Felton, the present manager of the other departments, as manager of the operating department, in conjunction with his other duties; and Mr. George York as assistant in charge of the operating department, and Mr. Sholes in charge of all the circuits as first chief operator. This represents no doubt the wishes of the day force to a large extent, as Mr. York is well known as one of the most perfect gentlemen in the business, easily approached, yet firm and decided when occasion requires, while no better man can be found to manage circuit, tell the real qualifications of an operator, or be all over the operating room attending to everything at once without confusion than Mr. Sholes. Of course the night men have their choice, and think that Mr. Maynard would fill the chair as acceptably, if not more so, than any one else. His qualifications are too well known as a man of all work to necessitate any eulogy from me, while the advancement of Mr. Springer to the position of night manager, if that place is vacated by Mr. Maynard's promotion, would be hailed with satisfaction by a very large majority of the "night hawks." Probably the only operators who will be benefited at all by any change made will be some of the old night men who have been anxiously looking forward to the increase of business in the spring as the time when the extra men now on duty, and new ones yet to come, would take their places on the night force, and they be advanced (according to merit and priority of application for day work) to positions on the day force. As this will probably occur, no matter who is appointed manager of the operating department, it is of little moment to the rank and file of the fraternity working for that company, so that he is a good man, and they can afford to wait. OCCASIONAL.

Death of Alfred C. Mapes.—A Veteran Telegrapher.

St. Louis, Mo., March 27.

TO THE EDITOR OF THE TELEGRAPHER.

At two o'clock on the morning of March 23d, Alfred C. Mapes, a veteran telegrapher, well known throughout the West, died at his residence in Wyandotte, Kansas. He had been engaged in the business for the past fifteen years, and was a very efficient railroad man—a fact recognized by the officials of the Mobile and Ohio Railroad Company, who promoted him to the position of train master and dispatcher, which he faithfully filled for a long time subsequently. Mr. Mapes accepted a superintendency of the Missouri Pacific Railroad and telegraph lines, with headquarters at Sedalia, Mo., but resigned owing to its necessitating his absence from Wyandotte. Other positions of honor and trust were declined for the same reason. The deceased owned a homestead in Wyandotte, and preferred having charge of the train running from that place to Leavenworth to promotion, as it enabled him to devote his time to his family. He had been sick for about five weeks, and died from the effects of congested chills. In the death of "Al. Mapes" telegraphy has lost one of its most estimable members, and one whose career those entering upon the profession might profit by imitating.

He was universally respected by all, having endeared himself to every one by his uniform courtesy and kindness. The funeral took place on the 26th inst., and his remains were followed to the grave by a large number of his friends from Kansas City and other points. C.

Telegraph Business should be Suspended on the Sabbath.

DETROIT, MICH., March 26.

TO THE EDITOR OF THE TELEGRAPHER.

It has often occurred to me, and has been the cause of much surprise on my part, why some of the contributors to THE TELEGRAPHER have not ventilated their ideas on the subject of working Sundays, which we all, to a certain extent, have to perform. (I refer more especially to night men). I can't see the justice in paying day men who work Sundays three and four dollars per day extra while night men have to perform Sunday duty, whether they want to or not, without receiving any extra compensation. Why cannot telegraphers, as well as men engaged in other professions or trades, have one day to themselves? Telegraph offices were not kept open on Sunday before the war, and now that peace reigns, why not close them? I should think that telegraph companies, looking at the subject even in an economical light, would close their offices on that day, for it seems to me that it can not pay them, in large offices especially. But the

question is, would they not get the business which is handed in by customers on Sunday either Saturday night or Monday morning? I think they would, and thus save a great deal of money now paid for extra Sunday service. If an executive order from the Presidents of both the large companies should be issued closing all offices on Sunday, or else have stated hours for that day, say from 8 to 10 A. M. and 4 to 6 P. M., the public would soon conform to the new arrangement, the companies would make just as much money as they do now, and operators would hail the change with gladness. Some will say, but the newspapers must have the press despatches, and the War Department requires signals. In reply I would say a large number of newspapers do not publish Monday morning, and if they could get along before the war why not now? Besides; there is very little report transmitted Sundays—not enough to pay for doing it. As to signals at night, if operators were relieved of all other Sunday work, I think they would not grumble at having to work about an hour for that purpose. I would like to hear from some of your numerous correspondents on this subject and see what their views are on the same. NIGHT MAN.

My First Message.—Personals, &c.

PHILADELPHIA, PA., March 23.

TO THE EDITOR OF THE TELEGRAPHER.

It was in the fall of 1870 (if my memory serves me right) when my "big brother" was operating for the old Delaware River Telegraph Company, that at a certain village along the line of said company he received a message for a party living several miles in the country, which required immediate delivery. He procured a horse and went on his mission, as he was not blessed with a messenger, nor did the business ordinarily require the services of such an individual, and left me in charge of the office until his return, as I had managed to learn how many dots and dashes belong to the different letters, but I thought, as many do at the present day, that "I knew all about it." I was not idle long, however, but heard "A" office call me, and timidly I replied, and he sent a message once, twice, thrice, and I think even six times; then I gave him a short rest, and commenced to spell out all the words I could, but nevertheless I had to make him "Ga" a number of times at different places, and still I was unable to make out the message, and as he repeatedly asked for O. K. I finally gave him the desired O. K. to make him "shut up," and so he did, but was totally unable to make out the message (for, of course, we had a paper machine), and I stamped, cried, and I am afraid, swore around in the office for about an hour in a manner fearful to behold; but after dashing away my tears and taking a little fresh air, I was able to decipher about half of the message, and hastily prepared that part and started on the way to deliver what I had of it, but was nearly overwhelmed with joy to notice the arrival of that brother of mine, and in a hurried explanation told him the facts, and he read and copied the message off and started me with it in double quick time. After that I commenced to pay more attention to the art, and am now what I "are."

No doubt the operators of the old Delaware River line (now W. U. No. 36) and those that worked on 36 wire during the time Miss Maggio Duff, "M," was operator at Catauqua and Bethlehem, will be pleased to know her whereabouts. She is still following her "trade" on the city line at Broad and Coates streets, in this city, and is as lively and talkative as ever. Not having much to do with the machines, she has ample time to entertain her numerous friends and visitors who chance to pass that way, and I would advise any one wishing to spend a few hours pleasantly to call on her, but not all at once, as her office is not large enough to accommodate many at a time.

I also recently made a call on Miss Selover, who is working the city wire at 1,330 Girard avenue, where she occupies a large, commodious and pleasant office, and is generally to be found busy doing something or other. Many of her friends take advantage of her present position and call on her, as she can continue with her wax work or other labors and at the same time have a pleasant chat with them.

I noticed in the communication signed "Z. Y. X.," which appeared in THE TELEGRAPHER several weeks since, the author forgot to mention the most important individual of our line, it being our most worthy Superintendent of the telegraph, Mr. R. Yerkes, whose office is at Front and Willow streets, and who has for many years past occupied that honorable position.

Times are slowly recovering with us, but we look forward to a more genuine revival ere many months have passed. EX-PROF.

Answer to Correspondent.

IGNORANCE.—The wire mattress being sufficiently insulated by the wooden legs of the bedstead, the danger of being affected by lightning, of a person sleeping upon it would not be increased.

THE TELEGRAPHER

DEVOTED TO THE INTERESTS
OF THE
TELEGRAPHIC FRATERNITY.

SATURDAY, APRIL 3, 1875.

THE TELEGRAPHER:
PUBLISHED EVERY SATURDAY at 38 VESEY ST.

ELEVENTH VOLUME.

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Communications must be addressed to

J. N. ASHLEY, Publisher,

(P. O. Box 5503.) 38 VESEY ST., New York.

Back Numbers of The Telegrapher Wanted.

OUR supply of copies of the current volume of THE TELEGRAPHER, Nos. 446 for January 30th, and 449 for February 20th, are already exhausted, and we would be under obligations to any of our subscribers who do not keep files of the paper for binding, that may have these numbers, or either of them, on hand, if they will forward them to this office. The postage necessary to be prepaid on those papers, to insure their transmission, is two cents for each.

We regret to be obliged to ask this, but the demand for these numbers has exhausted the supply.

The Proposed Legislation in regard to Telegraph Lines in Cities.

THE opposition to the continued encumbrance of the streets of this and other large cities by huge, and generally unsightly telegraph poles, is taking shape in proposed legislation, which shall compel telegraph companies to remove them and adopt some subterranean system for their wires.

The Act introduced by Mr. DALY in the State Assembly at Albany, and an ordinance introduced recently in the Board of Aldermen of this city, both of which are now pending, are intended to compel telegraph companies within a certain time to remove the poles and conduct their wires beneath the pavements of the streets.

These are being strenuously opposed by the Western Union and Gold and Stock Telegraph Companies and other telegraph interests, and we scarcely think will be adopted at present.

That some radical change is necessary is evident; what it shall be, how secured and carried out, are questions easily asked, but not so readily answered. Naturally the telegraph companies are opposed to being forced to make the requisite change, which will be costly, and to which it must be conceded there are some very plausible objections.

In this connection, it is curious to recall the fact that nearly twenty years ago the then existing American Telegraph Company desired to bring its wires underground from the upper part of the city, but were utterly unable to obtain permission from the municipal authorities to do so. Their application for such permission was pending some time before the Board of

Aldermen, and was finally rejected, and the company compelled to continue the use of poles for conducting its wires through the streets of New York. Had the desired permission been obtained, the experiment of subterranean city telegraph wires would have been tried, and, if successful, all the wires would eventually have gone underground in this city, and probably in all other large cities in the country.

The number of telegraph wires at that time was very limited, and the necessity for putting them out of sight and reach was not so apparent as it is now. In the then condition and stage of development of electrical science in its application to telegraphy, it is doubtful whether the plan would have met with the immediate success which was anticipated, but the probability is that eventually some practicable plan would have been developed, and the difficulties encountered would have been overcome.

Now New York streets are crowded with telegraph poles, to the number of which constant additions are being made, and the roofs of the houses and other buildings in some sections of the city are crossed and recrossed by telegraph wires, and ornamented with telegraph fixtures of every available kind and description. The enormous development of private telegraph lines which at the time referred to were entirely unknown, the lines for reporting financial and commercial quotations, etc., have greatly complicated the matter, and have created very powerful interests in opposition to any legislation which shall force these wires from their present more or less lofty elevations and place them, at great cost and trouble, beneath the feet of the public.

While we have held that some change must inevitably take place, yet we are not in favor of crude and hasty legislation on the subject. It is a matter which should be carefully considered, and definite action should be deferred until experiments can be made to determine what plan can be adopted which shall secure the public and private interests. It is claimed that some of the instruments cannot be successfully worked on underground lines, on account of the static charge which is developed when wires are either submerged in the water or buried in the earth, for more than a very short distance. In 1853 the writer was in England for the purpose of assisting in introducing the House Printing Telegraph instrument on the subterranean wires between London and Liverpool. It was found impossible to work the instrument at all on these wires, the breaking and closing of the circuits being so rapid that, on account of the static charge, the wires could not be discharged with sufficient rapidity, even on a circuit of fifteen miles. The company having no aerial lines upon which to work them, the attempt to introduce the House Printer was finally abandoned. It is this static charge which necessitates working submarine telegraph cables slowly, and with apparatus and batteries specially devised for the purpose. It remains to be demonstrated how much wires placed underground for from one to ten miles would be affected, and what the effect would be on the ordinary working of telegraph instruments on such wires.

While, therefore, in our opinion the time has come when this matter should be fully investigated, with a view to ultimate action, we hope that no hasty or inconsiderate legislation will be adopted. We do not write especially in the interest of telegraph companies, but in that of the public as well, which certainly will not be advanced by subjecting telegraph interests to a heavy tax before the preliminary investigations have been made, and the questions which enter so essentially into the practicability and nature of any changes which are to be made have been settled. Let the matter be considered carefully, intelligently and thoroughly, and, as preliminary to a final decision, let us ascertain what system of subterranean wires will best answer the desired object.

Mrs. PARTINGTON declares that she does not wish to vote, as she fears she couldn't stand the shock of the electrical franchise.

Spring at Last.—Telegraphic Prospects.

THE winter of 1874-75 will be memorable hereafter for its length and severity. For the past four months we have had almost unintermittent Arctic weather, and in most sections of the north, east and west this has been accompanied by heavy and numerous snow storms. All things have an end, however, and this winter is at last over and spring is fairly inaugurated. In the course of two or three weeks more the frost will be entirely out of the ground, the snow mostly resolved into water, the spring freshets over, the damage to telegraph lines generally repaired, and preparations commenced for the work to be accomplished during the ensuing six months.

The prospect appears to be favorable for much more work being done this year in construction and reconstruction of telegraph lines than in 1874. It is known that the Atlantic and Pacific Telegraph Company contemplate important additions to its present system of lines during the coming season; the Western Union Company will probably also be obliged to undertake considerable reconstruction, and make some additions to existing facilities. Both companies feel the necessity of strengthening their position as much as possible, and the Atlantic and Pacific Company has much to do in order to make it what its present managers intend it shall be, an effective competitor with its principal rival for the telegraph business of the country.

We hope that in building additional lines, or reconstructing those already in existence, care will be taken that the errors of the past shall not be repeated, but that they will be superior to the generality of lines heretofore erected in this country. The best material and insulation is the cheapest in the end. If fast telegraphic systems are to be worked, it is essential, in order that their advantages may be fully realized, that lines of adequate conductivity, with good insulation, should be provided. The success of fast systems of telegraphy depends much more on the conductor than is generally recognized. With a conductor of inferior capacity and inadequate insulation, it is idle to expect that any system can be worked effectively and economically. The time is, or should be passed when any sort of a line that will, under favorable climatic conditions, permit the transmission of telegraphic signals, should be regarded as good enough. The best is none too good, and will be found the most economical in the end.

The revival of business, though gradual, seems to be progressing, and there is promise that telegraphers will, before many months have passed, find more demand for their services. The supply of operative talent is, however, fully equal to any probable demand for some time to come, and we do not think there is any necessity for the multiplication of so-called telegraph schools, colleges or institutes. There are enough new members being constantly initiated into the profession in the regular way, to render unnecessary any stimulation of the supply by extraneous efforts or means.

The Marine Telegraphs Bill of the Dominion of Canada.

THE bill which was passed last year by the Parliament of the Dominion of Canada, regulating Marine telegraph enterprises in the Dominion, subject to the approval of the Crown, which was withheld on the ground that it was a matter which should be decided by the local government, has been reintroduced, and despite the opposition of the Anglo-American Company, has passed both Houses of Parliament in substantially the same shape, and at last advice it was pending in the Lower House on some minor amendments made by the other House.

This bill will not affect the rights of the Anglo-American Company in Newfoundland, as that Province is not included in the Dominion Confederation, but if it finally becomes a law, it will probably necessitate the removal of the cables of that company which are within the Dominion.

Delay of Publication of Reports of Commissioners to the Vienna Exposition.

CONSIDERABLE anxiety having been manifested among readers of the THE TELEGRAPHER to obtain the reports of the Telegraphic Commissioners at the Vienna Exposition, we have made inquiries to ascertain the cause of the great delay in their publication, and learn that it is owing to the fact that a number of the subordinate reports, among which is that of Mr. R. B. LINES, have not yet been received at the State Department. A very complete report by Mr. DAVID BROOKS has been on file for more than a year, but cannot be published till the other Commissioners are heard from.

Renewal of the Attempt to Complete the Direct United States Cable.

A NEWS despatch from London states that the *Faraday* will sail to-morrow, April 4th, at the latest, to renew the attempt to complete the laying of the Direct Cable. It is to be hoped that this attempt will be successful, and that before the end of the present month the cable will be completed and in successful operation. The misfortunes which have thus far attended it have placed this enterprise under a cloud, and have delayed its completion for six or eight months beyond the time when it should have been accomplished.

Centennial Chimes Galop.

WE have received from the composer, Mr. J. H. MILLIKEN, of the Western Union, Boston, Mass., telegraph office, a new musical composition entitled *Centennial Chimes Galop*, published by OLIVER DITSON & Co., the well known publishers of that city.

Our musical critic pronounces it a very good production—much better than the average of such compositions. As Mr. MILLIKEN is a telegrapher, it will naturally gratify the profession that one of its members should display ability in so difficult an art as that of musical composition.

Protection from Atmospheric Electricity.

THE season of electrical atmospheric disturbances, thunder storms, etc., is at hand, and the question of lightning arresters becomes a prominent one among telegraphers. Every telegraph instrument, cable, etc., should be protected by a good lightning arrester. One of the best of these is the Globe Lightning Arrester, manufactured and sold by Messrs. F. L. POPE & Co., of No. 38 Vesey street, New York. These cheap, simple, yet effectual protections against damage by surcharge of the wires by atmospheric electricity, should meet with a large sale during the coming season.

New Advertisement of L. G. Tillotson & Co.

THE new column advertisement of Messrs. L. G. TILLOTSON & Co., which appears in this number of THE TELEGRAPHER, will be found of interest to all who have occasion to purchase telegraph and electrical apparatus and supplies. With characteristic enterprise, this firm is adding to its already very complete stock new and valuable specialties, which will be found mentioned and described in the advertisement. The inducements which they offer to telegraphers and others are very liberal.

New Catalogue and Price List of the Western Electric Manufacturing Company.

THE Western Electric Manufacturing Company of Chicago, Illinois, have issued a new catalogue and price list, which will be forwarded on application to the company.

It is a neat and concise little book of 36 pages, giving complete information in regard to the various instruments and apparatus manufactured and sold by this enterprising company. In addition to the price list, the pamphlet contains tables of the weight, diameter and gauge numbers of copper and iron wires, and notices

and descriptions of the most important specialties of which the Western Electric Company has charge.

Personals.

Miss LITTLEJOHN has been transferred from the Grand Hotel to the main office Western Union Telegraph Co., San Francisco, Cal.

Miss J. A. NORCROSS has been appointed Manager of the Grand Hotel Western Union Office, San Francisco, Cal.

The address of Mr. WILLIAM DONOVAN, who was operator for the Franklin Telegraph Co. at Manhattanville, N. Y., and Bethel, Conn., in 1867 and 1868 is desired. Any person knowing the same, will oblige by communicating to the Editor of THE TELEGRAPHER.

Mr. GEORGE D. BELDEN has been appointed Chief Train Despatcher of the Rensselaer and Saratoga Railroad.

Mr. HOWSER, from the New York office of the Atlantic and Pacific Telegraph Co., has accepted the position in the Chicago, Ill., office of the same company, made vacant by the resignation of Mr. JOHN KENNY, of the night force.

Mr. SUNNY, of the A. & P. New York office, has accepted a position on the day force of the Chicago, Ill., office of the same company.

Mr. D. E. SWEET has been appointed to fill the vacancy in the position of Chief Operator in the Chicago, Ill., A. & P. office caused by the transfer of Mr. RUDD, to Detroit, Mich.

Mr. "CURT" MESERVE is working "extra" for the W. U. Co., at Chicago, Ill.

Mr. L. H. LONG is subbing for the Chicago, Rock Island and Pacific R. R. at Peru, Ill., and expects soon to go to Moline, Ill., on the same line.

Mr. WILLIAM ORTON, President of the Western Union Telegraph Company, sailed on Saturday last in the Inman Steamer, City of Chester, for Liverpool, accompanied by Mrs. JESSIE and Miss ALICE ORTON. He goes out principally on telegraph business, and expects to be absent about two months.

The Telegraph.

By Cable.

THE PARADAY NEARLY READY TO RENEW THE ATTEMPT TO LAY THE DIRECT CABLE.

LONDON, April 1, 5 A. M.—The Siemens Brothers' cable steamer Faraday has refitted and is now coaling at Gravesend. She will sail on Sunday, the fourth instant, at the latest, to complete the work of laying the Direct Atlantic Cable.

FAILURE OF AN ENGLISH TELEGRAPH CONTRACTOR.

LONDON, March 31.—William Thomas Henley, telegraph engineer and contractor, has failed. His liabilities are \$2,500,000.

Proposed New Telegraph Company.

AN Act of Incorporation has been passed by the Virginia Legislature chartering the Old Dominion Telegraph Company. The capital is to be \$500,000, in shares of \$50 each. The incorporators are Messrs. Frederick B. Hubbell, Edwin Fitzgerald, R. H. Logan, C. H. Smith, James D. Patten, D. S. Pollock and John A. McCaul.

The company is authorized to construct telegraph lines from any point on the waters of Chesapeake Bay and its tributary streams to any points within the State, and build all necessary branches. The Act passed the House on Friday, March 26th, and the Senate on Saturday, the 27th.

Foreign Telegraphic Notes.

THE Fourth International Telegraph Congress will meet on the first of June at St. Petersburg, in conformity with the decision arrived at in the Roman Congress. The Russian Government some time since forwarded invitations to the twenty-four States which have adhered to the Convention, and to twenty Submarine Telegraph Companies. With the exception of the United States, all have accepted. Brazil, the Argentine Republic, and Japan, are the new States which will be represented at the Congress, which is expected to last forty days. The private companies have only a consulting voice, the official representatives of States alone having the right to vote.

Mr. Charles Burton, Director General of Telegraphs

for the Argentine Republic, and Honorary Secretary of the Society of Telegraph Engineers, has just left England on his return to Buenos Ayres. During his sojourn in England he has been making himself familiar with its telegraph system, and on his return will probably be able to introduce some improvements into the Argentine working. He contemplates introducing the duplex system.

Dr Stephan, the head of the Post-office of the German Empire, has been directed to take charge provisionally of the Telegraph Department, with a view of amalgamating the two departments, as has been done in Great Britain.

Fatal Accident at New Western Union Building.

ON Thursday afternoon of last week Richard Finley, a messenger employed by the New York Associated Press, was instantly killed by being struck on the head by the elevator in the Western Union Telegraph Office, corner of Dey street and Broadway. The boy was standing on the third story of the building, and put out his head between the slats of the door and looked down to see if the elevator was coming up. Unfortunately it was coming down, and before he could get his head back it struck him and cut the entire upper portion of the skull off. The elevator was at once stopped and the boy picked up, but he was dead and his brains were scattered over the floor. It has been the intention of the company to have a wire screen across the doors, as the boys are in the habit of sounding the annunciator to fool the engineer and see the car run up. The father of young Finley came to the Twenty-seventh precinct station house late in the afternoon, where the body was taken, and identified it. He gave his residence as East Eighteenth street, near First avenue.

The Western Union Telegraph Company Censured.

AN inquest was held on Tuesday last by Coroner Croker in the case of the boy, Richard Finley, who was killed by an elevator in the Western Union Telegraph building on the 26th ult. It was shown that the approaches to the elevators were all in an unfinished state, doors not yet having been erected on the various floors at the apertures of the elevator wells.

The jury rendered the following verdict: "We find that Richard Finley came to his death by the negligence of the Western Union Telegraph Company in not having the doors of their elevator properly secured."

At the conclusion of the examination the father of the boy expressed his determination to at once sue the Western Union Company for damages.

Destruction of a Telegraph Line in China.

ON January 22d a mob attacked the laborers on the telegraph line from Foo Choo to Amoy, at the town of Twang-Tao, and destroyed the poles, interrupting the work.

It is generally admitted that the attack was incited by the authorities, who have waited till the line reached a point where it would be at their mercy. No redress is possible, the work having been commenced in defiance of the wishes and without the full permission of the provincial government.

The Governor of Amoy has refused permission to lay a telegraph line between that town and the foreign settlement on Kulang Island, in the harbor.

Monument to Galvani.

THE *Fanfulla*, speaking of the meeting held for erecting at Bologna a monument for the illustrious physicist, L. Galvani, says that the designs given in were twenty-three in number, the jury deciding in favor of the young Roman sculptor, Ceneetti. The artist has selected the culminating point of the scientific life of Galvani, in which the immortal Bolognese is attentively watching the electric phenomena manifested in the movements of the frog. The expression of the face and of the whole body reveal the anxiety of the man of science, and the emotion produced by a great discovery.

Suicide of a Telegraph Operator.

A SPECIAL despatch to the *Cincinnati Commercial* from Toledo, Ohio, states that W. W. Blain, telegraph operator, aged 27, and unmarried, committed suicide on the 10th inst., by taking morphine. The deceased lost an arm and foot some ten years ago, and had long been very despondent.

A good name will wear out; a bad one may be earned; a nickname lasts forever.

Quotations of Telegraph Stocks at N. Y. Stock Exchange,

Showing Lowest and Highest Prices each day during week.

March.	WESTERN UNION.		ATL. AND PAO.		AMER. DIST.		GOLD AND STOCK.	
	Bid.	Asked.	Bid.	Asked.	Bid.	Asked.	Bid.	Asked.
25	76½	77	23½	24	30	33	65	75
27	76½	77	24	25½	32½	34	65	75
29	75½	77	24½	2½	31	...	...	...
30	75½	78½	24½	25½	29	33	65	75
31	77	78½	24½	25	29	33	65	73
..

New Patents.

OFFICIAL COPIES of any U. S. Patent issued since July 1st, 1871, including drawings, specifications and claims in full, sent free to any address for 25 cents each. Address F. L. POPE, P. O. Box 5503, New York City.

For the week ended February 2, 1875, and bearing that date.

159,394.—APPARATUS FOR CONTROLLING WAY COCKS OF WATER PIPES BY ELECTRICITY. W. A. Crawford, Terre Haute, Ind. Filed May 6, 1874.

Fall in temperature to freezing point causes thermostat to close circuit to electro-magnet, controlling devices acting both to cut off flow of water and to empty the exposed pipe.

The combination, with the plug of a way cock, and means for rotating the same, of a metallic thermometer, a galvanic battery, an electro-magnet, wheel, lever and stops, all constructed and arranged to operate substantially as and for the purpose set forth.

159,401.—FIRE ALARM SIGNAL BOXES. Geo. Floyd, Cincinnati, Ohio. Filed November 21, 1874.

A swinging guard plate upon the inside of the cover is normally held away from the keyhole by a pin projecting from an arm attached to the winding arbor. When the arbor is turned the pin is withdrawn from contact with the guard plate, and the withdrawal of the key allows the guard plate to swing and cover the keyhole. Key cannot be again inserted until the signal has been sent, and the arm and pin return to their normal position, thus pushing away the guard plate.

1. The combination of Master wheel C, stop wheel D, arbor G, arm H, brake I, V, spring b, and any suitable clock work and circuit wheel, when adapted to be set in motion with a key, T, or its equivalent device applied through an opening, a', in the cap, cover or door of the box, substantially as herein explained.

2. The guard plate L', pivoted to the inner side of the door or lid of a fire alarm signal box, and adapted to close the keyhole of the box being operated, and to unclog the same by the return of the mechanism to its normal position, substantially as herein explained and illustrated.

3. The combination of arm H, attached to arbor G of the signaling mechanism, projection N, and bell crank K L L', pivoted to the inner side of the box door A', for the purpose set forth.

For the week ended February 9, 1875, and bearing that date.

159,664.—TELEGRAPH APPARATUS.—M. Gally, Rochester, N. Y. Filed Nov. 2, 1874.

Through the keys messages can be set up on the wheel G ready for transmission.

1. In a telegraphic instrument, a number of electrical conductors or contact points, adjustably attached to a suitably revolving or otherwise moving base, and capable of being arranged and rearranged to represent different letters, words, or collections of words for automatic transmission, in combination with a circuit closing or breaking device, substantially as and for the purpose specified.

2. The combination, with the adjustable conductors G, of manipulating keys, each key making by its action an arrangement of a sufficient number of the conductors to produce the letters represented by such key.

3. An accumulation of arranged conductors, representing an accumulation of message matter to be thereafter transmitted, the same conductors admitting of a rearrangement for other message matter, substantially as specified.

4. The combination, with the adjustable conductors G, of the restoring cam D, for restoring the conductors after having been used, to prepare them for a rearrangement, substantially as specified.

5. The combination, with the adjustable conductors G, of the stop C, to prevent the wheel M from turning, except at such times as the conductors are moved out of contact, substantially as specified.

6. The wheel M, provided with adjustable conductors, in combination with propelling weight K, substantially as and for the purpose specified.

7. The connector F, having a detent, J, in combination with magnet H, operated by means of a reversed current, causing the movement of the connector at any desired time after message matter is accumulated by the arrangement of the conductors upon which it is to act, substantially as specified.

8. The connector F, constructed with conducting faces of different dimensions, for producing a variety of signals, when connecting with conducting points arranged in different positions in its track, substantially as specified.

For the week ended February 16, 1875, and bearing that date.

159,771.—TELEGRAPHIC SIGNAL BOXES.—W. H. Sawyer, New York, N. Y. Filed Dec. 4, 1874.

Through the intervention of rods G' H' I', motion is communicated to a winding arm, D, which in turn operates a coiled mainspring. The play of the lever is limited by stops placed at different distances from its fulcrum.

1. The combination of the winding arm D, train of wheel work C C' C'', transmitting wheel B, and lever F', substantially as herein specified.

2. The combination of motor train and circuit breaking or transmitting wheel with lever F', rods G' H' I', and links g h i, substantially as and for the purpose specified.

3. The combination of the dog E with the lever F', the former

so arranged with reference to the latter and with the winding arm D as to permit the former to engage with the latter after a complete signal has been transmitted, but at no other time.

4. The dog E, in combination with the stationary spring e and stop d, substantially as herein described.

The stops g' h' i', in combination with the lever F' and links g h i, substantially as herein specified.

159,894.—TELEGRAPH SOUNDERS.—Jesse H. Bunnell, Philadelphia, Pa., assignor to Patrick, Bunnell & Co., same place. Filed July 31, 1874.

1. In combination with an armature lever, a stroke screw, located midway, or near midway, between the end thereof and the armature, substantially as and for the purpose set forth.

2. In a telegraph sounding apparatus, the arch located underneath the lever in the line of the direction of the swing of the lever, substantially as and for the purpose set forth.

3. The combination, with the sounder lever A, of the arch G H, substantially as and for the purpose set forth.

4. The lever A, stroke screw B, and arch G H, combined and operating substantially as and for the purpose set forth.

5. The lever A, carrying the stroke screw B, the arch G G' H, and hollow base C, constructed, combined, and operating substantially as and for the purpose set forth.

Died.

RILEY.—At Cincinnati, Ohio, March 17th, 1875, of consumption JAMES RILEY, aged 27.

Obituary.

JAMES RILEY.

TREAD lightly, for he sleepeth. The bright and beautiful morning of the 17th of March, 1875, was in part typical of a soul that went to meet its Maker. "Poor Jim," we say; but why poor? Richer by far we think him now than he has ever been. There are but few persons in or around Cincinnati who are identified with the business of telegraphy that have not seen and known James Riley, the cheery repairman; the neatest of wire workers, and as gentlemanly a man as we have ever had. Faithful, hard working and good natured, he was always welcome met. Full of life and fun, loving and dntiful to his family, and beloved by us all.

His death was anticipated; for long ago it became painfully apparent to his friends that consumption had him in its grasp, and that it was but a question of a little time when he should pass the confines of our earthly border. But a little over a year since and "Jimmy" married; then his happiness seemed complete. A year rolled round, and, alas! his beloved wife was dead. Following the wife to heaven was a little bright eyed cherub, whose tiny tongue had not yet reached liping time. Thus heret, poor Riley failed but faster. This morning, peacefully, quietly, as a Christian warrior, he laid his armor down. "Well done, thou good and faithful servant; enter into the rest prepared for thee by the Lord."

This tribute, Jamie, from one friend will be echoed in the hearts of many loving ones. "He was a man, take him all in all, such as we shall not soon see his like again." "Requiescat in pace." S.

Cincinnati, March 17.

MANIFOLD PAPERS.

PREMIUM MANIFOLD PAPER and Transfer Paper (all colors) Agate and Steel Styluses, Palets, etc., for manifold writing. Also,

ROGERS' PRINTED MANIFOLD BOOKS.

Very useful to correspondents desiring to write quotations or other matters on printed forms, saving time and labor. Also,

TRAIN ORDER BOOKS,

Letter Books, Travelling Agents' and Physicians' Prescription Books, for duplicate writing, etc., etc. Large Stock, Great variety.

As Patentees and Manufacturers we can offer inducements to purchasers. Send for Circulars.

H. D. ROGERS & CO.,

22 West Fourth street,

CINCINNATI, OHIO.

Western Agents for L. G. TILLOTSON & Co., New York,

THE NONPAREIL TELEGRAPH APPARATUS,

NEW AND IMPROVED, WITH STRAIGHT LEVER KEY.

FOR AMATEURS, STUDENTS AND SHORT LINES.

This popular Pioneer Cheap Telegraph Instrument has recently been improved and a Straight Lever Key placed upon it, which makes it as nearly perfect as possible.

Since its introduction over 2,000 of them have been sold, and is still the leading telegraphic apparatus of its class.

They are furnished at the following popular prices:

Single Instruments, with three cells of Battery, Chemicals, Connecting Wire and Instruction Book, \$6.50
Two sets of Instruments, etc., 12.00

Send for our new Circular and Price List.

F. L. POPE & CO.,

P. O. Box 5503.)

38 Vesey street, N. Y.

A NEW ARRANGEMENT.

L. G. TILLOTSON & CO.

have much satisfaction in announcing that they have formed a connection with Mr. JESSE H. BUNNELL, late of Philadelphia.

In addition to their hitherto extensive Catalogue of Telegraphic and Electrical Goods, Mr. Bunnell's inventions—including his Giant Sounder, Champion Learner's Instruments, etc., etc.—will now be manufactured by this house and on sale at their warerooms.

Our new Catalogues will soon be ready for distribution, and we shall continue our discount of 20 per cent. from List Prices on all Telegraph Instruments, including Mr. Bunnell's specialties.

Estimates and equipments furnished promptly for Telegraph Lines of any length.

L. G. TILLOTSON & CO.,

8 Dey street, New York,

Corner Chestnut and South Fourth streets, Philadelphia.

Referring to the above notice, I beg to inform my friends and the telegraphic fraternity generally, that I have associated myself with the well known house of L. G. TILLOTSON & CO., who, with the most extensive and best appointed Telegraph Instrument Manufactory in America, will hereafter manufacture all articles of my invention. I will, as heretofore, give particular attention to the design and construction of special work in Instruments, Switches for large offices, etc., in which departments my experience as a practical telegrapher is always at the service of my friends. I respectfully solicit the patronage of my old customers in my new place.

JESSE H. BUNNELL,

Care L. G. Tillotson & Co., 8 Dey street, N. Y.

LECLANCHE BATTERIES.

IMPORTANT NOTICE.



After JANUARY 1st, 1875, we will allow TWENTY CENTS for each used-up Porous Cell of this Battery that are returned to us free of charge, in good order. A change is made in the discount to the trade. A list will be furnished on application to

THE LECLANCHE BATTERY COMPANY,

No. 40 WEST EIGHTEENTH STREET

or to

L. G. TILLOTSON & CO.,

8 Dey street, sole Agents.

MUTUAL CONTRIBUTION PLAN OF INSURANCE,

AT ACTUAL COST, LESS THAN ONE THIRD THE USUAL EXPENSE.

PROTECTION LIFE INSURANCE CO., CHICAGO, ILL.

Charter perpetual. Capital, \$200,000. Over \$100,000 deposited with the State Treasurer for security of policy holders.

L. P. HILLARD, President. MARTIN RYAN, Actuary.
C. A. WALKER, Vice-President. T. C. LAMBRITTE, Asst. Sec'y.
JOHN REID, Treasurer. Dr. J. H. HOLLISTER, Medical Director.
A. W. EDWARDS, Secretary.

By dividing my commission with Telegraphers, admission fee considerably reduced.

W. C. LONG, Agent, Lawndale, Chicago, Ill.

WATTS & COMPANY,

No. 47 HOLLIDAY STREET, BALTIMORE, MD.

SUPERIOR TELEGRAPH INSTRUMENTS, RELAYS, SOUNDERS, KEYS, OFFICE WIRE, BATTERIES OF EVERY DESCRIPTION, SWITCHES, GALVANOMETERS, RESISTANCE COILS.

A COMPLETE STOCK OF EVERYTHING for the TELEGRAPH OFFICE or ELECTRICAL LABORATORY.

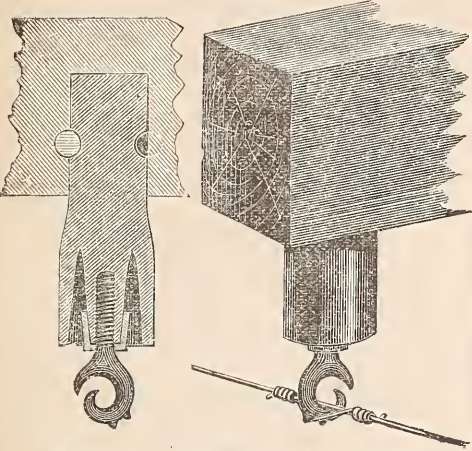
Special attention given to repairing Scientific Instruments. Several of our workmen having served their time in the most prominent European manufactories, enables us to guarantee satisfaction.

SEND FOR CATALOGUE AND PRICE LIST.

THE KENOSHA INSULATOR CO.

**TELEGRAPH COMPANIES and
TELEGRAPH CONSTRUCTORS**

are invited to examine the merits of our new and improved patterns of



KENOSHA CARBON INSULATORS!

These insulators are made of wood, thoroughly baked, and covered with an INDESTRUCTIBLE COATING, highly repellent of moisture, which does not change nor deteriorate after years of exposure to the weather.

THE KENOSHA INSULATOR has now stood the test of SIX YEARS' actual service, and we feel warranted in stating that, although costing but little if any more than the ordinary glass insulator, its insulating qualities are on an average

MORE THAN TEN TIMES AS GREAT

during the prevalence of rain or fog.

Immense numbers of these insulators are in use by

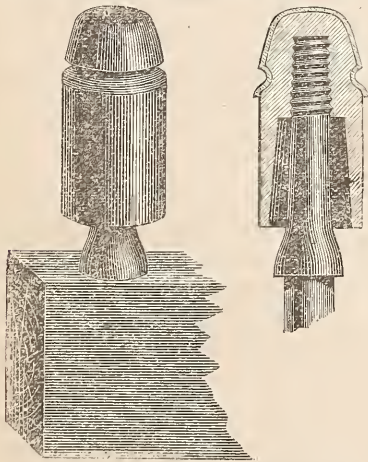
THE NORTH WESTERN TELEGRAPH CO.,

THE WESTERN UNION TELEGRAPH CO.,

as well as many RAILWAY and OTHER TELEGRAPH LINES, and they have invariably been found to give

ENTIRE SATISFACTION.

Besides the suspension insulator above shown, which is fitted with our IMPROVED WIRE HOLDER, arranged for a tie wire, and which does not cramp or injure the line wire, we manufacture several other patterns, among which is the



CAP INSULATOR, WITH PIN OR BRACKET,

which is fitted with a zinc protection, as shown in the above figure.

THE KENOSHA INSULATOR

is manufactured with the utmost care by skilled workmen and special machinery. Every individual insulator is TESTED IN WATER with a battery of 500 cells, and not a single imperfect one is allowed to leave the factory.

We are also prepared to furnish, at short notice,

CROSS-ARMS for any REQUIRED NUMBER OF WIRES,

prepared with our patent INDESTRUCTIBLE INSULATING COATING, either with or without wire insulators.

These insulators are packed for shipment in boxes containing 100 each, and may be ordered direct from us, or through any of the leading Dealers in Telegraph Supplies.

We are now prepared to fill all orders promptly, however large, and we guarantee all insulators furnished by us to prove entirely satisfactory.

THE KENOSHA INSULATOR CO.,

KENOSHA, Wisconsin.

L. G. TILLOTSON & CO.,

General Eastern Agents.

GEOERGE H. BLISS & CO.,

41 Third Avenue, Chicago, Ill.

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Elm St., cor. 5th.

Manufacturers and Dealers in

TELEGRAPH INSTRUMENTS AND SUPPLIES.

RELAYS—COMBINATION SETS; BOX and POCKET RELAYS.

PONY and REPEATING SOUNDERS.

KEYS, various styles, including the SCHNEIDER KEY, wire connections above the table.

REGISTERS, with SPRINGS or WEIGHT.

OUT OUTS, many varieties, including a new style of PEG CUT OUT, with an adjustable LIGHTNING ARRESTER, just out.

REPEATERS—HASKIN'S AUTOMATIC, and others,

SWITCH BOARDS—REPEATING, BATTERY and GROUND SWITCHES and LIGHTNING ARRESTERS.

ANDER'S GALVANIC and MAGNETO-ELECTRIC PRINTERS; also SELDEN PRINTER.

ELECTRIC BELLS, HOTEL ANUNCIATORS, FIRE and BURGLAR ALARMS, and WATCHMAN DETECTORS.

ELECTRIC RAILWAY SIGNALS and ALARMS, ELECTRIC GAS LIGHTING APPARATUS.

MEDICAL INSTRUMENTS and APPARATUS on hand and made to order. Second hand Instruments for sale cheap, and repairing done at short notice.

BATTERIES in great variety, including the latest inventions; also a full assortment of battery material.

WIRES—MOORE & SON'S and PHILLIPS' MAGNET and OFFICE WIRES, GUTTA PERCHA and KERITE WIRES, BEST GALVANIZED LINE WIRES; SUBMARINE, SUBTERRANEAN and HOUSE CABLES.

INSULATORS—BROOKS, SOREW GLASS and KENOSHA CARBON.

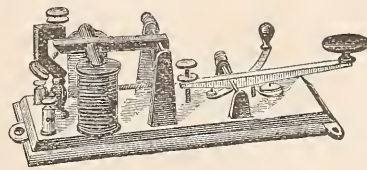
BRACKETS, PINS and SPIKES, TELEGRAPH POLES, LINE BUILDERS and REPAIRERS' TOOLS.

TELEGRAPH STATIONERY—REGISTER, MESSAGE and MANIFOLD PAPERS, CARBON SHEETS, STEEL and AGATE STYLUSES, ORTON'S PENCIL HOLDER, SAFETY MESSAGE HOOK and AWL CLIP, STANDARD TELEGRAPH BOOKS, &c.

PRICE LISTS FURNISHED FREE ON APPLICATION.

Our TELEGRAPH INSTRUMENTS and ELECTROLOGICAL APPARATUS are elegantly finished and mounted on highly polished rosewood, mahogany and walnut bases.

THE FAVORITE.



Price, \$5.00.

Having reduced the price of these standard instruments, we are now prepared to furnish them to amateurs, students, academies, &c., with battery, connecting wires, chemicals, and one copy of "Telegraphy Made Easy," for \$6.50. Will be sent by Express, C. O. D.

Just published, "TELEGRAPHY MADE EASY." Sent to any address on receipt of 25 cents.

Address,

ISAAC HALL,

43 Centre Street, New York,

Manufacturer of Telegraph Instruments.

REPAIRING, JOBBING, &c., AT REDUCED RATES.

LEWIS' TELEGRAPH MANUAL.

A few copies of the last edition of

THE TELEGRAPHIC MANUAL,

by Mr. WALTER O. LEWIS, remaining, may be had of F. L. POPE & CO., 38 Vesey street, at fifteen cents each. Will be forwarded by mail postpaid on receipt of price.

ELECTRIC BELLS.

We have on hand and will furnish all descriptions of

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either Table or Wall Bells or Gongs, at manufacturers' prices.

F. L. POPE, & CO.,

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Send for new illustrated circular and price list.

AN IMMENSE VARIETY

OF

Telegraph Instruments,

BATTERIES AND SUPPLIES,

TO SUIT EVERY POSSIBLE PURPOSE,

AT

LOWER PRICES

THAN THE SAME QUALITY OF GOODS ARE OFFERED ELSEWHERE IN AMERICA.

L. G. TILLOTSON & CO.,

New York and Philadelphia.

OUR LIST COMPRISES NOT ONLY EVERY DESCRIPTION OF

First Class Telegraphic Apparatus,

BUT A

FULL STOCK OF EVERY VARIETY OF SHORT LINE AND AMATEURS' INSTRUMENTS,

for the use of Schools, Learners, City Lines, etc., and the greatest assortment of

TELEGRAPH MATERIALS,

WIRE BATTERIES AND SUPPLIES,

To be found in any one American Establishment.

MANAGERS, OPERATORS,

And all others acting as Agents for the sale of

LEARNERS' INSTRUMENTS,

SOUNDERS, KEYS, ETC.,

will please take notice that we are now manufacturing, and will sell at our regular 20 per cent. Discount, on cash orders all of BUNNELL'S POPULAR SPECIALTIES, known as

THE GIANT SOUNDER;

CHAMPION LEARNERS' INSTRUMENTS,

CHAMPION SOUNDERS,

CHAMPION KEYS, etc.

These excellent working and very low priced Instruments, together with our well known

EXCELSIOR APPARATUS,

Cheap Relays for Short Main Wires, numerous forms of Keys, Switches, Batteries, etc.,

all go to make up a complete list of EVERYTHING REQUIRED BY AGENTS to enable them to supply all demands of any kind.

We solicit correspondence from Managers and Operators in every locality, confidently assuring them that we are prepared to offer them selections from a MORE COMPLETE STOCK, at MORE FAVORABLE DISCOUNTS, than have yet been obtained in any quarter.

Remember that L. G. TILLOTSON & CO. keep everything wanted for Telegraphy; give the most Liberal Discounts, and their MACHINERY IS THE VERY BEST THAT CAN BE PRODUCED.

GENERAL DEPOTS,

8 DEY STREET, NEW YORK,

54 S. FOURTH STREET, PHILADELPHIA.

A MERICAN FIRE ALARM AND
POLICE TELEGRAPH.

GAMEWELL & CO., Proprietors,
62 BROADWAY, NEW YORK.

J. W. STOVER,
General Agent and Superintendent.

L. B. FIRMAN, Chicago, Ill.,
General Agent for the West and North West.

TELEGRAPH SUPPLY AND MANUF'G CO., Cleveland, Ohio,
Special Agents for the Middle States.

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J. A. BRENNER, Augusta, Ga.,
Special Agent for Georgia and South Carolina.

L. M. MONROE, New Canaan, Conn.,
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ELECTRICAL CONSTRUCTION AND MAINTENANCE CO.,
San Francisco, Cal.,
Special Agents for California, Oregon and Nevada.

THIS SYSTEM OF
FIRE ALARM & POLICE TELEGRAPH
WITH A CENTRAL OFFICE,
OR
UPON THE AUTOMATIC PLAN,

is now in operation in the following Cities, to which references
made for evidence of its great

**SUPERIORITY, VALUE
AND
UNIFORM RELIABILITY.**

Alhany, N. Y.,
Alleghany, Pa.,
Boston, Mass.,
Bridgeport, Conn.,
Buffalo, N. Y.,
Baltimore, Md.,
Chicago, Ill.,
Cincinnati, Ohio,
Columbus, Ohio,
Cambridge, Mass.,
Charlestown, Mass.,
Covington, Ky.,
Detroit, Mich.,
Dayton, Ohio,
Elizabeth, N. J.,
Fall River, Mass.,
Fitchburg, Mass.,
Hartford, Conn.,
Indianapolis, Ind.,
Jersey City, N. J.,
Louisville, Ky.,
Lowell, Mass.,
Lawrence, Mass.,
Lynn, Mass.,
Mobile, Ala.,
Montreal, Canada,
Milwaukee, Wis.,

New York City,
New Orleans, La.,
New Bedford, Mass.,
New Haven, Conn.,
Newark, N. J.,
Omaha, Neb.,
Philadelphia, Pa.,
Pittsburg, Pa.,
Portland, Maine,
Peoria, Ill.,
Providence, R. I.,
Quebec, L. C.,
Rochester, N. Y.,
Richmond, Va.,
St. Louis, Mo.,
St. John, N. B.,
Springfield, Mass.,
San Francisco, Cal.,
Savannah, Ga.,
Syracuse, N. Y.,
Troy, N. Y.,
Taunton, Mass.,
Toledo, Ohio,
Toronto, Canada,
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The Distinctive Features of these Systems of

Fire Alarm and Police Telegraphs

ARE,

First—The **Automatic Repeater**, through which the apparatus may be distributed in a combination of circuits, and the entire system successfully worked, without the constant personal attention of either operators or watchmen.

Second—The **Automatic Signal Boxes**.

Third—The **Electro-Mechanical Bell Strikers**, adapted to produce the full tone of the largest church or tower bells.

Fourth—The **Electro-Mechanical Gong Striker**, for hose and engine houses, by means of which the location of the fire is instantaneously communicated to the members of each fire company.

These Features combined form the

Only **PERFECT, COMPLETE and RELIABLE** System

OF

**FIRE ALARM TELEGRAPH
IN THE WORLD.**

It is a sufficient vindication of the claims which are made by the Proprietors of these systems of

**FIRE ALARM
AND
POLICE TELEGRAPHS,**

that they have sustained the test of more than twenty years of practical use, and that the efforts which have been repeatedly made to supplant them by other inventions have

COMPLETELY FAILED;

the few instances in which municipalities have been induced to adopt other systems having demonstrated their insufficiency and unreliability, and resulted in their abandonment, and substitution thereof of the

AMERICAN FIRE ALARM TELEGRAPH.

Messrs. GAMEWELL & CO. are the owners of the original *FARMER & CHANNING PATENTS*, one of the most important of which has just been extended for seven years, and during the past seventeen years have spared no expense or effort to secure improvements, and the Systems are now covered by

MORE THAN TWENTY PATENTS.

The most important improvement which the Proprietors have adopted and introduced is the

AUTOMATIC SYSTEM,

the introduction and operation of which involves so little expense, compared to the benefit which it confers, that even small communities can profitably adopt and maintain it.

The American System of

FIRE ALARM AND POLICE TELEGRAPHS

has met with the universal approbation and commendation of the

People, Municipal Authorities,

AND THE
PRESS

throughout the UNITED STATES and CANADA.

NO EFFORT, TROUBLE OR EXPENSE

is spared by the Proprietors to obtain and secure ANY POSSIBLE IMPROVEMENT which shall increase the

**EFFICIENCY,
RELIABILITY and
ECONOMY**

of the system. They intend that, as far as possible, it shall be

ABSOLUTELY PERFECT!

The amount of property which has been saved from destruction, and the number of lives which have been preserved through the general adoption of this system, throughout the UNITED STATES and the DOMINION OF CANADA,

CANNOT EASILY BE ESTIMATED,

but that, in every community where it has been introduced for any considerable length of time, they have been enormous, **THREE CAN BE NO QUESTION.**

The cooperation of **TELEGRAPHERS** in securing its introduction into their localities is cordially invited, and their efforts will be duly appreciated and compensated.

Any information desired in regard to the above system will be cheerfully and promptly furnished upon application at the office.

A pamphlet, setting forth more fully its advantages and superiority, has been printed, and will be supplied to Municipal Authorities and others interested in Fire Alarm and Police Telegraphy, upon application as above

CHARLES T. CHESTER,
104 Centre Street,
NEW YORK,

TELEGRAPH ENGINEER,

AND MANUFACTURER OF

INSTRUMENTS,

BATTERIES,

AND EVERY DESCRIPTION OF

TELEGRAPH SUPPLIES.

BUNNELL'S PATENT REPEATER.

These instruments are now made in two different styles, at \$120 and \$135 a set, consisting of two Relays, two Sounders, two Keys and Governor.

JONES' LOCK SWITCH-BOARD,

a most compact and reliable Switch, forming a clean spring-locked connection between any number of wires, occupying for each different connection only one square inch of space, and though made of the largest size, not subject to the warp and contraction of wood-work.

EXCLUSIVE AGENTS OF

A. G. DAY'S

KERITE,

OR

COMPOUND RUBBER COVERED WIRE

SUBTERRANEAN & AERIAL WIRES,

OF THE

HIGHEST INSULATION.

We are now prepared to furnish, after an experience of three years, an insulated Wire which can be buried in the earth or exposed to rain and sun, or to the vapor of acids, without injury. PROFESSOR SILLIMAN, who has exposed it to the most destructive agencies, finds that it remains uninjured in an atmosphere of ozone, which would destroy gutta-percha in a few hours. It exceeds glass or any other known substance as a non-conductor

We have made special arrangements to furnish this article for office purposes at a reduced rate.

ALSO, TO FURNISH

IRON CLAD CABLES

of the usual size, with KERITE COVER, believing that it will exceed, in insulation for submarine purposes, ANYTHING HITHERTO MANUFACTURED.

We shall be happy to furnish estimates for any amount and size of cable, which will be found to compete with any other construction, both in quality and price.

We manufacture the Genuine ELECTROPOION BATTERY, with Patent Platina Connection, introduced by us eight years since; also, THE ALPHABETICAL OR DIAL TELEGRAPH, now extensively used in this and other cities for private lines, being easily and quickly learned by any one.

We offer for sale, among other novelties, a **SOUNDER** that will work practically with a single DANIELL cell, a **BATTERY** that does not require to be taken down but once a year, and the very best **MAIN LINE SOUNDERS** made

Our **CATALOGUE**, embracing a large amount of new matter and description, is now ready for distribution.

THE TELEGRAPHER
A JOURNAL OF
ELECTRICAL PROGRESS.

J. N. ASHLEY, PUBLISHER.

SATURDAY, APRIL 10, 1875.

VOL. XI. WHOLE No. 456.

[Written for THE TELEGRAPHER.]

Baub.

WHERE the Poestenkill in spring time
Bubbling, foaming, plashing down,
Tumbles in the mighty Hudson—
There lived Baub.

Scion of some kind o' doctor,
Plaster maker—rolled out pills;
And they fed 'em to the Trojans—
He and Baub.

Then a thought came o'er the old one—
"This will never do my son,
Go and seek some other calling,"
Put out Baub.

Swift ambition seized the young one;
Bain, and House, and Morse he saw—
Saw within the misty future
Fame for Baub.

So he straightway followed up the
Pathway from the mountain's foot.
Messenger and bat'ry tender
Now was Baub.

High the hills to Fame's proud temple—
Or in words to that effect—
Said some poet dead and mystic,
So thought Baub.

Ah! it was no business college
On a circuit round the room,
Where he learned his dots and dashes—
Hard worked Baub.

For he swept and went for answers—
Man or boy's work—kept the keys;
Turned his hand to any labor,
Little Baub.

In his mouth a combination
Locked each secret burglar proof.
Fire could wring no office business—
Out 'n Baub.

So he grew till time and changes
Brought him out, and up he climbed.
Down the deep and crystal river
Drifted Baub.

And in Gotham somewhere, pounding
Brass, you'll find him still,
Married—gray—with sev'ral babies,
My boy, Baub.]

MORAL.

You that wish, take his example,
Fear not work, and mind your tongue;
Time, a wife, and fame and babies,
To the patient, aye, belong.
Don't they, Baub?

C. C. H.

Original Article.

Notes from the Western Union.

BY EJOY DINTY.

THE *Scientific American* of last week contained an excellent illustrated article describing the pneumatic arrangement for waiting messages from the receiving to the operating room. It is done by means of a Root blower, which exhausts the air from the boxes at the top, and, consequently from the tubes leading thereto. The exhaustion produced by this blower is said to be very complete, perhaps nearly as much so as that superinduced by coming on at 8 A. M., after making a night of it, finding both elevators hauled up for repairs, and being obliged to depend on your own resources to get "histed" to our mansion in the skies.

Manager Downer's pupil will be completed some day. Several architects are hard at work on it. The view from it, especially in a westerly direction, will be one of the finest in the city.

If the Assemblymen make us take away all the telegraph poles in the street, what will their constituents lean against on their way home o' nights? They surely cannot hope for a reelection, the vandals!

One of our young men, of a statistical turn of mind, has discovered, by a careful computation, that if we estimate that each of the sixty young ladies in the city department wears on an average 20 hairpins (and for a very curly headed one this is a fearful small allowance), it would require 600 feet of No. 20 steel wire to equip

the whole force; enough to build an average amateur telegraph line. An ordinary hairpin picked up in the elevator gave a measured resistance of 0.002 ohms. As the magnetic attraction is in all cases inversely as the square of the resistance, it would appear from theoretical considerations that the ladies wearing the fewest hairpins would be the most attractive, but experience fails to confirm the absolute infallibility of this law, as many singular anomalies present themselves. A long series of careful observations upon curly headed girls have fully verified the truth of Dub's law, that "the attraction is proportionate to the square of the number of convolutions," and this fact has served to restore that confidence in the result of scientific study which had previously been in some measure dispelled.

Who has not laughed over the newspaper story of the countryman at the hotel who wanted the clerk to take that "darned steam gladiator" out of his room and put in a stove? But we have one of these fixtures under each window in the operating room that might well be called "gladiators," and they strike right lusty blows, too. Twenty blacksmiths inside of a boiler heading up rivets isn't a circumstance to them when they "feel good," like Josh Billings' camp meeting hornet.

The quadruple corkscrew flagstaff, that formerly ornamented our steeple, has totally disappeared within a few days. Rumored that the Prex has taken it to England to get it repaired.

Elevator No. 3 is pretty much completed and fenced in. Time table of trips will be issued shortly. The rumor that it is in opposition to the hydraulic lacks confirmation. By the way, I wish that Milesian, who went up in the hydraulic when it was new, and didn't work first rate, and who observed that "if it was thrue it wint by wather power, thin the wather wud be a dale the bether for a dhrop ov ould whiskey intill it," could be popped up to the "fifth" in about two seconds, the way we do it now, he would think there was considerable "whishk," let alone "whiskey," about the machine.

The mysterious counter down in the receiving room is being got ready for service. Is the opposition to be taken in? Some think so, and others whisper "Gold-entstock."

The "Albany Quad" is one of the best working circuits running out of the office. Miles O'Reilly agitates the fluid thereupon, but I haven't heard of his throwing any "double sixes." If you want to be promptly "sat down" upon, walk around the Albany office with your hands in your trousers pockets, and your hat cocked knowingly over your left eye, and occasionally refer to the Quad in a tone of lofty disparagement. Isn't it funny that there should be a man in Boston who is down on the Quad, and, funnier still, that the manager of New York office should be Downer?

Another Telegraph College Swindle.

THE Providence, R. I., *Journal* of April 2d, publishes a statement of a Telegraph College swindle in that city, which those who may be intending patronizing such institutions will do well to consider. About the first of February one D. B. Mack went to Providence, and taking a room in the Butler Exchange, advertised for pupils to learn the telegraphic art. He secured eleven pupils, nine of whom paid thirty dollars, and two fifteen dollars each for four months' tuition. Each pupil was furnished with a certificate, of which the following is a sample:

"No. 956. \$30 00.

THE ELECTRIC TELEGRAPH INSTRUCTION COMPANY.

PROVIDENCE, R. I., Jan. 30th, 1875.

Received of Mr. Henry H. Angell the sum of thirty dollars, which entitles him to membership and the privileges of the above institution for the period of four months from date, for the purpose of pursuing a course of Instruction in Telegraphing, subject to the rules and regulations governing the Institution.

D. B. MACK, Manager,
J. H. ALLEN, Treasurer.

Expires May 30th, 1875."

About this time J. H. Allen, who figures as President in the above, was arrested in Boston for an alleged swindling of a Mr. Ringgold, of Philadelphia.

One of the rules and regulations referred to in the above receipt is "1. This certificate is not transferable, and no part of the consideration will be refunded for non-completion of the course." Of course not.

These men who also have or had a school in Boston, also orally agreed that after two months, if the pupil wished, they would give a guarantee to furnish a situation upon the payment of five dollars additional by the pupil.

A few days afterwards Mack stated to his pupils that Allen was a swindler, and had cheated him out of large sums of money, and that he (Mack) would assume all the responsibility of the school, and calling for the certificates, erased from them Allen's name as Treas-

urer, stating that he was no longer connected with the business.

Matters then went on for a short time, when Mack, finding that he had scooped in about all the victims, as scholars, who would be likely to take the bait, persuaded the father of a young man of the city, who was employed as teacher, but whose name is not given, to buy the concern for his son, representing that in addition to the eleven pupils, many more were ready to enter. The bargain was made, the purchaser giving his note for \$400 conditionally, that out of the income from new scholars \$90 per month was to be allowed for expenses, and all over that sum to be applied to the liquidation of the note. Of course the new scholars did not put in an appearance, and a correspondence was opened between the purchaser and Mack, when the latter sent a party to regulate things again; and who should turn up but J. H. Allen, the man so recently denounced by Mack as a swindler. With Mack's consent the school was shortly afterwards transferred to Allen. Having been informed by Mack himself that Allen was a swindler, the pupils naturally became anxious about the balance of their tuition, and communicated with Mack, who informed them that he had sent Allen here to give them proper instruction; that the time had come when they needed proper instruction, and that "if Mr. Allen is let alone we will do our duty squarely towards you."

Among the pupils were several who came from a distance, and were compelled to board in the city, one coming from Springfield, Mass., and another from Vermont. The school has run about two months, or about one half the time which was required to gain a full knowledge of telegraphing under these most eminent instructors, and as no new classes could be drawn in, either as pupil or purchaser, the proprietors concluded that this was no place for them. Consequently, on Wednesday afternoon Mr. Allen made his little speech to the assembled scholars who now numbered nine, three having left, stating to them that Mack was a "beat," had left him in the lurch without funds, and as claims were pressing heavily, school wouldn't keep any more. He said he expected that attachments would be put on immediately, and that the pupils might take the instruments they had used home with them, which they did, feeling much chagrined and somewhat indignant at the turn of affairs. Allen gave one of the young men the following document, which he said he intended that the scholars should have signed, but couldn't stop now as he was in a hurry. It bears date *one year and three days* before the collapse:

"We, the undersigned, students, having paid D. B. Mack our money for full course of instruction, and, whereas, said Mack has left said institution and fails to fulfil his agreements with us, we have, therefore, fully investigated the facts of the statements we received from him, and find they are false, and misrepresented to us for the sole purpose of defrauding us of our money. Therefore, we desire to inform the public, through the columns of your paper, the facts in the case, as to enable them to learn such information of D. B. Mack that contradicts his many statements which he has represented to us regarding his institutions here and in Boston.

Signed March 29th, 1874."

But the pressure of events would not admit of the delay of procuring more signatures, and so it was cast forth without the names. The end having come, the young ladies and gentlemen took their departure, at least sadder if not wiser. Both Mack and Allen are gentlemanly appearing men, the former especially possessing a peculiarly winning manner, which makes some of the impressive young ladies even yet confident that so sweet a man cannot be a wicked swindler.

As these fellows will undoubtedly try their sinful games elsewhere, it is hoped that the fraternity will be on the lookout for them, and make known their swindling proclivities wherever they may hereafter make their appearance.

A Cheap Tangent Galvanometer.

A CORRESPONDENT of the *English Mechanic* gives the following good and cheap plan for making a tangent galvanometer: Procure a strip of copper $\frac{1}{8}$ inch thick, $\frac{3}{4}$ inch wide, and 36 inches long; bend this into a circle having a diameter of 12 inches, which will leave a space of $1\frac{1}{2}$ inches between the two ends; fasten these ends on to a wooden frame, and to each end attach a wire, which is also connected to a binding screw. Thus you will now have a copper ring supported on a wooden frame, having two binding screws. Next make a strip of wood to go across the horizontal diameter of the circle. This can be cemented to the copper ring, or may have a groove for the ring to fit into each side. The strip of wood might be $1\frac{1}{2}$ inches wide, and on the centre of this have a delicate compass, with needle about 10 inches in length, working over a graduated card. The needle may either work on a fine pivot or be suspended by a piece of unspun silk from top of copper band.

Correspondence.

We do not hold ourselves responsible for the opinions of our Correspondents. Our columns are open to free discussions on all Telegraphic subjects, without distinction of person or opinion.

No notice will be taken of anonymous communications.

"Nihil Nameless" and the Female Operators.— His Style and Arguments Reviewed.

TORONTO, March 13.

TO THE EDITOR OF THE TELEGRAPH.

JUDGING from some of his former articles, I gave "Nihil Nameless" credit for having a fair allowance of common sense and intelligence, but his last effusion is almost sufficient to justify one in deciding that he got credit for more than his due. What he says, and his style of saying it, is unworthy of him, or, at least, of the previous good opinion formed of him. His opening paragraph is absurdly conceited and high flown, and quite out of place; and his arguments throughout are unfair and not at all to the point. He picks out sentences or parts of sentences, gives them a sinister twist, which makes them convey a very different impression from what they do in the original, puts quotation marks over them, and then proceeds to answer in his own peculiar style. His idea of the proper way in which to debate a question has at least the merit (in this case a questionable one) of being original. The other two ladies have as much reason as I to complain of his unfair criticisms and ill natured remarks, but no doubt they are abundantly able to defend themselves if they think it worth while, so I need only answer his attack on myself. First of all he accuses me of having attacked the "good old times of our fathers," and graciously informs us that he can forgive a resident of Canada the indulgence of a little spleen at the expense of his ancestors. Very amiable of him, I must say, but it puzzles me to imagine how any one could construe my mild reference to the good old times into an attack, and as for his respected ancestors, I had not the slightest desire or intention of casting any reflections on them, even if they were "old fogies of Massachusetts." My first letter is a perfectly good natured one, and the only indications of "spleen" I can see in the whole controversy are those exhibited by Mr. "Nihil" himself in his last famous reply. He finds fault with me for rejoicing in the freedom of the granddaughters from the superstitions of the grandmothers as to matrimony being the one thing needful, and then says I lament the fact that young men hesitate to marry. After that he very appropriately quotes, "Oh, consistency, thou art a jewel!" Pity he does not practice it a little more himself. In defence of our grandmothers' teachings he claims that they have the advantage of being drawn from the Bible. It is a generally admitted fact that people can invent all sorts of fallacies and then get the Bible to prove them—to their own satisfaction. I always understood the Bible to teach us that there are other objects in life of even greater importance than getting married. I, too, am credulous enough to believe in the old fashioned hook, and think that if we are guided by the two grand precepts there laid down—to love God and our neighbors—we cannot go very far astray. I am pleased to learn that the "spirit of the laws and opinions, both political and social," in the good old times, was drawn from the same inspired source. What I have read elsewhere forces me to the sad conclusion that the spirit of the laws must have been very much adulterated before being applied to the people, for we do not find that they enjoyed much of that mercy, and peace, and good will which are the genuine fruits of the Christian faith; on the contrary, *might* took the place of *right*, and the strongest ruled with a rod of iron. It is perfect folly to rave about the former times having been better than the present, and pretend that the world is growing worse instead of improving. Bad as the world is now, the best students of history (Macaulay, for example) admit that it is better than it ever has been before since the fall.

I do not "lament the fact that young men hesitate to marry." Matrimony is too serious an affair to be carelessly entered into, and if there were a little more hesitation about it there would be fewer imprudent, unhappy marriages, and fewer worse than wasted lives. Many women accept the first man who offers himself, simply for the sake of securing some one to take care of them, while if they were taught to take care of themselves, they could afford to wait for some one whom it would not be perjury for them to swear to love and honor; or, in case such a one never came to them, they could live comfortable, happy lives alone. I admit, freely enough, that a happy marriage is the best possible fate for a woman, but if she is unable to secure that, her whole life should not be a failure in consequence. "Nihil" says he can't see how learning telegraphy will any better fit a young lady for the position of housekeeper than sitting idle. I can; for

any honest work is preferable to idleness, and forming industrious habits is one very good way of qualifying for a housekeeper. He pretends, too, that there is no good excuse for a girl to be idle in ever so small a home. But suppose four or five girls in a family spend their time doing the work that two could easily accomplish, is not that, to say the least of it, a great waste of material? And if, as is often the case, their father's income happens to be too small to maintain them in comfort, is it not far better and more sensible for some of them to start out in the world and earn their own living, than to stay at home vainly endeavoring to find out some plan of making one dollar do the work of two? Perhaps telegraphy does not open the only possible door to labor, but I, for one, would be greatly obliged to "Nihil" if he would point out a better. It cannot be school teaching, for of all the cheerless, wearying drudgery that ever was devised, I know of none worse than trying to teach young ideas how to shoot, when said ideas show such hopeless perversity about shooting as do the average in our public schools. It cannot be sewing, for that is generally poorly paid, confining and unhealthy, and in some cases the companionship is more degrading than even "Nihil Nameless" describes that of operators to be. He cannot approve of ladies being bank clerks, hook-keepers, lawyers, doctors or lecturers, for any of these would be even more opposed than telegraphy is to the "straight laced notions" he is so fond of telling about and professes so much veneration for. I am afraid he belongs to that class of constitutional grumblers who delight in finding fault with the existing state of things, but are unable to suggest a remedy; they are very anxious to pull down, but have not the ability to build up again.

A few sentences further on we have some very instructive reading about "culinary and domestic culture and economy." Those, no doubt, are important subjects, and every woman who aspires to the highest and noblest position woman can hold in this world, should thoroughly understand them. Making a good, kind husband happy and comfortable is an end worth living for; making his home bright and cheery is infinitely better than shining in society or being a "star operator." One does not need to learn telegraphy "at the expense of sewing and cooking;" surely a woman's intellect is capable of mastering both. A good, practical knowledge of housekeeping should form part of every girl's education. I both studied and practised domestic economy before attempting to "frite gese."

He says women are physically incapable of enduring what men of otherwise equal strength can endure without danger. I have my doubts about that, so far as telegraphy is concerned; but even if men do work longer hours than women can do safely, they are paid for overtime. Any ordinary woman can work the regular hours without endangering her health.

As for women monopolizing the profession, it has already been clearly proven that his fears on that score are groundless. We do not want to monopolize the profession; we only want to be allowed a share in it, and do what we are able to do well in peace—not a very unreasonable demand, surely.

He will not deny that the presence of ladies in the profession elevates it, but with singular self-abnegation assures us that "the elevation of the entire profession would not compensate, in his mind, for the slightest blot upon the fair fame of the poorest girl who now earns her living at the key." (!!!) I cannot see any reason why a girl's fair fame should suffer more at this than at any other honorable employment. A good woman is good anywhere, and so long as she does not deserve it, it matters very little if she is spoken slightly of by cowards, who, having no morality themselves, would fain raise doubts as to its existence in others.

We are pleased to learn that "Nihil" does not lack in respect to us. The tone of his letters would naturally lead any one to suppose that he did. His last remark is a very brilliant and gallant one for him to make—"Woman is nature's fairest work—she should also be her purest." So far as purity, and refinement, and intelligence are concerned, I think lady operators will compare favorably with any other class of women who earn their own living; but if the finer sensibilities of their hearts and minds do become blunted, "Nihil Nameless" will at least have the comfortable feeling of having done his duty. He has lifted up his voice and warned the sisterhood, and if the "finer sensibilities" come to grief after that, why let them—it won't be his fault.

I was greatly impressed by his classical benediction, "*vive, vale.*" He deserves credit for being so kind and considerate as never to indulge in any Latin quotations except those which are to be found in the list at the end of the dictionary, thus enabling the few (?) operators who do not habitually think and talk in the dead languages to understand what he is saying, if they like to take the trouble of looking it up. Don't see how he can resist the temptation to air a little more of his classic lore. Such rare self-denial should be encouraged. Jo.

An Orthographical Challenge.

NEW YORK, April 5.

TO THE EDITOR OF THE TELEGRAPH.

SPELLING matches being now all the rage, we would challenge six picked men from the Western Union city branch offices to compete in orthography with a chosen six from the Atlantic and Pacific city branch offices, for the championship and an appropriate prize. Arrangements can be made by addressing

W. SCULLY,
Atlantic and Pacific Tel. Office,
118 Water street.

Does the Effect of the Cause Affect the Cause?

TO THE EDITOR OF THE TELEGRAPH.

I SEE it stated in one of the best hooks on telegraphy, that the truth of the commonly accepted theory of electrical tension, may be demonstrated "by connecting a wire from the neutral point in the middle of the closed circuit of a telegraph line to the earth, and inserting a galvanometer or relay. It will be found that no current passes between the line and the earth, which proves that the electrical tension or potential at that point is zero, or the same as that of the earth itself." Is it possible, that the agent which so naturally takes the shortest route, should, on a line of say 8,000 units' resistance, take the route of 4,000 units' resistance from the ground wire, in preference to the ground wire and earth route of nearly no resistance! Why may not the fact of the neutral condition of the ground wire be explained by considering that two equal currents pass through it in opposite directions, one from each battery—there being no battery at each end of the line? REAL DUPLEX.

Mitchell, Iowa, March, 23, 1875.

Legislative Business and the Telegraph.—The Underground Telegraph Bill Hearing.—Res- ignation and Appointment of Supt. of N. Y. C. & H. R. R. R. Tele- graph, etc.

ALBANY, N. Y. April 6.

TO THE EDITOR OF THE TELEGRAPH.

In a previous letter I think I stated that legislative business was rather dull here now. As they say in Brooklyn, "I wish to make a slight correction:" legislative business is good, in fact, altogether too good to suit those of our number who are called upon to work both night and day in order to furnish those inquisitive New Yorkers with full accounts of the proceedings of that dignified (?) body of law makers called the State Legislature. Our business during the past two weeks has been unusually heavy. On the 25th ult. there were transmitted from this office about 38,000 words of press despatches; the total day's work, allowing thirty words for each message, footed up over 94,000 words. During the entire day and night the quadruplex worked very satisfactorily, two men sending upon it from early in the evening until after one o'clock A. M. A fact worthy of mention is that the entire mass of press despatches were sent before one thirty A. M.

The hearing granted by the Committee on Cities to those who are opposed to the proposed Underground Telegraph Bill, and set down for Thursday, the 25th ult., was postponed until the following Thursday, to accommodate President Lefferts, of the Gold and Stock Tel. Co., who was unable to be present on the former day. On Thursday, April 1st, Mr. Lowery, counsel for the Western Union, accompanied by the well known electrical expert, Mr. Frank L. Pope, appeared before the committee on behalf of the W. U. President Lefferts was also present, but took no active part in the proceedings. After a short argument by Mr. Lowery, and a few questions addressed to Mr. Pope by the chairman, the hearing was adjourned until April 8th, when more time will be given to the subject. As your readers will undoubtedly be fully posted, I omit a detailed account of the proceedings.

The ice below the railroad bridges passed out quietly on Thursday, the 1st, without causing any damage to the cables. The ice above the bridges remained firm until about three o'clock the following morning, when it, also, passed harmlessly down the river. The water has since been quite high, but no very great damage has been done to telegraph lines hereabouts as yet. Trains on the A. and S. road have been unable to run up to the Maiden Lane depot, as its tracks were about six feet under water along the dock.

Mr. A. L. Dick, for many years Superintendent of Telegraph for the N. Y. C. R. R., has resigned, and is succeeded by Mr. W. A. Graves, whose headquarters will be located at Albany. Mr. Ira S. Kinch will remain in charge of Albany office, and will have charge of all repairs. A stereoscopic view of the old Museum

Building has been very handsomely gotten up by an Albany artist, and it is probable that another view of the building, in its present ruined condition, will be produced as a companion picture. These views will be of especial interest to those who have formerly been employed in this office. (Perhaps some of your readers may imagine that the writer is an agent for the sale of the above; this, however, is not the case.) A very serious defect in the automatic system was discovered by our A. and P. friends on Friday, the 2d instant. They were utterly unable to work it successfully while their batteries were all submerged beneath the muddy waters of the Hudson, which had, figuratively speaking, got its back up and flooded their battery room, which is located in the basement of the Exchange Building. The W. U. stock (of battery) being considerably higher, was not "watered."

One of the most prominent business men of this city recently stepped into the A. and P. office, and after closely scrutinizing the interior of the office, stepped up to the receiver's desk, when the following dialogue ensued:

Merchant.—I see you have been making some changes lately.

Receiver.—No, sir, we are situated about as usual.

Merchant.—Why, were you not burned out a few weeks ago?

Receiver.—No, sir; that was the Western Union.

Merchant.—What company is this?

Receiver.—This is the Atlantic and Pacific Tel. Co.

Merchant.—(quite surprised). How long have you been doing business here?

Receiver.—Only about five years.

Merchant.—Well, I must confess myself beaten. This is the first time I knew that there was an opposition telegraph company in Albany.

DOUBLE SIX.

Resignation.—Conundrums.—A Fast Sender Comes to Grief.

CHICAGO, ILL., March 31.

THE following official notice was posted on the bulletin board in the Western Union operating room to-day:

"CENTRAL DIVISION.

Supt's Office, 1st District,

Chicago, March 31, 1875.

To Employés.

Mr. F. C. Swain having resigned the position of manager of Chicago office, to take effect March 31st, Mr. C. H. Summers has been appointed his successor *ad interim*. (Signed),

J. J. S. WILSON, Supt."

It is rumored in connection with the above that Mr. J. J. S. Wilson will resign the superintendency of the first district shortly. How much truth there is in the rumor, however, I cannot state.

Mr. "Dug" Barnet, who has been laid up for some time with quinsy, has recovered, and again gladdens the night force by his presence.

CONUNDRUMS.—What is the best call for (quinsy) Quincy? Ans. "Dr."

Why should Night Manager Springer's family never fear sickness? Because they have a "Dr." in the family all the time.

I am packed in ice now, boys, and feel better. Don't worry about me.

One of our *fast senders* West was taken back somewhat recently by being relieved from report circuit, where he was making it fearfully hot for some of the boys by his sending, which no one could read, by the manager of a certain office putting him through a repeater back to his manager's desk. As his own manager could not read him, it was not thought strange that some of the first class men on the circuit "kicked."

WESTERN UNION.

Southern California Telegraphs and Telegraphers.

ANAHEIM, CALIFORNIA.

TO THE EDITOR OF THE TELEGRAPHER.

Do YOU hear anything from this part of the country? and would an occasional note interest your readers? I do not intend to tell you much of news, but send you a few lines in regard to the lightning system, and to the splendid set of fellows we have in our neighborhood.

The officers of the Atlantic and Pacific Telegraph Company have now reached here, and the line was completed to this place the 14th of January, and after the communication is completed with Frisco we expect to have our line run as far as San Diego. We have the following offices and officers on our line: Los Angeles is the main office, Mr. Thos. McCaffrey manager and operator; Wilmington (or San Pedro), Mr. Ashe, formerly from the Government Telegraph Line at Prescott, Arizona; San Fernando, Mr. Eames, agent and operator; Spadra, Mr. W. H. Moulthrop, agent

and operator; Downey City, Mr. J. K. Banks, agent and operator; Norwalk, Mr. D. Wheeler, agent and operator; J. Gifford, assistant operator; Anaheim, Alexis de Perwinoff, manager, formerly from the W. U. Telegraph. Those above mentioned are a set of very nice fellows. We have no females on the lines, consequently we have no flirting by wire, but attend to our business, and do all we can for the interest of our company. The Western Union has an office at Los Angeles and Anaheim, a "too smart" old man Superintendent, R. K. Haines, who does not admire our boys very much, but what do we care for him as long as he and his company have nothing to say about us; he goes back on us and we on him. The manager of the Western Union at Los Angeles is our brother, C. J. Shepard, a nice boy. We have nothing to complain about him, he does his best to keep up our friendship, and he deserves a little flattering. He helps these unfortunate pilgrims of our brother electricians who travel frequently in this part of the country for a "job." Next is our friend, Harry D. Polhemus, manager at this place; we could call him the best fellow if his monopoly would not have any influence over his association with our boys. X.

The Beauties and Pleasures of Spring.—Chicago Telegraphers Sick.—A Wonderful Application of Electricity.

CHICAGO, ILL., March 28.

"HERE's yer nice Messeny California oranges, only twenty cents a dozen." "Here's yer fresh bananas!" "Peanuts! fresh roasted peanuts!" "Matches! matches!" etc. These are the cries that now fill our ears—these are the contents of the various handcars, that hurry you across the muddy crossings, of the baskets in the hands of "small boys," "old women" and "cripples," that strike you in the ribs as, hurrying to the office, you attempt to doff your beaver to your Mary Ann, as you gracefully round the corner, while the "fresh maple sugar" man keeps persistently getting in your way, until you are bridged fifteen minutes on his account, and you are obliged to rush through that dam—p tunnel, and come in ten minutes late from dinner with your victuals nicely (un)settled. Your basement is full of water; the gutters are full of water; there's water everywhere convenient for you to set that foot into which has the leaky boot on—yes, everywhere, but, possibly, in your water pipe, and it's been frozen up all winter. The green grass is now taking a bath, I guess, for "the waters cover the face of the earth." You can almost smell water. The milkman can't keep the water out of his milk now, of course, and he brings a ton of mud (more or less) into the kitchen, and, like the colporteur, leaves tracks to please (?) the women folks, who are so good natured (?) in consequence. I'm trying to tell you that spring has come, a Chicago spring, and everything that shouldn't spring is springing up, one corner at a time, sidewalks, outhouses, etc. It's no trouble to "stand on your ear now," in fact it's more trouble to keep from standing on your ear. Laying all jokes aside, spring is really upon us, and everything movable is afloat, and will remain so until the frost is entirely out of the ground, when the absorbing process will begin. The drainage of this part of the country is very poor, even to carry off a reasonable amount of water, and the past winter having been unusually severe, there is a great deal more frost and snow to melt and be carried away than there has been for years previously. A great many of the houses are set up on wooden blocks, which are set in the ground far enough to prevent the frost of any ordinary winter weather going below them, but this winter being so severe they are more or less injured, thrown out of shape, etc. Unless exceedingly cautious, a great many will suffer from sore throats, bad colds, etc. The overcoat and overshoes should not be dispensed with until summer has been fully ushered in. Mr. Lester, of the Western Union office, has been suffering with a sore throat but is around again. Mr. McCulloch, of the same force, is but a shadow of himself, having had a second attack of the jaundice, the last one quite severe, but he is again on duty. Mr. Ed. Whitford is again on the sick list, not having been at the office for nearly a week.

According to a recent number of the Chicago Times, electricity is being used to advantage in a novel way. By a peculiar arrangement at one of the engine houses, the same charge that sounds the gong also starts the horses, lowers the driver into his seat from a room above, all ready to grasp the reins, and opens the engine house door. This may be another joke, like the burning of Hooley's theatre. You can have the information for nothing, and "the boys" can go and inquire if it's true or not, if they care to take the pains.

One of the W. U. boys tells of an operator up in Wisconsin who must be behind the times, as he is frequently in the habit of calling up Chicago and asking for the check on a message two months back, no doubt thinking the operator that works that wire also keeps the books. OCCASIONAL.

Decease of a Telegraph Superintendent.—Correction, etc.

CHICAGO, April 5

TO THE EDITOR OF THE TELEGRAPHER.

THE fraternity have lost a faithful and honored member in the person of Mr. C. H. Seaver, Supt. Telegraph, and Assist. Supt. of the Chicago, Alton and St. Louis Railroad. He died of consumption, March 31st, 1875, at 9 P. M., at his residence in this city. His death was not unexpected, as his health has been quite poor for a year and a half, although attending to his duties up to within a short time previous to his decease, although he was far from being able, physically, to do so. He had been connected with the Chicago, Alton and St. Louis for a long time, and was very well thought of by his employés, as well as by his employers.

The W. U. boys say Mr. Summers fits the managerial chair (*ad interim*) to a "T," and they still wonder who the coming permanent man will be.

I am told Mr. Swain has, for the present, accepted a position on the W. U. night force, and that he is also in business outside, days.

Mr. J. K. Moreley, recently chief train despatcher, Chicago, Alton and St. Louis R. R., has been appointed to the vacancy caused by the death of Mr. Seaver, mentioned above. I understand Mr. "Matt" Steel, one of the oldest despatchers on that road, has been appointed to succeed Mr. Morley.

The two gentlemen named above—Mr. Crossley, train despatcher, and Mr. Theo. Van Horne, supt. telegraph repairs, same road, together with Mr. McIlhany, manager of the W. U. office at Bloomington, Ill., after attending the funeral of Mr. Seaver, on the second instant, paid a visit to the Western Union main office.

After reading the number of THE TELEGRAPHER of March 27th, I was permitted to examine Mr. I. N. Miller's paper, read before a recent meeting of the American Electrical Society, and ascertained, as Mr. Miller states, that I did *unintentionally* misrepresent him in regard to the wording of some parts of the paper. I regret very much that this occurred, and hasten to acknowledge the error. It occurred by not hearing right. "Jones" stuck; he didn't come through good when he was reading it. When he read "Blunt points might be fused," I got it "used," and as I reported the whole meeting nearly a week afterwards from memory, without notes, my ability to err was very great. I shall be able shortly to furnish you a copy of Mr. Miller's paper for publication, or to make extracts from it, and as it is a very valuable paper, and exceedingly interesting, no doubt your readers will anxiously await its publication. OCCASIONAL.

The Hobbies of Correspondents of The Telegrapher.

BLOOMINGTON, ILL., March 31.

TO THE EDITOR OF THE TELEGRAPHER.

I WILL try and say my say in a very few words, for THE TELEGRAPHER has surely been bored of late by those long, tedious articles, which are composed principally of quotations from some other long, tedious article, the aim seeming to be to cover as much paper as possible with as little sound thought. Our American people seem to have a great relish for a "hobby;" if anything gets started they delight in carrying it to the extreme, but nowhere do we notice this more plainly than in the Press, and especially in our paper (we can call THE TELEGRAPHER "our paper" with confidence, boys, because we are more directly interested in it.) Some time ago it was the proposed adoption of the international alphabet that troubled the waters, or rather "caused rivers of ink to flow," as "Nihil Nameless" would have it. But, happily, that all ended in scare, and no one was hurt. The question now is one which doesn't interfere with any one in particular, and which few care about, and yet will they never cease writing on it? or, writing, will they continue ever sailing around the question, high in air, like a turkey buzzard cutting many figures and making itself quite conspicuous before alighting on its subject? "Nihil Nameless," in his last article, wrote at length on the question, and was properly answered, and promptly too, by ladies (I suppose they were), but it could not be dropped there. "John Sterling" "heads" his article well, but before going many lines seems to forget himself, and wanders off into that "weary, stale, flat and unprofitable discussion" on "Why women should not be operators," which, he states in the start, is to him the most senseless. Then "Dot" attempts to annihilate the nameless. The arguments on either side amount to but little more than assertion and contradiction, with a few attempts at wit and wisdom to give tone and color—for the question is one which time alone can solve correctly. A few words spoken to the point on either side of such a subject would be interesting and profitable to us all, but why make a "joint discussion" of every such thing? F. E. S.

THE TELEGRAPHER

DEVOTED TO THE INTERESTS
OF THE
TELEGRAPHIC FRATERNITY.

SATURDAY, APRIL 10, 1875.

THE TELEGRAPHER:
PUBLISHED EVERY SATURDAY at 38 VESEY ST.

ELEVENTH VOLUME.

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Communications must be addressed to

J. N. ASHLEY, Publisher,

(P. O. Box 5503.) 38 VESEY ST., New York.

SINGLE COPIES OF THE TELEGRAPHER MAY BE OBTAINED ON THE DAY OF PUBLICATION AT THE NEWS STAND IN FRONT OF THE NEW WESTERN UNION TELEGRAPH BUILDING, CORNER OF BROADWAY AND DEY STREET.

Agents and Canvassers Wanted.

We would like to have some reliable and energetic telegrapher or telegraphic employé make it a business to canvass for subscribers for THE TELEGRAPHER upon every circuit of every telegraph line, commercial, railroad or otherwise, in the United States and Canada. We desire to largely increase our subscription list this spring, and if the friends of the paper will make a united and thorough canvass as above proposed, it can be done, and that speedily.

The inducements offered to agents and canvassers are certainly very liberal. The subscription price of a paper of the character of THE TELEGRAPHER is very reasonable, and any telegrapher can invest the amount required more advantageously and satisfactorily in this way than any other. The more liberal the patronage the better can the paper be made. We will furnish specimen copies for distribution by parties desiring to solicit subscriptions upon application, and experience has proved that they are much better and more effective than circulars for the purpose.

We are under obligations to many friends, old and new, of THE TELEGRAPHER, for their exertions now and heretofore in its behalf. We desire to increase the number of them, and therefore call attention to the matter, and hope to receive a speedy and liberal response. Who will send us the largest list between this time and the end of May?

Improvements in Telegraphic Apparatus.—Their Bearing upon Telegraphic Interests.

THAT there is at present, and has been for some time past, great activity of invention and improvement in telegraphic apparatus is evident to all who are interested in telegraphic matters. Inventors, or those who rightly or otherwise suppose themselves to be such, are numerous, and in the present condition of tel-

egraphic affairs find this their opportunity, if their inventions are really of any account, to have them investigated and developed. That the result will be the discovery and development of important improvements, which will greatly increase the capacity of telegraph lines for the transmission of business, is a certainty.

In this matter of telegraphic development it is now conceded, here and abroad, the United States has from the first inception of the magnetic telegraph, occupied the leading position. While we are not disposed to arrogate the sole credit and honor of such development for this country, it is unquestionable that here the most vital and important inventions and improvements have been originated and developed.

The MORSE system was a great advance upon the needle system, which for years after the MORSE had been generally adopted in this country was almost universally, and is still to a considerable extent, operated in Great Britain; the HOUSE Printing Telegraph, which was even a more wonderful invention than the MORSE, and which was the pioneer of all the letter printing telegraphic inventions of the present day, was the product of the genius of an American, and brought to perfection in this country; the HUGHES Printer, which is now the printing telegraph instrument almost exclusively used in Europe, was also invented and first used upon American lines; and the combination of the HOUSE and HUGHES instruments was also a production of American genius, and is still in limited use here. The duplex and quadruplex inventions were first made practicable in this country and by Americans; and the automatic telegraph system has only been fully developed and its marvellous capacity demonstrated here.

American inventors are still actively engaged in further developing the capacity and capabilities of the telegraph, and despite the jealousy and conflicting interests which are unavoidable in such cases, are making progress towards even a greater advance than has hitherto been accomplished. If the autographic system is ever made practicable and applicable to ordinary telegraphic purposes it will undoubtedly be done here. Experiments which promise well for success are now being made in this direction, and if they result as favorably as those directly interested are confident they will, are likely to open up a new era in telegraphy. There really seems to be no recognizable limit to telegraphic invention and improvement. The marvellous achievements of the present are speedily surpassed and rendered practically commonplace by the still more marvellous ones which soon succeed them.

The influence of this active telegraphic development upon telegraphic interests is evident to even the most casual observer. They cheapen telegraphic facilities to the public, and thus bring the telegraph into more intimate relations and constant use by the people. In no other country in the world is the telegraph so extensively and generally used by the general public as it is in the United States and Canada, which latter is, for all practical purposes, though under a different government, a part of this great commonwealth, and year by year the telegraph is more generally used and patronized. This creates additional demand for the service of adequately qualified telegraphers, and thus advances their interests. THE TELEGRAPHER has been censured because it would not shut its eyes to telegraphic improvements, by short sighted members of the fraternity, who feared that their interests were imperilled by them. We have recognized the baselessness of these fears, convinced by intelligent reasoning and the history of the past in regard to all such practical advances, that the interests of telegraphic employés would be really advanced by the progress made in telegraphic development. Every attempt by improved apparatus and machinery to increase productive capacity in any branch of business and employment has been opposed on the same ground, but fruitlessly opposed, as their final triumph in every instance has proved, and in no case have the anticipations of evil been ultimately realized. It has heretofore, and will hereafter, prove to be the same in regard to the interests of telegraphic labor. Skilled labor will be in demand, whatever improvements may be made in telegraphic systems, and the greater and more rapid extension of telegraphs, and the even greater increase of demand for telegraphic facilities will create an additional demand for skilled telegraphic labor.

The Telegraphic Situation.

AFTER a season of quiet, in which no important or startling demonstration on the part of either of the telegraph companies has taken place, the calm is again disturbed by the announcement that the Southern and Atlantic Company has severed its connection with the Atlantic and Pacific Company, and has leased wires from the Western Union Company, and will hereafter exchange business with the latter. It is alleged by the officers of the Southern and Atlantic Company that the A. & P. Co. have failed to furnish suitable or adequate facilities under the contract with the Franklin Company for the transmission of its business, the wires of the latter company being used by the former between this city and Washington, and that its business has been greatly damaged and restricted in consequence, and that the complaints and remonstrances on the subject continually made have not received the attention to which they were entitled, and that the positive wrongs complained of have not been redressed, and in self-defence they were compelled to make new arrangements.

The arrangement with the Western Union Company is for the lease of certain wires to the Southern and Atlantic Company, and for the interchange of business, the latter company maintaining its independence and competing at points south for the business, though of course neither will reduce tolls except under a mutual understanding and agreement. The terms of the contract are understood to be very favorable to the S. and A. Co.

The Managers of the A. & P. Co. claim that the S. & A. Co. had no sufficient ground for its action, and that it is fully as much sinned against as sinning. The S. & A. and Franklin Co. had a contract for connection which it is probable will lead to litigation between the two companies for its enforcement, or the collection of damages, but as yet no legal action has been taken.

This action of the S. & A. Co. of course deprives the A. & P. of its southern connection. It is to be regretted that these companies could not have arranged matters so as to work harmoniously together for the joint interest of the companies competing with the Western Union.

Naturally the managers of the Western Union Company are much gratified at having detached the southern line from the A. & P. combination, and regard it as a severe blow to their opponents.

Aside from this and the renewal of the attempt to complete the Direct United States Cable there is nothing of particular note to record in regard to the telegraphic situation.

The Dominion Telegraph Company.

MR. I. D. PURKIS retired from the management of the Dominion Telegraph Company, of Canada, March 31st, he having resigned the position of general manager, as has been previously announced in THE TELEGRAPHER. Under the able and intelligent management of Mr. PURKIS, the Dominion Telegraph Company has been brought from a condition of great depression and difficulties to be a prosperous and successful enterprise; and its lines have been judiciously and carefully extended from year to year, until it has become an important and leading telegraphic organization.

MR. PURKIS seems to have succeeded, while managing the business for the best interests of the company, in having also secured the respect, esteem and affection of the employés of the company, who regard with much sorrow and regret his retirement from the service.

Upon retiring, Mr. PURKIS has issued a circular

addressed "To the officers and employes of the Dominion Telegraph Company," as follows:

"On retiring from the management of the Dominion Telegraph Company I beg to express my warmest thanks to all who have cooperated with me for the past five years in bringing the company to its present state of prosperity.

The relations between myself and the officers and employes, comprising the telegraphic staff, have ever been of a most friendly nature, and I now retire with feelings of the deepest regret.

Having spent several years in anxious thought and labor in bringing matters to their present state, I shall ever feel a deep interest in the welfare of the enterprise, and I believe its interests will be safe in the hands of my successor, and that all will continue to work faithfully for the future success of the company under Mr. Swinyard's management.

For the present, my private address will be 245 Jarvis Street, Toronto; but after the 29th of April, Prescott, Ont.

Wishing you happiness and prosperity, I now retire from active connection with the "telegraph fraternity," bidding you all farewell."

The good wishes of the officers and employes of the company go with Mr. PURKIS in his retirement.

Mr. THOMAS SWINYARD, formerly of the Great Western Railway, has been appointed General Manager of the Dominion Company, and entered upon his duties on the first instant.

The Direct United States Cable.

THE SIEMENS BROTHERS cable steamship Faraday, having been refitted and equipped, sailed from Gravesend, England, on Monday last, for the purpose of completing the laying of the Direct United States Cable. Recognizing the urgent necessity which exists for completing and putting in operation this cable upon which so much calculation has been made in Europe and this country, the hitherto unsuccessful efforts to accomplish this is renewed at the earliest period, regarded as practicable for the purpose. It is much earlier in the season than any similar attempt has been made heretofore, and it is to be hoped that it will result in establishing the new line within three or four weeks at the latest.

Only about two hundred miles of the cable has to be laid, and when the end is recovered two or three days of favorable weather will suffice to complete the work. The section between Rye Beach and Torbay, Nova Scotia, is in excellent condition, and has been tested daily during the past season. At the time the last attempt to complete the lacking section was abandoned last fall the section between Torbay and the end buoyed off the Newfoundland coast was also in perfect condition, as was also part of the long cable from the coast of Ireland to where it was buoyed to await the return of suitable weather for renewing operations.

The delays and misfortunes which have attended this enterprise have greatly injured its prestige; but a few weeks of successful operation will suffice to recover the ground which has been lost, and to demonstrate the practicability or otherwise of advantageously operating so long a submarine line as that from Ireland to Nova Scotia, for of course the idea of landing it on the Newfoundland coast cannot be carried out until the Anglo-American Company is in some way dispossessed of its exclusive right to land ocean cables within that province.

Automatic Telegraph Inventions.

ATTENTION is called to the advertisement of Mr. GEORGE LITTLE, the "Anglo-American Electrician," which has also appeared in the *New York Daily Tribune* and *Evening Post*, in regard to the title to the automatic inventions in use by the Atlantic and Pacific Telegraph Company.

A Telegraphers' Purchasing Agency.

Mr. W. C. LONG, of the Chicago, Ill., Western Union office, and the Chicago Agent of THE TELEGRAPHER has established a Telegraphers' Purchasing Agency, and is prepared to furnish any article that cannot be

bad in small places, such as telegraph instruments, batteries, books, and journals of all kinds. He may be addressed at the Western Union Telegraph office, Chicago, where he is employed during the day.

We hope that he may meet with success, and commend him to the favor of our readers at the west who may have occasion for his services.

Personals.

Mr. FRANK S. GANNON resigns his position at Jersey City, N. J., as chief train despatcher of N. J. Midland and Monclair Railways, to accept a similar position with the Long Island R. R. at Hunter's Point, L. I. The boys will mourn the loss of "F. S."

Mr. C. D. MCKELVEY, an old Erie operator, and lately a conductor, succeeds Mr. GANNON at above place.

Mr. F. M. HUNTINGTON has resigned his position as operator at the general offices N. J. Midland, 96 Liberty street, N. Y., to accept a position with the Penna. R. R. at South Broad street station, Newark, N. J. (N. Y. division) as operator.

Mr. E. H. THOMPSON, of Pompton, N. J., accepts a position with the Penna. R. R. (N. Y. division) at Morrisville, Pa., as operator.

Mr. J. J. WORTENDYKE succeeds Mr. E. H. THOMPSON as agent and operator at Midland Park, N. J., station, N. J. Midland.

Mr. S. S. COLTON has resigned his position of ticket agent and operator, N. J. Midland R. R., at 68 Broadway, Paterson, N. J., to accept a position on Del. and Hudson Canal Co.'s lines.

Mr. G. W. POST, of Paterson Depot, N. J. Midland R. R., succeeds Mr. COLTON.

Mr. STEPHEN H. JACKSON, of Wortendyke, N. J., succeeds Mr. POST at Paterson Depot, N. J. Mid. R. R.

Mr. J. I. BRIGGS, of St. Louis, Mo., has been appointed manager of Central City Colorado W. U. Office.

Mr. CHAS. J. LAWSON, night Chief Operator at St. Louis, has resigned, on account of ill health, and reports to Mr. JAS. GAMBLE at San Francisco, Cal., for assignment to some important position on the Pacific Coast.

Mr. JOHN H. TOPLIFFE has been appointed night Chief Operator at W. U. office, at St. Louis. No bugs this time Topy.

Mr. K. MCKENZIE is Supt. Telegraph of the Iron Mountain and Cairo and Fulton Railroads, headquarters at Carondelet, Mo.

Will Mr. E. BURROWS, formerly of East Portland, Oregon, please send his address to Mr. E. A. BROWN, Reno, Nevada?

The address of Mr. JOHN CURRAN, formerly of the Western Union, Portland, Oregon, office, is desired by Mr. CHARLES ANDREWS. Any one who may know his present address will confer a favor by communicating the same to this office.

Dr. H. C. NICHOLSON, of Kenton, Kentucky, inventor of an improved quadruplex telegraph instrument, was in New York this week looking after his interests in connection with his inventions.

Mr. JAMES C. UPHAM, formerly of Boston, Mass., but more recently of the Western Union office at Plaister Cove, N. S., is in this city.

The Telegraph.

By Cable.

SAILING OF THE FARADAY TO COMPLETE THE DIRECT CABLE.

LONDON, April 5.—The Steamship Faraday sailed from Gravesend to-day to complete the work of laying the Direct United States Cable.

The Law Telegraph Company.

THE Law Telegraph Company, which was organized some months ago for the purpose of connecting the offices of lawyers with the Court House, and with each other when desired, is nearly ready to commence operations. By an ingenious dial telegraph instrument manufactured under patents of Mr. Charles T. Chester, and specially designed for this purpose, and a system of bells and wires, the subscribers to this company can be put in telegraph communication with the Court House, and with each other at a moment's notice. It is proposed also to telegraph from the Court House the calendars of the several courts for the succeeding

day at a certain hour daily, so that lawyers may be notified in case they have a case on the calendar for the next day, and can make the necessary arrangements for it. Subscribers can also be summoned, if they are needed at any time either to attend to cases or for consultation.

The saving of time which will thus be effected to lawyers and their clients will be an important item.

There are now over sixty subscribers, each of whom is furnished with a card containing the names of all who are connected, and to every individual or firm a number is assigned. If A desires to communicate with B he strikes the number of the latter on a bell in the central office, and gives the signal, and the two wires are immediately connected, the signal given that the connection has been made, and they can then converse by their dial instruments, the operation of which can be easily learned in a few minutes.

The company will also provide messenger service, and for the courts, reporters and operators. It is intended hereafter to connect Brooklyn with this system.

The officers of the company are Homer A. Nelson, President; Daniel B. Childs, Vice-President; B. Drake Smith, Secretary; Charles T. Chester, Engineer, and Wm. A. Childs, Treasurer and Manager.

The switch and battery office is at No. 145 Fulton street; the main business office at No. 261 Broadway.

New York Central and Hudson River R. R. Telegraph Department.

Mr. A. L. DICK having resigned the Superintendence of the Telegraph Department of the N. Y. C. & H. R. R. R., Mr. W. A. Graves has been appointed to fill the vacancy, and the headquarters of the department have been removed from Syracuse to the Company's General Offices at Albany.

Mr. Graves will be assisted by the Telegraph Dispatchers as follows: Mr. E. H. Graves, at Rochester, for Western Division; Mr. F. C. Beldon, at Syracuse, for Middle Division; Mr. F. H. Phillips, at Little Falls, for Eastern Division.

Mr. Ira S. Kinch will remain in charge of the Albany office, and also have charge of all repairs and changes of wires and instruments at all offices on the line under the direction of the Superintendent of Telegraph.

Resignation and Election of a Fire Alarm Telegraph Superintendent.

Mr. GREENWOOD, who has been for several years past Superintendent of the San Francisco, Cal., Fire Alarm Telegraph, has resigned that position, to take charge of the American District Telegraph in that city, as General Superintendent. Mr. James S. Urquhart, formerly of the San Francisco Western Union Telegraph office, has been elected to fill the vacancy caused by Mr. Greenwood's resignation.

Foreign Telegraphic Notes.

THE Directors of the Anglo-American Telegraph Company have resolved to pay an *interim* dividend of 1 1/2 per cent., free of income tax, on the capital of the company, 1st of May, for the quarter ended March 31st.

The total number of messages forwarded from postal telegraph stations in the United Kingdom for the week ended March 13th, 1875, was 367,005, an increase over the corresponding week last year of 31,605.

Vice-Chancellor Malins has delivered judgment in a suit brought by the Pauama and South Pacific Telegraph Company against the India Rubber, Gutta Percha and Telegraph Works Company. The argument and evidence had occupied the court ten days. The object was to obtain a declaration that a contract entered into between the two corporations on the 12th of January, 1870, was invalid, and not binding upon the plaintiffs; and to obtain the repayment of a sum of £40,000 by the defendant company, with interest, and of a sum of £600 by Sir C. Bright, which had been paid under the contract. His Honor made a decree in conformity with the prayer of the bill.

The report of the Direct Spanish Telegraph Company shows a balance to the credit of profit and loss of £5,372, out of which £2,729 will be required for the payment of the half year's dividend on the 10 per cent. preference shares, leaving £2,643 for a dividend of 3s. per share on the ordinary shares, and £703 to be carried to the reserve fund. It is added that the cable between Marseilles and Barcelona, purchased last September, continues in perfect working order, and that traffic has been resumed on the Santander cable.

The Directors of the Eastern Telegraph Company announce that an *interim* dividend of 2s. 6d. per

share, free of income tax, will be paid on the 14th of April, in respect of profits to the 31st of December, 1874.

The total number of messages forwarded from postal telegraph stations in the United Kingdom during the week ended March 20, 1875, was 389,003—an increase on the corresponding week of 1874 of 45,905.

The Great Northern Telegraph Company's cable between Amoy and Shanghai is repaired, thus restoring telegraphic communication with Shanghai via Falmouth.

The Telegraphers' Mutual Benefit Association.

ASSESSMENT 74, ISSUED MARCH 29, 1875.

Death of William F. Muchmore.

WILLIAM F. MUCHMORE, of Astoria, L. I. (Certificate No. 715, issued January 26, 1870), died at Astoria, March 11, 1875, of pleura-pneumonia.

One dollar for assessment 74 is due from members holding certificates numbered up to and including No. 2,414.

RECEIPT OF ASSESSMENTS—NEW YORK, MAR. 25, 1875.

ASSESSMENT No. 73.

- 5, 13, 23, 25, 26, 33, 46, 52, 55, 56, 72, 74, 75, 89, 97, 99, 101, 108, 114, 120, 129, 140, 143, 154, 156, 158, 160, 164, 169, 182, 183, 184, 189, 190, 191, 193, 197, 198, 218, 227, 230, 267, 278, 279, 281, 282, 283, 285, 341, 350, 353, 356, 357, 361, 362, 364, 366, 372, 378, 381, 382, 391, 394, 411, 412, 416, 426, 441, 484, 490, 495, 499, 506, 507, 508, 511, 512, 516, 526, 533, 566, 569, 574, 584, 590, 600, 612, 646, 648, 649, 659, 671, 678, 680, 694, 701, 703, 708, 714, 722, 723, 724, 728, 729, 734, 769, 772, 780, 790, 791, 803, 808, 809, 812, 820, 823, 825, 870, 883, 897, 901, 905, 922, 929, 931, 933, 942, 943, 949, 954, 957, 959, 963, 964, 976, 977, 979, 980, 991, 992, 1000, 1002, 1005, 1011, 1030, 1031, 1033, 1034, 1046, 1047, 1050, 1074, 1076, 1080, 1081, 1085, 1088, 1090, 1100, 1101, 1104, 1139, 1148, 1149, 1152, 1164, 1167, 1190, 1191, 1200, 1205, 1210, 1211, 1226, 1227, 1234, 1237, 1238, 1245, 1251, 1259, 1266, 1268, 1269, 1270, 1274, 1277, 1288, 1290, 1292, 1294, 1339, 1340, 1342, 1344, 1346, 1348, 1349, 1350, 1351, 1352, 1353, 1354, 1355, 1356, 1359, 1366, 1376, 1406, 1407, 1415, 1417, 1426, 1427, 1430, 1444, 1448, 1451, 1454, 1455, 1456, 1457, 1458, 1481, 1482, 1483, 1490, 1498, 1503, 1505, 1506, 1507, 1508, 1513, 1522, 1524, 1527, 1542, 1546, 1553, 1560, 1573, 1576, 1586, 1620, 1625, 1526, 1632, 1634, 1637, 1660, 1661, 1662, 1663, 1665, 1666, 1667, 1672, 1677, 1681, 1696, 1697, 1698, 1712, 1714, 1723, 1732, 1733, 1737, 1743, 1744, 1745, 1765, 1766, 1767, 1775, 1785, 1788, 1789, 1809, 1818, 1830, 1837, 1838, 1844, 1845, 1857, 1858, 1859, 1860, 1864, 1869, 1874, 1876, 1877, 1889, 1900, 1907, 1915, 1916, 1942, 1957, 1958, 1964, 1972, 1973, 1991, 1992, 1993, 1996, 1997, 1999, 2000, 2001, 2007, 2010, 2012, 2022, 2025, 2029, 2033, 2035, 2036, 2048, 2050, 2053, 2061, 2065, 2074, 2075, 2086, 2092, 2103, 2108, 2113, 2118, 2120, 2131, 2132, 2133, 2134, 2136, 2137, 2142, 2143, 2145, 2147, 2150, 2154, 2156, 2157, 2159, 2134, 2167, 2169, 2175, 2181, 2187, 2191, 2192, 1296, 2197, 2200, 2201, 2202, 2215, 2216, 2217, 2220, 2225, 2230, 2231, 2237, 2245, 2246, 2251, 2252, 2253, 2258, 2261, 2263, 2265, 2271, 2274, 2275, 2276, 2277, 2278, 2288, 2293, 2299, 2300, 2302, 2304, 2307, 2321, 2323, 2324, 2327, 2351, 2352, 2357, 2358, 2359, 2361, 2363, 2366, 2371, 2373, 2380, 2381, 2384, 2385.

ASSESSMENT No. 72.

2279, 2281, 2282, 2283, 2318.

ASSESSMENT No. 71.

- 185, 186, 187, 380, 429, 496, 497, 500, 503, 506, 695, 697, 705, 1071, 1155, 1156, 1157, 1159, 1160, 1162, 1185, 1400, 1504, 1556, 1557, 1570, 1613, 1644, 1670, 1741, 1881, 1903, 1945, 1946, 1947, 1987, 2115, 2150, 2151, 2236, 2303, 2306.

The members of the Association who look to THE TELEGRAPHER for receipt of assessments paid, will please take notice, that an acknowledgment of the receipt of one assessment should be taken as a receipt for all previous assessments.

New Patents.

OFFICIAL COPIES of any U. S. Patent issued since July 1st, 1871, including drawings, specifications and claims in full, sent free to any address for 25 cents each. Address F. L. POPE, P. O. Box 5503, New York City.

For the week ended February 16, 1875, and bearing that date.

159,901—ELECTRIC ANNUNCIATORS.—F. S. Carter and Charles B. Hewitt, Burlington, N. J., assignors, by mesne assignments, to Partrick, Bunnell & Co., Philadelphia, Pa. Filed July 31, 1874.

The various Indicating hands are pivoted to hang loosely on a hinged frame or door, through openings in which the poles of electro-magnets are arranged to project on one side of each of the pendant hands. Whenever either of the magnets is excited by the electric current, the corresponding hand or index is attracted thereto, and remains deflected until, by raising the

hinged frame, the hand is released, dropping to its original vertical position.

1. The dial, with perforations, and the magnets with cores projecting through said perforations on the face thereof, in combination with pointer needles, whose pivots are directly on the dial, forming together an improvement in electric annunciators, as set forth.

2. The tripping mechanism, consisting of the movable magnets or movable dial, operating to release the needle, substantially in the manner and for the purpose described.

Quotations of Telegraph Stocks at N. Y. Stock Exchange,

Showing Lowest and Highest Prices each day during week.

Table with columns: April, WESTERN UNION, ATL. AND PAC., AMER. DIST., GOLD AND STOCK. Rows 1-7 showing bid and asked prices.

Born.

TRISSELL.—To the wife of NOAH TRISSELL, at St. Louis, Mo., March 31st, 1875, at five o'clock, P. M., a daughter—only twelve pounds. "No coupons this load of poles."

KINCH.—At Ludl, N. Y., Sunday evening, March 28, 1875, to Mr. IRA S. KINCH, Manager of the N. Y. C. and H. R. R. telegraph office, Albany, N. Y., a daughter.

TO THE PRESIDENT, DIRECTORS AND STOCKHOLDERS OF THE ATLANTIC AND PACIFIC TELEGRAPH COMPANY.

You are hereby informed that no "Legal Title" has yet been acquired by your Company to run or use my "ANGLO-AMERICAN RAPID SYSTEM OF AUTOMATIC TELEGRAPHY," now in constant use on the principal routes of above said Company, you having taken upon yourselves the form of "AGENTS" for the "AUTOMATIC TELEGRAPH COMPANY."

Said Telegraph system being indorsed by the "BRITISH SOCIETY OF TELEGRAPH ENGINEERS," LONDON, as producing such "startling results" that its benefits to the commerce of the country will be enormous.

GEORGE LITTLE, C. E., Passaic City, New Jersey.

April 7, 1875.

MANIFOLD PAPERS.

PREMIUM MANIFOLD PAPER and Transfer Paper (all colors) Agate and Steel Styluses, Palets, etc., for manifold writing.

Also, ROGERS' PRINTED MANIFOLD BOOKS.

Very useful to correspondents desiring to write quotations or other matters on printed forms, saving time and labor. Also, TRAIN ORDER BOOKS,

Letter Books, Travelling Agents' and Physicians' Prescription Books, for duplicate writing, etc., etc. Large Stock, Great variety.

As Patentees and Manufacturers we can offer inducements to purchasers. Send for Circulars.

H. D. ROGERS & CO.,

22 West Fourth street, CINCINNATI, OHIO.

Western Agents for L. G. TILLOTSON & Co., New York,

ELECTRIC BELLS.

We have on hand and will furnish all descriptions of ELECTRIC BELLS,

either Table or Wall Bells or Gongs, at manufacturers' prices.

F. L. POPE, & CO.,

38 Vesey street.

Send for new illustrated circular and price list.

A NEW ARRANGEMENT.

L. G. TILLOTSON & CO.

have much satisfaction in announcing that they have formed a connection with Mr. JESSE H. BUNNELL, late of Philadelphia.

In addition to their hitherto extensive Catalogue of Telegraphic and Electrical Goods, Mr. Bunnell's inventions—including his Giant Sounder, Champion Learner's Instruments, etc., etc.—will now be manufactured by this house and on sale at their warehouses.

Our new Catalogues will soon be ready for distribution, and we shall continue our discount of 20 per cent. from List Prices on all Telegraph Instruments, including Mr. Bunnell's specialties.

Estimates and equipments furnished promptly for Telegraph Lines of any length.

L. G. TILLOTSON & CO.,

8 Dey street, New York,

Corner Chestnut and South Fourth streets, Philadelphia.

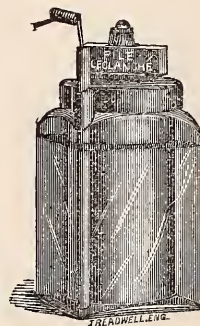
Referring to the above notice, I beg to inform my friends and the telegraphic fraternity generally, that I have associated myself with the well known house of L. G. TILLOTSON & CO., who, with the most extensive and best appointed Telegraph Instrument Manufactory in America, will hereafter manufacture all articles of my invention. I will, as heretofore, give particular attention to the design and construction of special work in Instruments, Switches or large offices, etc., in which departments my experience as a practical telegrapher is always at the service of my friends. I respectfully solicit the patronage of my old customers in my new place.

JESSE H. BUNNELL,

Care L. G. Tillotson & Co., 8 Dey street, N. Y.

LECLANCHE BATTERIES.

IMPORTANT NOTICE.



After JANUARY 1st, 1875, we will allow TWENTY PERCENT for each used-up Porous Cell of this Battery that are returned to us free of charge, in good order. A change is made in the discount to the trade. A list will be furnished on application to

THE LECLANCHE BATTERY COMPANY,

No. 40 WEST EIGHTEENTH STREET or to

L. G. TILLOTSON & CO., 8 Dey street, sole Agents.

MUTUAL CONTRIBUTION PLAN OF INSURANCE,

AT ACTUAL COST, LESS THAN ONE THIRD THE USUAL EXPENSE.

PROTECTION LIFE INSURANCE CO., CHICAGO, ILL.

Charter perpetual. Capital, \$200,000. Over \$100,000 deposited with the State Treasurer for security of policy holders.

L. P. HILLARD, President. MARTIN RYAN, Actuary. C. A. WALKER, Vice-President. T. C. LAMBRIE, Ast. Sec'y. JOHN REID, Treasurer. Dr. J. H. HOLLISTER, Medical Director. A. W. EDWARDS, Secretary.

By dividing my commission with Telegraphers, admission fee considerably reduced.

W. C. LONG, Agent,

Laundate, Chicago, Ill.

WATTS & COMPANY,

No. 47 HOLLIDAY STREET, BALTIMORE, MD.

SUPERIOR TELEGRAPH INSTRUMENTS, RELAYS, SOUNDERS, KEYS, OFFICE WIRE, BATTERIES

OF EVERY DESCRIPTION,

SWITCHES, GALVANOMETERS,

RESISTANCE COILS.

A COMPLETE STOCK OF EVERYTHING for the TELEGRAPH OFFICE or ELECTRICAL LABORATORY.

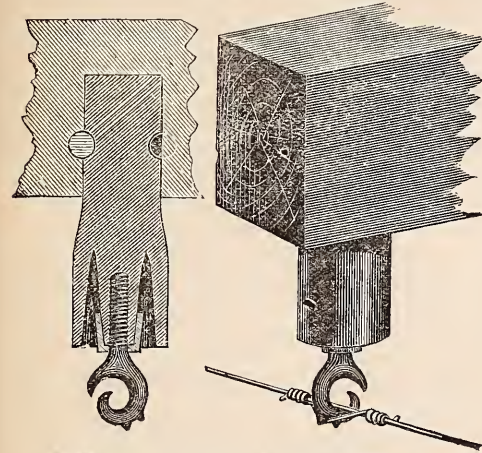
Special attention given to repairing Scientific Instruments. Several of our workmen having served their time in the most prominent European manufactories, enables us to guarantee satisfaction.

SEND FOR CATALOGUE AND PRICE LIST.

THE KENOSHA INSULATOR CO.

**TELEGRAPH COMPANIES and
TELEGRAPH CONSTRUCTORS**

are invited to examine the merits of our new and improved patterns of



KENOSHA CARBON INSULATORS!

These insulators are made of wood, thoroughly baked, and covered with an INDESTRUCTIBLE COATING, highly repellent of moisture, which does not change nor deteriorate after years of exposure to the weather.

THE KENOSHA INSULATOR has now stood the test of SIX YEARS' actual service, and we feel warranted in stating that, although costing but little if any more than the ordinary glass insulator, its insulating qualities are on an average

MORE THAN TEN TIMES AS GREAT

during the prevalence of rain or fog.

Immense numbers of these insulators are in use by

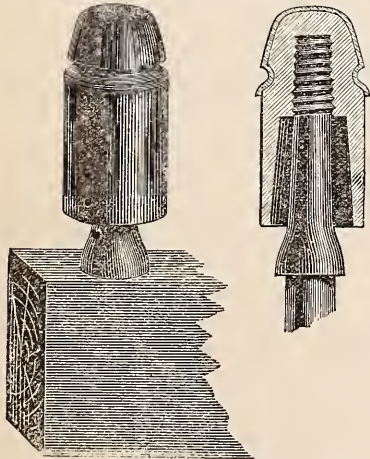
THE NORTH WESTERN TELEGRAPH CO.,

THE WESTERN UNION TELEGRAPH CO.,

as well as many RAILWAY and OTHER TELEGRAPH LINES, and they have invariably been found to give

ENTIRE SATISFACTION.

Besides the suspension insulator above shown, which is fitted with our IMPROVED WIRE HOLDER, arranged for a tie wire, and which does not cramp or injure the line wire, we manufacture several other patterns, among which is the



CAP INSULATOR, WITH PIN OR BRACKET,

which is fitted with a zinc protection, as shown in the above figure.

THE KENOSHA INSULATOR

is manufactured with the utmost care by skilled workmen and special machinery. Every individual insulator is TESTED IN WATER with a battery of 500 cells, and not a single imperfect one is allowed to leave the factory.

We are also prepared to furnish, at short notice,

CROSS-ARMS for any REQUIRED NUMBER OF WIRES,

prepared with our patent INDESTRUCTIBLE INSULATING COATING, either with or without wire insulators.

These insulators are packed for shipment in boxes containing 100 each, and may be ordered direct from us, or through any of the leading dealers in Telegraph Supplies.

We are now prepared to fill all orders promptly, however large, and we guarantee all insulators furnished by us to prove entirely satisfactory.

THE KENOSHA INSULATOR CO.,

KENOSHA, Wisconsin.

L. G. TILLOTSON & CO.,

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Manufacturers and Dealers in

TELEGRAPH INSTRUMENTS AND SUPPLIES.

RELAYS—COMBINATION SETS; BOX and POCKET RELAYS,
PONY and REPEATING SOUNDERS.

KEYS, various styles, including the SCHNEIDER KEY,
wire connections above the table.

REGISTERS, with SPRINGS or WEIGHT.

CUT OUTS, many varieties, including a new style of PEG CUT
OUT, with an adjustable LIGHTNING ARRESTER, just out.

REPEATERS—HASKIN'S AUTOMATIC, and others,

SWITCH BOARDS—REPEATING, BATTERY and GROUND SWITCHES
and LIGHTNING ARRESTERS.

ANDER'S GALVANIC and MAGNETO-ELECTRIC PRINTERS; also
SELDEN PRINTER.

ELECTRIC BELLS, HOTEL ANUNCIATORS, FIRE and BURGLAR
ALARMS, and WATCHMAN DETECTORS.

ELECTRIC RAILWAY SIGNALS and ALARMS, ELECTRIC GAS LIGHT-
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MEDICAL INSTRUMENTS and APPARATUS on hand and made
to order. Second hand Instruments for sale cheap,
and repairing done at short notice.

BATTERIES in great variety, including the latest inventions;
also a full assortment of battery material.

WIRES—MOORE & SON'S and PHILLIPS' MAGNET and OFFICE
WIRES, GUTTA PERCHA and KERITE WIRES, BEST GALVANIZED
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HOUSE CABLES.

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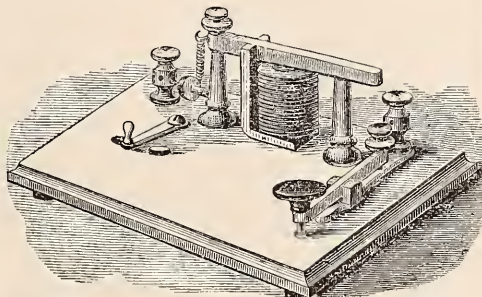
BRACKETS, PINS and SPIKES, TELEGRAPH POLES,
LINE BUILDERS and REPAIRERS' TOOLS.

TELEGRAPH STATIONERY—REGISTER, MESSAGE and MANI-
FOLD PAPERS, CARBON SHEETS, STEEL and AGATE STYLUSES,
ORTON'S PENCIL HOLDER, SAFETY MESSAGE HOOK and
AWL CLIP, STANDARD TELEGRAPH BOOKS, &c.

PRICE LISTS FURNISHED FREE ON APPLICATION.

Our TELEGRAPH INSTRUMENTS and ELECTRICAL APPARATUS are
elegantly finished and mounted on highly polished rosewood,
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**THE NONPAREIL TELEGRAPH APPA-
RATUS,**



**NEW AND IMPROVED, WITH STRAIGHT
LEVER KEY.**

FOR AMATEURS, STUDENTS AND SHORT LINES.

This popular Pioneer Cheap Telegraph Instrument has recently
been improved and a Straight Lever Key placed upon it, which
makes it as nearly perfect as possible.

Since its introduction over 2,000 of them have been sold, and
is still the leading telegraphic apparatus of its class.

They are furnished at the following popular prices:

Single Instruments with three cells of Battery, Chemicals,
Connecting Wire and Instruction Book, - - - \$6.50
Two sets of Instruments, etc., - - - - - 12.00

Send for our new Circular and Price List.

F. L. POPE & CO.,

P. O. Box 5503.

34 Vesey street, N. Y.

LEWIS' TELEGRAPH MANUAL.

A few copies of the last edition of

THE TELEGRAPHIC MANUAL,

by Mr. WALTER O. LEWIS, remaining, may be had of F. L. POPE & CO., 34 Vesey street, at fifteen cents each. Will be forwarded by mail postpaid on receipt of price.

A N IMMENSE VARIETY

OF

Telegraph Instruments,

BATTERIES AND SUPPLIES,

TO SUIT EVERY POSSIBLE PURPOSE,

AT

LOWER PRICES

THAN THE SAME QUALITY OF GOODS ARE OFFERED
ELSEWHERE IN AMERICA.

L. G. TILLOTSON & CO.,

New York and Philadelphia.

OUR LIST COMPRISES NOT ONLY EVERY DESCRIPTION OF

First Class Telegraphic Apparatus,

BUT A

FULL STOCK OF EVERY VARIETY OF SHORT LINE
AND AMATEURS' INSTRUMENTS,

for the use of Schools, Learners, City Lines, etc., and the
greatest assortment of

TELEGRAPH MATERIALS,

WIRE BATTERIES AND SUPPLIES,

To be found in any one American Establishment.

MANAGERS, OPERATORS,

And all others acting as Agents for the sale of

LEARNERS' INSTRUMENTS,

SOUNDERS, KEYS, ETC.,

will please take notice that we are now manufacturing, and will
sell at our regular 20 per cent. Discount, on cash orders
all of BUNNELL'S POPULAR SPECIALTIES, known as

THE GIANT SOUNDER,

CHAMPION LEARNERS' INSTRUMENTS,

CHAMPION SOUNDERS,

CHAMPION KEYS, etc.

These excellent working and very low priced Instruments,
together with our well known

EXCELSIOR APPARATUS,

Cheap Relays for Short Main Wires, numerous forms
of Keys, Switches, Batteries, etc.,

all go to make up a complete list of EVERYTHING REQUIRED
BY AGENTS to enable them to supply all demands of any
kind.

We solicit correspondence from Managers and Operators in
every locality, confidently assuring them that we are prepared
to offer them selections from a MORE COMPLETE STOCK,
at MORE FAVORABLE DISCOUNTS, than have yet been
obtained in any quarter.

Remember that L. G. TILLOTSON & CO. keep every-
thing wanted for Telegraphy; give the most Liberal Discount,
and their MACHINERY IS THE VERY BEST THAT CAN BE
PRODUCED.

GENERAL DEPOTS,

8 DEY STREET, NEW YORK,

54 S. FOURTH STREET, PHILADELPHIA.

AMERICAN FIRE ALARM AND POLICE TELEGRAPH.

GAMEWELL & CO., Proprietors,
62 BROADWAY, NEW YORK.

J. W. STOVER,

General Agent and Superintendent.

L. B. FIRMAN, Chicago, Ill.,

General Agent for the West and North-West.

TELEGRAPH SUPPLY AND MANUF'G CO., Cleveland, Ohio,
Special Agents for the Middle States.

J. R. DOWELL, Richmond, Va.,

Special Agent for Virginia and North Carolina.

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Special Agent for Georgia and South Carolina.

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Special Agent for New England.

ELECTRICAL CONSTRUCTION AND MAINTENANCE CO.,
San Francisco, Cal.,

Special Agents for California, Oregon and Nevada.

THIS SYSTEM OF

FIRE ALARM & POLICE TELEGRAPH WITH A CENTRAL OFFICE,

OR

UPON THE AUTOMATIC PLAN,

is now in operation in the following Cities, to which reference is
made for evidence of its great

SUPERIORITY, VALUE

AND

UNIFORM RELIABILITY.

Albany, N. Y.,
Alleghany, Pa.,
Boston, Mass.,
Bridgeport, Conn.,
Buffalo, N. Y.,
Baltimore, Md.,
Chicago, Ill.,
Cincinnati, Ohio,
Columbus, Ohio,
Cambridge, Mass.,
Charlestown, Mass.,
Covington, Ky.,
Detroit, Mich.,
Dayton, Ohio,
Elizabeth, N. J.,
Fall River, Mass.,
Fitchburg, Mass.,
Hartford, Conn.,
Indianapolis, Ind.,
Jersey City, N. J.,
Louisville, Ky.,
Lowell, Mass.,
Lawrence, Mass.,
Lynn, Mass.,
Mobile, Ala.,
Montreal, Canada,
Milwaukee, Wis.,

New York City,
New Orleans, La.,
New Bedford, Mass.,
New Haven, Conn.,
Newark, N. J.,
Omaha, Neb.,
Philadelphia, Pa.,
Pittsburg, Pa.,
Portland, Maine,
Peoria, Ill.,
Providence, R. I.,
Quebec, L. C.,
Rochester, N. Y.,
Richmond, Va.,
St. Louis, Mo.,
St. John, N. B.,
Springfield, Mass.,
San Francisco, Cal.,
Savannah, Ga.,
Syracuse, N. Y.,
Troy, N. Y.,
Taunton, Mass.,
Toledo, Ohio,
Toronto, Canada,
Washington, D. C.,
Worcester, Mass.

The Distinctive Features of these Systems of

Fire Alarm and Police Telegraphs

ARE,

First—The Automatic Repeater, through which the apparatus may be distributed in a combination of circuits, and the entire system successfully worked, without the constant personal attention of either operators or watchmen.

Second—The Automatic Signal Boxes.

Third—The Electro-Mechanical Bell Strikers, adapted to produce the full tone of the largest church or tower bells.

Fourth—The Electro-Mechanical Gong Striker, for hose and engine houses, by means of which the location of the fire is instantaneously communicated to the members of each fire company.

These Features combined form the

Only PERFECT, COMPLETE and RELIABLE System

OF

FIRE ALARM TELEGRAPH IN THE WORLD.

It is a sufficient vindication of the claims which are made by the Proprietors of these systems of

FIRE ALARM AND POLICE TELEGRAPHS,

that they have sustained the test of more than twenty years of practical use, and that the efforts which have been repeatedly made to supplant them by other inventions have

COMPLETELY FAILED;

the few instances in which municipalities have been induced to adopt other systems having demonstrated their insufficiency and unreliability, and resulted in their abandonment, and substitution thereof of the

AMERICAN FIRE ALARM TELEGRAPH.

Messrs. GAMEWELL & CO. are the owners of the original FARMER & CHANNING PATENTS, one of the most important of which has just been extended for seven years, and during the past seventeen years have spared no expense or effort to secure improvements, and the Systems are now covered by MORE THAN TWENTY PATENTS.

The most important improvement which the Proprietors have adopted and introduced is the

AUTOMATIC SYSTEM,

the introduction and operation of which involves so little expense, compared to the benefit which it confers, that even small communities can profitably adopt and maintain it.

The American System of

FIRE ALARM AND POLICE TELEGRAPHS

has met with the universal approbation and commendation of the

People, Municipal Authorities,

AND THE

PRESS

throughout the UNITED STATES and CANADA.

NO EFFORT, TROUBLE OR EXPENSE

is spared by the Proprietors to obtain and secure ANY POSSIBLE IMPROVEMENT which shall increase the

EFFICIENCY,
RELIABILITY and
ECONOMY

of the system. They intend that, as far as possible, it shall be

ABSOLUTELY PERFECT!

The amount of property which has been saved from destruction, and the number of lives which have been preserved through the general adoption of this system, throughout the UNITED STATES and the DOMINION OF CANADA,

CANNOT EASILY BE ESTIMATED,

but that, in every community where it has been introduced for any considerable length of time, they have been enormous, THREE CAN BE NO QUESTION.

The cooperation of TELEGRAPHERS in securing its introduction into their localities is cordially invited, and their efforts will be duly appreciated and compensated.

Any information desired in regard to the above system will be cheerfully and promptly furnished upon application at the office.

A pamphlet, setting forth more fully its advantages and superiority, has been printed, and will be supplied to Municipal Authorities and others interested in Fire Alarm and Police Telegraphy, upon application as above.

CHARLES T. CHESTER,

104 Centre Street,

NEW YORK,

TELEGRAPH ENGINEER,

AND MANUFACTURER OF

INSTRUMENTS,

BATTERIES,

AND EVERY DESCRIPTION OF

TELEGRAPH SUPPLIES.

BUNNELL'S PATENT REPEATER.

These instruments are now made in two different styles, at \$120 and \$135 a set, consisting of two Relays, two Sounders, two Keys and Governor.

JONES' LOCK SWITCH-BOARD,

a most compact and reliable Switch, forming a clean spring-locked connection between any number of wires, occupying for each different connection only one square inch of space, and though made of the largest size, not subject to the warp and contraction of wood-work.

EXCLUSIVE AGENTS OF

A. G. DAY'S

KERITE,

OR

COMPOUND RUBBER COVERED WIRE

SUBTERRANEAN & AERIAL WIRES,

OF THE

HIGHEST INSULATION.

We are now prepared to furnish, after an experience of three years, an Insulated Wire which can be buried in the earth or exposed to rain and sun, or to the vapor of acids, without injury. Professor SILLIMAN, who has exposed it to the most destructive agencies, finds that it remains uninjured in an atmosphere of ozone, which would destroy gutta-percha in a few hours. It exceeds glass or any other known substance as a non-conductor

We have made special arrangements to furnish this article for office purposes at a reduced rate.

ALSO, TO FURNISH

IRON CLAD CABLES

of the usual size, with KERITE COVER, believing that it will exceed, in insulation for submarine purposes, ANYTHING HITHERTO MANUFACTURED.

We shall be happy to furnish estimates for any amount and size of cable, which will be found to compete with any other construction, both in quality and price.

We manufacture the Genuine ELECTROPOION BATTERY, with Patent Platina Connection, introduced by us eight years since; also, THE ALPHABETICAL OR DIAL TELEGRAPH, now extensively used in this and other cities for private lines, being easily and quickly learned by any one.

We offer for sale, among other novelties, a SOUNDER that will work practically with a single DANIELL cell, a BATTERY that does not require to be taken down but once a year, and the very best MAIN LINE SOUNDEES made

Our CATALOGUE, embracing a large amount of new matter and description, is now ready for distribution.

THE TELEGRAPHER

A JOURNAL OF
ELECTRICAL PROGRESS.

J. N. ASHLEY, PUBLISHER.

SATURDAY, APRIL 17, 1875.

VOL. XI. WHOLE No. 457.

Original Articles.

A Remarkable Coincidence.

BY JOHN STERLING.

AMONG the operators at the Western Union office in Boston, five years ago, was one whom we will call Sam Sherwood, an original sort of character, and a man pretty well known among the fraternity in New England. His name, by the way, was not "Sam," but a much more euphonious and uncommon one, the *sobriquet* "Sam" having been given him for short by Billy Allen, while they were working together at Providence. Billy will be remembered by the "old uns" as an operator for many years in Boston. In 1868, I believe, he resigned, and engaged in the hat and fur business on Washington street until 1872, when he sold out and returned to his first love, taking the "all night" position at 83 State street, where he remained about two years, when, his brother-in-law being appointed Collector of Customs for the Port of Boston, Billy received the appointment of Private Secretary to the Collector, with a salary of \$2,500 a year, and a decidedly soft thing. However, the vicissitudes of politics can't be foreseen, and unless Billy lays up a good supply of "political influence" as well as lucre, we may see him back in our ranks at no very distant day. But we hope not, for Billy is a downright good fellow, and we wish him all success, political and otherwise.

If the reader will pardon this digression I will return to the subject of this sketch. Sherwood didn't like the nickname at first, but it clung tenaciously to him. It is related of him that, while in the army service during the war, he had succeeded in getting rid of it, but being so unfortunate as to be ordered to New Orleans, on his arrival there his first occupation was to hunt up the telegraph office, which he had no sooner entered than one of the boys inside "spotted" him, and the new arrival was greeted with a stentorian "Hello, Sam!" After which, escape from that title was hopeless, and it stuck to him ever afterward.

Sam was, as I have said, an original character. In person he was short and spare; hair of a decidedly sunset tinge, short, and curling tight to his head; moustache and small side whiskers of the same bright hue, and the latter of the same kinky texture. But his laughter was his greatest peculiarity, such an impression of almost childish enjoyment and simplicity did it convey. His face then assumed a florid glow, and his whole countenance seemed to enter into the business of laughing. The effect was irresistible.

Sam was something of a *littérateur*, but his strongest point (intellectually) was stenography. He always carried a pencil on his left ear, and nothing was said in his hearing that wasn't "taken down" in short hand. His *penchant* in this direction amounted to a passion, and it is even said of him that he has been known to incite strife and contention between messengers and office boys in order to take notes of the rapid "chin" that ensued.

When I commenced I only intended to relate a singular coincidence which occurred to me not long ago.

I was sitting in the smoking car one afternoon, on my way from Philadelphia to New York, when a man entered at the rear door, passed by me and sat down a few seats ahead. I thought he looked strangely familiar. I could not see his face, but that curly red hair and side whiskers reminded me at once of my whilom associate, Sam. I observed him for some time, then removed to the seat next his and continued the scouting. Finally, happening to turn his head, I saw the florid countenance, moustache, side whiskers and all, of my friend Sam! Making allowance for the change which three or four years might have wrought, I thought it must be him, and hesitating no longer, I touched his shoulder. "I beg your pardon, sir, but isn't your name Sherwood?"

"Yes, sir, that is my name;" but in a deep bass voice which never could have belonged to Sam. However, I continued, "You are not a telegrapher?" No, he was not. I then explained the wonderful resemblance he bore to a former acquaintance of mine of the same name, when he informed me that his brother, John Sherwood, was an operator in a western

city, but that he knew of no other telegrapher bearing his family name.

The conversation thus commenced was kept up until reaching Jersey City, where, after his proffering a choice *espanola*, which, of course, no operator could have refused, we parted, he to take the Desbrosses st. ferry up town, and I the Cortlandt street, to wander around in search of old telegraphic acquaintances down town.

Was it not a strange circumstance—that of meeting this man as I did, with such a striking resemblance to my former acquaintance—a resemblance extending even to a similarity of names, though the name Sherwood is by no means a common one? I thought so, and made a note of it in my diary, from which the facts given above are drawn.

We should not Judge from Appearances.

BY EAU DE QUAY.

ONE fearfully hot day in July, a few years ago, a personage appeared before the Chief Operator's desk, in the "Queen City" office, and inquired for that official; on being told that he was then "in the presence," the stranger introduced himself in this wise: "I'm an operator, out of money and out of a job; can you give me a situation?"

Before replying, the worthy Chief took an inventory of the applicant, which ran about as follows: slouch hat, shirt guiltless of washing for a month, no vest, a sadly dilapidated coat, pantaloons (supported by one suspender) short enough to show stockingless ankles, while his feet were encased in an ill fitting "pair of mismated shoes;" the man himself was a rather good looking young fellow, but evidently much the worse by reason of rough experience.

"Have you ever had charge of an office?" was asked when the survey was completed. Well, yes; have had some experience, and can do a little something, I think, answered the "Old Timer" somewhat carelessly. "All right—let's see what you can do; go over and answer that call and clear up business on that string—then I'll see what we can do for you."

By this time three or four operators in that vicinity were deeply interested; smiles and rib pokings were exchanged, while the O. T. seated himself and answered. Distant office commenced a lot of "thrus" at a pretty lively gait; stranger commenced fishing for a stub of a pencil, which was finally raked from the depths of his pantaloons pocket, but was minus a point; turning to the interested audience, he politely requested the loan of a knife, with which he carefully put a working margin on the Faber, returned the knife with thanks, picked up a clip and turned in time to meet the Chief, who saluted him with "Say, if you intend taking this business, you had better be about it."

"I'll tend to it," was the laconic reply, as he commenced copying the first while the seuder was at "Sig." for the third; the stub flew across the page at such a rate that when sender finished his seventh, receiver was ready with his "O. K.," after which, with a few premonitory "i's," he proceeded to return the compliment, and the way he made "Morse" fly was a caution to scoffers; he kept on, sending and checking at the same time, until the books were clear; then, in answer to his inquiring look, the Chief merely remarked "Guess I want you; step this way if you please;" and put him in charge of a set, leaving him with instructions to "wax 'em."

The parties who witnessed the performance were dumbfounded, but soon made it convenient to make the acquaintance of the stranger, and tender to him their fellowship and good will; the same evening, through them, he had replenished his scanty wardrobe, and appeared neatly clad at his post next day, having a little of the necessary lucre left over stowed safely away in his pocket. His reform commenced there, and to-day he is one of the best electricians in his native State, and enjoys a post of trust and honor in the W. U. service. He sometimes tells this story, but always suppresses names—it being only accidentally discovered that he was the hero.

"Here! Jim, tell ——— to send up oysters for eight," was his acknowledgment that it was "on him."

Electric Light for Lighthouses.—Report of a Senate Committee Unfavorable to the Lighthouse Boards.—Claim of the Board that the Electric Light has Proved a Failure.

ON the 23d December last the Senate passed a resolution directing the Committee on Appropriations to inquire into the condition of the Lighthouse Board. A report and bill unfavorable to the Board were printed, but were not adopted. The Committee on Commerce reported against the bill, and the matter was dropped. Among the charges made in the report

against the Lighthouse Board was one alleging "that the Lighthouse Board does not investigate and keep pace with the improvements made in lighthouse illuminants and other means for improvement in lights." In reply to this charge the Secretary of the Treasury says: "It is sought to be maintained by specifications that the Board does not introduce into our service the electric lights, such as are in use in France and England, for which decided advantages are claimed. On the authority of an executive document, Senate No. 54, being Major Elliott's report relative to his tour among the lighthouses in Europe, it appears from a report upon the French electric light of La Herve, by M. Quinnette de Rerhment, that though of a stronger brilliancy it is very costly both to establish and maintain; that it is extremely liable to get out of repair, in which case special experts are obliged to come from Paris to put it again into operation, and that during four years it was extinguished 21 times, for periods varying from three minutes, besides being out for a few seconds every night.

It appears that there are only eight electric lighthouses in the world; that they were erected as experiments, and that it is by no means certain how the experiments will result. The Secretary of the Treasury closes his discussion of the subject by saying, however, "that the Lighthouse Board stands ready to introduce it whenever it may be found advantageous to do so, and Congress sees fit to appropriate the necessary funds." It was known at the date of the Secretary's letter that while theorists held the electric light in high estimation, practical men who were at the head and had the direction of lighthouse affairs of the various countries in Europe, were beginning to find such difficulties in the way of a successful, economical and uniform use of the electric light that they were beginning to contemplate its abandonment. Unless some great improvement is made in the method of its exhibition, it seems now as if no more lighthouses will be illuminated on this principle, and that those which now depend on it will gradually have substituted for electricity some other illuminant. The Treasury Department has received "a notice to mariners," dated "Trinity House, London, March 11, 1875," from which it appears that certain changes are making at Dungeness Lighthouse, in the English Channel, and that later in the season the main light will be altered from electricity to the most powerful form of oil light, and the red light to the westward will then be shown from the lantern, instead of, as now, from a window beneath it. There will then, consequently, be no white light in a westerly direction between the bearing of the west from the lighthouse and the land.

By order. ROBIN ALLEN, Secretary.
—New York Tribune.

Fire Alarm Apparatus.

OUR Fire, Water and Gas Committee, to whom was entrusted the procuring of an alarm to be communicated to the water works house and Mr. Gambles' room from the police office, gave the contract to Mr. John Atkinson, train dispatcher of the Midland Railway, and we are now in possession of a system exceedingly simple in construction, but most admirably adapted to its requirements. It consists of an electric communication between the above mentioned places, and so easily worked that any one can give an alarm. In the water works house there is a battery of seven cups, which works the apparatus. In the police office a small box is set in the wall. This contains the signaling apparatus. The signal is made by pressing a small button inside the box. This makes the circle complete and attracts a hammer which strikes a bell simultaneously in each of the three places every time the button is pressed. It is the intention to adopt a code of calls, so that after an alarm of fire signals for the supply of water can be given from time to time as required, during the continuance of the conflagration. The signal is so arranged that every time a pressure is made in the police office it will ring a bell there, so that if the little bell does not ring it is an indication that there is something wrong, and an alarm cannot be given; but so long as the bell in the police office strikes, the person giving the alarm may rest assured that the apparatus is doing its duty. Mr. Atkinson's system has given every satisfaction, and the committee express themselves well pleased, and the cost is trifling in comparison to the amount of benefit gained—Mr. Atkinson's charge being \$85, and the extras but a few dollars more.—Port Hope (Canada) Times.

Jay Gould at Home.

A FRIEND of mine, says a correspondent, had an interview with Jay Gould the other day at his own house, and there are some who may be interested to know how the operator lives, and by what methods he works. His house is on Fifth avenue—a corner house, with a bay window, fairly opposite the Windsor Hotel—nothing remarkable about it in any way.

The door is opened to visitors by an unusually plain and stupid looking Hibernian female (it is said he dare not have a smart colored man for fear he would learn too much), and persons whom he meets on confidential terms are invited to the front basement, which is smoking room and office. It is here, in this room, that he transacts business, bears stocks, breaks up combinations, and performs those daring acts which separate him from the mass. In this basement are four telegraph machines, controlling eleven wires, through which he communicates with Wall street with infinitely greater ease than if he was upon the spot. With these wires he can do as much in one hour as he could in Wall street in two days. Besides, he doesn't dare to go into Wall street—his face would be watched by a hundred jealous, argus eyes, and inferences drawn which would prove a constant source of annoyance.

Correspondence.

We do not hold ourselves responsible for the opinions of our Correspondents. Our columns are open to free discussions on all Telegraphic subjects, without distinction of person or opinion.

No notice will be taken of anonymous communications.

Storms and Damage to Railroads and Telegraphs.—New W. U. Battery Room and Batteries.—Changes in the W. U. Office.—Inspection and Description of a New and Successful Railroad Signal.

CHICAGO, April 12.

TO THE EDITOR OF THE TELEGRAPHER.

WE have been having quite spring like weather for the past week until Saturday, P. M., when it grew colder, and a cold rain set in and continued during Saturday night and all day Sunday up to this morning. North of us they have had hail storms and very little pleasant weather. Many of the railroads have been seriously inconvenienced by the heavy rains, which in some instances washed away bridges and telegraph poles, destroying communication. Some parts of the St. Paul and Sioux City Railroad have been impassable for nearly a week, the telegraph lines being down upon that route for about the same length of time, necessitating the transmitting of the business around by this route.

In a recent communication I spoke of the W. U. battery room undergoing repairs preparatory to dispensing with the Grove batteries in use there. These repairs have been completed, and the Grove batteries are among the things that were. There are now in use nearly two thousand cells of gravity battery of the Callaud pattern, the stands arranged with shelves reach clear to the ceiling, nearly forty feet, and to make the taking care of it an easy matter, half way up a floor has been laid which is reached by a flight of open back stairs. The wood work has been nicely painted a clear white, and the iron work a deep black. It is the neatest battery room I have ever seen. The electricians have taken the precaution to paint the inside of each jar about an inch and a half down from the top; this will allow an evaporation of the liquid to that depth before being renewed without discoloring the jar, as has been the case with this kind of battery heretofore. A large enough force has been placed in charge of the room to keep everything in working order.

The battery which stood in the hall-way has been moved into the battery room. This doing away with the Grove battery is considered by the operators as a very judicious move, as a great deal of complaint was made last summer when it was necessary to have the doors and windows open on account of the fumes of the battery room, which, if not injurious were at least unpleasant to their olfactories. Some twenty or more batteries are now used instead of eight or nine; the old upright part of the switch is used for putting on battery, while a clamp or spring jack switch has been placed under the old switch to switch wires to instruments. The chief operators can now switch on any wire without the knowledge of the operator, detect "shirking," fighting, circuit, etc., or call an operator to answer somewhere else in the room; in fact the chief operator can have everything before him without running all over the room after it. No trouble can be occasioned now by operators handling battery plugs, as many were in the habit of doing, despite the orders forbidding such conduct. The new switch is the same as that used at New York, Cincinnati, and other large offices of the company.

I understand electrician F. W. Jones, assisted by Mr. Hopkins' efficient corps of repairers, has run and labelled all the office wires over. Quite an underta-

king, when it is taken into consideration that it all had to be done without interfering with the transaction of the business of the office. A great many of the wires have been placed on tables in different parts of the room in such a way as to expedite business in the best possible manner. The change throughout is one with which all are satisfied, and reflects great credit on those who planned it.

The commotion occasioned by so many changes on the first has subsided, and the operators in the Western Union office here are not backward in expressing themselves as highly pleased with Manager Summers, and hope he will be prevailed upon to retain the management permanently.

A number of electricians and telegraphers were invited by Mr. S. C. Hendrickson, of the Electric Railroad Signal Co., to accompany him on Saturday last to South Park Crossing, on the Illinois Central R. R., to witness the operation of the new crossing signal, manufactured and put up by that company. The crossing is about seven miles out from the city.

On our arrival at South Park we found the signal in successful operation. It had previously been critically inspected by the officials of several of our railroads, and they are seriously discussing its adoption. There could be at least a hundred of these signals used to advantage on the different railroads leading out of Chicago, at the principal crossings, and danger to life and limb would be materially lessened in the Garden City by their general use.

It would occupy too much space to give a detailed description of its operation. The gong, which is a very large and loud one, is started ringing whenever a train is within half a mile of the crossing on either side of it, by the depression of the rail, to the side of which is fastened a "key" in the shape of a large iron bar, that would puzzle "Jeff" Prentice even to bend if it stuck on him. This key bar being depressed strikes a connecting bar above, which upon the least touch sets in motion the gong, and locks the current, so to speak, in such a way that it is not necessary for the key bar to touch the connecting bar again to keep the gong ringing until the engine crosses the crossing, when by depression, as in the former instance, it shuts off the gong provided another train does not follow close enough to strike the starting bar again; and the gong will keep ringing as long as there is a train on the track between the starting and cut-off bar. As soon as the train strikes the starting bar, a large white signal outside the office is changed to red (besides ringing the gong) and a small signal inside the office changed in the same manner, notifying the operator or agent in charge as well as parties outside that a train from one way or the other is approaching. The gong can be heard and the signal seen (condition of location being favorable for latter) for nearly a quarter of a mile. All that is necessary to use the signal on any number of tracks is to put an extra bar on each track wanted to signal for. *Underground wires seem to be a success* in working this signal (your city electricians to the contrary notwithstanding). Ahem! does that sound right? But without jesting this is so—all the connections are underground. OCCASIONAL.

A Caustic Response to the Critics.—"Nihil" not yet "Annihilated."

CINCINNATI, O., April 4.

TO THE EDITOR OF THE TELEGRAPHER.

"The elvish page fell to the ground,
And shuddering muttered, 'Found! found! found!'"

WHAT now shall I do? What avenue of retreat is left unclosed? How shall I save the scattered remnant of my forces from utter annihilation? If I was hard pressed before, I am now surely routed, horse and foot, infantry and dragoons. The arguments which have been thrown in have raked me fore and aft, crippling me from keel to skysail. My guns are disabled; my magazine empty; my rudder crippled; my men killed. Nothing can save me from unconditional surrender but the fact that my flag has been shot away. Nothing remains for me but to *howl* my "feeble war whoop," and go down beneath the foaming waves to become food for the fishes. Valiant "Sterling" has unsheathed his exalber in the fray, and rushes to the battle with all the ardor of a young esquire who goes to win his belt and spurs. I admire the enthusiasm he manifests, but am seriously alarmed lest he overheat his brain and bring on a "spell" of *information*. Such powerful and prolonged mental efforts as that in which he pictures the office manned by a "corps of lady operators, industriously at work at their several desks," it will not do to risk often. One has perhaps a slight frown on her brow, "Oh, such horrid writing!" Another is laughing at some remark that fellow at A has made. A third has just told some one to *wait*, and with her key open proceeds to cut open and demolish an orange. Another has a tidy nearly completed. Still another is writing a note to some one in the gentlemen's room, and so on. Now, I must admit that such arguments

as these are utterly unanswerable, and I lay down my pen in despair. The wonder of it all *now* is that they are like all great inventions, they are so *simple* I marvel that I did not think of them at first. I use the word *simple* with its *common* meaning. I would suggest, however, in kindness to him, that he is "Wasting his sweetness on the desert air," in lavishing his prodigal verbosity on so irresponsible a party as me. He could make his name a national possession, by just turning his talent towards legislation. The way in which he disposes of "unprofitable idleness," is truly masterly. I cry, "Hold! enough!" He says, (by way of argument) "there is always housework, or fancy work, or sewing to occupy her time, but these occupations *contribute little, if anything, to the cost of her maintenance.*" Shade of Murray!

Again, "Nihil goes out of his way to exalt the Puritan character. This was quite unnecessary, as all that *could* be said in favor of his and my ancestors has been said by far abler writers. And the fact remains that those ancestors were a cold, austere and bigoted people," etc. The italics are his, the capitals mine. Heaven knows I did not intend to say anything about his ancestors nor anybody's else than my own. The gods protect me from the wrath of his, who were so cold and so austere, and so, etc.; who had so "little charity for the erring," etc. I suppose that all that saves their recreant progeny is the fact that they *are* cold. As for Roger Williams, I've read his history and sympathized with him till I think I've discharged any debt I may owe his *memory*. And, after all, I am not able to say that Roger may not be better off as regards fame than he would have been had he been permitted to preach his heretical doctrines in quiet to his Boston friends. If so, then he has profited by their bigotry, and has no right to complain. John refers to agriculture as one of the *coarser trades*. I should be sorry to think so. His remarks about the good natured, good hearted, courteous railroaders are *good*. Let the record be put in evidence and marked "Exhibit S." He speaks of my course as indicative either of profound ignorance or malice. That is a *strong* argument. I think I shall follow his advice and hold my peace hereafter.

Miss "Dot," who seems to adopt a new *nom de plume* with every new contribution, would seem to be somewhat nettled, and, like the "fretful porcupine," flings barbed quills in all directions. She finds fault with me for magnifying "three lady operators" into such an expression as "all the lady operators in the land." I beg pardon, "Dot."—I have only "uncoiled the vials of three ladies' wrath." She scourges me unmercifully for speaking of hearing thunder and seeing lightning. Pardon once more; my senses were bewildered. Maybe I *saw* the thunder and *heard* the lightning. The sky was not overcast; it was perfectly clear, or there was no sky. There was just a great hole where the sky is for *other* people. I assure her there was *no tempest*, never had been. "The elements subsided to a quiet calm"—showed no evidence of tumult or disturbance. She says "It may be on account of my stupidity in not knowing *how* to *adjust* so as to get a proper view of the terrible scene * * * for the life of me I can't see where the tempest comes in." Perhaps the difficulty lies in the fact that she never takes the pains to *adjust high* enough, nor to explore *any* territory beyond the *dead level* traversed by her line. Let her examine the laboratory where electricity performs its tempestuous feats. She hasn't been "up where the thunder sleeps." That's the trouble. "Rise up, William Allen!" Rise up, "Dot!" But stop; perhaps she was so "well set down," so firmly fixed, as it were, that she *can't* rise.

Mrs. Nihil being yet a creature of the future, I cannot say what arts she may have learned. Possibly the black, and blue, and white, and red arts all combined in one grand color, for aught I know. "She doesn't suppose that the ladies would have taken any notice of my feeble war whoop, but for the fact that it came through so respectable a paper as THE TELEGRAPHER." One for herself, and two for you, Mr. Editor. Fact, too, and the more I think over it the more I wonder that so insignificant an article as mine should have found its way into your columns. Were you suffering from temporary aberration? It is generally supposed that in a first class paper, such as we agree in believing yours to be, no second or third rate matter can find its way. What inference then am I to draw concerning things? Why, either that your paper, being a first class paper, my contribution must be very fair, or it would not have been published; or else, granting the contribution to have been miserable (and I believe it must have been, because she says so, and because she *asserts* it is so), the paper must be of correspondingly low grade, either one may be *true alone*, but *both* cannot be true together. Is that logic, or is it folly? It seems she loses herself in admiration of the imagination which enables me "to bear sounds of battle borne from afar, not audible to *ordinary ears*." Is it possible that the lady has been a reader of *The Plug*, and remembers some of the dignified titles heaped upon me by that respectable sheet? If

she was she will remember that one of them entitled its owner to EXTRA-ordinary cars. (Plug inserted offered in evidence and marked "Exhibit A.") "He takes up each of his fair victims in turn, and gives her a good setting down, * * * but I've no doubt they will be able to defend themselves (if they think it worth while)." It seems that thus far they have thought it worth while to come down "like a thousand bricks." She refers to a man from Cincinnati who "could do more loafing in a given time than any man in the office." Very good; no doubt true. Her assertion does carry conviction. Her's to state, mine to believe. For fear she will next (if aggravated) say that all Cincinnati operators are "of that ilk," I shall not discuss the point; and did I not know that for me to assert is (in her mind) to cast a doubt upon truth, I would tell how I once, during the "late unpleasantness" served in the same company with two Canadians, from Toronto by the way, who could do more shirking, eat more RATIONS, take more quinine and DO LESS DUTY than any other two men in the regiment. I did not suppose them to be specimen Canadians, but judging by her standard of judgment I suppose they must have been. I recollect, now I think of it, to have read of a certain rebellion gotten up by the Canadians some years ago. It was designed to be a revolution, but Britannia placed her foot on it and smothered it in—was it three days, or three months? About the quietest little rebellion I ever read of. You will observe I do not make the statement; my assertion would be of "no consequence," but I refer her to the history of the event. She next says that I, your modest correspondent, "can use more and bigger words to express fewer and smaller ideas than any other correspondent of THE TELEGRAPHER." Being a modest man, as aforementioned, and not wishing to take all the praise!—being also generous and ever ready to divide, I will share this honor even with "Dot." Honest "injun," share and share alike. She says in her next line, "His best article is his last, and in it he advances no new arguments, but reiterates the old with an ingenuity and perseverance worthy of more general appreciation." Queer logic; no new arguments, all old hash, and yet best article. No appreciation. Never mind "Dot." To have gained even one reader so attentive to the details of my dull article as "Dot" has been, so shrewd and clever, and above all, in Canada, has been more than I could have expected, and I sleep quietly the sleep of the just. She then empties another broadside at me to take the conceit out of me, lest I should grow so conceited that my fellow operators might not be able to live with me! Thank you; I desire to be "very humble." I do not want to be proud nor lifted up, nor exalted, nor elevated, nor conceited. She "feels for me." At last! at last! she encourages me, she flatters me, she felicitates me. "Genius will thrive when trampled upon." How thankful I ought to be. I feel almost constrained to quote Phillips in his speech in parliament concerning Napoleon Bonaparte, "Such a medley of contradictions, and, at the same time, such individual consistency of character were never united in the same woman, without a model and without a shadow." But I'll not do it, I might spoil a third class article, and make it second or even first rate. I'll close.

NHIL NAMELESS.

Chicago Western Union Notes.

CHICAGO, April 9.

TO THE EDITOR OF THE TELEGRAPHER.

YOU ought to see our new switch board and battery room and get a pass from the Superintendent and inspect our office. The broken glass in the partitions in the tables is being taken out and being replaced by new. The woodwork of the switch board has been varnished, window straightened, water closet enlarged, and we are to have the walls calomined, and a new lunch room for the boys is to be provided—the girls having a nice one already. In fact Mr. Summers' reign seems to be inaugurated by a general fix-up all around. I understand from reliable authority that the noon hour for us poor "night hawks" is to be abolished, and we are to come on instead at 5.30 P. M. every day. Suppose the day men won't like this, but they have had the best of it long enough now, and we say God speed the day when the noon hour shall be no more. The mighty continue to fall "let 'em drop gently;" we feel good as "summers" approaches, and we go "swain" back and forwards now—ain't that a good pun?

Ed. Whitford is working round till he gets strong enough again to "tackle" the Buffalo wire. "Hawes" Long (i. e. L. H.) goes back to Green Bay as report operator again next week; he has been doing extra service here in this office some time.

Six days out from New Orleans; that's the kind of a "condenser" we have got now; it's George R. Etemiller, he's on the extra force here. "Ed." Doval from Galveston, Texas, and "Fred." Goodrich, an old veteran, are also working on the extra force. Charlie Thayer still manages to keep up on report, although

that "moustache" and those side whiskers do pull down pretty heavy.

Some of the boys suggest a spelling match, and ask Mr. Parker to be one of the captains, because he spent an interim *ad interim* in writing the notice of Manager Swain's resignation. Guess if some of you fellows had as much to do and think of as Mr. Parker has when Superintendent Wilson is sick you'd spell worse than that. By the way, the "Colonel" is able to be out again. We are all glad to see him. WESTERN UNION.

The Violations and Violators of Western Union Rule No. 34.

TO THE EDITOR OF THE TELEGRAPHER.

MY article in regard to violations of W. U. Rule 34 was not in the number directly preceding No. 452, of March 13th, as John Sterling erroneously informs us, but in No. 449, of February 20th, and I want to say to the gentleman that my "idea of what constitutes manliness" is not less exalted than it should be, nor do I think that by calling attention to the violation of that rule I should be construed to have less exalted ideas of what is generally termed manliness than John Sterling, or any other man. How any one who carefully examines that article can arrive at the conclusion that my remarks conveyed the impression that it would be manly to retort by using the same kind of language, I am at a loss to know.

After quoting the rule I wished to call attention to in that article, I proceeded in a sarcastic manner to dwell briefly upon the subject matter, and illustrated the article by an actual scene which had been reported to me. It is conceded by intelligent thinkers, readers and speakers, that sarcasm is, as it were, a two edged sword in the hands of the writer or speaker using it, and very often will call careful attention and criticism to subject matter which would merely attract but passing notice when treated otherwise. As my intention was good, and the interpretation of said intention clear to a careful reader, I offer no apology for presenting the matter as I did.

Now, what course will our friend Sterling advise an employé to follow, provided he should be treated in the manner indicated in my former remarks upon this subject, granting that it is not manliness to retort in the same manner as addressed. Whether manly or not, would it not be as efficient a manner of bringing the matter to the notice of the higher powers to retort, be suspended, have a hearing and settle the matter, as to quietly swallow the insult and say nothing about it? Now, John, I don't offer this as a remedy, but merely as a suggestion: what is your advice? You think "Occasional" "would do a service to the profession by giving the name of the scurrilous manager." Well, now, "Occasional" has no desire for notoriety in this respect, although he is willing to do all in his quiet way he can to benefit the profession, and will endeavor in the future, as in the past, to point out defects of those in authority, as well as of the subordinates, still he don't wish to become notorious. But I'll tell you, Mr. Sterling, what I'll do. I will give the names of several managers whom I have heard such accusation against to the editor of THE TELEGRAPHER, and if you desire to do the profession the service you wish me to perform, and propose to do it in good faith, the editor of THE TELEGRAPHER can reveal them to you. This can be followed by the names of some of the parties thus abused. Their names could be given to the General Superintendent or Manager, and they summoned before him, and after being assured their positions would not be endangered by a truthful disclosure of the treatment they received, I have not the slightest doubt but that your incredulous mind would be disabused of the impression that there are no managers who abuse or insult the men under them, after you heard their story. When it comes to the rights of the case, however, I honestly claim that an employé has as much right to disobey Rule 35 as a manager has, and that rules are made for the observance of all employés, from "President" to "messenger boy," and by signing the pay roll and accepting their salary they contract to do so. It seems, Mr. Editor, that I have "trod on Sterling's corns" in my interpretation of that rule, and it is evident he don't think "ladies" were thought of as telegraph operators when the rule was framed. We don't all see those things with the same eyes, and his interpretation of the rule is very good, but don't you think he might have quoted me correctly? I asked the question "was it not evidently the intention, etc.," "but ladies and gentlemen might perform service in the same room in any office of that company, and not be obliged to listen to profanity, obscenity or other ungentlemanly language?" He makes me say that the intent of that rule was "that ladies might perform service in the same room with gentlemen without subjecting themselves to insult." By dropping those two (obnoxious?) words "ladies and," and making my interpretation read "that gentlemen might perform, etc.," probably my interpretation would be acceptable to the "haters" of "female telegraph operators." Who knows? OCCASIONAL.

The West Wisconsin Railroad.—An Old Timer on His Travels.

EAU CLAIRE, WIS., March 3.

TO THE EDITOR OF THE TELEGRAPHER.

CAN you explain why we so seldom hear anything through the columns of THE TELEGRAPHER from telegraphers west of Chicago?

We have been having a good deal of severe weather, and railroading generally in the west has been done under serious disadvantages. Upon this road time passes smoothly, because there is nothing else to do. Our trains are run through on time, but no mail is received because all eastern trains on connecting roads are either suspended or laying out in snow drifts. Without flattery I can say that our (the West Wisconsin) road has made the best time of any road in the northwest; in fact trains were laid out but two or three times this winter on its own account, and then a few hours' extra labor sufficed to get things righted.

We are, perhaps justly, in this locality, favored with the visits of "timers" of long standing. I must tell you of our last experience in this line. He was a clincher! This time he came from Texas; had been in all kinds of other "biz.;" was on a move to see the boys, and had left Houston with a cool sixty dollars in his belt; went over to St. Louis to have a game, but didn't like it and vamosed that rauche with little love and less money. He arrived here no one knows how or when, answers to any name, especially when called up to "take suthin' fresh'n" although claiming Jim as a maiden "sig."

Naturally and gracefully he could lean to the bar for assistance, feet and legs almost inextricably tangled, and narrate his life experience. First, he was in Arizona "tendin' bar," and before his auditors had an opportunity to forget who was doing the talking, Jim would have reached Dacotah, and be engineering a stage horse for board and bed.

His wearing apparel consisted of a good boot and an old gaiter; his pants were kept up by an attachment formed with his coat some time before. Upon one occasion he was going to display his muscle, but recollecting that his undergarments only comprised a shirt bosom ingeniously fastened to his collar he "let up," and concluded to postpone the exhibition. We all felt for that boy, because his was a hard lot indeed. He was found garments, etc., and with blessings and good wishes for the future, he departed, and was seen no more. FRENCHY.

An Operator in Accord with "Nihil Nameless."

TO THE EDITOR OF THE TELEGRAPHER.

I HAVE read with great interest the communications of "Nihil Nameless," and the replies to the same. However, I must still side with "Nihil," having found no argument brought up by the other party strong enough to change my opinion. I hope "Nihil" will again favor us with an article on the same subject, and also hope he will indulge in no personal criticisms, as some of his latest opponents have done. CENT. PA.

Magnetic Railway Rails.

M. HRYL, engineer of one of the German railways, in a recent report upon the special section under his charge, calls attention to the development of magnetism in the rails. He says: "I have observed that all the rails are transformed at their extremities, after they have been placed in position a few days, into powerful magnets, capable of attracting and of retaining a key or even a heavier piece of metallic iron. These rails preserve their magnetism even after they have been removed, but they lose it gradually. When in position, however, the magnetism is latent, only becoming free when the chairs are removed, and disappearing again when they are replaced. Hence it is necessary to assume that two opposite poles come together at each junction, and that each rail is a magnet, the poles being alternately reversed throughout the line. This production of magnetism in the rails examined is undoubtedly attributable to the running of the trains, and to the shocks, friction, etc., thereby produced. The hypothesis of electric currents, induced or direct, must be rejected, since it is negated by experiments upon the subject made with suitable apparatus. Although the interest attaching to the fact above stated is at present purely scientific, it is not impossible, says the Franklin Journal, that the magnetism thus developed may exercise an influence actually beneficial upon the stability of the roadway, increasing the adherence to the rails and the friction. It is possible, also, that the magnetic currents may be stronger at the moment of the passage of the trains than either before or after. If this be so the observations may acquire a still higher practical importance.

Signs of Spring—The lightning rod men on the road.

THE TELEGRAPHER

DEVOTED TO THE INTERESTS
OF THE
TELEGRAPHIC FRATERNITY.

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J. N. ASHLEY, Publisher,

(P. O. Box 5503.) 38 VESEY ST., New York.

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Back Numbers of The Telegrapher Wanted.

OUR supply of copies of the current volume of THE TELEGRAPHER, Nos. 446 for January 30th, and 449 for February 20th, are already exhausted, and we would be under obligations to any of our subscribers who do not keep files of the paper for binding, that may have these numbers, or either of them, on hand, if they will forward them to this office. The postage necessary to be prepaid on those papers, to insure their transmission, is two cents for each.

We regret to be obliged to ask this, but the demand for these numbers has exhausted the supply.

Is a Government Telegraph System to be Surreptitiously Established?

AS is well known, the most energetic and persistent efforts to obtain the assent of Congress to the establishment of a Government telegraph system in this country have been ineffectual. The sense of Congress, and of the large majority of the people has been against it, and although urged by a former Postmaster General and endorsed by the President, the repeated attempts to establish a Government telegraph monopoly have come to naught. The scheme is not now nearly so strong as when first presented and persistently pushed by Mr. E. B. WASHBURN, when a Representative, but now Minister to France. The more the subject has been investigated and discussed the less favorably it has been viewed, until even the most urgent of its advocates have conceded the impracticability of obtaining popular or Congressional endorsement.

What cannot be directly accomplished may, however, sometimes be brought about indirectly, and it is in view of what has thus been indirectly done that we ask whether a Government telegraph system in this country, after having been practically repudiated by Congress and the people, is to be surreptitiously established? The suggestion will doubtless surprise our readers, who are not aware of what one Government official has succeeded in doing in this matter.

Our readers are more or less familiar with the de-

partment of the United States Army known as the Signal Bureau. The head of that Bureau is officially entitled the Chief Signal Officer of the U.S.A., but is popularly known as "Old Probabilities." We do not propose to criticise or impugn the value and importance of the signal service to the country. We are disposed rather to give it our support in its legitimate operations, but we do not approve the efforts which the Chief Signal Officer is apparently making to establish indirectly, in connection with his service and under his management and control, a Government telegraph system.

Let us see what he has already accomplished towards this. He has succeeded in obtaining authority and appropriations to build, and has built and put in operation a telegraph line from Seaville to Peck's Beach, N. J., ten miles long; a line from Sandy Hook to Barnegat, fifty miles long; a line from Rockport, Mass., to Thatcher's Island Light, 3½ miles long, of which a mile and a half was cable; and a line from Norfolk, Va., to Cape Hatteras, one hundred and thirty-seven miles long. He has built of the Texas and Arizona line 550 miles, from San Diego, Cal., to Prescott, Arizona, on the Pacific coast, with a branch to Tucson. This line was, on its completion, thrown open to commercial business, and it is understood has done a good business from the start. The Texas line, with its branches, is to be 1,200 miles long, and as the Chief Signal Office has already embarked the Government in the regular telegraph business, the whole will undoubtedly be opened to public commercial use.

In his last annual report the Chief Signal Officer announced his purpose to build telegraph lines on all the Lakes, and on the Pacific Coast, on that portion of the Atlantic Coast not yet covered by Government lines, and between all the military posts in the interior of the Continent. When the enormous extent of these lines constructed and proposed is considered, it is evident that there is an ulterior purpose which has thus far been concealed from the public. When this extensive system is completed the people will find that the Government is already largely engaged in the telegraph business, and the argument will then be urged that private competition with the Government lines should not exist, and, having gone so far, it will be plausibly urged that the final step should be taken, and the telegraph, like the postal business, become a Government monopoly.

We call attention to this matter now, because it is in time for Congress to check the practical development of the telegraphic schemes of the Chief Signal Officer, before the Government is irretrievably committed to a business which the public has no disposition to confide to its care and management. The telegraphic interests of the country should be aroused to this danger, and should resist the further progress of the plans for embarking the Government and people of the United States in a business which they desire and intend shall remain under private management, as the best and wisest under our system of administration.

It is to be presumed that Congress at the next session will engage in a good deal of investigation, and we think that in no direction can Congressional investigation be more wisely and profitably directed than in that of the purpose of the Chief Signal Officer of the United States Army to establish a general telegraph system.

The Telegraphic Situation.

WE were enabled last week to give to the readers of THE TELEGRAPHER a correct, and the only correct statement which has yet appeared, of the new arrangement of the Southern and Atlantic Telegraph Company, by which its connection with the Atlantic and Pacific and Franklin lines was dissolved, and a contract entered into with the Western Union Company for connection, loan of wires, and exchange of business hereafter. We are informed that the new arrangement is working well and advantageously, so far as business is concerned, and the managers of the S. and A. Company express themselves satisfied with the change. Under this arrangement, independent offices have been es-

tablished by the Southern and Atlantic Company at Washington, D. C., 609 Pennsylvania Avenue; Baltimore, Md., corner South and Water streets; Philadelphia, Pa., corner Chestnut and Front streets. The office in the Cotton Exchange building, corner of Hanover Square and Stone street, in this city, is also maintained as an independent Southern and Atlantic office. We understand that hereafter the Southern and Atlantic Company will, in addition to the business on their lines south of Washington, receive and transmit local business between New York, Philadelphia, Baltimore and Washington.

The annual meeting of the Atlantic and Pacific Telegraph Company will be held on the 27th and 28th inst., at the executive offices, 193 Broadway. The changes which have taken place and are proposed in the organization, plans and purposes of the company, will probably require consideration by the stockholders, and, therefore, the meeting will occupy two days.

The programme of extension and addition of lines and facilities of the Atlantic and Pacific Company, although not completed sufficiently to make the publication of details as yet advisable, is understood to be quite extensive and comprehensive, and will be made public in a few days.

The contest in regard to the title to the patents for which applications of EDISON and PRESCOTT are pending for the quadruplex inventions, is not yet finally decided. Mr. HARRINGTON has appealed the decision of the Commissioner of Patents that the patents shall issue to EDISON and PRESCOTT, to the Secretary of the Interior, the only instance, we believe, in which this has been done, but which he has a right to do under the law. The hearing took place on Thursday last, at Washington, Senator CONKLING appearing for PRESCOTT, and General B. F. BUTLER for the appellant. We hope to receive some information in regard to this hearing before the present number of THE TELEGRAPHER goes to press.

The Ohio Legislature and the Telegraphs.

A YEAR ago the Ohio Legislature appointed a committee to investigate the subject of railroads and telegraphs in that State.

That committee, after very thoroughly investigating the subject, have recently made their report, of which the following, in regard to the telegraphs, will be of interest. The bill regulating telegraph charges on the lines in that State which passed the House, failed in the Senate.

The committee say in regard to telegraph companies:

"Not only have we found little if any complaint against telegraph companies in a correspondence of seven hundred letters, but many of our correspondents speak in the most favorable terms of their management and the accommodation they afford. The Western Union Company own and operate the principal lines in Ohio. Of its financial management we know nothing. It seems, at times, to have absorbed its rivals and taken their places, but whether by means other than fair does not appear, and the just presumption is, and ought to be, that the taking in process has grown out of the fact that the business of the country does not or has not required two or more lines. It is only natural that one great business enterprise like this should desire to have a monopoly of the business.

The opening up of the long lines of telegraph in new and sparsely settled districts is attended with enormous expense, and meets little present return. But the question of one or more companies must, we think, be left to the laws of supply and demand. Legislation has done its part when it keeps open the door to admit competition, and places no obstacles in the way of new companies, and offers no better or special facilities to old ones. The Western Union Telegraph Company is a corporation under the laws of New York, but it seeks and enjoys certain rights, privileges and franchises under the legislation of Ohio; and hence, in return, we do not hesitate to hold that legislation may regulate, within reasonable limits, its charges and the details of its management. There is, however, one serious difficulty in the way of this, even if it were demanded, and that is the fact that the lines of a telegraph company are entireties, covering the whole country, crossing State lines, and forming a network of the States. Hence, for one State to attempt to regu-

late prices would be a most complicated undertaking, and one difficult of accomplishment. The net profits of telegraph stock from Ohio business have been for years small, or at least moderate, and, since the testimony taken by us the Western Union has reduced its rates very materially, whether with a view of breaking down its present apparently formidable rival, and then again advancing rates, or to meet a demand so urgent for cheap means of communication, we do not know. We hope and believe the latter is true, and it is significant that, at a time when this company has made this material reduction in the cost to the people of intercommunication, Congress should have seen fit to double the rates of postage on many of the classes of mailable matter. It may yet be found that to private enterprise and private skill will be remitted the whole business of mail and news carrying.

We think the telegraph companies might make some changes in the details of their business, as, for instance, we do not think the receipt they give for messages ought to be used. It is calculated to mislead, and give to the companies undue advantage. It ought to be simple, plain and unambiguous. Yet no man has complained to us of it. From these, and many other considerations, we do not believe that legislation at this time is demanded or prudent, and we do not suggest or favor any. The power we have, that is clear; but its exercise is not demanded."

The Female Telegraph Operator Question.

WE print this week another communication from our Cincinnati correspondent, NIHL NAMELESS, in response to the castigations which his previous efforts have drawn down upon his devoted head from those who do not agree with him in regard to the propriety and advisability of females engaging in the business of telegraphing. It must be conceded that NIHL has received sufficient punishment, if punishment were deserved, for his heretical ideas on this subject, and sufficient provocation to reply caustically to his assailants, and it must be confessed that he strikes back *manfully* in his own defence and in vindication of his views.

We are willing to give a reasonable amount of space to the discussions of this question, although, as females are in possession of an interest in the business which they are not likely to relinquish, however trenchant may be the arguments or forcible the admonitions of NIHL and those who agree with him in his ideas, we scarcely think that it will amount to much, practically. We only ask that our correspondents will moderate the length of their communications on either side, and condense their ideas within the space of not more than a column each.

Women engage in the telegraph business for the same reason that males do, generally, that is, to get a living by their labor. We do not suppose that either would be likely to follow it long merely for the gratification and amusement afforded. As every person who is born, (and for being thus brought into existence, we do not suppose that any one will consider the unfortunates personally responsible) may reasonably demand a right to earn a living, whether male or female, in the most advantageous manner possible, we do not see how females can properly be debarred from their share of the labor and emoluments of telegraphy. It is certain that those now engaged in it will not withdraw until something better offers, and we fear that others will persist in seeking a livelihood by the same means. The abstract question of the adaptability and propriety of telegraphic employment for females may be an interesting subject for discussion—the practical question was decided in favor of the women long ago, and that decision we hardly think it possible to reverse.

Telegraphic Litigation.

It is perhaps natural that telegraph companies, as well as individuals, should be disposed to maintain what they consider to be their rights by resort to the law to enforce them. Legal proceedings are always expensive, more especially so where corporations are concerned, and the results by no means certain. As a celebrated lawyer once remarked, if there was one thing which the Deity could not foreknow or foresee, it was the verdict of a petit jury.

The present telegraphic complications are, it is un-

derstood, likely to result in an encouraging—to the legal fraternity—crop of lawsuits. The quadruplex will probably be the object of one or more suits. The conflicting claims to automatic inventions will probably eventually get into the courts. The lease of the Franklin telegraph lines to the Atlantic and Pacific Company is now the subject of litigation in Massachusetts, the minority of the stockholders having commenced equity proceedings to set aside the lease, and to have a receiver appointed. The A. and P. Co. threaten legal proceedings under its contract through the Franklin Company with the Southern and Atlantic, which the latter has terminated, as stated last week in THE TELEGRAPHER, and made a new one with the Western Union Company, and so on, with new complications and additional causes for legal action being constantly developed.

However encouraging the prospect may be to the lawyers, the expenses will be something appalling for stockholders to contemplate. Why would it not be wise to establish some tribunal similar to the Court of Arbitration, which has been put in operation in this city and which is said to be working exceedingly well, for the decision of telegraphic questions and disputes? There is no doubt but that it would be fully and constantly employed, and its decisions would probably be quite as satisfactory—to the successful party at least—as that of more elaborate and expensive legal proceedings.

Appointment of Mr. D. H. Bates, General Manager A. & P. Telegraph Company.

AS was previously announced in THE TELEGRAPHER, Mr. D. H. BATES, Superintendent of the Sixth District of the Southern Division of the Western Union Telegraph Company, retired from the service of that company on Saturday last, the 10th inst. He has been appointed General Manager of the Atlantic Division of the Atlantic and Pacific Telegraph Company, and has entered upon the duties of his new position.

The employes on Mr. BATES' late district manifested their regard and appreciation of him by presenting to him on his retirement a handsome gold watch and chain, and also presented to his wife a very handsome service of silver. There was no formal presentation ceremony, it being deemed more appropriate and in better taste to omit the usual speech making on this occasion.

Mr. BATES' experience and ability as a telegrapher and telegraph Superintendent will enable him to serve the Atlantic and Pacific Company advantageously and creditably. The position to which he has been assigned is an important and responsible one, and has been temporarily filled by Mr. A. B. CHANDLER, in addition to his other onerous duties.

Deserved Promotion.

Mr. JAMES MERRIHEW, who has for several years past been the Manager of the Philadelphia office of the Western Union Telegraph Company, has been appointed to fill the vacancy in the position of Superintendent of the New York and Washington District of that Company, made vacant by the resignation of Mr. D. H. BATES, who has resigned to engage in the service of the Atlantic and Pacific Telegraph Company.

We congratulate both the company and Mr. MERRIHEW on this well deserved promotion. The new Superintendent is an old and experienced telegrapher, amply qualified to discharge the duties of the position with credit to himself and advantage to the company, thoroughly familiar with the district, and personally affable and popular. It is a promotion and appointment eminently fit and proper to be made.

THE REASON.—Many persons are desirous of knowing why Western Union stock has advanced. They probably have not heard that the great professor of duplicity and quadruplicity is no longer supplied with funds from the Western Union treasury.

Personals.

Mr. "MON." SMITH, who, some months ago, resigned the position of day report operator in the Chicago, Ill., Western Union office, to engage in phonographic business, is now travelling with Prof. FOWLER, the phrenologist, reporting his lectures.

Mr. ISAAC A. WRIGHT, for several years in the lightning rod business, an old veteran who used to "frite gerse" on the Oil Creek Railroad in Pennsylvania, has settled down in Kansas City, Mo., as bookkeeper for one of the largest manfactories of agricultural implements in the west.

Mr. JAMES PETTIT, of the W. U., Chicago, Ill., office, who had been ill for several days, has recovered and returned to duty. During his illness he was appointed Assistant Manager of the W. U. Board of Trade office, Chicago. This is a deserved compliment to one of the oldest and best men in the company's employ in this section.

Mr. ED. ANGELL, formerly secretary to Manager SWAIN, and pay roll clerk, has resigned, and takes a position on the day force of the Chicago, Ill., W. U. office.

Mr. CYRUS COBB has been appointed secretary to Manager SUMMERS, and pay roll clerk of the Chicago, Ill., Western Union office. Mr. COBB was one of the oldest chief operators in that office.

Mr. ED. WHITFORD, of the Western Union, Chicago, Ill., office, who has been suffering from the effects of a cold, is able to be about again, although not yet entirely recovered.

Miss M. CARPENTER, Manager of the Western Union telegraph office at Woonsocket, R. I., has resigned the position, and returns to her home at Tabor, Iowa, to rest for a season.

Mrs. PARKER, formerly of Nova Scotia, has been appointed Manager of the Woonsocket, R. I., Western Union office.

Mr. W. K. MORLEY has been appointed Superintendent of Telegraph of the Chicago and Alton and St. Louis Railroads, in place of Mr. C. H. SEAVER, deceased.

The Telegraph.

By Cable.

TELEGRAPHIC COMMUNICATION BETWEEN SANTIAGO AND HAVANA RESTORED.

HAVANA, April 14.—Telegraphic communication has been reestablished between Havana and Santiago de Cuba.

Removal of the Gold and Stock Telegraph Company.

THE Gold and Stock Telegraph Company is rapidly moving its offices from No. 61 Broadway to the new Western Union building, corner of Broadway and Dey street. The entire fourth floor of that building will be occupied by the Gold and Stock Company. When the removal is completed we shall publish a more detailed description of the new quarters and arrangements.

The Commercial News Department was removed to the new building at the same time that the Western Union Company moved from 145 Broadway. The Executive Department is now established in the new offices, and the Private Lines Department has also been transferred.

The entire work of removal and transfer of the wires is expected to be completed in about ten days.

Two rooms, those now occupied for that purpose, will be retained at 61 Broadway for the use of the inspectors and for receiving complaints, the location being more accessible from the financial centre, in which so considerable a portion of the business of the Company is concentrated.

The removal of such an immense institution as the Gold and Stock Company has grown to be, with the changes necessary to be made in the great number of wires employed, is a laborious, troublesome and costly operation, and all concerned are to be sincerely congratulated that it is so nearly accomplished.

The American District Telegraph in San Francisco, California.

THE American District Telegraph system has been introduced in San Francisco, California. March 29th, a communication was presented to the Board of Supervisors from the American District Telegraph Company, asking that permission be granted to run separate telegraph wires from their office to each

engine house within the limits, and to the fire alarm telegraph office, for the purpose of transmitting fire alarm signals, and that the Fire Department be authorized to recognize and respond to such signals under certain arrangements, as follows: "We will furnish cards to each engine house and to the fire alarm office, showing the precise location of each of our boxes and its number. Upon the receipt of a fire alarm from one of our boxes, we will instantly transmit it to the nearest engine house to the scene of the fire, or to any other which may be designated by the Chief Engineer of the Fire Department. That engine will proceed instantly to the fire, and then if it is found that more help is required, the firemen will send in a second signal from the street box and call the whole Fire Department to the spot. In this connection we beg to say that, in addition to notifying the nearest engine house, we shall also despatch our own private firemen to the fire, and telegraph the Underwriters' fire patrol, who have arranged to respond instantly to our fire calls. It is anticipated that, under this arrangement, most of the fires signalled from our boxes will be extinguished without calling out more than one engine.

(Signed,) JAMES GAMBLE, President."

Telegraphic Forgery on the Bank of California.

AN operator of the name of Charles Crowley, who was in the Colusa office last January, sent a telegraphic dispatch, to which he signed the name of Wm. P. Harrington, Jr., for \$1,200 on the Bank of California, which he went down and drew himself. The forgery was not discovered until a few days ago, when Mr. Harrington found that his books would not balance with those of the Bank of California; and on examining the items charged to him, he at once knew that he had sent no check by telegraph at that date. On making an examination in the telegraph office he found a message written for \$1,800, to which his name was forged. It is probable that he thought that amount too steep, and that about \$1,200 was as much as he could go without suspicion. The forger stopped around the city for some time after he drew the money, and was spurring it pretty heavily, but he is now "where the woodbine twineth." Mr. Harrington always writes a copy of such messages the same day, and a failure to receive such advice should have put the bank on its guard. We suppose, of course, that the loss will have to be borne by the Western Union Telegraph Company.—[Colusa Sun, March 27th.

The Telegraphers' Mutual Benefit Association.

ACKNOWLEDGMENT OF RECEIPTS FOR ASSESSMENTS UP TO AND INCLUDING APRIL 13, 1874.

ASSESSMENT No. 74.

- 4, 8, 16, 21, 28, 29, 53, 56, 58, 61, 64, 67, 76, 77, 86, 88, 90, 95, 103, 113, 121, 122, 131, 134, 138, 143, 145, 146, 157, 176, 177, 179, 181, 201, 202, 208, 211, 217, 235, 244, 257, 267, 269, 276, 277, 880, 289, 301, 312, 342, 346, 352, 367, 383, 385, 394, 402, 405, 406, 413, 414, 416, 425, 434, 463, 464, 467, 509, 516, 526, 532, 536, 546, 547, 548, 549, 553, 564, 577, 579, 587, 594, 604, 615, 626, 649, 671, 672, 691, 721, 731, 740, 742, 769, 787, 815, 830, 832, 843, 856, 858, 859, 871, 886, 912, 915, 917, 922, 923, 932, 941, 952, 995, 1001, 1011, 1013, 1024, 1039, 1054, 1055, 1081, 1088, 1090, 1126, 1147, 1154, 1169, 1173, 1178, 1182, 1183, 1199, 1208, 1225, 1232, 1252, 1267, 1276, 1282, 1300, 1306, 1325, 1329, 1333, 1345, 1357, 1358, 1368, 1394, 1398, 1402, 1403, 1404, 1409, 1410, 1412, 1440, 1444, 1453, 1484, 1489, 1503, 1516, 1517, 1518, 1554, 1560, 1568, 1569, 1571, 1572, 1615, 1619, 1630, 1632, 1635, 1652, 1728, 1729, 1732, 1735, 1790, 1815, 1817, 1831, 1852, 1862, 1869, 1894, 1900, 1901, 1906, 1911, 1913, 1914, 1944, 1957, 1965, 1970, 1986, 2019, 2021, 2027, 2029, 2030, 2036, 2044, 2049, 2066, 2082, 2083, 2097, 2135, 2164, 2174, 2178, 2181, 2190, 2191, 2194, 2195, 2197, 2201, 2203, 2213, 2214, 2223, 2224, 2228, 2229, 2233, 2240, 2241, 2243, 2257, 2259, 2263, 2269, 2273, 2275, 2277, 2285, 2287, 2288, 2310, 2312, 2322, 2330, 2331, 2333, 2334, 2335, 2336, 2337, 2341, 2343, 2345, 2347, 2350, 2354, 2355, 2356, 2360, 2367, 2371, 2378, 2382, 2386, 2389, 2400.

ASSESSMENT No. 73.

- 31, 39, 84, 171, 206, 228, 248, 252, 316, 360, 456, 466, 468, 469, 470, 471, 475, 481, 482, 514, 527, 556, 557, 560, 561, 573, 575, 618, 710, 712, 717, 725, 730, 733, 764, 781, 782, 783, 785, 786, 802, 813, 836, 838, 869, 876, 899, 904, 906, 908, 920, 926, 944, 1014, 1016, 1028, 1041, 1057, 1069, 1072, 1102, 1105, 1106, 1107, 1108, 1109, 1110, 1112, 1113, 1115, 1117, 1119, 1120, 1122, 1123, 1125, 1131, 1141, 1217, 1224, 1233, 1248, 1256, 1281, 1283, 1284, 1285, 1286, 1295, 1375, 1405, 1421, 1428, 1432, 1433, 1449, 1465, 1469, 1471, 1474, 1476, 1497, 1528, 1529, 1530, 1537, 1558, 1559, 1596, 1597, 1610, 1611, 1612, 1616, 1649, 1673, 1676,

- 1678, 1699, 1700, 1701, 1702, 1704, 1718, 1746, 1747, 1750, 1751, 1753, 1754, 1755, 1756, 1757, 1758, 1759, 1760, 1769, 1771, 1802, 1813, 1828, 1863, 1895, 1917, 2004, 2023, 2045, 2085, 2094, 2112, 2165, 2170, 2171, 2226, 2227, 2256, 2266, 2267, 2284, 2286, 2292, 2301, 2325, 2326, 2332, 2369.

The members of the Association who look to THE TELEGRAPHER for receipt of assessments paid, will please take notice, that an acknowledgment of the receipt of one assessment should be taken as a receipt for all previous assessments.

Quotations of Telegraph Stocks at N. Y. Stock Exchange,

Showing Lowest and Highest Prices each day during week.

April.	WESTERN UNION.		ATL. AND PAC.		AMER. DIST.		GOLD AND STOCK.	
	Bid.	Asked.	Bid.	Asked.	Bid.	Asked.	Bid.	Asked.
8	77 1/2	78 3/4	27 1/2	27 3/4	29	33	65	65
9	77 1/2	78 3/4	26 3/4	27	29	34	65	65
10	77 1/2	78 3/4	26 3/4	27	29	34	65	65
12	77 1/2	78	26	26 1/2	29	31	55	75
13	77 1/2	77 3/4	26 1/4	26 3/4	29	31	60	75
14	77 1/2	77 1/2	25 1/2	26	29	33	55	75

New Patents.

OFFICIAL COPIES of any U. S. Patent issued since July 1st, 1871, including drawings, specifications and claims in full, sent free to any address for 25 cents each. Address F. L. POPE, P. O. Box 5503, New York City.

For the week ended February 23, 1875, and bearing that date.

160,009—ANTI-INCORUSTATION BATTERIES FOR BOILERS.—John F. Donohoe, Springfield, Mass. Filed July 6, 1874.

The battery for use in boilers, consisting of a spiral of copper wire partially incased or imbedded longitudinally in a base of zinc, substantially as and for the purpose shown and described.

160,120—ELECTRO-MAGNETS.—M. A. Rice, Pent Water, Mich. Filed December 28, 1874.

The combination of two or more bars and an insulated coil, one leg or arm of each bar being arranged within the coil, and one exterior to it, in such manner as to make two or more magnets in one coil, substantially as specified.

160,152—EARTH BATTERIES.—Jas. C. Bryan, Philadelphia, Pa. Filed January 27, 1875.

1. The improved voltaic earth battery, consisting of the metals A B, partially embedded in the sulphur C, as herein set forth.
2. The combination, with the voltaic earth battery and the primary coil, of the series of magnets forming the magneto-electric battery, substantially as herein described.
3. The combination, with the voltaic earth battery, magneto-electric battery and primary coil, and the secondary coil F, substantially as herein set forth.

160,153—MACHINES FOR BENDING HORSE SHOE MAGNETS.—Jas. C. Ryan, Philadelphia, Pa. Filed September 8, 1874.

The rod is entered (gaged by R), and the lever bends into staple shape; the levers are then brought down, carrying the ends into the grooves, giving the finishing bend.

The arrangement, construction and combination of the upper centering traveling lever A, the rear lever B, the carriage C, roadway D, front levers G G, with their flanges J J, grooves K K, guides N N, and centering gauge R, as herein described, and for the purposes set forth.

REISSUE.

6,296—METHODS OF SENDING AND RECEIVING MESSAGES SIMULTANEOUSLY OVER THE SAME TELEGRAPH WIRE.—M. G. Farmer, Salem, Mass. Patent No. 21,320 dated August 31, 1858; extended seven years. Filed Feb. 18, 1873.

Combines with duplex telegraph a continuity preserving key.

1. The combination, with a double transmitter, of a device which shall preserve the continuity of the main circuit, by closing one branch or path thereof, which was previously open, at the same time, or slightly before that it opens another branch or path that was previously closed.
2. The combination of such a continuity preserving device with an equating circuit which shall hinder the associate relay or other receiving instrument from responding to the action of this transmitting key or device, unless assisted by the action of some other independent transmitting device.
3. In combination with instruments for sending and receiving messages simultaneously upon one wire, a key or device, arranged to transmit signals by reversing the direction of the main battery current, without interrupting the continuity of the main circuit.
4. The combination of a continuity preserving key with a battery for transmitting signals to a distant station, and a relay or receiving instrument for receiving signals at the same time from a distant station.
5. In instruments for the simultaneous transmission and reception over one wire, the combination, at each station, of an accessory magnet or coil, an accessory battery, the necessary main circuit magnets, and batteries with the means of reversing the direction of the current of the main batteries, substantially as set forth.

For the week ended March 2, 1875, and bearing that date.

160,271.—TELEGRAPH SOUNDERS AND RECORDERS.—Daniel F. Leahy, Portland, Oregon. Filed July 17, 1874.

Adjustable recording pen attached to sounding bar. Paper passes over a concave plate, so as to spring slightly under the pen, and not interfere with the movement of the sounder bar.

1. The adjustable pen E, provided with the inking attachment P and the supplying trough Q, in combination with sounder N, substantially as and for the purpose set forth.

2. In combination with the sounder N and pen E, the concave plate H, substantially as and for the purpose set forth.

160,374.—MECHANICAL TELEGRAPH SOUNDERS.—Martin F. Westmann, Cherry Hill, N. J. Filed May 19, 1874.

"Snapper sound," the sound being produced by the snapping of a "buckle" or dent in the spring.

1. A mechanical sounder, composed of an indented elastic metallic strip, A, and a base, B, the strip being attached to the base at one end while the other end is free to move, substantially as and for the purpose herein specified.

2. The sounder base B, having inclosing sides, b b, or their equivalent, substantially as and for the purpose herein specified.

3. The finger guard C on the end of the metallic sounder strip A, substantially as and for the purpose herein specified.

Born.

COATES.—At Albany, N. Y., Tuesday evening, April 13, 1875, to Mr. Orville A. Coates, operator Western Union, Albany office, a son.

Died.

TUBBS.—In Chicago, Ill., March 25, 1875, Mrs. MARIA TUBBS, wife of Mr. F. H. Tubbs, Superintendent of Telegraph for the Chicago, Burlington and Quincy Railroad, aged 38 years and 1 day.

The deceased was a member of Grace Presbyterian Church, of Chicago, and for many years connected with the church at Galesburg, Ill., to which place her remains were taken. A large concourse of friends attended the funeral services at the Second Presbyterian Church of Galesburg. The services were conducted by the pastor, assisted by the Rev. Mr. Ely, who made the funeral address. The deceased was a devoted wife and mother, the sunshine of her home, and a sincere Christian. "Blessed are the dead that die in the Lord."

SAWYER'S BATTERY TOP.

(Patent applied for.)

JAR RENDERED ABSOLUTELY AIR TIGHT.

NO EVAPORATION. NO MORE OIL.

ONLY SURE METHOD EVER DEvised.

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Sole Agents and Manufacturers, No. 47 Holliday street, Baltimore.

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After JANUARY 1st, 1875, we will allow TWENTY CENTS for each used-up Porous Cell of this Battery that are returned to us free of charge, in good order. A change is made in the discount to the trade. A list will be furnished on application to

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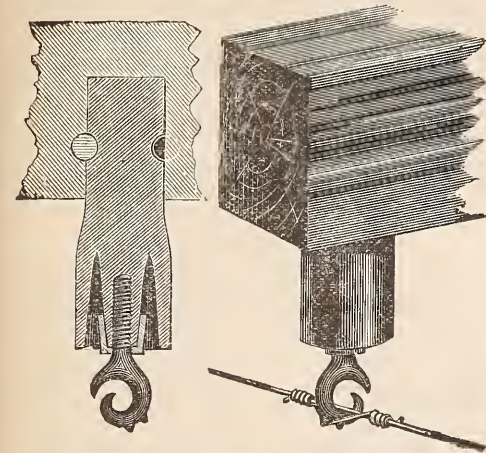
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TELEGRAPH COMPANIES and TELEGRAPH CONSTRUCTORS

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KENOSHA CARBON INSULATORS!

These insulators are made of wood, thoroughly baked, and covered with an INDESTRUCTIBLE COATING, highly repellant of moisture, which does not change nor deteriorate after years of exposure to the weather.

THE KENOSHA INSULATOR has now stood the test of SIX YEARS' actual service, and we feel warranted in stating that, although costing but little if any more than the ordinary glass insulator, its insulating qualities are on an average

MORE THAN TEN TIMES AS GREAT

during the prevalence of rain or fog.

Immense numbers of these insulators are in use by

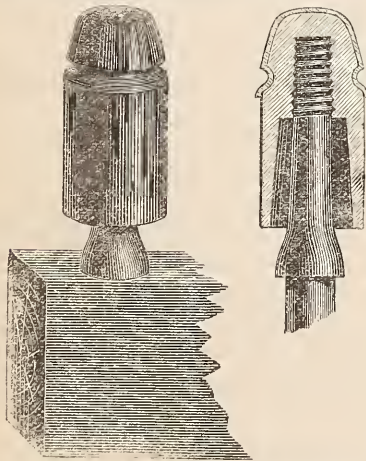
THE NORTH WESTERN TELEGRAPH CO.,

THE WESTERN UNION TELEGRAPH CO.,

as well as many RAILWAY and OTHER TELEGRAPH LINES, and they have invariably been found to give

ENTIRE SATISFACTION.

Besides the suspension insulator above shown, which is fitted with our IMPROVED WIRE HOLDER, arranged for a tie wire, and which does not cramp or injure the line wire, we manufacture several other patterns, among which is the



CAP INSULATOR, WITH PIN OR BRACKET,

which is fitted with a zinc protection, as shown in the above figure.

THE KENOSHA INSULATOR

is manufactured with the utmost care by skilled workmen and special machinery. Every individual insulator is TESTED IN WATER with a battery of 500 cells, and not a single imperfect one is allowed to leave the factory.

We are also prepared to furnish, at short notice,

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These insulators are packed for shipment in boxes containing 100 each, and may be ordered direct from us, or through any of the leading dealers in Telegraph Supplies.

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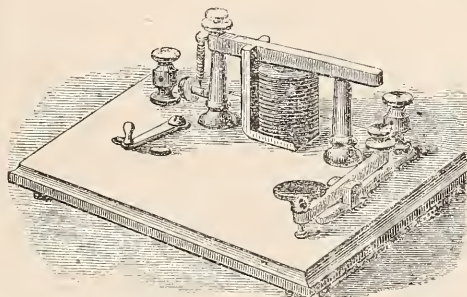
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THE TELEGRAPHIC MANUAL,

by Mr. WALTER O. LEWIS, remaining, may be had of F. L. POPE & CO., 38 Vesey street, at fifteen cents each. Will be forwarded by mail postpaid on receipt of price.

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WE HAVE IN STOCK UPWARDS OF

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Nos. 8, 9, 10, 11 and 12,

AMERICAN COMPOUND,

ALL SIZES.

50,000 INSULATORS

INCLUDING

SCREW GLASS,

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TOGETHER WITH A LOT OF

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WHICH

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50,000 INSULATOR BRACKETS.

ALSO, A VERY LARGE VARIETY OF

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The great volume of our business enables us to sell at

LOWER PRICES

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POLICE TELEGRAPH.

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THIS SYSTEM OF
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WITH A CENTRAL OFFICE,
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UPON THE AUTOMATIC PLAN,

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ARE,

First—The **Automatic Repeater**, through which the apparatus may be distributed in a combination of circuits, and the entire system successfully worked, without the constant personal attention of either operators or watchmen.

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These Features combined form the

Only **PERFECT, COMPLETE and RELIABLE** System

FIRE ALARM TELEGRAPH
IN THE WORLD.

It is a sufficient vindication of the claims which are made by the Proprietors of these systems of

FIRE ALARM
AND
POLICE TELEGRAPHS,

that they have sustained the test of more than twenty years of practical use, and that the efforts which have been repeatedly made to supplant them by other inventions have

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the few instances in which municipalities have been induced to adopt other systems having demonstrated their insufficiency and unreliability, and resulted in their abandonment, and substitution thereof of the

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Messrs. **GAMEWELL & CO.** are the owners of the original *FARMER & CHANNING PATENTS*, one of the most important of which has just been extended for seven years, and during the past seventeen years have spared no expense or effort to secure improvements, and the Systems are now covered by

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The most important improvement which the Proprietors have adopted and introduced is the

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the introduction and operation of which involves so little expense, compared to the benefit which it confers, that even small communities can profitably adopt and maintain it.

The American System of

FIRE ALARM AND POLICE TELEGRAPHS

has met with the universal approbation and commendation of the

People, Municipal Authorities,

AND THE
PRESS

throughout the **UNITED STATES and CANADA.**

NO EFFORT, TROUBLE OR EXPENSE

is spared by the Proprietors to obtain and secure **ANY POSSIBLE IMPROVEMENT** which shall increase the

EFFICIENCY,
RELIABILITY and
ECONOMY

of the system. They intend that, as far as possible, it shall be

ABSOLUTELY PERFECT!

The amount of property which has been saved from destruction, and the number of lives which have been preserved through the general adoption of this system, throughout the **UNITED STATES and the DOMINION of CANADA,**

CANNOT EASILY BE ESTIMATED,

but that, in every community where it has been introduced for any considerable length of time, they have been enormous, **THESE CAN BE NO QUESTION.**

The cooperation of TELEGRAPHERS in securing its introduction into their localities is cordially invited, and their efforts will be duly appreciated and compensated.

Any information desired in regard to the above system will be cheerfully and promptly furnished upon application at the office.

A pamphlet, setting forth more fully its advantages and superiority, has been printed, and will be supplied to Municipal Authorities and others interested in Fire Alarm and Police Telegraphy, upon application as above.

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TELEGRAPH ENGINEER,

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BUNNELL'S PATENT REPEATER.

These instruments are now made in two different styles, at \$120 and \$135 a set, consisting of two Relays, two Sounders, two Keys and Governor.

JONES' LOCK SWITCH-BOARD,

a most compact and reliable Switch, forming a clean spring-locked connection between any number of wires, occupying for each different connection only one square inch of space, and though made of the largest size, not subject to the warp and contraction of wood-work.

EXCLUSIVE AGENTS OF

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KERITE,

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COMPOUND RUBBER COVERED WIRE

SUBTERRANEAN & AERIAL WIRES,

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We are now prepared to furnish, after an experience of three years, an insulated Wire which can be buried in the earth or exposed to rain and sun, or to the vapor of acids, without injury. Professor SILLIMAN, who has exposed it to the most destructive agencies, finds that it remains uninjured in an atmosphere of ozone, which would destroy gutta-percha in a few hours. It exceeds glass or any other known substance as a non-conductor.

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ALSO, TO FURNISH

IRON CLAD CABLES

of the usual size, with KERITE COVER, believing that it will exceed, in insulation for submarine purposes, ANYTHING HITHERTO MANUFACTURED.

We shall be happy to furnish estimates for any amount and size of cable, which will be found to compete with any other construction, both in quality and price.

We manufacture the Genuine ELECTROPOION BATTERY, with Patent Platina Connection, introduced by us eight years since; also, THE ALPHABETICAL OR DIAL TELEGRAPH, now extensively used in this and other cities for private lines, being easily and quickly learned by any one.

We offer for sale, among other novelties, a **SOUNDER** that will work practically with a single DANIELL cell, a **BATTERY** that does not require to be taken down but once a year, and the very best **MAIN LINE SOUNDER** made

Our **CATALOGUE**, embracing a large amount of new matter and description, is now ready for distribution.

THE TELEGRAPHER

A JOURNAL OF
ELECTRICAL PROGRESS.

J. N. ASHLEY, PUBLISHER.

SATURDAY, APRIL 24, 1875.

VOL. XI.

WHOLE No. 458.

Original Articles.

A Sharper Foiled by a Telegrapher.

BY BRUCE LYON.

THE following incident was related to me, a few days since, by an old friend whom I had not seen for a number of years, as an episode of New Orleans life before the war, and subsequent political complications had well nigh ruined this the fairest and most luxurious city of America.

He began by stating that, for some months previous to his arrival in the Crescent city, he had been working in Monroe, a small town in the northern part of Louisiana, the office being a relaying point for southern Arkansas and western Texas business. Becoming tired at last of the monotony and quiet of rural life, he applied for and obtained a situation in Galveston, Texas, and it was while waiting in New Orleans for a steamer to convey him across the Gulf that the following adventure occurred. Perhaps it would not be inappropriate for me to mention in this connection, that my friend boasted with no little pardonable pride, the fact of his having worked in nearly every large office in the country, and an experience thus gained has many times proved of incalculable benefit to him in his numerous and extended wanderings.

There are few telegraphers who have travelled extensively that have not become thoroughly conversant with life in all its various phases, and to that class belongs the subject of this sketch, who though the most quiet gentlemanly person imaginable, is withal a "thoroughbred" in the strictest sense of the term. It is a grand mistake to think that none deserve this title but the man who drinks liquor, swears loudly, and walks with a swagger. On the contrary, it is your cool, calculating man of the world, whose conduct, outwardly at least, is irreproachable, and who being dependent in a great measure upon his wits for a living, is too shrewd to lessen his only capital in life by a course of dissipation that can only result in utter ruin, leaving him at last to battle with the world a bankrupt in purse and in health.

"It was the night before *Mardi gras*," said my friend. "The city was crowded with strangers, nearly a hundred thousand in number, drawn thither to witness the novel and interesting features of carnival day. Feeling somewhat fatigued with my rambles through the city, I concluded to retire early that I might rise in the morning better fitted to enjoy the excitement and dissipation which would extend far into the night of the following day. For this purpose I entered the hotel—I was stopping at the St. Charles—and receiving the key of my room from the clerk, stood idly watching the immense crowd that filled the halls and vestibule, before proceeding up stairs. Suddenly a hand was laid on my shoulder, and turning round I was confronted by an individual with whom I had become acquainted at the Ouachita House, in Monroe.

His name, as he entered it upon the hotel register with a flourish, was J. Francis Sylvester. His ostensible occupation speculating in cotton, but as far as my observation extended, his time was chiefly spent in smoking cheap cigars, relating threadbare stories and cursing the negroes about the place in true cavalier fashion.

Meeting him at this time, and in a place where my acquaintance was so limited, it is natural that I should have been pleased to see his good natured countenance once more, and I greeted him with the warmth of an old friend.

After a few moments' conversation he informed me that for the first time in his life he had that day purchased a ticket in the Louisiana State lottery, the drawing of which occurred daily, and understanding further that the tickets were void unless presented within twenty-four hours, he concluded late as it was, to call in and satisfy his curiosity! Not that he expected to draw anything, but just out of curiosity, you know, and concluded his remark with the request that I would accompany him. My fatigue being forgotten in the pleasure of seeing a familiar face, I signified my willingness, and a few minutes later found us walking arm in arm up street, chatting pleasantly about our mutual acquaintances in Monroe. Suddenly stopping

in front of an unpretending two story frame building on Bank street, Sylvester hastily ascended a narrow stairway leading from the pavement, and opening a door on the left, a flood of light burst forth almost blinding me with its dazzling brilliancy. Mechanically following my guide, I found myself in a large square apartment furnished with a magnificence and profusion that far exceeded anything I had ever seen, or in fact, heard of, except in the pages of some Eastern romance. From a handsome bronze chandelier, suspended from the centre of the room, was diffused a soft subdued light, in striking contrast with the richness of the tapestry, the magnificence of the furniture, and the elegance of the carpet, in which our feet sank to the ankles at each step.

The appearance of the whole apartment betokened a lavish display of wealth, and an oriental voluptuousness unknown to we cold northerners of less luxurious habits and æsthetic tastes.

On one side of the room was placed a long table, covered with a green cloth, on which were painted figures and symbols, around which were grouped a party of some twenty men, the majority of whom representing the better class of society: some standing, some sitting, but all with their eyes fastened on the table, behind which sat a man whose face might have been carved in marble, so strong and unchangeable it seemed.

The room was quiet as death; so quiet indeed that the silence was almost oppressive. The only sound that broke the stillness was the voice of the man facing the crowd, who from time to time repeated in a low, cold monotone, 'Are you all ready, gentlemen?'

The very waiters who glided noiselessly about the room, bearing trays filled with the choicest liquors and segars, spoke not a word, but performed their duty at the slightest beck or nod, and seemed, but for their power of motion, to belong to the several groups of stately standing in different corners of the room. I realized my position at once. Judging from my very respectable appearance that I must be the possessor of some wealth, and doubtless believing this to be my first flight from the parent nest, Sylvester saw in me a good pigeon to be plucked, and had, therefore, with the same motive that prompted the sudden friendship between Bill Nye and Ah Sin, led my willing footsteps to this gilded palace of sin for the sole purpose of obtaining possession of my (supposed) lucre.

In short, my boy, I had been systematically 'roped' into one of the most notorious faro banks in New Orleans, which, as a friend of mine SLANGILY expresses it, is a place where men of a sporting disposition assemble to fight the tiger in his green baize jungle. Turning round to Sylvester I remarked with some asperity, 'This is not a lottery office! This is a faro bank.' 'By Jove!' he drawled out, with well feigned astonishment, 'That's so, but since we're here let's try our luck just for fun, you know.'

"I politely but firmly refused, alleging as the best excuse my ignorance of the game, my general bad luck in all games of chance, and principally my conscientious scruples, 'for you know,' I added, with a slight tinge of sarcasm unnoticed by my *cicerone*, 'we plain countrymen are less hardened in sin than you gay butterflies of fashion, who live in a world of frivolities.'

'Sylvester smiled complacently, and bowing his acknowledgment of the compliment, proposed an adjournment to the street, 'where,' said he, 'we'll get another segar and then find that place sure.'

"Satisfied that no harm could result from it, I concluded to accompany him, feeling somewhat curious as to what course he would next pursue. Walking up St. Charles street, Sylvester inquired of a rather rakish looking individual standing in the doorway of a billiard saloon, the location of the Louisiana State lottery office. To our surprise (?) we learned that the object in question was directly overhead, and, guided by the obliging stranger, we were soon ushered into a small, dingy back room occupied by two men, both deeply engaged in a conversation that was immediately suspended as soon as our arrival became known. There were no signs visible as to the nature of the game, but business being evidently dull I felt that I would not long be kept in ignorance, nor was I. Approaching the elder of the two men, a dark, swarthy individual, Sylvester drew from his pocket a ticket, which he laid on the table before him. Glancing carelessly at the number, his companion opened a small book, and running his eye hastily over a column of figures inquired, 'What name?'

'Sylvester.'

'J. Frank Sylvester?'

'Yes, sir.'

'Fifty dollars,' he muttered in a low tone, opening at the same time a drawer, and taking therefrom two twenty and one ten dollar gold pieces.

After his noisy demonstrations of delight had subsided, Sylvester expressed a desire to learn the *modus operandi* of the drawing.

'The drawing,' said our informant, 'takes place each day at 12 and 4 o'clock. We have twelve blocks which are numbered from one to six inclusively. The

blocks are placed in a glass wheel; they are then well shaken in the presence of the ticket holders, and are then drawn forth and placed on a table by a negro boy, blind from his birth. For the better purpose of conveying my idea, I have here a condensed and simplified form of the whole arrangement,' and suiting the action to the word he threw over the table a green oil cloth, neatly divided in little blocks about an inch square, and numbered from one to seventy-two inclusive. It was a game that I had seen on every fashionable course, and at every fair I had ever attended. The fascinating and money making (for the dealer) game of hanko.

Sylvester immediately suggested that we invest ten dollars apiece in tickets, triumphantly pointed to the fifty dollars he had just won as an evidence that fortune, the fickle jade, had at last smiled upon me, and I needed but to stretch forth my hand to secure the glittering prize. I, however, doggedly refused, and though he played several times, winning, perhaps, twenty or thirty dollars, I still declined, though all the while congratulating him upon his good luck. Finding me still blind to my best interests, these kind-hearted gentlemen, with the charitable view of lining my pockets with shekels, devised for my benefit another and still more money making scheme. Drawing from the table a pack of cards, Mephistopheles—I can think of no other title so appropriate—selected therefrom a jack, king and queen.

Human endurance could stand no more! I had been 'roped in' to a game of faro, had sat calmly smoking a segar while listening to the oily tongued manipulator explain the process of winning seventy for one, by risking my money in an innocent game of hanko, but when he began throwing three card monte, 'a very popular game with young gentlemen,' as he expressed it, I kicked. Turning round to Sylvester I quietly remarked: 'My friend, allow me to give you a word of advice that may be of service to you in your future operations. Do not trust too much to appearances; they are apt sometimes to deceive you. You thought from my abstemious habits, and from having formed my acquaintance in the backwoods that I must of necessity be a flat; on the other hand, I took you for a thoroughbred. The mistake was mutual. Good night.' And walking to the door I descended the stairs.

Thus ended my first but by no means my last adventure in New Orleans, and if any of my less travelled readers are enabled to profit by my experience, I will feel that my labor has not been in vain."

The Anglo-American Telegraph Company.

THE half yearly report of the directors of the Anglo-American Telegraph Co., to the shareholders, states that in accordance with the wish expressed by the proprietors at the last two meetings, the directors agreed that a report and accounts should be presented half yearly, and as a final settlement of this question they propose—1. To hold two meetings in the year, in the months of April and October. 2. To publish no accounts or receipts at any other period of the year. 3. To pay interim dividends quarterly, whenever the revenue of the company enables them properly to do so. The total receipts from the 1st January to 31st of December, 1874, including a balance of £9,089, carried over from last account, amount to £713,018, which, with the renewal fund of £254,947, now carried to revenue account, amount together to £967,966. The total expenses of the year, including those of laying the new cable and income tax, amount to £614,282. Three quarterly dividends at the rate of 5 per cent. per annum, free of income tax, were paid in 1874, absorbing £262,500, leaving a balance of £91,183, from which a final quarterly dividend, at the like rate of 5 per cent. per annum, has since been paid, amounting to £87,500, leaving a balance of £3,683 to be carried forward to next account. The falling off in the traffic receipts in 1874, as compared with 1873, amounting to £62,918, is to be attributed to the depression of the American trade which existed more or less during the whole period. The directors regret that they have been unable to recommend the declaration of a higher dividend than 5 per cent. for the year ending 31st December, 1874, but an examination of the accounts will show that a larger payment would have been extremely imprudent. It may be urged, and with some show of reason, that unusually large sums have been taken from revenue and spent upon new works; but unless the capital of the company were enlarged for this purpose, which the directors consider most undesirable, the course pursued was inevitable; and the directors believe that their policy in this respect will meet the approval of the proprietors. The proper figure at which to fix the tariff has long been the subject of anxious consideration by the directors. Large customers and many of the proprietors have frequently represented to the directors the expediency of keeping up the rate at 4s. per word; and although all the experience obtained has shown that the present rate, combined with this company's system of charging by the word

is one which offers the greatest facilities to the public, consistently with making reasonable profits for the proprietors, still, in view of competition at an early date, the directors resolved to reduce the tariff to 2s. per word from the 1st of May next. The contract for the construction and laying of a fifth cable, announced in the last yearly report, was duly and efficiently carried out by the Telegraph Construction and Maintenance Company. On this occasion the cable was laid from Newfoundland to Valentia; the operation was perfectly successful throughout, not a hitch of any kind having occurred. The Great Eastern and her consort the Hibernia started from this country on the 9th August; arrived at Heart's Content, Newfoundland, on the 23d August, and after the shore ends had been laid, the Great Eastern commenced paying out the cable towards Ireland on the 26th August, and arrived off the Irish coast on 6th September; the final splice was made on the 8th September, and the laying of the 1874 cable was thus completed in thirteen days. The new cable, both in point of insulation and carrying capacity is the best yet laid across the Atlantic.

Correspondence.

We do not hold ourselves responsible for the opinions of our Correspondents. Our columns are open to free discussions on all Telegraphic subjects, without distinction of person or opinion.

No notice will be taken of anonymous communications.

Severe Affliction of Supt. F. H. Tubbs.—The Accident on the C. B. & Q. R. R.

CHICAGO, ILL., April 15.

TO THE EDITOR OF THE TELEGRAPHER.

SUP'T F. H. TUBBS, of the Chicago, Burlington and Quincy Railroad, has been severely afflicted recently by the death of his estimable wife, which occurred on the 25th of March. Verily in his case it can be said prosperity and adversity go hand in hand, he having recently been appointed Superintendent of the road, in connection with his duties as Superintendent of Telegraph. Mrs. Tubbs died very suddenly, if I am rightly informed, of paralysis. Mr. Tubbs' grief has been considerably augmented by the painfully fatal accident which occurred on the Burlington and Missouri branch of the C. B. & Q., on the fourth instant, in which a number were killed and wounded. The accident occurred near Tyrone, Iowa station. Although, of course, Mr. Tubbs is in no way responsible, still he feels deeply grieved at its occurrence. The *Chicago Times* of the 5th took occasion to severely censure the road for employing an inexperienced boy as operator at Tyrone station, stating that after the accident occurred the operator fled to the woods, and has since not been heard from. The Burlington, Iowa, *Hawkeye*, denies the truth of these statements in every particular, stating that the young man was twenty-three years old, sober and reliable, and had been in the business over six years. The *Hawkeye*, while in no way excusing the negligence, pays him a compliment in regard to the nerve and pluck he exhibited in sticking to his post for two days, until properly relieved, doing the telegraphing of the road with a coolness that was wonderful, when he knew the fatal consequences his one act of carelessness had wrought. It was not hard heartedness either that caused him to act so coolly, as ever and anon tears of sorrow found their way to his eyes, sorrow for those thus bereaved, but they were dashed away and his work renewed. As far as I can ascertain, the manner of giving the orders was much at fault, as after getting an order to the conductor of one of the passenger trains to stop at Albia, Iowa, for the freight trains, he neglected to deliver the other order to wait for the passenger train with which it collided. Now it seems it would have been much better, when it was found necessary to give a second order, to have recalled the first, and given but one order, which should have held this passenger train for the other, and also directed it when to pass the freights.

In our younger days when we were instructed in the difficult and responsible duties of train despatching, it was understood to be a very careless thing to run a train that *did not have the right of way* against one that *did have the right of way on a flag and hold order*, to an agent and operator, with no intervening telegraph office to stop either train in case of just such a case of neglectfulness. It were far better to delay a train an hour than take any such risks. If the conductor and engineer had already seen both orders, and repeated back their understanding of the order in regard to the passing of the passenger, as well as of the freights, and received the despatches O. K., then the fact of the operator's not handing them the order in regard to the passenger train, and only giving them the order in regard to the freights, should place the blame entirely on his shoulders; in fact not at all, as the fact of the conductors and engineers having signed such an

order would be conclusive proof that they knew its contents, without having a copy of the order, which is generally kept only as a proof until the end of the trip, to show that the orders of the train despatcher have been obeyed. So, looking at this matter in any reasonable light, it will be seen the operator was not wholly to blame. I understand that ere long a meeting of train despatchers and superintendents will be held in this city, to discuss the matter of train despatching, and try, if possible, to remedy some of the evils of the system.

Mr. George H. Bliss has sustained a severe affliction recently in the loss of his mother-in-law, an estimable lady, who died about a week ago, and two of his children are now lying quite ill with scarlet fever.

OCCASIONAL.

The Other Side.

TO THE EDITOR OF THE TELEGRAPHER.

ONE afternoon not long ago I left the office and went to my boarding place, feeling very tired and worn, and somewhat gloomy. My day's work had been very hard, and the mental and physical strain severe. At the dinner table my landlady, in the course of her conversational deluge, remarked something to the effect that "didn't so many lady operators injure the business of telegraphing for gentlemen?" I made some impatient reply which, if I remember rightly, was in substance, "No! They are such confounded plugs they cannot injure anything—but our tempers and prospects for future happiness." But inwardly I was annoyed by the thought that many little cracks and crevices were filled with the gentler ones, and many of my profession of the sterner sex were out of employment who might otherwise be absorbed, leaving better openings for myself and others if we choose to select them.

For a moment I wished woman would choose some other occupation than mine; I cared not what it might be. She might teach school or work in factories, or adopt the legal profession or the medical; or she might work upon farms or in blacksmith shops if she were strong minded, or lecture, or do anything she pleased and retain favor in my sight if she would only let alone telegraphy. For a moment I was so much absorbed with this thought that the next four or five topics touched upon by my landlady were unheeded and unheard by me. But after I had retired to the rest and quiet which awaited me in my own room I came back to my more generous self, and saw how unreasonable I had been and how unjust in my thoughts.

Now, methinks there are a goodly number of my brother operators who feel just as I did for a single moment, many of them write to THE TELEGRAPHER about it, except that they put on a different aspect and another coloring. They do not say that it is because the ranks of telegraphers are crowded that they wish ladies would let the business alone; but they moralize and try to urge those who have already become our sisters to back out because they might become contaminated by associating with such as themselves—and so they might. They try to urge ladies not to learn to telegraph, because it is a hard and thankless task, and one has to associate with desperadoes and villains, and cut-throats. Then they become affecting and adulterate their ink with a manly tear or two, and sob that they had rather see the whole race of man go to the dogs than know of a single lady hearing one harsh or vulgar word. One correspondent has thus sobbed through three or four whole columns, and told us of his fear that woman will do some outrageously extravagant and highly improper thing yet, if she continues in the telegraph ranks—something to bring a blush to the cheek of our intelligent and refined American people. There are all kinds of excuses offered by this class of correspondents to show why woman should not practice telegraphy, and not one word given of hope, sympathy or encouragement to the hundreds of frail creatures who are obliged, in many cases, to resort to it to earn their own living—who become telegraphers not for the glory of it as many strong and robust young countrymen do, but because actual necessity frequently compels them to as a means of obtaining a livelihood, and, perhaps, giving assistance or support to an invalid family.

These occupiers of space in your columns do not object to the "sturdier sons of toil" learning, nor do they withhold the hand of cordial welcome from the young scapegrace who does not deserve a position nor need to work for a living, but who learns the art that he may go away from home, and have the "fun" that he cannot indulge in where he is better known.

I do not believe I have ever known a young lady to work at telegraphing for the mere pleasure of it, who did not need to, but was abundantly well able to get along without. In truth I believe that most lady operators are obliged to pursue their calling, or find another.

It has been represented in a letter published in these

columns that, for ladies to be associated with men of a less delicate touch of refinement—men who, perhaps, may have never known the gentle influences of mother or sister—would be to sacrifice woman, and leave man untouched and unmoved. I do not believe this is so. I believe, to harness the dark and discolored with the bright and pure is to give us a finer degree of beauty and finish, and a higher order of purity and excellence. Corrupt as it is, there is very little of humanity that is like the filth in the gutter, capable only of besmearing and soiling that with which it comes in contact. However degraded a human wretch may be, there is still something that may be washed and cleansed. For woman to assume the task of lifting up and making better and nobler men of her fallen brothers, need not be to plunge her own guilelessness in the slime of degradation and sin. It is my belief that the bright and beautiful things of life, in its every phase, are given us to improve that which is dark and uninviting. They are given for our good, and should not be kept as in a glass case, for fear of injury, nor should their light be hidden under a bushel, but it should be permitted to shine forth, illuminating the dark places.

As for my individual self, I am in need of better influences. I can also speak for many of my acquaintances. Were we favored with them we should appreciate them, and I am sure it would not be a casting of pearls before swine. I have felt rebuked many times at what some of the sisters have said of smoking. I smoke, and frequently sit with my feet upon the table. Yet, were there ladies present, I should do neither. In another instance my case is like hundreds of others. I was early denied the bettering influences of a beloved mother and lamented sisters. I entered my career at a tender age, and the teachings of childhood constitute the insecure foundation for the principles of my manhood. For such the influences of virtuous woman avails much.

We Americans are proud of the pliancy which intelligence, education and free thought gives to all our social customs. We have very few foyisms which savor of antiquity. If it was customary a century ago for young ladies to spin and weave, or otherwise employ themselves, and remain under their father's roof, it does not imply anything now. As has been quoted: "Times change, and we change with them." If young ladies can find fields of usefulness and activity elsewhere than at home, let not the old customs debar them from entering them.

To deal plainly and honestly, I believe selfishness has prompted the remarks of one who has spoken before. There is so much lack of pliancy and logic in all his arguments, and his whole tenor is such, that I think this belief is justified. It seems to be a common error of many to think that telegraphy is properly the vocation of men, and belongs to them. To disabuse our minds of this, and to consider woman's right to it equal to our own, is one of our first duties.

In conclusion, let me urge the importance of telegraphers reforming in those respects which characterize most fully the telegraph operator. The noxious ideas and principles which are instilled into the telegraphic student, and grow as he advances in knowledge of and age in the art, ideas which tend to create a feeling of hostility and strife towards every one who is striving to accomplish what he is, principles which have the effect of repelling each individual member of the great fraternity from the rest, and which affects the whole body, like some great centrifugal force that rends it asunder, casting forth each man as a separate fragment—these principles which, I repeat, characterize telegraph operators, and make them peculiar to other craftsmen, should be purged and cleansed away.

O. H. KAY.

The N. Y. & O. M. R. R. Operators, Northern Div.

IN THE WILDS OF JERSEY, March 20.

TO THE EDITOR OF THE TELEGRAPHER.

I HAVE made an unintentional mistake in not commencing with the Supt. of Telegraph of the New York and Oswego Midland Railroad, but he being so far away from the southern end of the road escaped my attention. Mr. Wm. H. Weed, whose office is at 111 Liberty street, N. Y., is Supt. of Telegraph, and also Gen'l Passenger Agent of the same road, and, consequently, does not have much time to attend to telegraph matters. For this reason he is not heard much on the line. He is a young man, but of good business tact; he was the first Supt. of Telg. the Midland had, but on account of his extra duties the position was offered Mr. Joseph Angell, then chief operator of the Erie Railway (the operators' friend—Mr. A. I mean, not the Eric), who accepted and entered upon the discharge of his duties.

When the N. Y. & O. M. R. R. failed, the receivers consolidated the office of Supt. of Telg. with that of Gen'l Passgr. Agent, again putting Mr. Weed back to double duty; and Mr. A., not being provided for by the Co., left.

Many an operator on both Midlands mourns his loss, and would be only too glad to see him back. Some of the operators would have made him a present on his retirement, but the failure of the company made beggars (very nearly) of a good many, and for the benefit of those who have lost sight of "A." we will say that he has been in some way connected with the building of the new A. & P. lines between Chicago and Omaha, which having been finished, he has again returned to New York.

Mr. John O'Connor, who is operator at Mr. W.'s office, "W. H.," has been appointed managing operator of the Midland Wire No. 2, vice Mr. Chandler, who returns to the Gen'l Frt. Agt's office as an assistant.

"O. C." has his hands full, as the company requires duplicates of all freight waybills from every station sent by telegraph to "W. H.," something which I have never before heard of being done on any railroad in the U. S., and I have worked for many both east and west. This sort of business greatly obstructs a large amount of paid business which otherwise would find its way over the Midland wires, thus the receipts are steadily decreasing. I will continue my letter with Mr. J. B. McCall, "M.," Train Despatcher, Southern Division, with office at Norwich. Mac is a gentleman in every sense of the word, and to strangers his slowness of speech and dry remarks are quite comical; he has but little to do on account of the small number of trains on his division.

Mr. J. B. Beasley, "J. B.," is night despatcher for the Southern Division under Mr. McCall. He hails from Monticello, N. Y., and was formerly day operator at Middletown.

Mr. John F. Mackie, "J.," is Sup't Northern Division, with headquarters at Norwich.

Mr. H. J. Henderson, "H.," is despatcher and division operator of the Northern Division. H. is an old Erie man, and what in the world made either him or Mac come over to such a road we cannot understand.

Mr. W. C. Hartigan, "W.," is asst despatcher at Oswego, has very little to do, with nominally a good salary, but he, like all the others on this road, don't get their money very often. They are living in hopes.

Mr. A. D. Peck, "K.," is operator at Norwich on No. 2 wire, and does all the repeating for "W. H." office, New York, which business is really immense, as the majority of all the business from "W. H." goes via "N." office, and is from there distributed to points on all branches and divisions. K. has but one arm, but gets along very well and is improving every day, because "O. C." rushes them and he has to take them on the fly. We understand he hails from Summitville.

At the city office in Norwich, we find Mr. Ailsworth, who has but little to do now-a-days. Times at "R. N." are not as good now as they were a year or two ago, when the Midland was in a flourishing condition and full of life; but alas! what an inglorious end of a great undertaking! The road is in the hands of receivers, and at present writing things look blue and discouraging. The boys are preparing for their funeral, their lives are in the hands of the Legislature of New York State.

A bill has been sent to the Legislature for "exemption of taxes on N. Y. & O. M. R'y," but it is believed by all that it will never pass. In case it does not pass, then the road will be closed and sold under the hammer.

At North Norwich we find a young lady operator who hails from Michigan, Miss Ada Travis, "V."

Michigan is a good State to bail from, as your correspondent can testify, but then I am not a "Wolverine" by birth.

Mr. A. Sheppardson, "S.," holds out at Smyrna as agent and operator. At Earlville we shall find the beautiful Miss Lillie Craudall, "C."

At this point the Syracuse & C. Valley R. R. branches out to Syracuse. George is "Hankin" around the office at Smith's Valley—he dropped down from Walton, N. Y. "F. B." is night man at Sy., but on pleasant afternoons they say Frank is *Bowin'* the girls around.

And still they come! Miss Mattie White, "W.," holds the reins at Eaton.

At Morrisville Mr. F. L. Griswold, "F.," does double duty; the same with Mr. C. A. Storrs, at Munnsville.

At Oneida Community, Mr. J. B. Neilson, "N.," is agent and operator; he comes from Oswego. At Oneida we find a gentleman who has held the position of ticket agent and operator for 3 years, Mr. A. M. Downing, "D." Mr. C. C. Ingersoll, "C.," holds forth here as night man. A night position as operator on this road is a very easy one, not much work. At the A. and P. office in Oneida we find a man of many positions—that of manager, operator, etc., and proprietor and clerk of a tobacco and cigar store, and news room—which positions he has held for eight or ten years. This remarkable gentleman's name is Mr. S. D. Baldwin, "B." He has, besides the A. & P., the three midland wires.

At North Bay Mr. C. S. Luce, "C.," does double duty. At Cleveland Mr. Christy C. Hartigan, "C.," is night

man and Mr. A. W. Whitney, "W.," from Mexico, N. Y., is agent and operator. Mr. S. W. Hall, "N.," does double duty at Constantia—ditto Mr. E. L. Kimball, "K.," at Pennellville.

At Fulton Mr. F. H. Jones, "H.," is ticket agent and operator. Fulton is one of the many pretty villages of the State of New York.

At Oswego, the northern terminus of the road, Mr. Hugh Coats, "M. C.," from Fulton, is day man, and Mr. W. L. Waugh, "W.," also from Fulton, is night man. At the Oswego shops, office Mr. Jerry Hartigan, "Hn.," is operator.

The Utica branch leaves main line at Smith's Valley, running to Utica. At Hamilton we don't find King Kalakaua but we find King Frank, "F.," who is operator only. At Bronckville Mr. Geo. E. Groves, "G.," does the regular double duty, as they usually do on this road. At Oriskany Falls pretty Miss Allie Wilcox is operator. At Deansville Mr. O. E. Talbot, "O.," is agent and operator. At Franklin Iron Works Frank L. Esmay, "F. Y.," is operator. At Clinton Mr. J. T. Euin, "J.," is agent and operator. At New Haven Mr. Wm. Chlore, "R.," is the operator. At Utica we stop with Mr. J. W. Blood, "B.," who is operator. The Rome branch leaves Utica branch at Clinton, after which the first telegraph office is at Clark's Mills, where Miss Hattie Rasbrook, "R.," throws lightning around promiscuously. At Westmoreland Mr. J. T. Becknell is agent and operator. At Rome Mr. Fred Weed, "F.," brings up the rear as operator.

The Auburn branch leaves the main line at Norwich; it formerly ran to Scipio Center, near Auburn, but a short time ago that part as far east as Corlandt was given up to N. Y. and E. R. R., and later on that part as far east as De Ruyter was given up to same road, which leaves but a few miles from Norwich to "D. E." The first telegraph station out of Norwich is Otselie, where Mrs. Nellie Tallett, "N.," is operator and her husband agent.

Sim Crumbs, "X.," runs things at Beaver Meadow. Wig-and, John, see "X. N.," is the agent and operator at Truxton. Mrs. Frank Steadman, "M. C.," is operator at McLean. At "D. E.," the terminus, we stumble into the office "upside down without care," when I am saluted by Sile Blanchard with "Hello! you old hairpin, you, when did you drop down? Come up to our city to see the ball race and horse play I reckon, don't it?" And all this was said in one breath, and the way he shook my paws knocked the breath so far out that your correspondent will not be able to write any more for the next six months. P'S AND Q'S.

A Domestic (Stone) Local Sounder.—Personals.

CHICAGO, ILL., April 19th.

TO THE EDITOR OF THE TELEGRAPHER.

ALTHOUGH the world ceases to exist at twelve o'clock to-night, according to the second adventists' theory, I must write from *outside* this mundane sphere and tell you the news. We had sixteen different kinds of weather every day last week (more or less), especially Saturday, when it snowed, sun shone, thawed and rained all in one breath, almost.

Our friend, O. M. Stone, of the Baltimore and Ohio R. R. Line, has another local sounder in his domestic circuit. This is the second one of the male persuasion. It arrived on the 12th inst. He came yelling "down with the passenger rates," and "O. M." went right down and just treated the boys and telegraphed the new comer's arrival to his friends. Mr. Northway, formerly of the C. & N. W. R'y Telegraph, but more recently travelling for a wholesale clothing house, has returned to his first love, and can be found at the Lake street depot of the Baltimore and Ohio Railroad pounding brass as of yore.

Charlie Meeker, of the Western Union main office, has been promoted from "check boy" to a position as operator on the Metropolitan lines, main office. This is a deserved compliment to a faithful and intelligent young man.

Mr. C. W. Baldwin has resigned his position as operator at Onarga, Ill., on the Ill. Central R. R. telegraph, and goes to Osborue City, Kansas, to engage in the drug business for himself. Mr. Baldwin is one of the few young men who leave hosts of friends and no enemies behind him. During his former years of continuous service at Onarga, he has always been found faithful to duty and an efficient operator. The company will not soon find his equal. Success attend him. OCCASIONAL.

Winter Lingering.—A Receiver for the Northern Pacific R. R.—A Plug Factory.

TO THE EDITOR OF THE TELEGRAPHER.

ANOTHER cold snap in this section has done considerable damage. Winter lingers in the lap of spring very complacently. The "old cuss," why don't he "git"—young summer wants to embrace spring, but she's either fickle or else has taken pity on the old man, and won't

cast him off for a warmer hearted swair. Well, that'll do for an introduction.

An order passed over the lines of the Northern Pacific Road Saturday, notifying the officers, agents, &c., that the company with all its property had passed into the hands of a Receiver, Gen. Cass, of N. Y., and that the business would be carried on as usual until further notice.

Mr. "Judd" Thompson has succeeded "Jo" Unwin as report operator (nights), at Keokuk, and, of course, bought "Jo" out in the "plug factory" there that "Jo" was running in connection with some second class commercial college. Guess you never heard of this "plug factory" before; well, it don't amount to much, but it's a plug factory nevertheless, and "Judd"—well, the boys all say he's too nice a boy to be connected with any such institution, and a great many of them think he only bought "Jo's" interest because "Jo" got "let out" a little short. Let us hope such is the case, and then none of the first class of the fraternity will be found engaged in such disreputable business.

NORTHWEST.

Another Telegrapher Commits Matrimony.—A Conundrum.

CHICAGO, ILL., April 16th.

TO THE EDITOR OF THE TELEGRAPHER.

YEOU orter see "Eph." Martin! whew! he's the proudest man on the night force here. He's done it! yes, he's mard—I mean married—can't find out the lady's name, but is right where "Eph." boards, and the house is all furnished, and they have gone to housekeeping as suug as you please. "Eph." gives you his left hand to shake now, his right one is—is tired! shook most lame.

Can you tell us why some of the boys go out and carouse all night, catch a cold, then go "snortin'" round next day smelling a tincture of chloroform and iodine, "blowin'" about having the catarrh. That's the kind of rheostats those day-men are. We don't understand it, and we night-hawks want to know how we can play off too. WESTERN UNION.

An Explanation Desired.

MINGO JUNCTION, OHIO, April 17th.

TO THE EDITOR OF THE TELEGRAPHER.

SOMETHING occurred on this line recently that is a mystery to me, and of which I would like an explanation if it can be given.

A few days ago, during a rain storm, I connected the main wire with a common local sounder, and it worked perfectly. Our line (the Cleveland and Pittsburg) is 94 miles long. In fair weather I have often tried the same thing, and could get no effect on the magnet. This seems strange to me, for in bad weather we can scarcely get a word on the relay. Why should a local sounder under such conditions work better than the ordinary relay? LOCAL.

Answer to Correspondent.

CHAS. NEWCOMBE.—It will be necessary to be able to read and write the Spanish language to obtain a position as operator on Mexican lines. Can't give you other information asked for, but you could probably obtain it from Don Pedro Murphy, Sombreteto, Zacatecas, Mexico.

He Wooded and She Wouldn't.—A Remarkable Story of how Two Loving Hearts were made One.

A YOUNG man, who is connected with one of the telegraphic companies of this city, left on the morning train of the S. P. R. R. Co., in company with relatives and friends, for San Jose, where he was, at two o'clock in the afternoon, to be united in the holy bonds of wedlock to a young lady, who is one of the belles of the Garden City of Santa Clara Valley.

The match, it appears, was brought about by the parents of the young girl, who, although she promised to marry the telegraphist, did not love or care for him, as her heart was given to a nice young man who is engineer of a locomotive on the S. P. R. R.

By previous arrangement, the lady who was to have become the bride of the telegraphist left her parents' home yesterday morning, boarded the train drawn by the locomotive of which her lover is engineer, and arrived in this city, where the engineer met her at the depot, and in a very short time procured a license and made her his wife. It is fair to presume that the telegraphist was a little disappointed.—*San Francisco (Cal.) Daily Morning Call.*

THE Hawkeye Telegraph Company of Iowa appears in the *Annales Telegraphiques* under the rather effectual disguise of "la compagnie télégraphique Haw Keyes."

THE TELEGRAPHER

DEVOTED TO THE INTERESTS
OF THE
TELEGRAPHIC FRATERNITY.

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Back Numbers of The Telegrapher Wanted.

OUR supply of copies of the current volume of THE TELEGRAPHER, Nos. 446 for January 30th, and 449 for February 20th, are already exhausted, and we would be under obligations to any of our subscribers who do not keep files of the paper for binding, that may have these numbers, or either of them, on hand, if they will forward them to this office. The postage necessary to be prepaid on those papers, to insure their transmission, is two cents for each.

We regret to be obliged to ask this, but the demand for these numbers has exhausted the supply.

Telegraphic Inventions and Improvements, and the Telegraphic Fraternity.

IT may be received as an established fact that telegraphers, as a class, are conservative as regards improvements in telegraphic apparatus and improvements. This is very fully demonstrated in the prejudice generally existing among them against the introduction of the automatic telegraph system. This prejudice arises in great part not so much from objections to the introduction of such improvements abstractly considered, but from a disinclination to depart from the usual and accustomed modes of telegraphy, and more especially from the anticipation that their general introduction and adoption will decrease the demand for telegraphic labor.

The quadruplex inventions, so called, have met with less opposition than the automatic, for the reason that it is evident that the number of operators required will be increased rather than diminished, and that in the transmission of business the system does not vary essentially from the regular MORSE system. So limited has been the introduction of the quadruplex in actual use hitherto that the fact has not become generally recognized and understood that a better class of operators will be required to work it successfully than are needed in telegraphing on single wire circuits.

It is, perhaps, inherent in human nature as usually developed to dread a change from ordinary conditions and circumstances, and this is no less true of telegraphers than of any other class. Despite this fact real improvements will make their way, and will ultimately establish themselves, however great may be the prejudice against them, and however determined may be the opposition they encounter.

And it would be well for those who suppose their interest will be injuriously affected by the introduction of telegraphic improvements to recollect that such anticipations in other departments of business, and labor have uniformly failed of realization. The demand for service in any department has been increased rather than diminished by the introduction and general adoption of improved processes for doing the work.

In the case of the telegraph, a very serious problem has presented itself, and one the practical solution of which is becoming imperative. It is how the rapid increase of telegraphic business, temporarily checked, perhaps by the business depression which has prevailed since the fall of 1873, but which is likely soon to be renewed more energetically than before, is to be accommodated. It is evident that there is a limit beyond which it is not possible to go on increasing remuneratively the number of wires, costly to erect in the first place, and a constant expense to maintain and keep in order after they are erected. Obviously there is but one practical and effective solution of this problem, and that is to develop more fully the capacity of the wires for the transmission of telegraphic signals. The question then resolves itself into the best and most efficient method of doing this.

The introduction of the duplex apparatus, which was derided by Western Union officials and declared by them valueless, but subsequently adopted and as extravagantly lauded by them as it had previously been derided, was an important step in the right direction. It is evident however, that the duplex does not fully solve the difficulty. In process of time the quadruplex was brought forth with a grand flourish of trumpets, as the great telegraphic invention and discovery of the age. We have no desire to belittle the value of this invention, but it has not yet been demonstrated that it is calculated to work the revolution in telegraphy that has been claimed for it. As we understand, specially favorable conditions as regards conductors and weather are requisite to enable the quadruplex to be advantageously worked, and that under such favorable conditions not to exceed the capacity of three wires is obtained by the employment of eight operators. No doubt the quadruplex is susceptible of further improvement and perfection which may simplify its operation and increase its capacity. We are speaking of it only as it is at the present time.

It cannot be questioned that the automatic system increases the available capacity of a wire to a much greater degree than any system of telegraphy which has as yet been practically introduced. We are not unmindful of the objections which have been urged against it, and do not question the force of some of them; but, on the whole, we believe that, with the automatic system properly worked on good lines, more business can be accomplished at less relative expense than by any other in use. And as we have before argued, the interests of the telegraphic fraternity will not be injuriously affected by its general introduction and use. It seems to us that there is only one more step to be taken to render the telegraphic system as perfect, and to utilize the wires as fully as is possible. That is the practical development of some autographic, as well as automatic, system of telegraphy. This has been sought for diligently for many years, and the time seems nearly ripe for its development. How soon such a system will be perfected of course it is impossible to predict, but within the last two or three years we think substantial progress has been made in this direction.

That the telegraph business, marvellous as has been its development within the last twenty-five years

is to experience a still more marvellous development in the future we are convinced. That telegraphic improvements will inure to the benefit of the telegraphic fraternity as well as of the general public we are equally convinced. That they will be adopted, however great may be the prejudice on the part of the fraternity they may have to encounter, is as certain as anything can be. We desire, therefore, that telegraphers shall consider the matter intelligently and dispassionately, and not regard as antagonistic to their interests those who recognize the fact that the world moves, and, by making known the changes which are inevitable, prepare them for future conditions of telegraphic service, rather than seek favor by flattering their prejudices and attempting to conceal or ignore the facts.

The Quadruplex Telegraph Patents.—The Right of Appeal to the Secretary of the Interior.

—Decision of Secretary Delano.

THE controversy in relation to the widely celebrated Quadruplex Telegraph patents has assumed a new phase. It will be remembered that the invention was claimed by MR. GEO. A. HARRINGTON, President of the Automatic Telegraph Company, by virtue of a previous contract with EDISON, the inventor, although the latter had assigned it to himself and MR. GEORGE B. PRESCOTT, which assignment was duly recorded in the Patent Office. The decision of the Commissioner of Patents that the patent should be issued to EDISON and PRESCOTT, as assignees of EDISON, and the grounds on which his decision was based have already been published. The Patent office is a bureau of the Interior Department, and this led some sharp attorney of the GOULD-HARRINGTON-EDISON combination to conceive the entirely novel and original dodge of making an application to the Secretary of the Interior to overrule the decision of the Commissioner of Patents. The question came up for hearing on Thursday, April 15th, before Secretary DELANO. MR. J. H. B. LATROBE appeared for HARRINGTON, Senator ROSCOE CONKLING and MR. J. HUBLEY ASHTON for PRESCOTT, while EDISON was most appropriately represented by Gen. BENJ. F. BUTLER, and also by MR. LEONARD MYERS, ex-M. C., and late chairman of the House Committee on Patents. MR. BUTLER insisted that the whole case should be re-opened, and new evidence introduced, in the shape of affidavits from his client, etc., in order to show that the decision of the Commissioner was erroneous. He read EDISON'S contract with HARRINGTON, and then his contract with PRESCOTT, and then his contract with J. GOULD, in order to show him his poor but honest client had been robbed by a series of "wicked partners." He contended that the patent should issue to his client alone on the ground that, whatever may have been his arrangement with MR. PRESCOTT, it was in the nature of a partnership, which had been dissolved by the withdrawal of MR. EDISON without his having received a dollar from MR. PRESCOTT for any interest in it. The patent should not be granted to Messrs. EDISON and PRESCOTT conjointly, as the Commissioner of Patents recently ordered, but that it should be issued to EDISON, leaving any equities which might be claimed to exist by virtue of assignments to be adjudicated by the courts. Senator CONKLING replied at once, raising the question of the Secretary of the Interior's jurisdiction over the matter. He contended that the decisions of the Commissioners of Patents are absolutely final as to all purely executive questions. He denied that the Secretary of the Interior had any jurisdiction whatever over any questions relating to patents. He showed by the records of the Department that in no instance had an application of this kind ever been granted, even if made, which was doubtful. There was no such appeal established or permitted by the statute, or by the rules and regulations of the Patent Office.

Gen. BUTLER replied, contending that the Secretary was responsible for a paper which went out under his signature, and that therefore he should direct the action of the Commissioner. In all judicial proceed-

ings relative to a patent there was an appeal to the Supreme Court of the District of Columbia, but in executive matters none except to the Secretary. He cited from Supreme Court decisions, and the usages of the patent office in relation to assignment to sustain his point. He claimed that the Commissioner had done his client an injustice, which he asked the Secretary to correct. The Commissioner had felt obliged to make his decision upon the facts shown on the records of the office. He claimed that the records were not sufficient, that the Secretary should go behind the records and admit further evidence.

Mr. LATROBE followed, arguing that the question of novelty or of invention goes to the Supreme Court, while that of ownership goes to the Secretary. He wanted the patent issued to HARRINGTON, according to his contract with EDISON.

Mr. ASHTON insisted that if the Secretary was to sit as a court of appellate jurisdiction, that he must decide the case upon the record as presented to the Commissioner; that new evidence could not be introduced into the case. The hearing lasted from twelve o'clock until nearly half past six.

The following is the decision of Secretary DELANO:

It is the practice of the Department to sign without inquiry all patents that are sent up from the Patent Office with the signature of the Commissioner attached before they are presented. As far as I know, it has been the practice of the Office from time immemorial; I cannot say to the time whereof the memory of man runneth not to the contrary, etc. My memory only dates back to the day of Secretary Ewing.

The records of the Department, as has been well asserted by the counsel, show that applications to the Secretary to withhold his signature to these patents have been very rare, if one has ever been made. Nevertheless, I am very clearly of the opinion that when my attention is called to the facts of a case, and my judgment is that a patent should not be issued, it would be my duty to withhold my signature from the patent. But I think good practice requires that my opinion should rest upon the case as presented to the Commissioner, and therefore I should not be inclined, I think, under any circumstances, to direct the introduction of other evidence than that which was before the Commissioner. Certainly in this case, at this stage of it, I should be unwilling to give an order for the taking of testimony for its continuance as the counsel upon one side of the case have asked.

Now, as to whether, in my judgment, I shall or shall not deem it my duty upon the case, as it is before me, to sign or withhold my signature from the patent, I shall express no opinion. It will, perhaps, be time enough to express an opinion when the papers are presented to me for signature; but, if the counsel will rest the case upon its present argument, when I reach it by the presentation of the patent I will decide it. If they wish to argue that question farther, at an early day I will hear it, if they agree upon the time. So that, virtually, if I make myself understood, I decline to grant either of the motions that have been submitted to-day; either to dismiss the case or continue it, and allow additional testimony to be taken in it. I recognize the fact that to the Commissioner is entrusted, in the first instance, the duty of examining and deciding upon all questions that arise before him in his office, and are presented to him, but I am unable to bring my mind to the conclusion that it would be my duty to sign a patent because in his best judgment he had directed it to be issued, if I, on the evidence in the case as presented to me, should be of the opinion that his conclusions were clearly and distinctly erroneous. I do not say anything about what I should do in a doubtful case.

I do not desire to express any opinion at present in any other terms than those I have used, namely, that if the facts in the case, as presented by the record sent by the Commissioner to me, should satisfy me that it was wrong to issue a patent, I certainly could not conscientiously attach my name to it. I distinctly reserve the expression of and opinion in reference to my convictions as to whether this patent should or should not be issued. I am inclined to think that in no case should I undertake to direct the Commissioner as to his future proceedings after I had determined to withhold my signature from a patent presented.

In conclusion Secretary DELANO notified the counsel of all parties interested that he would allow fifteen days for the preparation of printed arguments on the merits of the case on the record; after which ten days' further time will be allowed to counsel to file replies to each other's briefs.

A Candidate for the Big Leather Medal.

The following dispatch from Washington, which appears in the *Springfield Republican* of April 20, must have been contributed by the agent of the Society for the diffusion of useless misinformation:

WASHINGTON, Monday, April 19.

The quadruplex telegraph case is again before Secretary Delano, that official claiming the right to revise and reverse the action of the Commissioner of Patents. Edison was the patentee, but a joint application for the patent was made by Edison & Prescott. Edison withdrew from the firm and sold his claims to the Automatic Telegraph company; Prescott sold his to the Western Union. The Commissioner of Patents having decided in favor of Edison as sole patentee, Mr. Delano is appealed to to overrule. Senator Conkling appears for the Automatic, and denies the Secretary's jurisdiction; Gen. Butler for the Western Union. Mr. Delano allows 25 days for the presentation of arguments.

As a slight correction of the above, it may be noted that the case was not *again* before Secretary Delano, it being the first time this or any other patent had ever been carried before him in this manner; also that he did not set up any claim to revise and reverse the Commissioner's action. A joint application for the patent was not made by EDISON & PRESCOTT. EDISON did not withdraw from the firm, nor sell his claims to the Automatic company, but to the Western Union. The Commissioner of Patents did not decide in favor of EDISON, but against him. Senator CONKLING did not appear for the Automatic, but against it, nor did General BUTLER appear for the Western Union, but for EDISON and against the Western Union, so far as they may be supposed to be interested in the success of Prescott's claims. Otherwise the statement is not essentially inaccurate. It reminds one of the savans of the French Academy, who were getting up a dictionary, wherein they defined a crab as "a small red fish, which walks backward." On submitting this definition to CUVIER, the celebrated naturalist, the latter remarked: "Gentlemen, the crab is not a fish, it is not red, and it does not walk backwards; with these exceptions your definition is sufficiently accurate!"

The Underground Telegraph Bill.

WE are informed that the Committee of the Assembly of this State, to whom was referred Mr. DALY'S bill requiring telegraph companies to put their lines in New York City and Brooklyn underground within a specified time, are unanimously opposed to reporting it favorably.

Personals.

Mr. C. K. HAGE, formerly operator in the N. C. Railway office at Harrisburg, Pa., has been appointed operator in the General Supt's office of the Philadelphia and Erie R. R., at Williamsport, Pa., *vice* Mr. J. M. McCASKEY, resigned.

Mr. HARRY SCHALK has been appointed day operator in the Division Supt's office, Eastern Division of Philadelphia and Erie R. R., to work the through wire. He was formerly night operator in the same office.

Mr. ALLEN D. SMITH has been appointed night operator in the Division Supt's office, of the Eastern Division P. & E. Railway.

Mr. C. T. SKINNER has been appointed day operator at Allen's, P. & E. Railway, *vice* Mr. J. F. BARKY resigned.

Mr. CHARLES F. KISSINGER, formerly agent at Selin's Grove, for the S. & L. R. R., has been appointed extra operator on the Eastern Division of the P. & E. R. R.

Mr. CHAS. F. GOLDEN, day operator at Round Island, has been transferred to Johnsburg, *vice* Mr. EUGENE K. STEVENS, who has accepted a position in the night office of B., N. Y., & P. Junction, in place of Mr. J. L. MILLER.

Mr. HOWARD LAUGHTON, formerly operator at Cameron, Pa., has taken the position of day operator at Round Island, Pa., on the P. & E. R. R., made vacant by Mr. GOLDEN.

Mr. J. L. HERRON has been appointed agent and operator P. & E. R. R., at Cameron, Pa.

Mr. H. C. ROBINSON, formerly assistant manager of the Philadelphia, Pa., Western Union office, has

been appointed manager in place of Mr. JAMES MERRIEW, promoted to Superintendent.

President ORTON, of the Western Union Telegraph Co., arrived at Liverpool on the 7th inst. in excellent health.

The Telegraph.

Opening of the Southern and Atlantic Company in Boston.—Improvement of the Quadruplex.

THE Southern and Atlantic Telegraph company have opened an office at No. 27 Devonshire street, Boston, of which Mr. Joseph A. Elms, heretofore an operator of the Western Union office, has been appointed manager. The S. & A. Co. lease a line from Boston to Washington, D. C., from the Western Union company, as a part of the arrangement between the two companies. It is also rumored that the S. & A. Co. lease from the Western Union a line from Boston to Portsmouth, N. H., to connect with the direct cable. No. 31 is the wire between Boston and New York which has been turned over to the S. & A. Co. by the Western Union. Of course this new combination gives rise to all sorts of reports in regard to the future operations of the two companies, especially in connection with the new cable.

The quadruplex, through the ingenious improvements of Mr. Gerritt Smith, Assistant Electrician of the Western Union company, is now stated to be a success beyond a doubt, the four sides working perfectly, and at as high rate of speed as four single Morse circuits. The feasibility of working the combination printer on the quadruplex has been demonstrated by trials between Boston and New York, and it is understood that the two printer circuits are hereafter to be worked on one wire.

Foreign Telegraphic Notes.

THE report of the Brazilian Submarine Telegraph company shows that the total earnings for the half year were £60,027, and the working expense £10,463, leaving £50,164 as profit, which, with £2,586 (the net profit before the 1st July, 1874), makes a total of £52,751. First and second interim dividends, amounting to £32,500, have been paid, leaving, after deducting £439 for income tax, a balance of £19,811 to be carried forward.

The Channel Islands Telegraph cable, belonging to the British postal telegraph system, repaired only a few months ago, is again broken. The break is supposed to be nearer to the Guernsey shore than the last one; and it is probable that, owing to the difficulty of obtaining a suitable cable ship, some little delay may be experienced in carrying out the necessary repairs, if, indeed, it be not found necessary to renew a considerable portion of the cable. Telegrams will, as on former occasions, be conveyed as speedily as possible by the mail steamers from Weymouth and Southampton, and, of course, the route by way of France is still open for telegrams by wire over the whole distance.

The total number of messages forwarded from postal telegraph stations in the United Kingdom during the week ended March 27, 1875, was 332,257, a decrease of 27,285 on the corresponding week of 1874.

The suspension of Mr. W. T. Heuley, of Woolwich, the telegraph engineer and contractor, is alleged to be owing to the loss of the La Plata.

The number of messages passing over the Cuba Submarine Telegraph during the month of March was 2,686, estimated to produce £2,700, as against 889 messages producing £908 in the corresponding month of last year.

Telegraphic communication is now established between all the important cities in Japan.

Advices from Shanghai, China, of March 17th, state that work on the Fuchas telegraph line continues to be interrupted, and considerable additional property of the company has been destroyed by mobs.

The ordinary half yearly meeting of the Anglo-American Telegraph company was held April 9, in London, when the report of the directors was adopted. At the extraordinary meeting, which was subsequently held, to consider the propriety of dividing the stock into preferred and deferred, no resolution upon the subject was submitted, it being understood that the directors had a majority of proxies in opposition to such proposal.

The total number of messages forwarded from postal telegraph stations in the United Kingdom for the week ended April 3, 1875, was 375,821, an increase on the corresponding week last year of 61,048.

It is reported from St. Petersburg that at the coming Telegraphic Congress the question will be raised

of special treaties for preserving telegraph wires in time of war, or, in other words, of their neutralization.

At a meeting of the directors of the Globe Telegraph and Trust company the following interim dividends have been declared for the quarter ending the 18th inst. On the preference shares 3s. per share, being at the rate of 6 per cent. per annum, and on the ordinary shares 2s. 6d. per share, being at the rate of 5 per cent. per annum.

The directors of the Eastern Extension (Australasia and China) Telegraph Company have resolved to declare a final dividend of 4s. per share, making, with the three interim dividends already paid, 6½ per cent. for the year ending 31st December, 1874, free of income tax, carrying forward to reserve fund £32,839, making a total reserve of £75,453.

The directors of the Western and Brazilian Telegraph Company have declared an interim dividend of 5s. per share for the quarter ending the 31st of March last, payable on the 15th inst.

The traffic receipts of the Direct Spanish Telegraph Company for March, 1875, amounted to £1,475, against £1,104 in February.

The traffic receipts of the Eastern Telegraph Company for the month of March, 1875, amounted to £33,285, against £31,899 for the corresponding month of 1874.

The traffic receipts of the Eastern Extension (Australasia and China) Telegraph Company for March, 1875, amounted to £18,730, and for the corresponding month last year £19,530.

The receipts of the Submarine Telegraph Company for the month of March, 1875, amounted to £9,289. The receipts for the corresponding month of 1874 were £9,561.

The half yearly meeting of the Mediterranean Telegraph Company was held on March 9th at the London Tavern. The report stated that the cables and land lines of the company had been maintained in perfect order, and so remained, at a small outlay. The directors recommended the payment of the usual half yearly dividend on the 8 per cent. preference stock of the company, less income tax, and of a dividend at the rate of 3 per cent. per annum on the ordinary share capital, free of income tax, payable on and after the 15th inst., which would leave £501 to be carried to the reserve fund. The Chairman, in moving the adoption of the report, said the traffic had fallen off very considerably from the competition of the Eastern Telegraph Company. They had hopes that some of the lines contemplated would enable them to make a better show by the next meeting. There was a talk of some lines being constructed that would be beneficial to the company. Their line to Modica was laid down sixteen years ago, and was now in excellent order. The report was adopted.

The Direct United States Cable.

At the ordinary general meeting of the shareholders of the Direct United States Cable Co., recently held in London, the chairman, Mr. Edward H. Lushington, after explaining the present condition of the cable, the causes for its non-completion, etc., as expected, said:

"While we have to deplore the delay in the completion of the cable, the time has been profitably employed by the board for the benefit of the company. In the first instance, we have endeavored to keep our expenses as low as possible. Staff has been engaged with the provisional condition that an increase of their salaries would not commence until the cable was actually in working order. We have engaged agents, and have been occupied with the formation and consolidation of business connections in the United States and elsewhere, which we trust will bring us in plenty of work as soon as our cable has been laid. We have hired premises immediately opposite the Stock Exchange in Throgmorton street, which have already been fitted up with instruments, and where our staff are daily employed in working these instruments. We have got a line constructed from the post office authorities direct from Throgmorton street to Bollinskelligs Bay, to join our submarine cable, then via Nova Scotia to New Hampshire, and from New Hampshire we have laid lines direct into our office in New York. Our office there is as favorably situated for business as is our office in London."

Quadruplex Funds Distributed.

It is said that a young man named Fox, employed by Edison & Murray, of Newark, N. J., has departed with \$500 in cash belonging to the firm. The professor will evidently have to sell the quadruplex once more to replenish his finances.

New Patents.

OFFICIAL COPIES of any U. S. Patent issued since July 1st, 1871, including drawings, specifications and claims in full, sent free to any address for 25 cents each. Address F. L. POPE, P. O. Box 5503, New York City.

For the week ended March 2, 1875, and bearing that date.

160,402.—SOLUTIONS FOR CHEMICAL TELEGRAPH PAPER.—Thos. A. Edison, Newark, N. J., assignor to himself and George Harrington, Washington, D. C. Filed June 1, 1874.

The solution for chemical telegraph paper, prepared with ferricyanide of potassium, substantially as set forth.

160,403.—SOLUTIONS FOR CHEMICAL TELEGRAPH PAPER.—Thos. A. Edison, Newark, N. J., assignor to himself and George Harrington, Washington, D. C. Filed June 1, 1874.

The solution for chemical telegraph paper, prepared with tannin and hydrosulphuret of ammonia, substantially as set forth.

160,404.—SOLUTIONS FOR CHEMICAL TELEGRAPH PAPER.—Thos. A. Edison, Newark, N. J., assignor to himself and George Harrington, Washington, D. C. Filed June 1, 1874.

The solution for chemical telegraph paper, prepared with tincture of logwood, substantially as set forth.

160,405.—ADJUSTABLE ELECTRO-MAGNETS FOR RELAYS, &c.—Thos. A. Edison, Newark, N. J., assignor to himself and George Harrington, Washington, D. C. Filed July 29, 1873.

The variable resistance *b*, placed in a shunt circuit, in combination with an electro-magnet for equalizing action of the current in the electro-magnet and dispensing with the spring adjustment, as set forth.

160,442.—PRINTING TELEGRAPHS.—Adolphus A. Knudson, Brooklyn, N. Y. Filed August 18, 1874.

Improvement in Knudson's Patent No. 140,143. Type-wheel escapement, controlled by rapidly alternating pulsations. Prolongation of current allows extended poles *l k* to attract armatures *n m*, one accomplishing the printing, the other straining spring *u* to furnish the power to turn type-wheel.

The combination, in a printing telegraph instrument, of two magnets in one circuit, and a polarized armature between them operating the escapement, a printing or impression lever receiving motion from a lateral core and armature, and self-winding mechanism receiving its power from lateral cores and another armature, substantially as set forth.

160,495.—ELECTRIC MOTORS.—D. Williamson, Greenville, N. J. Filed Jan. 8, 1875.

Upon a sliding sleeve on the fly-wheel shaft are two disks, the cut-away portions of which oppose one another. These disks allow conducting pieces, each connected with its magnet and attached to swinging arms, to come into contact at proper times with a metallic disk connected with one pole of the battery. When the disks are in position, so that the swinging arms rest upon both disks, the machine comes to rest, and, according as one or the other of the disks revolves under the swinging arms, the revolution of the shaft is to the right or to the left.

1. The cushions or bumpers *d* in combination with the magnets and armature levers, substantially as and for the purpose specified.

2. The cams *L L'*, attached to the adjustable slide *K*, in combination with rollers *n* or equivalents, as and for the purpose described.

3. The cams *L L'*, arranged as described, in combination with the slide *K*, arms *m*, rollers *n*, springs *t*, and bars *s*, substantially as and for the purpose set forth.

4. Two or more cross-bars, *s*, in combination with the fixed insular device *k* and *h'* and the sliding cams *L L'*, whereby the currents are completed and broken, dispensing with all friction, for the purpose herein described.

5. The magnets *D1, D2, D3* and *D4*, and levers *E1 E2*, in combination with pitman *G1 G2*, crank *d*, and pin *b* and shaft *B*, all as and for the purpose herein described.

REISSUE.

6,318.—ELECTRIC RAILWAY SIGNAL APPARATUS.—Henry W. Spang, Reading, Pa. Patent No. 141,395, dated July 29, 1873. Filed Nov. 12, 1873.

Uses Geissler tubes for night visual signals.

1. A Geissler tube, or its equivalent, illuminated by electricity, in combination with a track or railway switch circuit-closer, for general railway signal purposes.

2. In combination with a track or railway switch circuit-closer, a visual signal illuminated by an induced electrical current.

3. In combination with a railway signal apparatus and a track or railway switch circuit-closer, a visual signal illuminated by an induced electrical current.

For the week ended March 9, 1875, and bearing that date.

160,739.—HYDRO-ELECTRIC LAMPS.—Wm. H. Zimmerman, Chestertown, Md. Filed Jan 11, 1875.

Lamp is lighted by a flame of hydrogen gas, which is itself ignited from a platinum wire rendered incandescent by passage of electric current. The gas generating reservoir forms the base of the apparatus, and a frame extending from it supports on one side the battery for generating the electricity, and on the other the coal oil lamp.

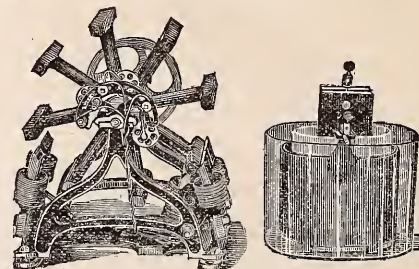
The hydro-electric lamp, consisting of a hollow base or pedestal *A*, for forming the Döbereiner apparatus, the coal oil lamp *B*, the battery *E*, and the supporting frame *W I F*, all combined and arranged substantially as and for the purpose described.

Born.

REED.—To the wife of Mr. DAVID B. REED, of Driftwood, Pa., April 10, 1875, a daughter.

WILLIAM BROWNLEE,
Dealer in
CEDAR TELEGRAPH POLES.
OFFICE, FOOT OF SHELBY STREET,
DETROIT, MICHIGAN.

BASTET'S NEW ELECTRICAL MOTOR AND BATTERY.



For Sewing Machines, Church and Parlor Organs, Small Printing Presses, Pumps, Lathes, Dentists' Instruments, or any Light Machinery.

My new ELECTRICAL BATTERY is the most powerful for quantity and durability manufactured, and does not crystallize the carbons. For Electroplating, Telegraph ng, and for Motive Power, it cannot be surpassed.

Our No. 1 Engine, for Sewing Machines, with four cells of Battery, is furnished for \$40.

Other Motors at prices proportional to power required.

BATTERY, No. 1 Cells \$5.
" No. 2 " " 10.

L. BASTET,
116 Fulton Street, New York.

SAWYER'S BATTERY TOP.

(Patent applied for.)

JAR RENDERED ABSOLUTELY AIR TIGHT.

NO EVAPORATION. NO MORE OIL.

ONLY SURE METHOD EVER DEvised.

We are prepared to fill orders for any size at short notice,

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Baltimore.

PROTECTION OF TELEGRAPH WIRES.

Cables and Instruments Protected from Lightning.

THE GLOBE LIGHTNING ARRESTER.

The season of the year when Telegraph Wires, Cables and Instruments are peculiarly exposed to danger from Excess of Atmospheric Electricity has come. Every prudent Manager of telegraph lines will insure

Protection Against Damage

By the use of Suitable and Reliable

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as can be made. They should be generally introduced and used. Price \$4.

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LECLANCHE BATTERIES.

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After JANUARY 1st, 1875, we will allow TWENTY CENTS for each used-up Porous Cell of this Battery that is returned to us free of charge, in good order. A change is made in the discount to the trade. A list will be furnished on application to

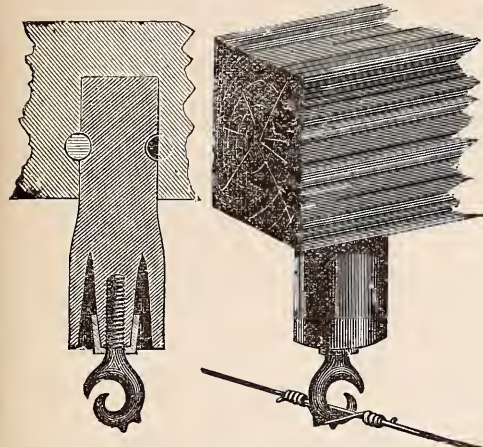


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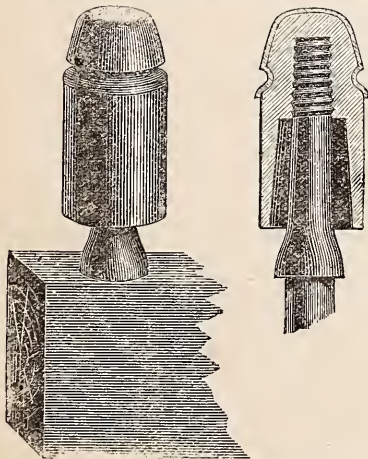
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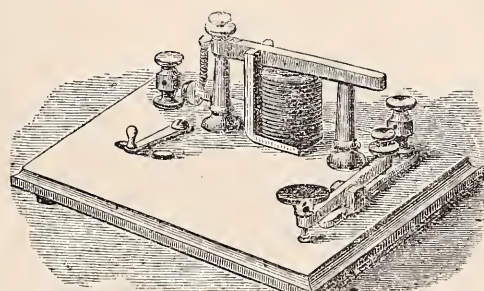
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has met with the universal approbation and commendation of the

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is spared by the Proprietors to obtain and secure **ANY POSSIBLE IMPROVEMENT** which shall increase the

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of the system. They intend that, as far as possible, it shall be

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but that, in every community where it has been introduced for any considerable length of time, they have been enormous, **THREE CAN BE NO QUESTION.**

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THE TELEGRAPHER

A JOURNAL OF

ELECTRICAL PROGRESS.

J. N. ASHLEY, PUBLISHER.

SATURDAY, MAY 1, 1875.

VOL. XI. WHOLE No. 459.

The Quadruplex Telegraph.*

BY F. W. JONES.

Just one hundred years ago George Louis Lesage, of Geneva, constructed a telegraph composed of twenty-four line wires, corresponding to the twenty-four letters of the alphabet, and by the use of frictional electricity and pith balls, succeeded in transmitting intelligible signals over the wires to a distance.

Numberless experiments by different philosophers followed in quick succession with a view of establishing means of rapid communication between widely separated places, but none of the systems that were devised proved anything more than scientific toys.

It remained for Morse, in 1844, to establish a system which was to stand the test of actual experience.

During the same year considerable activity in experimenting was also manifested in England. The first line of any length was constructed between London and Gosport, on the London and Southwestern Railway, but it was two years later before lines were extended for commercial purposes.

In our own country, starting with one wire between Baltimore and Washington in 1844, we can now boast miles enough of telegraph wire owned by the various companies to encircle the globe about ten times. Chicago had its first wire in 1847, and now the Western Union Chicago office alone works 72 long circuits stretching in every direction to all parts of the country, besides 30 metropolitan and 60 private lines.

So far from adhering to first principles in the use of twenty-four wires for the transmission of a single message, the hour is at hand when twenty-four messages can be transmitted simultaneously over one wire.

At the present time four messages are sent at the same time a distance of nearly one thousand miles, with the utmost ease and certainty, at the rate of 120 words per minute.

The wonderful instrument performing this miracle in telegraphy is *The Quadruplex*, an invention of Messrs. Prescott and Edison, electricians. It is based on the same principle as the Bridge Duplex, comprising all its main features, and in order to render a description of the Quadruplex easier and more comprehensible, I will briefly review the duplex system. Authors do not agree in their account of the origin of the duplex; some refer it to Dr. Gintl in 1853. It is well established, however, that experiments were made by the Electric Telegraph Company, of England, in 1853, but their system did not prove of any advantage, and it fell into disuse about the same time Gintl, Siemens, and Frischen directed their efforts towards perfecting a duplex, and many Russian stations were fitted up with their instruments; but, from the fact that no gain was realized over single transmission, the stations were refitted with the ordinary Morse. Mr. De Sauty, in 1855, successfully worked the Frischen-Siemens system between Manchester and Altringham. He only accomplished ten words per minute against sixteen by the single Morse.

In 1856 attempts were made to work the duplex between London and Birmingham, on the Magnetic Company's wires, and the signals were improved by using a condenser; but the experiments ceased, for the reason that Mr. Gordon, of the firm of R. S. Newall & Co., to whom the English patents belonged, did not deem the addition of condensers of sufficient value to warrant the expense of their construction.

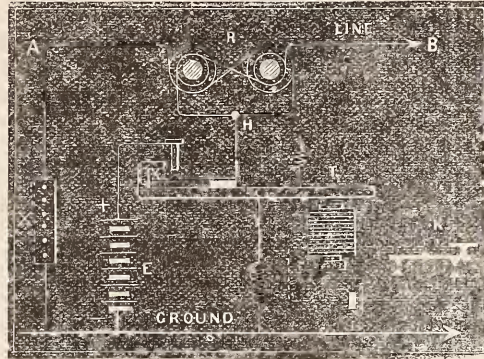
In 1868, the duplex was revived by J. B. Stearns, of Boston, and was actually worked on one of the wires of the Franklin Company. His system, which I will now describe, does not differ materially from those that have preceded it, save in the application of an improved form of double pointed key or transmitter, and, more recently, condensers, whereby long line difficulties were entirely overcome, and the carrying capacity nearly doubled.

A relay is wound throughout with two separate wires, the outer end of one and the inner end of the other are brought directly to the double pointed key.

One of the opposite ends of these wires is connected to the line, and the other to a rheostat and ground of resistance equal to the resistance of the line.

The transmitter, or double pointed key, is arranged to be in contact with battery when the lever is depressed, and with ground when elevated—one contact always taking place, through spring contrivances, before the other ceases; thus the line is always on battery or ground.

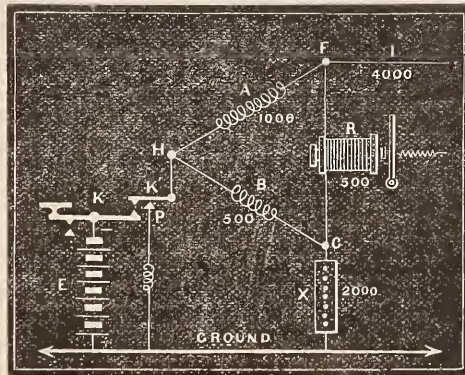
Supposing B, the distant station, to have his key open, the transmitter, which his key opens, keeps the line grounded through one wire of his relay. When Station A closes his transmitter, the current passes therefrom to the relay, and there divides in two direc-



tions; one part goes by one coil of the relay to line, and the other part by the second coil of relay to rheostat and ground. The resistances being equal in these two directions, an equal quantity of current flows through them; but, as they pass oppositely around the core no magnetic effect is produced, and the armature is not attracted from the back stop.

The current arriving at station B passes through one coil of his relay to transmitter and ground, causing his armature to move forward and close the recording sounder. At this moment, should B close his transmitter, he will divide his battery between rheostat and line, as was done at A, and feel no effect from it upon his own armature—one part exactly neutralizing the other; but currents being on the line, there is now double the quantity there was when B was open, consequently through the line coil of either relay, there is more current than there is flowing through the rheostat coils; therefore, the cores of each relay become magnetized by this difference, and signals are recorded simultaneously at each station.

As soon as this system was tried on long lines a kick was experienced on the armatures, rendering the signals totally unreliable. This was caused by the discharge of return current through relay, and depended for volume on the static capacity of the line. A familiar illustration of this may be had by supposing a straight



pipe to connect two points in the same plane, and at one end of the pipe water is forced through at a high pressure; if the pressure is suddenly removed and the pipe left open at each end, part of the water in the tube will return and empty itself, in preference to overcoming the friction of the distant portion of the tube.

Electricity, in a long and well insulated conductor of large metal cross section, will flow through to the distant end and to ground so long as battery contact is maintained; but let the battery be suddenly removed and a ground substituted, part of the charge at that instant left in the conductor will return to ground in preference to passing through the whole resistance of the line to the farther end. This return is the kick that causes so much vexation to telegraphers. By the use of condensers the kick has ceased to annoy, and five hundred mile circuits are now worked as well as those of one hundred.

It will be readily comprehended that the few coils of fine wire of which a rheostat is composed have not the static or charge capacity of a long line, the metal

of one weighing only a few ounces, that of the other perhaps a hundred tons of a superior conducting metal, therefore no return charge or kick is felt from the rheostat; but by attaching to the rheostat a condenser whose static capacity is nearly equal that of the line a charge will be returned from it, at the same moment that the battery charge returns from the line, thus destroying all kick in the relay by neutralizing each other's tendency to magnetize the cores.

This system can be worked as well with the same poles of battery to line as with opposite or "agreeing" poles. When both stations send positive currents they neutralize each other on the line side, allowing the currents in the rheostat coils of relays at the home ends to move the relay tongues and record the signals, the same as if both currents combined on the line.

Next in order to the differential duplex comes the bridge duplex, founded on the principle of the Wheatstone Bridge. This method was adapted on the Gibraltar and Lisbon cable in April, 1872, by Mr. De Sauty, the electrician of the Eastern Telegraph Company at Gibraltar, at the suggestion of Mr. W. H. Preece, of England.

The length of the cable is 360 nautical miles, and worked by mirror galvanometer and syphon recorder. Mr. De Sauty was from March 16th, 1872, until April 11th of same year before he made it a success, so much trouble being felt from the static discharge; this he overcame by making his rheostat circuit similar to the cable in static capacity, dividing his resistance and interspersing his condensers, so that they would return a proper charge at the exact time it was returning from the cable. Thus he made himself master of the situation, and has since duplexed other cables, including the Mediterranean cable from Gibraltar to Malta.

In the *Journal of the Telegraph*, Sept. 1st, 1873, is described the bridge duplex as a recent invention of J. B. Stearns of Boston, and as this system is intimately connected with the quadruplex, a brief notice of the former is necessary to make plain the latter.

The bridge duplex embodies the principle of the Wheatstone balance, wherein a current dividing between two circuits, which are connected by a cross wire or bridge, no current will flow over the bridge if the resistances of the circuits on each side of the bridge are equal, or be the same proportion to each other.

By reference to the diagram it will be seen that when transmitter K is closed the current it sends out will divide at point H; one part going over line and the other part via B and rheostat to ground. Now, if the resistance of these two circuits is equal no current will pass over the bridge wire F C, consequently the relay R will be unmoved. When the current arrives at distant end it divides at F, between the transmitter and rheostat X, in inverse proportion to the resistance of respective routes; the portion passing through F C operates the relay R, and records the signals, and so when distant station closes his transmitter a double amount of current flows through the line, producing unequal tensions in the line and rheostat sides of the bridge, causing a current to flow across each bridge and close the relays, recording signals at each end simultaneously.

Towards the close of 1874 it was noised abroad that a quadruplex had been put into successful operation between New York and Boston by Messrs. Prescott and Edison, electricians. More recently it has been put into actual use between New York and Chicago, through a repeater at Buffalo, and between Chicago and Cincinnati—the former distance being nearly one thousand miles, the latter three hundred miles. As previously stated, it has for its foundation the bridge duplex. In the bridge wire of the duplex there are two relays—one is a common relay of very short cores and moderately low resistance, capable of being affected only by strong currents. The other is a Siemens polarized relay, which is sensitive to feeble currents, and is so constructed as to allow the tongue to be thrown on the back or open stop when a current of a certain polarity passes through its coils, and on the front or closing stop when a reverse current passes. There are two separate transmitters brought into use in double transmission from either end. The double transmitter is a pole changer having one spring connected to line and the other to ground. The contacts with each spring are connected crosswise with the smaller portion of main battery through the spring and lever of the single transmitter, which has an additional section of battery inserted between the lever and its closing contact point. When both transmitters are open the smaller part of the battery will be presented to the line. The current flowing therefrom will divide between the sides of the bridge—one part passing to rheostat and earth, the other passing over line and dividing between the bridge wire and the transmitter ground at receiving end. The portion crossing the bridge will push the tongue of polarized relay on the back stop, but will not affect the common or neutral relay for reasons before stated. If the double transmitter at sending end be closed the same portion of battery is reversed in circuit, deflecting the tongue of polarized relay at distant end to the front or closing

* Read before the meeting of the American Electrical Society, at Chicago, Ill., Feb'y 17, 1875.

stop, thus recording a signal. The second transmitter merely cuts in or out of circuit an increased portion of battery, sufficient to close the distant common relay, and the movements of the first or double transmitter wholly determine the polarity sent to line; when the double transmitter is up and the single one closed the latter cannot record a signal on the polarized relay at the remote station, for the reason that the current is of the wrong polarity; the same effects take place at the home station under similar manipulations at the distant end. Here then is the curious possibility of one operator having his key open, a second his key closed, the third making a dot, and the fourth a dash at the same time, and the respective positions being recognized fully at opposite ends.

Under the supposition that the batteries are divided into proportions of 50 cells and 150 cells the following changes of polarity and quantity will take place on the line during transmission from both stations: 50 plus and 50 minus, 50 plus and 50 plus, 50 plus and 200 minus, 50 plus and 200 plus, 50 minus and 200 plus, 200 minus and 200 plus, 200 minus and 200 minus, 200 plus and 200 plus.

These constant variations and reversals taking place through the relay coils tend to produce in them an unsettled magnetic condition causing the movements of their armatures to be unsteady and unreliable for signals. To remedy this the bridge wire is supplied with a condenser which is charged by the same currents that work the relays, and so soon as they are withdrawn from relays the condenser discharges before a reversed current reaches them, thus prolonging the signals and preserving a magnetic equilibrium of the cores.

The condensers connected to the equating rheostat require the nicest adjustment to exactly neutralize the static discharge from line. Compared with the differential system the percentage of effective signalling current on the quadruplex is very low, and is divided between two relays in the same circuit, therefore the utmost care is necessary in balancing and arranging the different adjustments to bring out its full value. During actual service it requires great vigilance and an intelligent supervision, else it will fail to even duplex the capacity of a wire. When depended on to do the work of four wires it will be readily seen how grave would be the smallest delay, hence it behooves managers to familiarize themselves thoroughly with every part, in order to render the proper service of the quadruplex to the companies by whom they are employed.

Other methods of quadruplex have been devised, but have proved of no practical value. That of M. Meyer, of the French Telegraph administration, exhibited at the Vienna Exposition is the most notable transmitting four messages over one wire in the same direction, but its best performance was only 110 ordinary messages per hour. Dr. H. C. Nicholson, of Mt. Washington, near Cincinnati, has also constructed a quadruplex for transmitting two messages in opposite directions over one wire at the same time. His system is on the differential principle. The outgoing currents passing in opposite directions around the home relay produce no effect on its cores. Two keys are used and are so arranged as to send current to line in the following order: When one key is depressed a positive current of given tension, when the other is closed a negative current of equal tension when both keys are closed simultaneously a positive current of double the tension of that sent by a single key.

The relay has horizontally and side by side two straight cores wound differentially, and at either end are permanently magnetised armatures. One is placed horizontally on a tongue in front of the poles at one end, and the other armature swings vertically on an axis between two semi-circular extensions of the poles opposite those facing the first described armature. Both armatures are so polarized that when one is attracted by a current of certain polarity passing through the coils the other is repelled. In order to balance for work, the distant station is asked to open both keys. This removes his batteries and grounds the line through his instruments. At the home station dots are struck on either key, and the equating rheostat is so adjusted that an even division of current is made through the relay between line and ground, neutralizing all magnetic effect in the cores. Condensers must be used for static discharge the same as in duplex system. The distant station is now asked to dot on positive key, which sends a current attracting the corresponding armature at the home end, closing the local points and recording a signal. Then the distant station dashes on the negative key, closing the armature of home relay at the end opposite the one operated by the positive key, and recording a signal on sounder by contact. When both keys are closed at once the tensions of their batteries are doubled and of positive polarity. This causes a double force to act on the agreeing armature which presses forward a spring, thus closing not only its own sounder but also the one in the connection with the opposite armature recording signals simultaneously. The weak points of this system seem to lie in the constant and uneven

reversals of the current during transmission producing an unsettled condition in the cores; uncertainty of action between the armatures and the imperfect mechanical contrivance for transferring the operation of the sounder from one tongue of relay to the other.

What may yet come of this system is a problem for future solution. It has worked moderately well on a rheostat circuit of 6,000 ohms, but has disappointed the expectation of its friends on an actual line circuit, probably on account of its infancy and want of a thorough test.

How a Lightning Rod Man was Sold.

KEYSER had lightning rods placed upon his barn three or four years ago; but during last summer the building was struck by lightning and burned. When he got the new barn done a man came around with a red wagon and wanted to sell him a set of Bolt & Burnam's patent lightning rods.

"I believe not," said Keyser, "I had rods on the barn at the time of the—"

"I know," exclaimed the agent. "I know you had, and very likely that's the reason you were struck. Nothin's more likely to attract lightning than worthless rods."

"How do you know they were worthless?"

"Why, I was drivin' yer in the spring, and I seen them rods, and I says to myself that barn 'll be struck some time, but there's no use in tryin' to convince Mr. Keyser, so I didn't call. I knowed it, because they had iron tips. A rod with iron tips is no better 'n a clothes prop to ward off lightning."

"The man who sold them to me said they had platinum tips," remarked Mr. Keyser.

"Ah! this is a wicked world, Mr. Keyser. You can't be too cautious. Some of these yer agents lie like a gasometer. It's awful, sir. They are wholly untrustworthy. Them rods was the most ridicklus sham I ever see. A regular gouge. They wa'n't worth the labor it took to put 'em up, they wa'n't; now that's the honest truth."

"What kind do you offer?"

"Well, sir, I've got the only genuine lightning rod that's made. It's constructed on scientific principles. Professor Huxley says it's sure to run off the electric fluid every time. Twisted charcoal ion, glass insulators, eight points on each rod, warranted solid platinum. We give a written guarantee with each rod. Never had a house struck since we began to offer this rod to the public. Positive fact. The lightning 'll play all around a house with one of 'em and never touch it. A thunder storm that'd tear the bowels out of the American continent would leave your house as safe as a polar bear in the middle of an iceberg. Shall I run you one up?"

"I don't know," said Keyser, musingly.

"I'll put you up one cheap, and then you'll have somethin' reliable. Somethin' there's no discount on."

"You say the old rod was a fraud?"

"The deadliest fraud you ever heard of. It hadn't an ounce of platinum within a mile of it. The man that sold it ought to be prosecuted, and the fellow that put it up without insulators should be shot. It's too bad the farmers should be gouged in this sort of way."

"And Bolt & Burnam's rod is not a fraud?"

"A fraud? Why, really, my dear sir, just cast your eye over Professor Huxley's letter and these certificates, and remember that we give a written guarantee—a positive protection, of course."

"Just cast your eye over that," said Keyser, handing him a piece of paper.

"Well, upon my word! This is indeed somewhat—that is to say it is, as it were—it looks—it looks a little like one of our own certificates."

"Just so," said Keyser. "That old rod was one of Bolt & Burnam's. You sold it to my son-in-law; you gave this certificate; you swore the points were platinum, and your man put it up."

"Then I suppose we can't trade?"

"Well, I should think not," said Keyser. Whereupon the man mounted the red wagon and moved on.—*Danbury News.*

An Ex-Telegrapher on the Scaffold.

VASQUEZ, the bandit who was executed at San Jose, California, recently, was formerly a telegraph operator. Lately he became identified with a murderer band, and finally became its leader. His demeanor while in prison was marked by composure and gentleness, characteristics which never deserted him. He took his place on the scaffold like a martyr dying in a good cause, and gave up his life without a struggle or murmur. He declared to the last that he was guiltless of bloodshed, but acknowledged the fitness of his death, as he had headed a bad and desperate band.

Winter lingers in the lap of Spring this year with a vengeance.

Correspondence.

We do not hold ourselves responsible for the opinions of our Correspondents. Our columns are open to free discussions on all Telegraphic subjects, without distinction of person or opinion.

No notice will be taken of anonymous communications.

Changes in the Chicago, Ill., Western Union Office.—Report of Proposed Resignation of Dist. Sup't Col. J. J. S. Wilson not correct.

CHICAGO, ILL., April 26.

TO THE EDITOR OF THE TELEGRAPHER.

I AM creditably informed that the following changes will take place in the management of the Western Union office here May 1st.

Mr. Summers will retire from the temporary management of the operating department, and Mr. H. C. Maynard, present night manager, will assume the duties of manager of the whole operating department. Mr. F. W. Jones, the present electrician of the office, will be advanced to the position and emoluments of assistant manager day fore. Mr. York is reduced in rank to a position at the key. Messrs. Sholes and Plum are affected, in so far as Mr. Jones being advanced over them, and with probably a reduction of salary in the case of Mr. Sholes, and an assignment of new duties. Mr. Springer, present assistant night manager, will be advanced to fill the vacancy caused by Mr. Maynard's promotion. Mr. W. A. Leary, who for some time past has been looking after the interests of the way business nights, without any special title, will be promoted to second assistant night chief operator, Mr. Kelly taking the position of first night chief, or assistant night manager. Probably no one in the company's employ here is any better, if as well, fitted to assume the management of such an important office as Mr. Maynard, and certainly no better selection could have been made than that of Mr. Jones as assistant; his well known qualification as an electrician, and a perfect gentleman in every respect, are known and appreciated by all who come in contact with him. With Messrs. Maynard and Jones at the head of this department the company can depend upon their interests being well taken care of, while the operators under them can expect full justice in every case, and an appreciation of every effort they make for the interest of the company and their own advancement. While, of course, the operators deeply feel the reduction in position of the other chief operators, and regret that in the rearrangement of the office such a course was thought to be necessary by those in authority, it is not policy for them to show any feeling in the matter. Messrs. Sholes and York are among the oldest employes here, 'tis true, and as far as the rank and file are aware, have always been faithful to their trust. Mr. Sholes especially, being a very strict disciplinarian, but it is not becoming in an employe to sit in judgment on the action of his superiors, and we would advise all those who feel sore over the matter to refrain from any inconsistent remarks and attend to their duties faithfully.

It is to be hoped that those who have been reduced in rank will endeavor to remedy any possible errors in their course heretofore, and that they will be placed in good positions elsewhere in the future, and that the present change shall prove for the good of all concerned, and all departments of the company work harmoniously together. I have been told Mr. Sholes was one of the few who stood by the company during the strike. Mr. York, who has not taken a vacation for nearly five years, will probably not confine himself to the office so closely now. Mr. Springer's long experience as assistant night manager fit him for the position vacated by Mr. Maynard's promotion better than any other man in the business here. Mr. Kelly's numerous friends are much pleased to see one so young (comparatively speaking) advancing step by step, maintaining the good will of his associates while giving perfect satisfaction to his superiors. Mr. Leary not having had charge as a chief operator yet, his qualifications are only measurably known, but if he shapes his course as a chief with the same honesty of purpose as he has as an operator, he will prove a success in his new role.

In retiring from the temporary management, Mr. Summers has the best wishes of all those who have worked under him. Too much cannot be said of the kindness and consideration with which he has treated them.

Mr. F. M. Lester, of the New York duplex, Western Union office, this city, has been quite ill for some weeks with inflammatory rheumatism, and is still confined to his bed.

The rumor spoken of by your correspondent "Western Union" in regard to Col. J. J. S. Wilson resigning the superintendency of this district, is entirely without foundation, merely an idle rumor which should not have been repeated.

Some of the boys who were "checking" here six years ago will probably remember one of their number, Clark Albro. He lately entered into partnership with his father in the flour and feed commission business in this city. Check boys, you need only to be little men to advance, and finally become honored members of society.

OCCASIONAL.

Where Next?—Personals.—A Railroad Telegraph Supt. Surprised.—A Scene.—Bulls, etc.

ALBANY, N. Y., April 27.

TO THE EDITOR OF THE TELEGRAPHER.

"WELL! where are we going to work next?" was the general inquiry, as the "boys" filed into the office the other morning after reading in the morning papers a letter from the Assistant Secretary of the Treasury, addressed to Postmaster Smyth, of this city, to the effect that all tenants of the Exchange Building, whose leases expire on May 1st, should be notified to vacate the premises on that day. As the Western Union Co. have only a verbal lease, which expires June 1st, there was naturally some anxiety to know whether we were to be turned out again or allowed to rest in peace a little longer; the probabilities are that we shall not be called upon to vacate before the first of June. The contracts for the repairs to the Museum Building, which will cost about \$20,000, have been let, and work was commenced on Friday, the 23d inst. It is understood that the repairs are to be completed in thirty days from the above date, and will include a Mansard roof of corrugated iron.

Mr. Thomas Steward, Jr., has been placed in charge of the Capitol and Congress Hall offices of the W. U. Co., Mr. MacAuliffe having returned to the main office. "Tom" has been rather unfortunate since the change was made, as his money drawer was robbed a few days ago of a considerable amount. A boy has been arrested on suspicion, and committed to jail to await trial, but none of the money has been recovered as yet.

It is astonishing to observe what an increased interest there is manifested in "stox" lately by the gentlemen in and around the Capitol. "Tom" knows how to touch the tender spot and get the "biz."

Mr. F. Scott Smith, better known to some of the fraternity as "Snorky," has returned to his first love, and is now doing the heavy tragedy business on the Troy wire.

Mr. C. D. Hammond, whose appointment as superintendent of the Albany and Susquehanna Division of the D. & H. C. Co. was noticed in a former letter, was quite agreeably surprised a few evenings since. As he was about to take the train for Troy, one of the employees handed him a small package, which upon opening was found to contain a handsome gold watch and chain with a Maltese cross attached to the chain. The testimonial was from his old associates of the Rensselaer and Saratoga road, and was gotten up by the Messrs. Williams & Son of this city. On one of the covers of the watch is handsomely engraved the monogram of the recipient, and the inside cases bear appropriate inscriptions. Mr. H. was much delighted with his present.

The following scene occurred here a few days ago: Way wire, 1 P. M. (message for way station been hanging on hook since 8 A. M.), station finally raised and message sent.

Sender—(Sarcastically). We have had this message only five hours!

Way Station—(Coolly). What a wonderful invention is the telegraph.

One "bull" and I'm done. A message was recently received here addressed C. A. Shier, First Nat. Bank; it reached the Cashier finally, but was somewhat "scratched."

Since writing the item in regard to the Museum Building I have learned that the contract for repairs calls for their completion in three months instead of thirty days. "Where next?" is again the general inquiry.

Monday, the 27th inst., was probably the heaviest day ever seen in this office. The day's business footed up 3,751 commercial messages, besides a considerable amount of press matter received and sent. The quad. handled about 1,100 messages after 10 A. M., and was not worked up to its full capacity more than four hours. The prostration of wires by the sleet storm in New York was the cause of the rush. DOUBLE SIX.

Appreciation of The Telegrapher.—The Southern and Atlantic Co. in Boston. Telegraphic Personals.

BOSTON, MASS., April 25.

TO THE EDITOR OF THE TELEGRAPHER.

It is a paradox, for which I claim the full credit of originality, that more men have risen in the world through the attempts at injuring them by their enemies than have risen through the kindness of friends. A

striking illustration of the truth of this remark is seen in the recent scurrilous and unwarranted attacks of the Operator upon THE TELEGRAPHER and its editor.

A year ago the subscribers to THE TELEGRAPHER in this city were few, and none in the Western Union office. Now there are fourteen regular subscribers in the Western Union offices, and the number is increasing, and a club is being formed in the Franklin office also, through the persistent efforts of Mr. J. J. C. Wilson, to whom the credit is due of being the first to set the ball in motion.

There are many old timers like myself, whose interest in "matters telegraphique" has long since disappeared, who remember with a thrill of pride and satisfaction the excellent advice given and the manly and independent course pursued by THE TELEGRAPHER during the premature and unfortunate strike of 1870. During all the excitement before and obloquy after this occurrence, it never wavered for an instant, though well knowing that its espousal of the operators' cause would lead to its proscription by the managers of the Western Union Company.

The best way to prove one's friendship is to practically try it, and in the case of THE TELEGRAPHER it is a satisfaction to know that it has stood the test bravely, and that it is at last meeting with due appreciation. THE TELEGRAPHER is the only true organ of the fraternity in America.

The Western Union Company have leased one of their through wires to the Southern and Atlantic Company, who are rapidly fitting up their new office at No. 27 Devonshire street, where they expect to control a portion of the Southern business. Mr. Joseph A. Elms, for many years an operator in the Western Union office here, has been appointed manager, with Mr. Thomas Bishop, a young, but really excellent operator, as assistant. Mr. Elms is a thorough electrician and a courteous gentleman. The Southern and Atlantic Company are fortunate in securing the services, as manager, of one who combines so many excellent qualifications for the position.

He is succeeded in the Western Union office by Mr. J. F. Shorey, of St. Johnsbury, Vermont.

Mr. Fred. Hutchinson, of the New York cable department, who has been visiting his relatives in this section during the past week, called upon us the other day, and was shown round the office by Mr. Jules Guthridge. Fred. is a good boy and has many friends here, by whom he is kindly remembered, and who would be pleased to see him with us once more, whenever he may be disposed to exchange the gaiety and excitement of the metropolis for the quiet and monotony of the Hub.

QUIEN SABE.

Anecdotes of Old Time Telegraphers.

ST. LOUIS, April 20.

TO THE EDITOR OF THE TELEGRAPHER.

"Oh! where are the friends of my youth?
(Gone to the Poor-house.)
Then let the electric fluid flow."—HANK COWAN.

"LET us sing of the days that are gone, Maggie," the palmy days of the telegraph business, when there was always a demand for first class talent; when Hank Cowan, Jack McDonald, old Bogardus and others flourished (?); when George Washington was dead, and before St. Louis could boast an operator who requested another office to "cut out and leave his repeaters in," but when a first class TELEGRAPHER (that's you), could be had for money. As a "pau out," I shall tell you of another amusing anecdote, which is told of the great American traveller, Hank Bogardus ("Bogy"), which, as an illustration of the "eccentricities of genius," is, I think, worthy of publication.

While at Buffalo, as usual, in his normal condition—"hroke"—the thought struck him that he would like to visit Canada, "to see the boys," several of them, including Jack McDonald, Billy Logue, "Rox" Mullen, and others, at that time, being at Toronto. So Bogy wrote the following characteristic despatch, and some philanthropic operator forwarded it:

"BUFFALO, N. Y.

To— Gen. Supt., Toronto. Anything? Bogy."

The laconic style of the message so pleased the Supt. that he gave him a job, which he, of course, retained—for a time.

While I am about it, I may as well rake up another "old personality." Everybody knows Jack McDonald, and that his ability as an operator is of the "no bngs" order. Well, in the course of his perambulations through the country he struck Toronto, and got a job. On his first day in the office he was assigned to duty on the Ottawa special wire, it being the heaviest wire in the office, and, as was customary, they put all new men on that wire, to "see what they were good for."

Jack worked along for an hour or so all right, when he suddenly got up, walked over, and sat down at a "Pony" wire. The chief operator, noticing the business accumulating on the Ottawa circuit, reminded Jack of it, and told him to go there and clear up. Jack looked

up at him, an incredulous expression on his phiz, and said, "Do you think I'm going to work that wire for forty dollars a month, eh?" Chief replied that that was the first class salary there, and that he was expected to do any work that was to be done. Jack couldn't see it, so got up put on his hat and coat, and left.

That's what I'll do now: for I fear there's already
Too MUCH CED.

The Sholes and Gliddon Type-writer.

CHICAGO, ILL., March 28.

TO THE EDITOR OF THE TELEGRAPHER.

AS QUITE a number of the Western Union operators in this city are now practicing on the Sholes and Gliddon Type-writer, no doubt it will be interesting to the fraternity elsewhere to know how they can become familiar with this admirable machine without ever seeing one of them. The following is a correct diagram of the position of the keys:

2	3	4	5	6	7	8	9	—	|	|	—	|
|	Q	W	E	R	T	Y	U	I	O	P	:	|
:	A	S	D	F	G	H	J	K	L	M	.	|
|	&	Z	C	X	V	B	N	?	;	|	.	|

The following are the rules for manipulating the machine:

Use both hands and all the fingers. As a rule touch the keys to the left of G with the left hand, and to the right of G with the right hand. (It will be convenient to deviate from this rule occasionally.)

Touch A, and Q with the fourth finger of the left hand.

Touch P and M with the fourth finger of the right hand.

To make \$ hold the space bar down and touch S and I. To make ! hold the bar down and touch space . and , Touch the space bar with either thumb after each word, and also after punctuations.

Every time a key is depressed on the machine, or the space bar touched, it works the copy to the left, but when the space bar is held down it does not remove the copy till released, and the letters and punctuation marks being arranged in the form of a circle when the key corresponding to the letter or mark wanted is struck, it flies up and strikes the copy wherever wanted; the arm of each letter being about seven inches long, considerable force can be gained by striking it quickly. When the copy has passed across the top of the machine, within as far as it will print by the length of a letter or two, the operator is notified by a bell inside, and he can then insert a hyphen and finish the word in the next line; or, if only a letter or two remains to be printed, finish the word before throwing the copy back to the right again for a new line. This latter operation is performed by a treadle, like a sewing machine, on which the right foot rests at ease until the bell notifies that the copy is at the extreme left side of the machine; when, by pressing the foot forward, the copy runs back to right side, and when the copy carriage strikes the stop on the right side the foot is raised to its easy position again, resting on the heel until the bell strikes again.

There is a place arranged for a sounder, and the operator can sit near enough the table to break — By cutting this diagram out and placing it before him on the table when not busy, any operator can learn in a week's time to follow slow writing on his instrument, or write his thoughts by following the rules laid down, and can become expert in a short time. The moving of the copy carriage on the machine would not trouble him when he was ready, and had a chance to use one of the machines, and the throwing of the copy back to right would be the only thing to be learned after getting the machine, which would be a very small task, as the bell notifies when to press down the foot. After once becoming familiar with the position of the letters, figures and punctuation marks, the use of the machine is virtually accomplished. To make the figure 10 the letters I and O are used, and of course they are used for the figures one and nought whenever necessary. I am extending my remarks somewhat on this subject, as I understand it is the intention of the W. U. officials here to have report and specials taken with this machine as soon as enough of the operators in their employ here familiarize themselves to the use of them. A great many of the W. U. men, I hear, are learning in the way I propose to your readers. I am told Mr. Strong, who takes night report for the W. U. Co. here, has one of the machines now in his room practicing. As "Sg" makes one of the prettiest copies of any one in the business, this action is not on account of the copy if my information is correct. OCCASIONAL.

Warm weather, lightning and mosquitoes, though delayed, are sure to come.

THE TELEGRAPHER

DEVOTED TO THE INTERESTS
OF THE
TELEGRAPHIC FRATERNITY.

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The Policy of The Telegrapher and its Relation to the Telegraphic Fraternity.

A BOSTON correspondent, whose communication will be found in this number of our paper, refers in a complimentary manner to the fidelity with which THE TELEGRAPHER has adhered to the interests of the telegraphic fraternity, though by so doing it has at times incurred persecution and proscription from those who considered it antagonistic to their interests. We think we may without egotism consider that this commendation is deserved.

It has always been the object of the present manager of this paper to conduct it in such a manner as, in his opinion, would advance the real and permanent interest and welfare, not only of the telegraph business and art, but also of those who were engaged in its service as employes. In this we have not infrequently, as is the case of a Government ownership and management of the telegraphs, been in antagonism to some of the practical telegraphers of the country; but in the end have had the satisfaction of seeing the soundness of our position vindicated and acknowledged. While we do not claim infallibility in telegraphic matters yet we believe that we are in a position to consider calmly and dispassionately such questions as they arise, and while we do not intend hastily to decide, yet when our position is once taken we are not easily moved to alter or reconsider it.

THE TELEGRAPHER was originally established as the organ of the first national telegraphic association, and although that association has ceased to exist, THE TELEGRAPHER remains, and its benefits to the fraternity has fully justified, if any justification were needed, the wisdom which dictated its establishment, and compensated most fully the labor and expense incurred in starting it. Those who inaugurated THE TELEGRAPHER builded wiser than they knew, for to it is due much of the superiority of the present condition of the fraternity in this country over that of their brethren in other lands.

But this paper is something more than a mere organ of the telegraphic fraternity.

It is also a scientific journal, and a very complete telegraphic newspaper. In its columns from week to

week may be found a daguerreotype, as it were, of telegraphic advance and progress throughout the world. It has ever welcomed and encouraged telegraphic improvement and invention, believing that in such improvement and invention the best interests of all connected with telegraphy are advanced. Whatever tends to simplify and increase the capacity of the telegraph for the transmission of its vast and increasing business, will in the end improve the condition of those who make a livelihood by it. The real interests of telegraph proprietors, managers and employes, and the public, are, to a great extent, identical.

If telegraph lines are operated unprofitably the employes must share the loss. The telegraph, like any other business, is mainly established and conducted for the purpose of making money. Were it carried on with any other view it would be unbusinesslike, and in the end disastrous to all parties. For this reason we have never favored extremely low rates for telegraphic service. That gradual reductions in the cost of telegraphic service were not only desirable but inevitable we have fully recognized, but that such rates as have been advocated by some parties were practicable without loss to all, employes as well as telegraph companies, has been too evident to us to admit of any reasonable contradiction. The peculiar situation, telegraphically, in this country, will not admit, without a great increase in the capacity of lines and instruments, much more radical changes in tariffs than have already been made.

The interests of the public and of the telegraphic fraternity have seemed to us to require reasonable competition in the business, and we have therefore opposed the establishment of a telegraphic monopoly, either by a private corporation or by the Government, and shall continue to oppose it. At the same time it should be understood that while THE TELEGRAPHER is not the organ of, it is not antagonistic to, any telegraph company. It is, in fact, in the fullest sense of the word, an *independent* telegraphic journal. While its independence subjects it to the disfavor of some narrow minded persons engaged in telegraphy, it is the only policy which will give a leading journal any marked or recognized influence.

We might consider this matter at much greater length but it is hardly necessary to do so. Our object at this time in calling attention to the policy upon which THE TELEGRAPHER is and has been conducted is to show that it has been beneficial to the telegraphic fraternity and to telegraphic interests generally, and is the only one that can consistently be pursued by a journal which aims at something more than mere amusement of its readers or the advancement of special interests. It should certainly entitle it to a more general and liberal support than it receives even now, when the resentments, animosities and persecutions of the past have to a great extent ceased. We hope that telegraphers and others interested will take these suggestions into consideration, and will exert themselves to bring the paper to the notice and support of all who are engaged in or interested in telegraphic pursuits.

M. Gaugain's Experiments on the Brooks' Insulators.

THE last number of the Paris *Annales Telegraphiques* contains a report of experiments upon the BROOKS insulators, by M. GAUGAIN.

Twenty of these insulators were exposed to the weather, side by side with twenty of the double bell china were insulators of the administration pattern.

The galvanometer employed was by RUMKORF, of 24,000 convolutions the battery, a Bichromate of the DELAURIER system, containing ninety elements.

He states that it is difficult to give an exact comparison between the two kinds of insulators in rain, they vary so widely, but the variations are analogous—at a certain time during the commencement they are equal, while the rain is heavy the BROOKS exceed those of the administration. About the time the rain has ceased they are again equal; and after the rain of

in clear weather the French insulators are higher than the Brooks.

Thus, on the 28th of June, at fifty three minutes past one, and at the commencement of the rain, the two systems gave very nearly the same resistance. At two o'clock and thirty-five minutes, when the rain fell in torrents, the resistance of the BROOKS were six or seven times greater than the others. At four o'clock when the rain had ceased they were again equal. Thirty-five minutes later the resistance of the French were five or six times greater than the BROOKS.

During the rain the least resistance of

the BROOKS were.....	113,497,776 kilos.
Average per insulator.....	2,269,595,520 do.
French average per insulator.....	327,830 404 do.

The BROOKS exceeded the French in the proportion of 90 to 13, being about seven times higher.

After exposure, and when both systems had become dirty, the BROOKS exceeded the French in the proportion of three to one.

Carefully cleaning both kinds, the original difference was restored; that is, about seven to one in favor of the BROOKS.

M. GAUGAIN seems to attach importance to the circumstance of the French insulators being much the highest in clear weather, but to a practical telegrapher this is of little consequence. In fact, on long circuits inductive disturbances are often experienced. This never occurs except when the insulation is too high. The circumstances favoring this condition are, the weather being very dry, cold and clear.

M. GAUGAIN gives the resistance of the 20 BROOKS insulators in hard rain as 113,497,776 kilometres. This in our measurement would be equivalent to 1,133,000,000 ohms.

This is at least a thousand times higher than the standard of insulation in England, as given by Mr. VARLEY (1,000,000 units per mile minimum), but we have much reason to believe this is much higher than is attained in that country, for Mr. CULLEY gives the insulation of the Belfast-Dublin circuits "better situated as regards insulation" as "maximum" weather fine" per mile, 78,750,000 ohms; minimum, damp and dull, 91,900 ohms.

It will thus be seen that the BROOKS insulators, by M. GAUGAIN'S report, were fourteen times higher when the rain was hardest than the insulation in Ireland when the weather was "fine;" and twelve thousand times higher when the weather was damp and dull in the latter country, upon the basis of twenty insulators to the mile being employed.

Quadruplex Telegraph Inventions.

WE print in this number of THE TELEGRAPHER the paper read before the American Electrical Society at its regular meeting at Chicago, in February last, by Mr. F. W. Jones, electrician of the Western Union, Chicago office, on duplex and quadruplex telegraphic systems, for the copy of which we are indebted to our efficient and attentive Chicago correspondent OCCASIONAL.

This paper will be read with much interest, for its brief but concise history of duplex or double transmission systems, as well as for its account of the quadruplex inventions which are now exciting so general attention among telegraphers and the public.

The necessity of obtaining permission from the executive committee of the society before being able to obtain a copy for THE TELEGRAPHER, has somewhat delayed the publication of this important paper, but it will be none the less acceptable to our readers.

Geo. H. Bliss & Co. and the Western Electric Manufacturing Company, of Chicago.

AS WILL be seen by the announcement printed in our advertising columns, GEORGE H. BLISS & Co., formerly of 41 Third avenue, Chicago, Ill., have removed their stock to 220 Kinzie street, and offer it for sale upon

terms exceedingly favorable. The interests of BLISS & Co. have been transferred to or consolidated with the Western Electric Manufacturing Co., and when their present stock is disposed of they will discontinue their business as a separate and independent concern.

This will leave the business entirely in the hands of the Western Electric Manufacturing Co., which has ample means and facilities for carrying it on effectively and satisfactorily, and we commend them with pleasure to the attention and patronage of those who may need telegraphic and electrical apparatus, material, equipment, or supplies.

A New Commission Stock Broker's Firm.

Messrs. H. L. HOTCHKISS and J. W. BURNHAM have formed a copartnership for the transaction of business as commission stock brokers. Both of these gentlemen are well and favorably known to the telegraphic fraternity—the former having for several years been connected with the Gold and Stock Telegraph Company and the American District Telegraph Company, as secretary and treasurer, and the latter as an operator and manager of the Fifth Avenue Hotel, and other offices. Their main office is at 36 Broad street, with a branch office at the Fifth Avenue Hotel, where orders can be transmitted by their private telegraph line to the main office, and where quotations will be furnished without charge. This will be a very great convenience to up town customers.

The popularity of Messrs. HOTCHKISS and BURNHAM, and their intimate connection with telegraphic interests, cannot fail to secure them a profitable business, and we cordially commend them to the favor and patronage of our readers, and all who may have occasion to avail themselves of their services.

Personals.

Mr. J. A. MORRISON has been appointed manager of the Western Union office at Nebraska City, Neb.

Mrs. A. VIRGINIA CARR has been appointed manager of the Western Union Co.'s office at Jacksonport, Arkansas.

Messrs. M. S. BACON, WINFIELD S. FRENCH and D. A. WILLIAMS have been appointed to positions in the St. Louis, Mo., Western Union office.

Mr. JOS. A. MURRAY, of St. Louis, Mo., who has been off on a six weeks leave of absence, visiting in Michigan, has returned, looking hale and hearty, and has resumed his duties on the Western Union night force.

Annual Meeting of the Atlantic and Pacific Telegraph Company.

THE Annual Meeting of the Atlantic and Pacific Telegraph Company was held at the office of the company, No. 198 Broadway, in this city, on Wednesday last, April 23th.

The report of the President of the company, Mr. Thos. T. Eckert, to the stockholders, states that during the year 1874 new lines were constructed:

From Chicago to Omaha.....	530 miles.
“ New York to Long Branch.....	68 “
City Loops.....	64 “
And the Scioto Valley Line from Columbus to Ironton, Ohio, was purchased.....	124 “

Total additional lines.....728½ “

The entire system of lines and connections covers 14,612 miles of poles, and 28,477 miles of wire, and brings into direct communication 1,385 offices.

The number of miles of pole line in the direct control of the Atlantic and Pacific Company at the close of the year was 5,097, and of wire 12,039.

The authorized capital stock of the company is \$10,000,000. Amount issued at the end of 1874 was \$9,578,100, leaving a balance of 4,219 shares in the treasury.

The gross receipts of the company for 1874, including those of the Franklin, from November 20 to Dec. 31, inclusive, were.....\$450,534 01
The gross expenses were..... 399,111 97

Leaving a net profit of..... \$51,422 04

This surplus and a portion of the company's funds, derived from sale of its Treasury stock, was expended in the construction and purchase of the lines above mentioned, to the amount of..... \$68,162 64

The company had on hand at the close of 1874, net assets amounting to \$197,113 44, in addition to its Treasury stock.

The company is free from debt of every kind.

The company since the beginning of this year has acquired working possession of the American Automatic system of transmission, which is protected by thirty-six indisputable patents. It has also purchased the exclusive right to the Wheatstone Automatic System of Transmission in the United States and Cuba. This system has lately been patented in this country by Sir Charles Wheatstone, the inventor.

The company has also purchased from Thomas A. Edison, and his business partner and assignee, Mr. George Harrington, the inventions known as the duplex and quadruplex.

Arrangements are well progressed for extending the facilities of the company by an additional route from New York City to St. Louis, Mo., from Chicago to Milwaukee, and from Rye Beach, N. H., to Portland, Me. Other and important extensions and connections, both north and south, are under consideration with the prospects of favorable results.

The following were elected Trustees of the Company for the ensuing year: Messrs. Oliver Ames, Elisha Atkins, S. L. M. Barlow, Benjamin E. Bates, F. Gordon Dexter, Sidney Dillon, G. M. Dodge, Thos. T. Eckert, Wm. H. Guion, Jay Gould, C. P. Huntington, S. M. Mills, J. H. Mortimer, C. J. Osborne, G. G. Sampson, James D. Smith, E. D. L. Sweet, W. J. Syms, Henry M. Taber.

The Southern and Atlantic Telegraph Company Extensions.

THE Southern and Atlantic Telegraph Company have opened an office at Providence, R. I. This office is temporarily located until more suitable quarters can be secured next door to the Franklin office (up stairs), on Weybosset street.

This company are now engaged in constructing a line between Montgomery and Mobile, Alabama, on the route of the Mobile and Montgomery Railroad. This line will be 178 miles long, and is a second main route from Montgomery. At Pollard, Alabama, it will connect with the Pensacola and Milton, Florida line, which has a number of offices upon it.

The line from Jessup, Georgia, to Jacksonville, Florida, on the route of the Great Southern Railway, is nearly completed. This line shortens the distance to Jacksonville 132 miles, over that by the present route. At Callahan, Florida, it connects with the Florida lines and the Cuba cables.

A branch line has also been built from Spartansburg, S. C., to Union, 30 miles. This supplies telegraphic communication to territory hitherto without such facilities.

The Gold and Stock Telegraph Co.—Issue of Bonds.—Removal.

By a resolution adopted by the Board of Directors of the Gold and Stock Telegraph Company, March 9th, it was provided that for the purpose of raising the sum of \$250,000 an issue of \$500,000 twenty year 7 per cent. coupon bonds should be made. It was further provided that each stockholder of record on the 15th day of April should have the privilege of purchasing one hundred dollars in bonds at 50 per cent. of the par value for every twenty shares of the stock so owned, and that each stockholder shall give written notice to the Treasurer of the Company, on or before the 15th of April of his intention to avail himself of this privilege, and pay for the same on or before the first of May; and the transfer books were accordingly ordered to be closed from the 15th of April to May 3d.

These bonds have been nearly all taken up under this provision by the stockholders of the company, the difference between the par value and the rate at which they are issued being considered as a dividend of past earnings which have been invested in the purchase of valuable property and rights, and the extension of the system.

In conducting the operations of the company, it is stated with a view to its future prosperity, in the purchase of the property and rights before mentioned, and in the extension of its private line and commercial news department to other principal cities, a considerable portion of the current income had been expended, and a floating debt of over \$200,000 incurred. The proceeds of these bonds will be applied first to the payment of this debt, and the balance will be applicable to future purchases and extensions.

The bonds are issued for sums of \$100 and \$500 each, and are very handsomely engraved, and will doubtless prove a very good investment to those who are so fortunate as to obtain them. The business of the company is large and increasing, and is now remunerative, and with the means thus afforded for relieving it from the necessity of immediately providing

for its accumulated indebtedness the company will be enabled to carry on its operations advantageously.

The work of removal of the offices heretofore at 61 Broadway to the quarters in the new Western Union building is nearly completed, and the several departments are being regulated and got into good working order. The task of making such a change, with the very large number of wires, etc., involved, and at the same time keep the business working along satisfactorily, can hardly be appreciated except by those who are employed in planning, supervising, directing and accomplishing the work.

The Law Telegraph Company.

THIS company, of which a brief account was given in THE TELEGRAPHER of April 10th, has now commenced operations, and is working very successfully, and is proving a great convenience and accommodation to the legal fraternity. It has already about seventy subscribers, and the number is increased as rapidly as the necessary wire and instruments can be provided. Five circuits are connected with the Court House and principal courts of the city, and by means of these subscribers are notified of cases on the calendar in which they are interested, and can be kept informed of matters in connection with the courts essential for them to know, without the necessity of personal attendance, which occupies so much time of lawyers of considerable practice in this city unprofitably. Besides this, each subscriber has a wire running to the central office, at 145 Fulton street, and, by notifying the central office, can be put in communication with any other party similarly provided. The system and apparatus appear to be very well adapted to the purpose for which they are designed.

The company intend to extend the system to Brooklyn immediately.

Mr. Wm. A. Childs, the manager of the company, can be found at the central office, and will give to those who may desire to avail themselves of the facilities, provided any further information or explanation is required.

A Destructive Sleet Storm in April, Telegraph Lines Prostrated..

THE exceptional character of the weather this spring was forcibly demonstrated on Saturday night and Sunday morning last. A destructive sleet storm in the latter part of the month of April is an anomaly in this climate, and a new experience for telegraph managers.

On Saturday evening of last week, a pretty heavy rain storm commenced, and the weather became quite cold, so much so that the rain soon turned into a sleet storm, and the telegraph wires in this city and vicinity became heavily loaded with ice. The sleet storm eventually became a regular snow storm, accompanied by a high wind. The effect upon the telegraph wires was quite disastrous—the wires of the fire alarm telegraph came down in all directions. The numerous private lines throughout the city were also badly damaged and interrupted, as well as the wires of the different telegraph companies.

The Western Union wires stood up pretty well, but were badly mixed up and crossed by the fire alarm and other wires which were broken. The Atlantic & Pacific wires were also considerably damaged, but communication was kept up.

It was also reported that the cables of the Western Union and Atlantic & Pacific Companies in the North River were torn up and broken by vessels dragging their anchors, but this was incorrect. Some two weeks ago the A. & P. cables were badly damaged by ice and vessels which were forced down the river by it, but this damage has been repaired. In addition to their present cables across the North River the A. & P. Co. are about to lay a new three wire cable, higher up the river it is understood, from the foot of Sixty-ninth street.

The Western Union cables have recently been pulled up by vessels, but not seriously damaged. This company has a steam tug which is always ready for use in repairing and relaying cables, which are interfered with by anchors or otherwise—a very frequent occurrence.

The most serious damage to the Western Union wires was at Woodlawn, near the junction of the New Haven and Harlem Railroads. During the storm a pole on which there were a large number of wires fell, and a train coming along about the time the engine got tangled up with the wires, and sixteen or eighteen poles were prostrated and broken off, badly wrecking the line, and for sometime interfering with communication east.

In Jersey City and along the route to Elizabeth the lines of the Western Union and other companies were badly damaged by the storm, the wires being broken and crossed in numerous places, and a number of poles broken off and prostrated.

The storm extended for some distance south along

the coast, and did much damage to telegraph lines elsewhere.

Toward morning the weather moderated, and by sunrise the sleet had entirely disappeared from the wires, and during the day the snow, which had fallen during the night, also disappeared.

It is to be hoped that this is the last experience of this description which will occur, during the present season at least.

The Reduced Tariff on Atlantic Cable Business.

ON and after May 1st, 1875, the ten word minimum on telegraph business to or from Great Britain, Ireland and France will be abolished.

The tariff for Atlantic Cable messages to Great Britain, Ireland and France will be as follows:

Table with columns for destination (e.g., From New York City, From all points in New York) and rates (e.g., 50 cts., 53 ").

Note.—The rates to points beyond France, which have hitherto been computed by adding to the rate for ten words to London (or the rate to France) will now be found by computing the rate by word to London, and then adding the rate beyond given in tariff book.

The Electric Base Ball Club, of Boston, Mass.

THE Electric Base Ball Club, of Boston, Mass., were out for practice on Saturday last, in a new uniform of white flannel, and presented a very neat appearance.

The Telegraphers' Mutual Benefit Association.

ASSESSMENT 75, ISSUED APRIL 29, 1875.

DEATH OF WILLIAM LEE ALLEN.

WILLIAM LEE ALLEN, of Key West, Fla. (Certificate No. 2,302, issued August 25, 1874, died at Key West, Fla., March 23, 1875, of yellow fever.

One dollar for assessment 75 is due from members holding certificates numbered up to and including No. 2,424.

Members who have not yet remitted for assessment 74 (notice of which was issued March 29, 1875), will please consider this a duplicate notice that that assessment is due, and should be paid before May 29th.

W. HOLMES, Secretary. J. D. REID, Treasurer.

RECEIPT OF ASSESSMENTS—NEW YORK, April 29, 1875, ASSESSMENT No. 75.

21, 29, 131, 143, 208, 211, 217, 277, 289, 312, 464, 555, 626, 742, 858, 859, 873, 880, 932, 1024, 1154, 1178, 1182, 1199, 1333, 1357, 1489, 1503, 1566, 1572, 1862, 1986, 2066, 2164, 2240, 2287, 2288, 2322, 2389, 2415, 2422, 2423, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433.

ASSESSMENT No. 74.

5, 13, 17, 22, 25, 54, 59, 60, 72, 74, 75, 80, 89, 91, 99, 100, 108, 114, 129, 141, 142, 144, 153, 178, 183, 184, 188, 220, 240, 247, 254, 274, 278, 279, 281, 282, 283, 285, 302, 319, 344, 351, 361, 378, 379, 380, 381, 391, 430, 431, 438, 456, 510, 533, 554, 566, 569, 574, 576, 586, 603, 605, 617, 622, 661, 667, 678, 680, 685, 703, 708, 714, 729, 735, 750, 751, 756, 791, 799, 803,

Large table of numbers, likely a continuation of an assessment list.

ASSESSMENT No. 73.

Table of numbers for Assessment No. 73.

ASSESSMENT No. 72.

Table of numbers for Assessment No. 72.

Members of the Association who look to THE TELEGRAPHER for receipt of assessments paid, will please take notice that an acknowledgment of the receipt of one assessment should be taken as a receipt for all previous assessments.

The Telegraph in the African Deserts.

A CORRESPONDENT of the London Times, writing from Berba, in tropical Africa, says:

"It was singular to meet with the telegraph in the heart of the desert between Aryab and Berba; not the telegraph put up and in working order, as we see it in Europe, but all the appurtenances of that instrument of civilization carried on the backs of hundreds of camels, which, laden with coils of wire and hollow iron posts, trod their toilsome path through the burning sand.

Quotations of Telegraph Stocks at N. Y. Stock Exchange.

Showing Lowest and Highest Prices each day during week.

Table with columns for date (April), stock names (Western Union, Atl. and Pac., Amer. Dist., Gold and Stock), and bid/ask prices.

Born.

HENDRICKSON.—February 19, 1875, to the wife of M. P. HENDRICKSON, agent and operator New Jersey Midland Railroad, Stockholm, N. J., a son, second edition, eleven pounds.

MCNEVIN.—To the wife of JOHN MCNEVIN, of the Western Union Telegraph Company, St. Louis, Mo., at half past ten o'clock P. M., March 26th, 1875, a son, eleven pounds, first copy.

THOMPSON.—At St. Louis, April 20th, 1875, at half past eight o'clock P. M., a son (eight pounder), to the wife of A. G. THOMPSON.

THORNTON.—To J. G. THORNTON, Superintendent of the Southern and Atlantic Telegraph Company, Macon, Ga., April 2d, 1875, a daughter.

REMOVAL.

GEO. H. BLISS & CO.

We respectfully announce our removal to 220 KINZIE STREET, CHICAGO, ILL. Having determined to transfer our interests to the Western Electric Manufacturing Company, we offer our entire stock of TELEGRAPH INSTRUMENTS, GOODS and MACHINERY for sale upon terms which cannot fail to prove desirable to purchasers.

GEO. H. BLISS, President.

220 KINZIE STREET, CHICAGO, ILL., April 12th, 1875.

ANNOUNCEMENT.

Western Electric Manufacturing Company.

GEO. H. BLISS having acquired an interest with this Company, has been appointed its General Agent.

His attention will be given to the sale of the Instruments and Goods of our manufacture and in which we deal.

In addition to our former line we have added the various specialties heretofore controlled by GEO. H. BLISS & CO.

With our ample facilities we hope to give to customers and the trade increased satisfaction in prices, quality and variety of our goods.

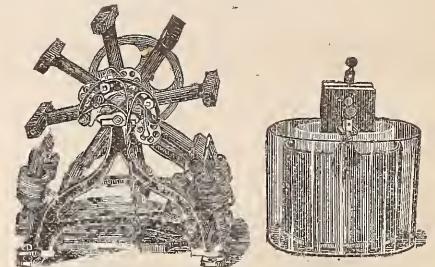
We invite correspondence and solicit patronage.

WESTERN ELECTRIC MANUFACTURING CO.,

220 Kinzie street,

CHICAGO, ILL.

BASTET'S NEW ELECTRICAL MOTOR AND BATTERY.



For Sewing Machines, Church and Parlor Organs, Small Printing Presses, Pumps, Lathes, Dentists' Instruments, or any Light Machinery.

My new ELECTRICAL BATTERY is the most powerful for quantity and durability manufactured, and does not crystallize the carbons. For Electroplating, Telegraphing, and for Motive Power, it cannot be surpassed.

Our No. 1 Engine, for Sewing Machines, with four cells of Battery, is furnished for \$40.

Other Motors at prices proportional to power required.

BATTERY, No. 1 Cells \$5.

" No. 2 " 10.

L. BASTET,

116 Fulton Street, New York.

LECLANCHE BATTERIES.



IMPORTANT NOTICE.

After JANUARY 1st, 1875, we will allow TWENTY CENTS for each used-up Porous Cell of this Battery that is returned to us free of charge, in good order. A change is made in the discount to the trade. A list will be furnished on application to

THE LECLANCHE BATTERY COMPANY,

No. 40 WEST EIGHTEENTH STREET,

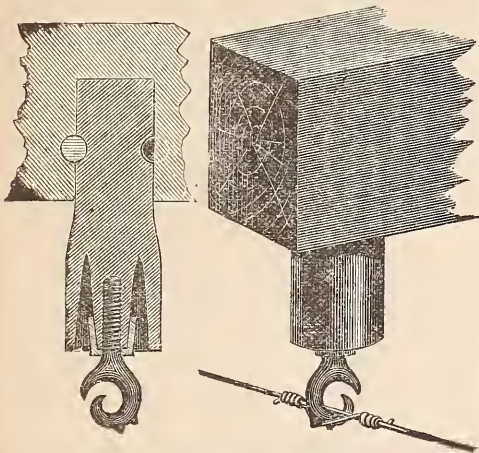
or to L. G. TILLOTSON & CO.,

8 Dey street, Sole Agents.

THE KENOSHA INSULATOR CO.

TELEGRAPH COMPANIES and TELEGRAPH CONSTRUCTORS

are invited to examine the merits of our new and improved patterns of



KENOSHA CARBON INSULATORS!

These insulators are made of wood, thoroughly baked, and covered with an INDESTRUCTIBLE COATING, highly repellant of moisture...

MORE THAN TEN TIMES AS GREAT

during the prevalence of rain or fog.

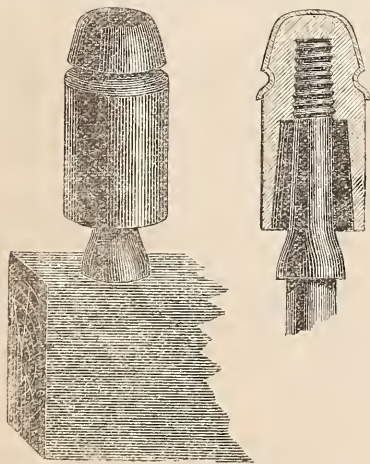
Immense numbers of these insulators are in use by

THE NORTH WESTERN TELEGRAPH CO., THE WESTERN UNION TELEGRAPH CO.,

as well as many RAILWAY and OTHER TELEGRAPH LINES, and they have invariably been found to give

ENTIRE SATISFACTION.

Besides the suspension insulator above shown, which is fitted with our IMPROVED WIRE HOLDER, arranged for a tie wire, and which does not cramp or injure the line wire...



CAP INSULATOR, WITH PIN OR BRACKET,

which is fitted with a zinc protection, as shown in the above figure.

THE KENOSHA INSULATOR

is manufactured with the utmost care by skilled workmen and special machinery. Every individual insulator is TESTED IN WATER with a battery of 500 cells, and not a single imperfect one is allowed to leave the factory.

We are also prepared to furnish, at short notice,

CROSS-ARMS for any REQUIRED NUMBER OF WIRES,

prepared with our patent INDESTRUCTIBLE INSULATING COATING, either with or without wire insulators.

These insulators are packed for shipment in boxes containing 100 each, and may be ordered direct from us, or through any of the leading Dealers in Telegraph Supplies.

We are now prepared to fill all orders promptly, however large, and we guarantee all insulators furnished by us to prove entirely satisfactory.

THE KENOSHA INSULATOR CO.,

KENOSHA, Wisconsin.

L. G. TILLOTSON & CO.,

General Eastern Agents.

GEORGE H. BLISS & CO., 41 Third Avenue, Chicago, Ill.

CINCINNATI, O., Elm St., cor. 5th.

Manufacturers and Dealers in

TELEGRAPH INSTRUMENTS AND SUPPLIES.

RELAYS—COMBINATION SETS; BOX and POCKET RELAYS. PONY and REPEATING SOUNDERS.

KEYS, various styles, including the SCHNEIDER KEY, wire connections above the table.

REGISTERS, with SPRINGS or WEIGHT.

CUT OUTS, many varieties, including a new style of PEG CUT OUT, with an adjustable LIGHTNING ARRESTER, just out.

REPEATERS—HASKIN'S AUTOMATIC, and others,

SWITCH BOARDS—REPEATING, BATTERY and GROUND SWITCHES and LIGHTNING ARRESTERS.

ANDER'S GALVANIC and MAGNETO-ELECTRIC PRINTERS; also SELDEN PRINTER.

ELECTRIC BELLS, HOTEL ANUNCIATORS, FIRE and BURGLAR ALARMS, and WATCHMAN DETECTORS.

ELECTRIC RAILWAY SIGNALS and ALARMS, ELECTRIC GAS LIGHTING APPARATUS.

MEDICAL INSTRUMENTS and APPARATUS on hand and made to order. Second hand Instruments for sale cheap, and repairing done at short notice.

BATTERIES in great variety, including the latest inventions; also a full assortment of battery material.

WIRES—MOORE & SON'S and PHILLIPS' MAGNET and OFFICE WIRES, GUTTA PERCHA and KERITE WIRES, BEST GALVANIZED LINE WIRES; SUBMARINE, SUBTERRANEAN and HOUSE CABLES.

INSULATORS—BROOKS, SOREY GLASS and KENOSHA CARBON.

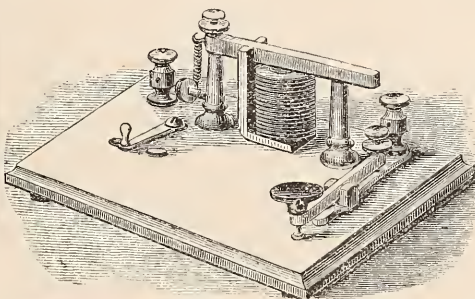
BRACKETS, PINS and SPIKES, TELEGRAPH POLES, LINE BUILDERS and REPAIRERS' TOOLS.

TELEGRAPH STATIONERY—REGISTER, MESSAGE and MANFOLD PAPERS, CARBON SHEETS, STEEL and AGATE STYLUSES, ORTON'S PENCIL HOLDER, SAFETY MESSAGE HOOK and AXL CLIP, STANDARD TELEGRAPH BOOKS, &c.

PRICE LISTS FURNISHED FREE ON APPLICATION.

Our TELEGRAPH INSTRUMENTS and ELECTRICAL APPARATUS are elegantly finished and mounted on highly polished rosewood, mahogany and walnut bases.

THE NONPAREIL TELEGRAPH APPARATUS,



NEW AND IMPROVED, WITH STRAIGHT LEVER KEY.

FOR AMATEURS, STUDENTS AND SHORT LINES.

This popular Pioneer Cheap Telegraph Instrument has recently been improved and a Straight Lever Key placed upon it, which makes it as nearly perfect as possible.

Since its introduction over 2,000 of them have been sold, and is still the leading telegraphic apparatus of its class.

They are furnished at the following popular prices:

Single Instruments with three cells of Battery, Chemicals, Connecting Wire and Instruction Book, \$6.50 Two sets of Instruments, etc., \$12.00

Sent for our new Circular and Price List.

F. L. POPE & CO.,

P. O. Box 5503.)

38 Vesey street, N. Y.

LEWIS' TELEGRAPH MANUAL.

A few copies of the last edition of

THE TELEGRAPHIC MANUAL,

by Mr. WALTER O. LEWIS, remaining, may be had of F. L. POPE & CO., 38 Vesey street, at fifteen cents each. Will be forwarded by mail postpaid on receipt of price.

20 PER CENT. REDUCTION IN THE PRICE OF TELEGRAPH INSTRUMENTS!

SEE WHAT IT MEANS.

On First-class Morse Sets for Railway and Commercial Lines:

No. 1 Relays, of standard size and resistance (120 to 150 ohms), on rosewood bases, fine finish, polished rubber covered coils, wound either with our patent glazed or with best silk covered pure copper wire, having soldered connections and firm nut fastenings throughout, and latest improved extension adjustments. Regular price, \$16, reduced to \$12.80.

No. 1 Relay, same make throughout, but of higher resistance, 160 to 600 ohms. Price, \$18, reduced to \$14.40.

No. 1 Relay, ditto, low resistance, 60 to 100 ohms. Price, \$15, reduced to \$12.

No. 1 Sounders—"Railroad" or Bunnell's "New Giant" Sounders, with all the latest patented improvements in both. The best forms of Morse sounders ever invented. Beautifully finished. Mounted upon rosewood bases. Price, \$7.50, reduced to \$6.

No. 1 Keys, Caton pattern, curved levers. Price, \$6.50 reduced to \$5.20.

No. 2 Keys, W. U. pattern, curved or straight levers. Price, \$5.50, reduced to \$4.40.

No. 1 Premium Register, \$45, reduced to \$36.

" " Spring Register, \$47.50, reduced to \$38.

" 2 Register. Price, \$38, reduced to \$31.40.

Box Relays, Combination Sets, Pocket Relays, Switches, Cut Outs, Lightning Arresters, etc., furnished at the same rate, viz., 20 PER CENT. REDUCTION from regular prices. See catalogue.

SINGLE SETS, OR PARTS OF SETS, WILL BE SENT BY EXPRESS AT THESE PRICES TO ANY PART OF THE U. S., ON RECEIPT OF MONEY ORDER OR DRAFT FOR THE AMOUNT OF THE BILL.

Superintendents and others about to purchase first class equipment for offices will readily see by a comparison with other price lists the advantages here offered to those who send their orders to us.

No. 2 SETS.

LEARNERS' APPARATUS, SHORT LINE INSTRUMENTS, Etc.

No. 2 Relays, 150 to 175 ohms resistance. Price, \$15, reduced to \$12.

No. 2 Relays, 50 to 100 ohms resistance. Price, \$11, reduced to \$8.80.

Pony Relays, complete and pretty little instrument for short lines, city wires, etc., \$7.50, reduced to \$6.

No. 2 Pony Sounders, \$6.50, reduced to \$5.20.

No. 3 Pony Sounders, \$5.50, reduced to \$4.40.

No. 1 Main Line Sounders for lines from 1 to 6 miles in length. Price, \$8, reduced to \$6.40.

No. 2 Ditto, \$7, reduced to \$5.60.

No. 3 Keys, curved levers, Caton style, same as No. 1, but smaller. Price, \$5, reduced to \$4.

No. 4 Keys. Price, \$4, reduced to \$3.20.

Amateurs' Key, \$3.50, reduced to \$2.80.

Excelsior Amateur Instruments, \$6.50, reduced to \$5.20.

Bunnell's Champion Learners' Instruments, \$6.50, reduced to \$5.20.

At the above figures all grades of Telegraph Instruments may be obtained from L. G. TILLOTSON & CO. for less money than will buy as good materials at any other manufactory in America.

Orders, correspondence and inquiries will receive prompt attention. Make your memorandums of amounts for what you want from the above price list, and enclose the sum to us by postal order or draft along with your order for goods.

L. G. TILLOTSON & CO.,

8 Dey street, New York,

54 SOUTH FOURTH STREET, PHILADELPHIA.

AMERICAN FIRE ALARM AND POLICE TELEGRAPH.

GAMEWELL & CO., Proprietors,
62 BROADWAY, NEW YORK.

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General Agent and Superintendent.

L. B. FIRMAN, Chicago, Ill.,

General Agent for the West and North-West.

TELEGRAPH SUPPLY AND MANUF'G CO., Cleveland, Ohio,
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ELECTRICAL CONSTRUCTION AND MAINTENANCE CO.,
San Francisco, Cal.,

Special Agents for California, Oregon and Nevada.

THIS SYSTEM OF

FIRE ALARM & POLICE TELEGRAPH

WITH A CENTRAL OFFICE,

OR

UPON THE AUTOMATIC PLAN,

is now in operation in the following Cities, to which reference is
made for evidence of its great

SUPERIORITY, VALUE

AND

UNIFORM RELIABILITY.

Albany, N. Y.,
Alleghany, Pa.,
Boston, Mass.,
Bridgeport, Conn.,
Buffalo, N. Y.,
Baltimore, Md.,
Chicago, Ill.,
Cincinnati, Ohio,
Columbus, Ohio,
Cambridge, Mass.,
Charlestown, Mass.,
Covington, Ky.,
Detroit, Mich.,
Dayton, Ohio,
Elizabeth, N. J.,
Fall River, Mass.,
Fitchburg, Mass.,
Hartford, Conn.,
Indianapolis, Ind.,
Jersey City, N. J.,
Louisville, Ky.,
Lowell, Mass.,
Lawrence, Mass.,
Lynn, Mass.,
Mobile, Ala.,
Montreal, Canada,
Milwaukee, Wis.,

New York City,
New Orleans, La.,
New Bedford, Mass.,
New Haven, Conn.,
Newark, N. J.,
Omaha, Neb.,
Philadelphia, Pa.,
Pittsburg, Pa.,
Portland, Maine,
Peoria, Ill.,
Providence, R. I.,
Quebec, L. C.,
Rochester, N. Y.,
Richmond, Va.,
St. Louis, Mo.,
St. John, N. B.,
Springfield, Mass.,
San Francisco, Cal.,
Savannah, Ga.,
Syracuse, N. Y.,
Troy, N. Y.,
Taunton, Mass.,
Toledo, Ohio,
Toronto, Canada,
Washington, D. C.,
Worcester, Mass.

The Distinctive Features of these Systems of

Fire Alarm and Police Telegraphs

ARE,

First—The **Automatic Repeater**, through which the apparatus may be distributed in a combination of circuits, and the entire system successfully worked, without the constant personal attention of either operators or watchmen.

Second—The **Automatic Signal Boxes**.

Third—The **Electro-Mechanical Bell Strikers**, adapted to produce the full tone of the largest church or tower bells.

Fourth—The **Electro-Mechanical Gong Striker**, for hose and engine houses, by means of which the location of the fire is instantaneously communicated to the members of each fire company.

These Features combined form the

Only **PERFECT, COMPLETE and RELIABLE** System

OF

FIRE ALARM TELEGRAPH

IN THE WORLD.

It is a sufficient vindication of the claims which are made by the Proprietors of these systems of

FIRE ALARM AND POLICE TELEGRAPHS,

that they have sustained the test of more than twenty years of practical use, and that the efforts which have been repeatedly made to supplant them by other inventions have

COMPLETELY FAILED;

the few instances in which municipalities have been induced to adopt other systems having demonstrated their insufficiency and unreliability, and resulted in their abandonment, and substitution thereof of the

AMERICAN FIRE ALARM TELEGRAPH.

Messrs. GAMEWELL & CO. are the owners of the original *FARMER & CHANNING PATENTS*, one of the most important of which has just been extended for seven years, and during the past seventeen years have spared no expense or effort to secure improvements, and the Systems are now covered by
MORE THAN TWENTY PATENTS.

The most important improvement which the Proprietors have adopted and introduced is the

AUTOMATIC SYSTEM.

the introduction and operation of which involves so little expense, compared to the benefit which it confers, that even small communities can profitably adopt and maintain it.

The American System of

FIRE ALARM AND POLICE TELEGRAPHS

has met with the universal approbation and commendation of the

People, Municipal Authorities,

AND THE

PRESS

throughout the UNITED STATES and CANADA.

NO EFFORT, TROUBLE OR EXPENSE

is spared by the Proprietors to obtain and secure ANY POSSIBLE IMPROVEMENT which shall increase the

EFFICIENCY,

RELIABILITY and

ECONOMY

of the system. They intend that, as far as possible, it shall be

ABSOLUTELY PERFECT!

The amount of property which has been saved from destruction, and the number of lives which have been preserved through the general adoption of this system, throughout the UNITED STATES and the DOMINION of CANADA,

CANNOT EASILY BE ESTIMATED,

but that, in every community where it has been introduced for any considerable length of time, they have been enormous, **THREE CAN BE NO QUESTION.**

The cooperation of **TELEGRAPHERS** in securing its introduction into their localities is cordially invited, and their efforts will be duly appreciated and compensated.

Any information desired in regard to the above system will be cheerfully and promptly furnished upon application at the office.

A pamphlet, setting forth more fully its advantages and superiority, has been printed, and will be supplied to Municipal Authorities and others interested in Fire Alarm and Police Telegraphy, upon application as above.

CHARLES T. CHESTER,
104 Centre Street,
NEW YORK,

TELEGRAPH ENGINEER,

AND MANUFACTURER OF

INSTRUMENTS,

BATTERIES,

AND EVERY DESCRIPTION OF

TELEGRAPH SUPPLIES.

BUNNELL'S PATENT REPEATER.

These instruments are now made in two different styles, at \$120 and \$135 a set, consisting of two Relays, two Sounders, two Keys and Governor.

JONES' LOCK SWITCH-BOARD,

a most compact and reliable Switch, forming a clean spring-locked connection between any number of wires, occupying for each different connection only one square inch of space, and though made of the largest size, not subject to the warp and contraction of wood-work.

EXCLUSIVE AGENTS OF

A. G. DAYS

KERITE,

OR

COMPOUND RUBBER COVERED WIRE

SUBTERRANEAN & AERIAL WIRES,

OF THE

HIGHEST INSULATION.

We are now prepared to furnish, after an experience of three years, an Insulated Wire which can be buried in the earth or exposed to rain and sun, or to the vapor of acids, without injury Professor SILLIMAN, who has exposed it to the most destructive agencies, finds that it remains uninjured in an atmosphere of ozone, which would destroy gutta-percha in a few hours. It exceeds glass or any other known substance as a non-conductor.

We have made special arrangements to furnish this article for office purposes at a reduced rate.

ALSO, TO FURNISH

IRON CLAD CABLES

of the usual size, with KERITE COVER, believing that it will exceed, in insulation for submarine purposes, ANYTHING HITHERTO MANUFACTURED.

We shall be happy to furnish estimates for any amount and size of cable, which will be found to compete with any other construction, both in quality and price.

We manufacture the Genuine ELECTROPOION BATTERY, with Patent Platina Connection, introduced by us eight years since; also, THE ALPHABETICAL OR DIAL TELEGRAPH now extensively used in this and other cities for private lines being easily and quickly learned by any one.

We offer for sale, among other novelties, a SOUNDER that will work practically with a single DANIELL cell, a BATTERY that does not require to be taken down but once a year, and the very best MAIN LINE SOUNDERS made.

Our CATALOGUE, embracing a large amount of new matter and description, is now ready for distribution.

THE TELEGRAPHER
A JOURNAL OF
ELECTRICAL PROGRESS.

J. N. ASHLEY, PUBLISHER.

SATURDAY, MAY 8, 1875.

VOL. XI. WHOLE No. 460.

Annual Report of the President of the Atlantic and Pacific Telegraph Company.

THE following is the report of Mr. Thomas T. Eckert, President of the Atlantic and Pacific Telegraph Company, made to the stockholders at the annual meeting of the company, held April 28th, a brief synopsis of which was printed in the last number of THE TELEGRAPHER:

TO THE STOCKHOLDERS OF THE ATLANTIC AND PACIFIC TELEGRAPH COMPANY.

NEW YORK, April 28, 1875.

Having assumed the Presidency of your Company on the 14th day of January, 1875, in accordance with an unanimous vote, at the meeting of your trustees held on that day, it becomes my duty to present to you at this, your annual meeting, a report of the progress of your Company during the year 1874, as shown by the records which have been committed to my care.

The lines of the Atlantic and Pacific Telegraph Company extend from New York City, via Albany, Saratoga, Oswego, Syracuse and Buffalo, N. Y., thence by two routes—one through the Province of Ontario and Detroit, Mich., and the other via Cincinnati to Chicago, and thence, via the Chicago, Rock Island and Pacific Railway, to Omaha, Neb., and via the Union Pacific Railway to Ogden, Utah, with various branch lines, and having connections with the lines of several important railroad companies and local telegraph companies. At Ogden we connect with the Central Pacific Railroad Company's system of lines, in accordance with a contract with that company, the terms of which are mutually advantageous—affording the Central Pacific Company through communication to the Atlantic coast, and us the same to the Pacific.

As stated in your President's report for the year 1873, the Atlantic and Pacific Company purchased, in its corporate name, during that year, a majority of the stock of the Franklin Telegraph Company, whose lines extend from Rye Beach, N. H., via Boston, to Washington City, connecting, via New York Philadelphia and Baltimore, with all the most important intermediate cities and towns, and, by lease of the Northern Telegraph Company, with the principal towns in New Hampshire; and by contract with the lines of the Southern and Atlantic Telegraph Company, extending from Washington City through the most important cities and towns on and near the Atlantic and Gulf coasts to New Orleans.

At Oswego and Buffalo, N. Y., and Detroit, Mich., we connect, under an acceptable contract, with the lines of the Dominion Telegraph Company, of Canada, a vigorous corporation which is now in effective operation throughout both Upper and Lower Canada.

At Rye Beach, N. H., we connect, by contract, with the "Direct United States Cable Company," whose cable is in perfect working order from Rye Beach, N. H., to Tor Bay, N. S. The shore end of the ocean cable is laid and buoyed, ready for connection with the deep-sea cable, which lacks less than a hundred miles, east from the Newfoundland coast, to complete communication across the Atlantic.

New lines were constructed during the year.

From Chicago to Omaha.....	530	miles.
From New York to Long Branch.....	68	"
City Loops.....	64	"
And the Scioto Valley Line from Columbus to Ironton, Ohio, has been purchased.....	124	"

Total additional lines..... 728½ miles.

Our system of lines and connections, as thus briefly described, covers 14,612 miles of poles and 28,477 miles of wire, and brings us into direct communication with 1,385 offices.

The number of miles of pole line in the direct control of the Atlantic and Pacific Company at the close of the year was 5,097, and of wire, 12,039.

The authorized capital stock of the Company is

\$10,000,000. The amount issued at the end of the year 1874 was \$9,578,100, leaving a balance of four thousand two hundred and nineteen shares in the treasury.

The gross receipts of the Atlantic and Pacific Company for the year 1874, including the Franklin, from November 20 to December 31, inclusive, were \$450,534 01
The gross expenses were..... 399,111 97

Leaving a net profit of..... \$51,422 04

This surplus and a portion of the Company's funds, derived from sale of its Treasury stock, were expended in the construction and purchase of lines before mentioned, viz.:

Chicago to Omaha.....	\$55,907 28
New York to Long Branch.....	4,922 36
Columbus, O., to Ironton, O.....	7,000 00
City loops.....	333 00

\$68,162 64

The Company had on hand at the close of 1874 net assets amounting to \$197,113.44, in addition to its Treasury stock. This sum is available for the extension and development of our lines and business. There were also on hand at the close of the year materials and supplies sufficient for about two months' use.

The Company is free from debt of every kind.

In November, 1874, a lease of the lines and property of the Franklin Company to the Atlantic and Pacific Company was negotiated, chiefly for the purpose of securing economy of administration, and avoiding the necessity of maintaining separate organizations and accounts.

The reports of my predecessors have been made to cover only the calendar years. It is, therefore, only necessary for me to refer at this time to the affairs of the Company during 1874. But, as my connection with the Company did not begin until after the close of that year, and more than three months have since passed, I will briefly mention a few subjects of most immediate and important interest to the stockholders, which are proper subjects for report in 1875, and concerning which I shall endeavor to present the facts fully at a future meeting.

Since the beginning of this year your Company has acquired working possession of the American Automatic System of Transmission, which is protected by thirty-six indisputable patents. The use of this system readily admits of instant change from ordinary Morse to Automatic, at the will of the operator.

Your Company has also purchased the exclusive right to the use of the Wheatstone Automatic System of Transmission in the United States and the Island of Cuba. This system has lately been patented in this country by Sir Charles Wheatstone, the inventor. It has for some years been extensively and advantageously used in Great Britain, as evidenced by the reports of Mr. Scudamore and Mr. Culley, the chief officers of the British Post-office telegraphs, whose mention of this system in 1871 was favorable, and whose later reference to it has been still more favorable, showing that its continued and extended use has served to improve its utility. Since the beginning of the present year the right to use this system has been purchased by the French Government.

The American Automatic possesses some very important advantages over the Wheatstone, especially that of much greater speed, but the latter is also a most valuable acquisition.

Your Company has also purchased from the inventor, Mr. Thomas A. Edison, and from his business partner and assignee, Mr. George Harrington, the inventions known as the duplex and quadruplex. In solving what has been properly called "the most difficult problem which has ever been presented to the managers of telegraph companies, to wit: how to provide for the rapidly increasing volume of business without an annual expenditure for the erection of additional lines and wires that would prevent the payment of reasonable dividends," the duplex and quadruplex inventions are valuable, but they are much less so than the automatic, for the reason that the transmitting capacity of a single wire, by the use of the latter, is not less than five times greater than that of the quadruplex, and for the further important reason that the automatic is capable of clear transmission, at a high rate of speed, under conditions of the line and of the atmosphere so unfavorable that an ordinary Morse circuit can hardly be operated at all, while the duplex requires exceptionally favorable conditions of line and weather, and the most skillful operators, in order to render it available; and the same is true, in a much greater degree, of the quadruplex.

We have recently taken charge of the Marine Line, New York to Sandy Hook, under an acceptable agreement, enabling us to compete for marine news and the service connected therewith, in which the great cities of the coast especially are deeply interested.

The steamer *Faraday* left England on the 5th instant, for the purpose of completing the United States Direct Cable. Under favorable circumstances this can

readily be accomplished within a few days from the time of the steamer's arrival at the point to be connected.

It is hoped that the connection will be successfully made at a very early day. Many of the details of our prospective business relations with the Direct Cable Company were satisfactorily arranged with Mr. Oliphant, its American representative, and Mr. Von Chanvin, its general manager, during their recent visit to New York.

Arrangements are now well progressed for extending our facilities by an additional route from New York City to St. Louis, Mo., from Chicago to Milwaukee, and from Rye Beach, New Hampshire, to Portland, Maine. Other and important extensions and connections, by which we shall reach all the leading cities, both North and South, are under consideration, with the prospect of favorable results.

The reduction of rates by our Company, which took effect on the 15th of February, resulted in an immediate increase of business, throughout the territory affected by it, quite equal to our expectations. The gross receipts for the first three months of this year were \$180,736 42. The increase in March over February was over seven thousand dollars, and over January nearly eight thousand dollars.

Further reductions would have been made before this but for the unusual severity of the weather, which has prevented to a great extent the work upon our lines that would otherwise have been done, and the unavoidable delay in the manufacture of automatic machinery sufficient to fully equip all principal offices.

Some of the most serious difficulties and obstacles with which your officers have heretofore had to contend are now removed, and others are fast being removed, and we may reasonably expect to bring about a general and material improvement in the important essentials to the business of telegraphing before the close of the present season by securing such lines, offices, employes, and service as cannot fail to invite and retain the business and confidence of the public, and to ultimately secure the extension and development of your property to the highest attainable efficiency and value.

Respectfully submitted.

THOS. T. ECKERT, *President.*

Original Articles.

The Morse vs. The Automatic.

BY JOHN STERLING.

AS THE columns of THE TELEGRAPHER evince a decided editorial leaning toward the "Automatic" as the telegraph system of the future, and the panacea for all the telegraphic ills under which the poor public groan; and as a great deal has been said in its columns in favor of that system, while the arguments on the other side have been very meagre, and those inadequately presented, I wish to give a few facts in connection with the subject which must be plain to any one who gives them any consideration. In doing so I shall be as brief as possible.

First. What motive has Mr. George B. Prescott, the electrician of the Western Union Company, for condemning the Automatic system as possessing no advantages over the present system in universal use in this country? It is admitted that the Western Union could have easily secured the Automatic system, if they had deemed it for their interests to do so. Mr. Orton, Mr. Prescott and other officials of that company receive large salaries, and may be supposed to labor for its interests; yet, after a fair investigation of the merits of the Automatic method, they use their influence against its introduction on the lines of their company. Its wires are crowded to their utmost capacity between the large cities, and while making every exertion to increase the working capacity of their wires, is it likely they would ignore the Automatic if that system possessed half the advantages claimed for it? The idea is preposterous.

Second. The Automatic system, if introduced, would be practicable only on through lines doing a heavy business. For lines with many way stations, the Morse is the only system yet devised which answers every requirement. The time will come when the old foginess of even the English will succumb to an improvement on their present needle and bell telegraphs for way wires, and that improvement will be the American Morse method, pure and unadulterated. They have taken a step in that direction recently by improvements on the bell instruments. The defunct Automatic Company were weak on this point, and most of their business was done by Morse. I have been informed by those in a position to know, that only in a pressure of business were the Automatic instruments used.

Third. Mr. Craig, in a communication to this paper some months ago, quoted Mr. Orton's statement plac-

ing the average speed on Morse lines at 15 words per minute, knowing very well that the average given was based upon calculations in which the whole vast business of the company was included. It is well known that an operator who cannot receive at least 35 words per minute has but small claims to be ranked high in ability. The heavy wires between the principal cities are worked at an average of over 30 words per minute night and day, while 40 words is no unusual achievement. There are dozens of operators in every large office who can both send and receive at least 40 words per minute for hours with no unusual exertion. Go to, Mr. Craig! you are not fair. With your vaunted Automatic, with its capacity for 500 words per minute, you should surely allow us Morse operators a fair show in your calculations. But let us examine your claim of 500 words per minute on a wire of 250 miles. Words average above 6 letters each in our modern language, which isn't so simple and pure as that in which Shakespeare and Milton wrote. This would give 3,000 letters per minute. By a little figuring you will find that each letter of the 26 contains 7-9 of a dash, and about 2.9 dots in Morse characters. Each dash should equal at least 3 dots in length for proper proportion. This would give 52-9 dots for each letter, or, in round numbers, 15,000 dots per minute—I give you the benefit of the fraction—and 250 per second. Two hundred and fifty breakings of the circuit, or "pulsations," as Mr. Little would say, per second, to be recorded legibly on the strip of paper at the receiving station! Naturalists tell us of the number of billions of times a mosquito's wings "vibrate" per second in order to produce those beautiful musical sounds, so much admired, and which, by the way, we shall soon be listening to with rapture o' nights. But we never took much stock in those statistics, and neither does the average operator in yours, when he must face such a conclusion as they lead to in regard to those "pulsations."

Fourth.—Meeting Mr. Craig on his own ground, economy, and allowing a fair average for the system he advocates, 250 words per minute—a higher average than is warranted by its achievement thus far, I will indulge in a few more statistics, even at the risk of being pronounced dry and uninteresting, though I think no operator who takes an interest in the subject will consider them so, prefacing them with a few necessary explanations in regard to certain points which may not be generally understood.

The latest improvement in punching machines is now in use on the A. & P. lines. They are a triumph of the mechanical ingenuity of Mr. Edison, but no woman or child could work one of them. The keys have a "drop" of three or four inches, and require a strong pressure to carry them down. An hour's work on one of these punches is a severe strain on the muscles of a strong man. The hand soon becomes tired, and the process is laborious in the extreme. On a Phelps' "Printer" the keys require but a touch, and an expert can touch fifty of them per minute by unusual exertion. On the punches, however, the highest achievement I have heard of was forty words. The average work on them will not exceed thirty words.

The "copyists" at the receiving station will do well if they average twenty words per minute. It is well known that the labor of copying from manuscript or visible characters is much greater than by the ear, and progress is necessarily slow. Manifolders of many years' experience tell me that it is impossible to attain a higher average, and certainly better progress could be made with plainly written manuscript than with telegraphic characters to copy from.

Now the figures. Compare the following tables

Automatic (one wire) one hour's work, 14,400 words, would require	
"Punchers," at 30 words per minute.....	8
Operators, 1 at each end.....	2
"Copyists," at 20 words per minute.....	12
	22
Morse (Duplex, 3 wires)—	
Operators to send, at 40 words per minute	6
Operators to receive.....	6
	12

Thus it appears the Automatic method does the work on one wire while the Morse requires three. But, *per contra*, the former requires nearly double the force. Let the quadruplex be brought to perfection, which it doubtless will be soon, and the Morse system with two wires, one "quad" and one duplex, will be capable of the same work per hour with twelve men as the Automatic with twenty-two.

Now, suppose Mr. Craig finds that he must dismiss his theory of "cheap labor" in this connection and accept the present policy of the A. & P. in employing none but experienced men as punchers and copyists, and paying them salaries as first class operators, let us see what effect it would have on his economical theories.

Automatic (1 wire)—	
8 punchers, at \$90 per month... \$720.00	
2 operators, at \$100 " ... 200.00	
12 copyists, at \$90 " ... 1,080.00	
	\$2,000.00
Morse (3 wires)—	
12 operators, at \$100 per month.....	1,200.00
Balance in favor of latter.....	\$800.00

An amount sufficient, suppose the wires to be 250 miles long, to pay the salaries of five linemen to keep them in order, and purchase 166 miles of new wire every year! If some genius will invent a "multiplex" the Automatic would be "nowhere."

Another objection to the Automatic system is, that the business passes through too many hands—is placed at the mercy of too many grades of intelligence and judgment—before reaching its destination. The simplicity of the Morse system would alone render it infinitely superior. The receiver's judgment acts as a check on the possible ignorance or incapacity of the sending operator. If the latter makes an error, and the receiver knows it to be such, he can correct the sender, and perhaps save his employers from loss.

The benefit of this is lost to the company using the mechanical method.

The "copyist" will transcribe just what is given on the strip of paper, and in doing so is relieved from all responsibility for errors, if any occur. But suppose the "puncher" strikes the wrong key occasionally—rendering a word unintelligible—how is a correction to be made without delay? The machinery must be stopped, an inquiry made, and that particular message must be hunted up, repunched, and retransmitted. Does any one suppose that eight punchers could prepare 15,000 words in an hour without numerous mistakes of this kind? The physical exertion required to work the punching machines, as I have said, soon tires the muscles of the hand, rendering the operator peculiarly liable to such mistakes. To sum up, I have endeavored to demonstrate the following facts:

First. That the officials of the Western Union Company who have every incentive to increase the capacity of their wires, after careful experiment with the Automatic system, pronounce it inferior in its practical working to the Morse method, and that their decision cannot be attributed to personal or interested motives, but must be accepted as a deliberate judgment based upon the facts as they appeared to them.

Second. That the Automatic system is practicable only on through lines.

Third. That the average speed on heavy Morse wires is above thirty words per minute and that forty words is no unusual speed, while at 500 words per minute claimed for the Automatic, it must be able to record 250 signals per second legibly upon the paper strip, which I do not believe possible.

Fourth. That allowing the very high speed of 250 words per minute to that system, twenty-two persons are required to perform the necessary auxiliary work at the same rate, while twelve men can perform the same work with the Duplex on three Morse wires, and that if skilled labor is employed on the former the balance in favor of economy is on the Morse side, the saving in salaries being more than sufficient to maintain the two additional wires used.

And fifth. That there are numerous other objections which weigh heavily against the Automatic system, a few of which I have imperfectly described. In simplicity and accuracy the Morse system in the hands of capable, intelligent operators, cannot be approached by any mechanical performance.

Now a word in regard to Mr. Little, that irrepressible gentleman of whom a friend of mine once remarked that it was his deliberate conviction, based upon the patent office reports and Mr. Little's "Claims" in these columns, that the Almighty himself could not strike a haystack with His lightning without an infringement of one of Mr. Little's patents!

Mr. L.'s artistic attempt in THE TELEGRAPHER of Oct. 31st, '74, has not been equalled since Mark Twain issued his celebrated diagram of the Siege of Paris, but not even his startling assertion that in the year 1846 he "stood before a committee of the British Parliament cheek by jowl with Alexander Bain," can convince those who know the facts, that "It is well known that specially large wires had to be constructed for Stearns' duplex" (TELEGRAPHER, Oct. 24th). Such is not the fact. Not until two years after the introduction of the duplex were any wires larger than the standard size (No. 9) constructed by the W. U. Then but two (No 6 size) were strong (between Boston and New York) not for the duplex, but for the Atlantic Cable circuits.

Mr. Little betrays his ignorance still more glaringly in his assertion that Edison's quadruplex is an "old idea." The principle of that system is this—suppose A and B the termini. The reversal of the poles of a fixed quantity of battery at A produces one set of signals on a polarized relay at B, while a second set is

produced by "cutting in" an additional battery at A, causing an increase in the line current, which increase works an ordinary relay properly adjusted at B. This arrangement being duplexed by the "Wheatstone bridge," gives two sets of signals each way, or the "quad," and if it was not a new device in TELEGRAPHY, then I have read authorities on the subject in vain. This arrangement, however, does require a specially large wire, owing to the fact that when the Wheatstone bridge is used only one fourth of the strength of the battery can be utilized, the rest being necessarily wasted. In the Stearns duplex one half the effective strength of the battery is similarly wasted. If Mr. Little would study up these simple facts he would not make such blind and ridiculous statements on the subject.

The idea that the opposition of Morse operators is based upon narrow and selfish grounds is a most fallacious one. When a real advance is made in methods of telegraphing, none will indorse it sooner than they, for as a class they are above the average in sense and intelligence. But the Automatic is not an advance; it is but an attempt to transfer the telegraph business from the hands of skilled and well paid labor to those of "cheap labor," and supply by machinery the loss of brains and skill. There is no analogy between this case and others quoted editorially by this paper, a means of communication upon the accuracy of which depend profit and loss by thousands of dollars, often health and sickness, happiness and sorrow—sometimes even life and death—cannot be compared to the process of making shoes, or any other mechanical occupation. A man may encounter the results of "cheap labor" in the form of paper soles on his boots without flinching, but when he is betrayed into unseemly hilarity by a telegram announcing the death of his mother-in-law, only to learn next day that it should have read a *visit* from her, we may naturally expect an ebullition of his wrath. He may have shoddy palmed upon him for broadcloth, and patiently submit; but let him telegraph an order to sell ten hundred shares of stock on a falling market and have it delivered two hundred, thereby losing a few thousands, and the company employing such talent may expect a suit for heavy damages. Let a company establish a reputation for doing business in this style, and I opine the public would soon indicate its decided preference for skilled labor in telegraphy.

Morse operators have regarded THE TELEGRAPHER as peculiarly their organ, and there are many who cannot understand why it should so warmly support the Automatic system, even if it were capable of 100,000 per minute, and threatened to sweep the Morse operators into oblivion. Why should their paper advocate it? While it gives both sides an opportunity of advocating and opposing *ad libitum*, why run counter to the opinions and prejudices of a large class of its readers by editorial support of the obnoxious innovations? By ignoring the disputed point and allowing the advocates and opponents to "fight it out" in its columns, the editor would please all, offend none, and remove what has been to many the only objection to THE TELEGRAPHER as the operators' journal. If he will do this we can submit cheerfully to even the indiction of a column or two from Mr. Little every week. "Let us have peace!"

Correspondence.

We do not hold ourselves responsible for the opinions of our Correspondents. Our columns are open to free discussions on all telegraphic subjects, without distinction of person or opinion.

No notice will be taken of anonymous communications.

Presentation to Mr. I. D. Purkis, late General Manager of the Dominion Telegraph Company.

TORONTO, CANADA, April 28.

TO THE EDITOR OF THE TELEGRAPHER.

LAST Monday evening a number of the employes of the Dominion Telegraph Co. assembled at the house of ex-General Manager, I. D. Purkis, Esq., and presented him with a very handsome repeating stem winding gold watch, with a fine chain and locket, and an exquisite gold locket set with pearls and gold chain for Mrs. Purkis; together with an address. Amongst those present were Messrs. H. Neilson, Superintendent, Toronto; M. C. Lavin, Manager, Hamilton; C. G. Craig, Manager, St. Catharines; F. Reynolds, Manager, North Hope; L. B. McFarlane, Manager, London; S. J. Ritchie, Manager, Toronto office; T. C. Elwood, Inspector; S. E. Gibbs, Chief Operator, Toronto office; P. W. Snider, Assistant Chief Operator; N. Burke, Night Manager; A. J. Pattison, J. Wilson, H. Pingle, J. Raymond, J. Anderson, Operators; N. Marshall, Store Department; C. McCluskey, Operator, Rossin House.

Mr. and Mrs. Purkis gave the company a very

cordial welcome, and after a short pause Mr. Lavin stepped forward and read the following address:

"Dear Sir—Your retirement from the general management of the Dominion Telegraph Co. suggests to the employes of the company the present opportunity to tender you some tangible expression of the good will and esteem in which they hold you.

"Your experience and ability as a telegraph manager is too well and widely known to need any comment on this occasion. It therefore only remains for us to assure you of the great respect and esteem entertained for you by all those whose duties have brought them in contact with you. During the five years you have managed the affairs of the company we have found you at all times ready to aid and assist by your counsel and advice, not only in your official but also in your private capacity. Your cordiality, tender regard, gentlemanly and courteous demeanor have been unsurpassed, so that in the severance of an association so long enjoyed we experience regret not easily expressed.

"We beg your acceptance of the accompanying souvenirs for yourself and Mrs. Purkis, which are offered as tokens of our great regard and esteem. Most cordially wishing you success in your future career, and trusting that yourself, Mrs. Purkis, and family will be blessed by the Giver of all good with prosperity, health, and happiness.

"Signed on behalf of the subscribers.
H. NELSON, C. R. HOSMER, M. C. LAVIN,
Committee."

Mr. Neilson then read letters and telegrams of apology from a number of gentlemen who were unable to be present. He then made a pleasant and interesting little speech, and concluded his remarks by expressing the best of good wishes for Mr. and Mrs. Purkis—wishes which he felt assured would be echoed by every employe of the company who had had personal contact with the ex-manager, whose departure was so deeply regretted.

Mr. Purkis then made the following reply:
Messrs. H. NELSON, C. R. HOSMER, M. C. LAVIN,
Committee.

Gentlemen—I can scarcely find words to express the great pleasure your address affords me, expressing, as it does, such kindly sentiments on behalf of the telegraphic staff of the Dominion Telegraph Company, over which I have so long presided as General Manager; and I assure you that I shall ever remember, with heartfelt gratitude, this occasion, and those with whom I have so long associated as co-workers in bringing the company to its present efficient state; and you may all be justly proud, for to you its success is largely due. The handsome watch and chain accompanying the address will be highly prized by me as a memento of your kind appreciation, and it will daily bring to my mind many pleasant associations of the past. On behalf of Mrs. Purkis, I thank you most sincerely for your kind remembrance of her at such a time, and assure you she will prize the beautiful locket and chain, and, coming from such a source, these mementoes, with their inscriptions, will be proudly handed down to our children, together with former presentations, in due course, and, I trust, will prove an incentive to them to so regulate their walks in life as to merit the esteem of all with whom they come in contact. Having worked so long harmoniously with my directors and yourselves for our common aim, I shall continue to feel a warm interest in the company, and, judging from the past, I believe you will all give that hearty assistance to your General Manager, Mr. Swinyard, in carrying out the interests of the company that you have rendered me. In conclusion, I cannot better express my feelings, and those of Mrs. Purkis and family, than by repeating your best of wishes—that you and yours may all be blessed by the Giver of all good with prosperity, health and happiness.

I remain, as ever,

Yours, faithfully,

I. D. PURKIS."

Mr. Purkis invited his visitors to stay and spend the remainder of the evening with them. A very comfortable supper was improvised, and after that had been partaken of the company enjoyed themselves singing and dancing, the Misses Purkis presiding at the piano. Quite a number of ladies were present, and an extremely pleasant evening was passed.
Jo.

Corrections.—Personals.—A Sandwich.—Meeting of the American Electrical Society.

CHICAGO, ILL., April 28.

TO THE EDITOR OF THE TELEGRAPHER.

HAPPY ED. ANGELL is probably the most truthful man in the biz, not excepting even Huddleston, Stoner or Lithgow. He informs me THE TELEGRAPHER has done him great injustice by stating, in the Personal column, that he resigned when he got the "grand bounce." No doubt you will take pleasure (in this as in all other cases) in "correcting your testimony."

One more correction. In my article, regarding the accident on the Burlington and Missouri branch of the C. B. & Q. R. R., recently your printer made me say "That the operator handing the conductor and engineer only the order for the freight train should place the blame entirely on his shoulders;" I said, "should not place the blame," etc.

If any of the boys East intend visiting Chicago soon they must not forget that the "University" cap is all the rage here now, and if they want to be in style they must wear one.

We notice a strong tendency of late to settle amicably a little feud that had its origin with the formation of the "Merry Meeting Club" here, and we all hail with joy the cessation of hostilities.

The populat on of Cairo, Ill., was increased some four or five days ago by the birth of a son to Mr. H. E. Stanbury, of the W. U., Chicago, office, night force. "Stan." has a nice little family now—two boys and a girl.

Mrs. O'Connor, of the Western Union office, this city, who left here January 10th for her home in Dublin, was ordered to the seaside, at Malahide, immediately upon her arrival, her health being very poor. She is rapidly improving, however, and hopes for a speedy recovery are entertained by her friends.

One of the boys on the W. U. day force recently attended a surprise party. While preparing to go one of the ladies was lamenting that they hadn't more coffee, cakes, etc. "Pshaw!" says George, "I wouldn't give a fig for such things; give me a good sandwich any time in preference." Oh, you like sandwiches, do you, Mr. H—?" "Yes, indeed," was the reply. "Well, I'll make you one," was the reply, and sure enough she did. George helped himself to his solitary sandwich, while the others had pies and cakes, etc. Just as he was about biting into it he thought it might be well to examine the mate, when he found—oh, horror! a small child's head—rubber. The laugh was on "Halley," but he quickly sandwiched himself between two young ladies and escorted them home, bringing the fruit to the office to show the boys.

Our friend Mr. Leroy Robinson, Manager of the Northwestern Companies, Minneapolis, Minn., office, has had a male sounder switched into his family circuit. It was ready for operating its lungs April 22d, 1875. Being the first edition, it's a complete volume of "get up in the cold—nights to make catnip tea." "hurry up that soothing syrup," etc.

An engineer's life was almost miraculously saved on the Illinois Central Railroad near Carbondale, Ill., on the 22d inst., while the fireman met an instant death. The engine they were running blew up, throwing them some twenty feet in the air; the engineer, in coming down alighting on the telegraph wires, some four or five in number, thus breaking his fall (and the wires) and escaping with a few scratches and bruises.

The regular monthly meeting of the American Electrical Society, which was held Wednesday evening, April 21st, was one of the most largely attended, instructive and interesting held since its formation. Mr. Gray's Telephone was the chief feature of the evening, and it was minutely explained by the inventor. He delivered an oral discourse, reserving the right to hand in a written explanation at some future time. He began with the foundation (sound), explaining the difference between a loud sound and a low sound, the former being the result of the particles of air disturbed moving farther and returning to their normal position than in the latter case. Several familiar tunes were played on the telephone.

Among the new members elected were Mr. E. Payson Porter, Elisha Gray, Supt. Western Electric Mfg. Co.; James Pettit, Asst. Manager Board of Trade, W. U. office; L. C. Springer, Asst. night Manager W. U. office, all of this city, and several whose names I cannot recall. These meetings are gradually growing in interest. Wish they were weekly instead of monthly. The usual pleasantries were indulged in by the members, Mr. Gray remarking that he was not perfectly satisfied with the action of his analyzer, or something to that effect, one of the members replied, this was not the only Ann Elizer that had not acted satisfactorily to those interested; for instance, Brigham Young's.

OCCASIONAL.

Personals and Changes.—Rough Experience in Travelling.

SAN FRANCISCO, CAL., April 10.

TO THE EDITOR OF THE TELEGRAPHER.

SEVERAL changes have recently been made in this Division of the Western Union Telegraph Company.

Mr. George Campbell forsakes the Western Union for the Atlantic and Pacific at San Francisco.

Mr. George Fitch, Manager of the San Luis, Obispo, office, has resigned, to engage in other business, and was relieved by Mr. W. Bennett, of Sacramento, the position held by Mr. Bennett at Sacramento being taken by Mr. Chas. Boynton, of San Francisco. Mr. S. S. Pomeroy, of Salt Lake, Utah, arrived in this city

just in time to fill the vacancy caused by the transfer of Mr. Bennett. Mr. Pomeroy is one of the old reliables, but only favored us with a few day's help and a few remarks about old times, getting our old friend Foley warmed up in the reminiscences of other days, which never fail to interest us more recent graduates in the telegraphic art. Mr. Pomeroy returns to Salt Lake City to engage in other business, but proposes to do the vicinity of San Francisco a la tourist for a week or so.

Mr. Charles J. Lawson, late night chief operator at St. Louis, Mo., who came west on account of his health, fills the vacancy caused by Mr. Pomeroy's resignation.

Mr. Lawson came overland, and had a rather rough experience by the way. Miscalculating the expenses of the trip, he ran "short," and had to do a part of it in sections, an experience not calculated to impress one favorably of the trip. He sometimes got a lift on the "fast freight" trains (eight miles an hour when running), not allowing for side tracking, etc. He says that if he makes the trip back alive, he will adopt Ncd Peirson's suggestion of getting flanges on his shoes and taking the track himself.

Ned, who dropped in on us last week, recalling this, says you can always get passed in this way—about twenty miles an hour, and don't have to side track yourself very often west of "O. M." CLIX.

An Unseasonable May Day.—Reorganization of the Chicago Western Union Office.—Personals, etc.

CHICAGO, ILL., May 1.

TO THE EDITOR OF THE TELEGRAPHER.

WE are having very changeable and unpleasant weather. No genial showers visited us last month to bring forth May flowers, and to-day it has rained and snowed alternately from "early morn till late a' night."

The following order was posted on the Bulletin Board yesterday:

"WESTERN UNION TELEGRAPH COMPANY,
Central Division, First District.

Notice to Employes.

The following appointments have been made in the operating department of Chicago office, to take effect May 1st, 1875:

- H. C. Maynard, Manager.
- F. W. Jones, 1st Asst. "
- C. G. Sholes, 2d " "
- H. W. Plum, 3d " "
- L. C. Springer, Night Manager,
- C. H. Kelly, 1st Asst. " "
- W. A. Leary, 2d " " "
- J. Dewitt Congdon, Late " "

J. J. S. WILSON, Supt."

Mr. York still assists to test wires, etc., but does not rank as an asst. manager as heretofore.

Mr. G. W. Hurd, of the day force, who has been laid up some time with a swollen face, caused by an ulcerated tooth, is again at his post.

Mr. "Tom" Weller, an old veteran, began work on the night force in this office last night.

It is rumored that Mr. Swift, of the Amboy wire, is soon to be transferred to our Indianapolis office; also, that Mr. Avery, of the Illinois Central line, intends resigning soon to go to school—wise young man.

Mr. Stoner, the monied man of the office, has returned from his two weeks' vacation, and is again on the St. Louis wire nights.

It is understood that Mr. Benson and Mr. Knox, who have changed tricks—former working nights, latter days—will exchange back again soon.

Mr. Stevley, who graced the night force and the Pittsburg wire at the same time, by changing off with Mr. Fish, has gone back on the day force, and "Jim" is with us again on the night force.

Mr. Bale is to take charge of the way business, and look after it nights the same as Mr. Leary formerly did, the latter's appointment as 2d asst. night manager necessitating the appointment of a good man to see to this business.

Considerable discussion arose in the office here last night as to the proper way to spell employes, some of the most knowing ones claiming that although usage made employes proper, as well as employes, still, according to Webster (who is the recognized authority in all such cases), employes is the only proper way to spell it. Please decide this vexed question for us, and oblige
WESTERN UNION.

[NOTE.—Employes is the proper spelling of the word. EDITOR OF THE TELEGRAPHER.]

The man who won't take a paper because he can borrow one, has invented a machine, with which he can cook his dinner by the smoke of his neighbor's chimney.

Battery carbons can be readily cut with a handsaw moistened with water.

THE TELEGRAPHER

DEVOTED TO THE INTERESTS
OF THE
TELEGRAPHIC FRATERNITY.

SATURDAY, MAY 8, 1875.

THE TELEGRAPHER:
PUBLISHED EVERY SATURDAY at 38 VESEY ST.

ELEVENTH VOLUME.

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Communications must be addressed to

J. N. ASHLEY, Publisher,

(P. O. Box 5503.)

38 VESEY ST., New York.

Back Numbers of The Telegrapher Wanted.

OUR supply of copies of the current volume of THE TELEGRAPHER, Nos. 446 for January 30th, and 449 for February 20th, are already exhausted, and we would be under obligations to any of our subscribers who do not keep files of the paper for binding, that may have these numbers, or either of them, on hand, if they will forward them to this office. The postage necessary to be prepaid on those papers, to insure their transmission, is two cents for each.

We regret to be obliged to ask this, but the demand for these numbers has exhausted the supply.

A Late Season.—Prospects for New Telegraph Construction.

THE season this year is just about a month behind its usual progress. In March we had February weather, in April, March, and so far in May we have had weather which is customary for April. Whether this is to be continued through the summer remains to be seen, but the probability is that the hot season will suddenly come upon us, and that we shall all be complaining of the heat, as we have thus far of the cold.

The lateness of the season, and the interruptions to the telegraph wires from storms, etc., have delayed somewhat the construction of new lines projected, but this difficulty is probably now about over, and we may expect soon the commencement of active operations in this direction for the season. In fact, as is recorded elsewhere, the Atlantic and Pacific Company have begun the work at the West, and the Southern and Atlantic Company is also engaged in the construction of additional lines South, the details of which were given in THE TELEGRAPHER of last week. There was comparatively but a small extent of new lines built last year, and business in connection with such construction was exceedingly dull in consequence. The prospects for the present season are better, and it is probable that there will be a much larger extent of lines constructed than last year. We understand that the Atlantic and Pacific Company contemplate building several thousand miles of new line, and it is probable that this company will do more in this direction the present season than any other.

We do not hear of any extensive additions proposed to the Western Union system, but there will, undoubtedly,

be more or less new lines built by this company during the season.

There seems to be considerable activity in extending lines on the Pacific Coast, both by the Western Union and the Atlantic and Pacific Companies.

The prospect, on the whole, may be considered fair for the coming season, although there will not be the activity which has been witnessed in former "flush times" for telegraphs. However, we must be content with what can be had, and wait with as much patience as possible for the return of the "good times."

Business generally is still very much depressed, and we cannot expect that the telegraph will escape the influence which has unfavorably affected other departments of business and labor.

There is no probability of any very urgent demand for telegraph operators, or a demand beyond what the present supply can easily meet, and we trust that there will not be a pressure on the part of those not now in the business to engage in it. If there were no additions to the number of operators in this country and Canada for two or three years to come it would be all the better.

The Atlantic and Pacific Report.

We print in full in this number of THE TELEGRAPHER the report of President ECKERT to the stockholders of the Atlantic and Pacific Telegraph Company, of which we gave a brief synopsis last week. It will be found of interest as giving the present status of the principal organization competing with the Western Union combination. It will be noticed that in addition to the American and WHEATSTONE automatic systems, Mr. ECKERT speaks of the purchase of the EDISON duplex and quadruplex inventions by the Atlantic and Pacific Company. The Western Union also claim to have completed a prior contract for the purchase of the quadruplex from EDISON and PRESCOTT, and are manufacturing and putting the instruments on their lines. The unique facility which the great professor of duplicity and quadruplicity has of dealing simultaneously with antagonistic parties and interests, is well calculated to befog any who may desire to avail themselves of the results of his study of standard and obscure telegraphic works, and his application of ideas thus developed or intrusted to him by others.

In this connection a little incident which occurred at the hearing recently by Secretary DELANO, on the application for patents on the quadruplex inventions of the great professor of duplicity and quadruplicity is illustrative. General B. F. BUTLER, who appeared nominally for EDISON, in the course of his argument read over the various contracts and assignments made by the professor to and with Mr. PRESCOTT, Mr. HARRINGTON, Mr. JAY GOULD, etc. The Secretary could not comprehend the erratic manner in which the professor had quadruplexed his business arrangements in connection with the invention, and remarked "Why there must be more than one EDISON."

Senator CONKLING, who appeared for Mr. PRESCOTT, quietly responded, "Oh, no, Mr. Secretary, *there is only one Edison!*"

Another person present suggested "None but himself *could be his parallel.*"

The incident excited considerable amusement and laughter.

As a matter of fact we do not suppose the managers of the Atlantic and Pacific Company build very largely on the ownership of the quadruplex. An attempt to unravel the professor's business entanglements will suffice to furnish employment for a legion of lawyers indefinitely.

The Atlantic and Pacific Company proposes to build considerable line during the coming season, to extend their system.

President ECKERT represents matters as favorable for the development of a satisfactory competing system, and to this the energies of the new management of the Atlantic and Pacific Company will doubtless be specially directed.

Literature.

A Manual of Telegraph Construction; the Mechanical Elements of Electric Telegraph Engineering. By JOHN CHRISTIE DOUGLAS, M. S. T. E., &c. London: Charles Griffin & Co. New York: D. VAN NOSTRAND 1875.

IT was once remarked by a witty author that a reviewer ought never to read a book before writing a notice of it, as it would have the effect of producing a prejudice in his mind one way or the other. If we had strictly followed this original piece of advice we should have noticed Mr. Douglas' book some months ago; while, on the other hand, if we had waited to read it entirely through before writing this article it would probably have laid on our table for a considerable time to come. Mr. Douglas appears to be a practical telegraphic engineer, and we are free to say that if he constructs his lines with anything like the same solidity as he has the treatise now under consideration, they will be likely to outlast any of the present generation of telegraphers. We do not wish, however, to do our author an injustice, and we will therefore say at the beginning that he has got together a large amount of valuable material, a good share of which is original, and this makes it all the more a pity that he had not been possessed of the faculty of book making to a sufficient extent to be able to put it in a less forbidding form. He has given us over 400 pages of matter, packed in like "pemmican," in solid type, and seldom broken by paragraphs, and written in a style well calculated to repel any but the most earnest and determined student. The first part of the book is devoted to the consideration of the general principles of mechanical strength and stability, and the second to the properties and application of materials, operation and manipulation. The third and last part treats of telegraphic construction, maintenance and organization, and is, of course, the part most specially interesting to members of our craft. The most minute directions, evidently derived from practical experience, are given for laying out the route of telegraph lines, and for constructing them—both in the city and country—according to the most approved English practice; including submarine and overhead river crossings, underground lines, etc. The laying of long and short cables is fully treated of, as well as the arrangement and fitting up of offices, etc.; and the concluding chapter treats of maintenance and organization. We have merely indicated in the most cursory manner the contents of the volume. Uninviting as its pages may appear, there is a vast amount of information buried therein, which it will well repay the student, and even the experienced telegraph engineer to search out and practically apply.

In the section relating to office fixtures, Mr. Douglas speaks of the switch in the office at 145 Broadway, as probably the largest in existence, though it is less than half the size of the one now in use in the new office. He adds: "In India commutators are used, but the largest provides for only about twelve lines. In England commutators are not used; in the central office at London one large testing board is used, it will provide for 800 lines, and consists of a flat surface of wood work, carrying screws arranged in pairs, one of each pair being connected with the lines, the other with the instrument; a row of knobs projecting from the board serves to support wires used for making transverse connections, for which ordinary covered wire is used. In the battery room smaller connection boards are used. In the central office at Paris the line wires are brought into one room to a set of binding screws, arranged in a large circle, on the wall; another set of screws arranged in a concentric and smaller circle, is connected with the instruments, and these two sets of screws are connected by wires arranged radially. The battery wires are brought to a line of screws, and connected by uncovered wires in porcelain rings to a second set. From the rooms containing the arrangements described, the wires are distributed to the instrument rooms, those for each room are made up into a separate cable; the instruments are distributed over many rooms; in each room is a small connection board having two vertical rows of binding screws, one connected with the lines, the other with the instruments, the connections are made between these two rows of screws by flexible conductors covered with vulcanized India rubber and of suitable length. In the Berlin office a commutator is used, providing for 96 lines.

The commutator is very useful for a small number of lines, not exceeding perhaps 10; when larger it becomes inconvenient and unnecessarily expensive, and the connection board appears more convenient. The commutator provides more than is required; it appears useful for a large number of wires, only when divided, *i. e.*, the instruments being arranged in groups; a separate commutator is used for each group.

The book is well printed and contains a considerable number of diagrams. If it could only have been cut down about one half and the balance rewritten in a presentable form, it would have made one of the most useful books we have been favored with for many years. There are several excellent German and French treatises on telegraphic construction, but this is the first one in the English language, and despite its faults, we should like to see it on the shelves of every telegraphic engineer's library. For sale by D. VAN NOSTRAND, 23 Murray street, New York.

Guide Pratique de Telegraphie par LOUIS HOZEAN, employé des lignes telegraphiques. Paris: E. Dentu, 1874. New York: D. VAN NOSTRAND.

This work is designed for the use of students, and as a practical guide for telegraphic employes, and is intended to occupy much the same ground in relation to the French telegraphic system, that POPE'S *Modern Practice* does to the American. It commences with a description of the essential portions of the apparatus and their functions, and then treats of the laws of the current, so far as is necessary to a clear understanding of the operation of the instruments, which is followed by a concise description of the construction and operation of the switch or commutator, the galvanometer, the lightning arrester, and other less important adjuncts to the telegraphic apparatus proper. Other chapters give directions in regard to the adjustment of the instruments, the establishment of stations, the manipulation of the key and formation of the Morse alphabet, etc., etc. The appendix contains an essay on the different kinds of batteries, and their management. One ingenious feature of the book is a (presumably) complete list of all the ills that telegraphic instruments are heir to, systematically arranged in tabular form for convenience of reference. The book is written, of course, with reference to the French method of working the Morse apparatus, and, therefore, would perhaps be of little use to the average American operator, especially as it is printed in the French language. To those, however, who are interested to know how the French telegraphs are actually worked, it will prove of value. The work is beautifully printed, and the execution of the numerous illustrations, which are original drawings on wood, by the author, is simply superb. D. VAN NOSTRAND, 23 Murray street, New York, has the work for sale.

Presentation and Marriage.

MR. WILLIAM HOLMES, the efficient Superintendent of the Tariff Bureau of the Western Union Telegraph Company, has taken unto himself a partner for life, and received an anticipatory token of esteem from his friends—both of the gratifying events happening on the same day. The token of esteem, which consisted of a handsome and valuable gold watch was presented to him on Thursday morning, April 29th, and his marriage took place Thursday evening.

We congratulate Mr. HOLMES sincerely on both the presentation and the marriage, of both which he is worthy, and trust that he may live long and happily to enjoy the pleasures of the society and companionship of his bride, and that the watch may for him mark only happy hours.

Geo. H. Bliss & Co.

Our readers will notice that the address of GEO. H. BLISS & Co., at Chicago, Ill., has been changed from 41 Third avenue to 220 Kinzie street, where the balance of the stock is being disposed of at very low prices.

Mr. GEO. H. BLISS has taken the position of General

Agent of the Western Electric Telegraph Co., an arrangement which will no doubt prove very advantageous and satisfactory to all parties. Those who may desire to purchase telegraphic and electrical apparatus and supplies on unexceptionably advantageous terms will do well to communicate with Mr. BLISS, as above.

Personals.

Mr. L. F. SHERDEN is Superintendent of Telegraph for the M. K. and T. R. R. Co., with headquarters at Parsons, Kansas.

Mr. C. W. GEARHARDT, an old Eastern operator, is in the insurance business at Tucson, Arizona.

Mrs. CARR has been transferred from Nebraska City, Neb., to Jacksonport, Ark., W. Union office, and Mr. J. P. MORRISON, of the latter place, to Nebraska City.

Mr. BYRON F. BURDICK has been transferred from St. Mary's, Pa., night duty on Phila. & Erie R. R. Telegraph, to Kane, Pa., nights, same line, *vice* Mr. J. M. FAY.

Mr. EUGENE K. STEVENS, from B., N. Y. & P. R. R. junction office, has been transferred to St. Mary's, Pa., P. & E. R. R. line, in place of Mr. BURDICK.

Mr. JNO. M. GIVEN has been transferred from Round Island, night office, to B., N. Y. & P. junction, P. & E. R. R., in place of Mr. STEVENS.

Mr. R. B. DONALDSON, "extra artist," takes the position on the P. & E. R. R. line at Round Island, Pa., vacated by the transfer of Mr. GIVEN.

The Telegraph.

The Atlantic and Pacific Telegraph Company. —Election of Officers.—Construction of New Lines.

AT a meeting of the Trustees of the Atlantic and Pacific Telegraph Company, elected April 28th, at the Executive Offices of the Company, in this city, held Monday, May 3d, the following officers were elected for the ensuing year: President, Thomas T. Eckert; First Vice-President, W. J. Syms; Second Vice-President, E. D. L. Sweet; Secretary and Treasurer, Alfred Nelson.

Executive and Finance Committee: Thomas T. Eckert, Jay Gould, Sidney Dillon, John H. Mortimer, W. J. Syms.

The company have commenced the construction of new lines from Chicago, Ill., to Milwaukee, Wis., and from Chicago to St. Louis, Mo. It is understood that other new lines are shortly to be commenced by the company, and that during the present season considerable additions will be made to the lines and facilities now owned and operated by the company.

Litigation between the Atlantic and Pacific and the Southern and Atlantic Telegraph Companies.

THE Atlantic and Pacific Telegraph Company have commenced an action against the Southern and Atlantic Telegraph Company in the Supreme Court of this State. The plaintiffs ask for an injunction to restrain the defendants from breaches and violations of the contract between the Franklin Telegraph Company and the defendants, executed January 13, 1871, for the term of nine years, for connection, exchange of business, etc.; and for an accounting between the plaintiffs and defendants to ascertain the amount of the plaintiffs' damages.

The Atlantic and Pacific Company sue as the assigns of the Franklin Company.

This action arises from the transfer of the connection between the Southern and Atlantic Company and the Atlantic and Pacific Company to the Western Union Company.

The Southern and Atlantic Company claim that the contract with the Franklin Company is void through failure on the part of the latter company, and the Atlantic and Pacific Company, as its assigns, to fulfil the terms of the contract on its part, and to furnish the facilities agreed to be supplied, to the great damage and injury of the former company.

The hearing on this complaint will be had before the Supreme Court, in Chambers in this city, probably some time during the present month. The litigation growing out of this matter is likely to be long and determined. As is known, the Southern and Atlantic Company severed its connection with the Atlantic and Pacific Company about the first of April last, and is now operated under contract for connection, etc., with the Western Union Company, thus depriving the Atlantic and Pacific Company of its connection south of Washington, D. C., and establishing a new competing line between Washington and Boston, Mass.

Adverse Report on the Underground Telegraph Bill.

THE Committee on Cities, of the New York Assembly, on Wednesday last reported the bill introduced by Mr. Daly, of New York, to compel telegraph companies to put their wires in New York City and Brooklyn under ground, adversely. Mr. T. C. Campbell moved to disagree with the report of the committee, and that the bill be ordered to a third reading. This gave rise to a considerable debate, and, finally, on motion of Mr. Alvord, the whole subject was laid on the table by a vote of 11 to 63.

Foreign Telegraphic Notes.

THE traffic receipts of the Great Northern Telegraph Company, for the month of March last, were 362,145 francs, against 364,579 francs for the corresponding month last year. Total traffic receipts from 1st January to 31st March, this year, 884,312 francs; last year, 982,251 francs.

The members of the staff of the Central Telegraph Station, at London, have started a periodical called *The St. Martin's Magazine*, which has reached its fourth number.

The Dartmouth and Guernsey Cable has been again interrupted; the fracture is close to the Guernsey shore, and within the points where it was previously broken.

The traffic receipts of the Brazilian Submarine Telegraph Company for the three months ending March 31, 1875, amounted to £34,217.

The number of messages forwarded from postal telegraph stations in the United Kingdom for the week ended April 10, 1875, was 400,383, an increase on the corresponding week last year of 58,154.

The receipts of the Submarine Telegraph Company for the month of March, 1875, amounted to £9,289, against £9,561 for the corresponding month of 1874.

The steamer Ambassador had commenced laying the cable which is to complete direct submarine telegraphic communication with Montevideo.

The Great Northern Telegraph Company's Hong Kong, Amoy, cable, which was interrupted April 7th, is restored, thus re-opening telegraphic communication with Amoy and Shanghai, *via* Falmouth, England.

A circular has been issued announcing the suspension of payment of Messrs. John Morrison & Co., of 21 Billiter street, London, E. C. The liabilities are believed to be considerable, and the cause of the failure to have arisen from intimate business relations with Mr. W. T. Henley, whose failure was lately noticed.

The Secretary of Hooper's Telegraph Works (Limited) contradicts the statement in the *Times*, dated Cape-town, March 26th, that the contract with Hooper's Company for the construction of the submarine cable between the Cape and Aden was reported cancelled and the penalty enforced.

The report of the Eastern Extension (Australia and China) Telegraph Company shows that the gross earnings for the past half year amounted to £110,759, and after deducting expenses, &c., the profits were £102,752. Three interim dividends of 1½ per cent., each amounting to £89,887, have been paid, and a further distribution of 4s. per share is now recommended, making 6½ per cent. for the year, and leaving £32,839 to be carried to the reserve fund, increasing that account to £75,453. The debenture debt has, it is stated, been reduced by £2,000, leaving a balance of £7,900, of which a further sum of £3,200 has been redeemed during the present year.

The report of the Cuba Submarine Telegraph Company just issued states that the revenue account shows a net balance of £6,464 17s. 4d., from which, after deducting the debit balance brought from the preceding half year's account, there remains sufficient to pay the accrued dividend on the ten per cent. Preference Shares, and leave £1,845 0s. 11d. to be carried to the credit of the reserve fund.

Sir Henry Wolff has given notice in Parliament that he will ask the Chancellor of the Exchequer if any applications have been made by any railway company for payment for the use of lines of railway by the Government for telegraphs; and whether he is aware that similar demands to a large amount are contemplated, and what course the Government proposes to take with regard to such demands.

The duplex is in use in England on 12,000 miles of wire. The longest circuit is 450 miles.

Rio de Janeiro, Brazil, is to have a fire alarm telegraph.

At the main office (Central Telegraph Station) in London, 20,000 cells of battery are used.

Telegraphic and Electrical Brevities.

THE San Diego, Cal., Daily Union says a despatch was sent from Tucson, Arizona, to Washington City, at ten minutes past 7 o'clock last evening, and the answer was returned to Tucson at five minutes before 8 o'clock. Distance over four thousand miles each way. There may be a bigger telegraphic feat than this on record, but this will do to make a note of.

AN old lady in a town of Worcester county lately refused the gift of a load of wood from a tree struck by lightning, through fear that some of the "fluid" might remain in the wood, and cause disaster to her kitchen stove.

Cowardly Shooting of a North River Telegraph Cable Watchman.

ON Saturday evening last Mr. James Clarke, watchman for the North River Telegraph Cable of the Marine News Rooms, Sandy Hook line, with his wife and daughter, crossed over in a boat to Guttenburg, N.J., which is nearly opposite the cable house, to visit some friends. On account of the state of the tide the party did not start on their return until about two o'clock in the morning. While on the way back Mr. Clark noticed that a schooner, which was subsequently ascertained to be the Willow Harp, from Rondout for Providence, was anchored directly over the cable and likely to foul it with its anchor. He bailed the schooner and the person on watch responded to the hail, upon which he told him of the proximity of the anchor to the cable, and said he would come on board and help to clear it. The boat was accordingly rowed alongside, and Mr. Clark boarded the schooner, leaving his wife and daughter alongside in the boat. No sooner had he reached the deck than Adrian Nelson, who was on watch, took a gun, and without saying a word, shot him, the charge of shot, which was very heavy, striking Clark in the face and breast, badly wounding and disfiguring him. The cowardly fellow, as soon as he had fired the shot, retreated to the cabin, and although Clark lay wounded and helpless on the deck for half an hour, calling for help, and his wife and daughter screaming in the boat alongside, neither he nor any other person on board made their appearance or offered to render any assistance. Finally Clark's daughter took the oars and rowed the boat to Guttenburg, and obtained the assistance of some men who went out and took Clark back to the village.

In the morning the wounded man was removed to his residence in this city, where he is now lying very severely wounded. It was merely accidental that he was not immediately killed.

Nelson subsequently surrendered himself to the police, and in the morning was brought up at the Yorkville Police Court, where, upon his statement that he had shot a river thief, and no one appearing against him, he was discharged, and the schooner immediately sailed.

Upon being informed of the facts of the case, efforts were unsuccessfully made by the police authorities to stop the vessel and rearrest Nelson before she got out of the harbor. Nelson will probably be brought back and held to answer for his cowardly outrage.

Quotations of Telegraph Stocks at N. Y. Stock Exchange,

Showing Lowest and Highest Prices each day during week.

Table with columns: April, May 1, WESTERN UNION, ATL. AND PAC., AMER. DIST., GOLD AND STOCK. Rows show bid and asked prices for various telegraph stocks.

Obituary.

CARL LUDWIG CHRISTIAN BECKER.

THE death of Carl Ludwig Christian Becker, one of the most able mechanical electricians of Europe, is announced. He died April 3d, 1875, of bronchitis, after an illness of ten days. The deceased was born at Ratzburg, in the Grand Duchy of Mecklenburg-Schleitz, in 1822. He received his general education at the Gymnasium of Ratzburg, of which his father was the Rector. Having studied his profession with Repold at Hamburg, Kraft at Vienna, and Steinheil at Munich, he went to London in 1849, and joined the firm of Elliott Brothers, in 1858. Within the last few years he became a Fellow of the Royal Astronomical and Physical Societies, and a member of the Society of Telegraph Engineers. His place cannot easily be filled, for he combined the refined skill of the brilliant mechanic with the deep insight of the cultivated man of science.

Sensible Advice.

WHATEVER you have to say, my friend— Whether witty, grave, or gay— Condense it as much as ever you can, And say it in the readiest way. And whether you write of household affairs, Or particular things in town, Just take a word of friendly advice— Boil it down.

When writing an article for the press— Whether prose or vers— just try To utter your thoughts in the fewest words, And let them be crisp and dry; And when it is finished, and you suppose It is done exactly brown, Just look it over again, and then Boil it down.

New Patents.

OFFICIAL COPIES of any U. S. Patent issued since July 1st, 1871, including drawings, specifications and claims in full, sent free to any address for 25 cents each. Address F. L. POPE, P. O. Box 5503, New York City.

For the week ended March 9, 1875, and bearing that date.

160,580—SOLUTIONS FOR CHEMICAL TELEGRAPH PAPER.—Thos. A. Edison, Newark, N. J., assignor to him self and George Harrington, Washington, D. C. Filed June 1, 1874.

The solution for chemical telegraph paper prepared with aurichloride of sodium, substantially as set forth.

160,581—DUPLEX TELEGRAPH APPARATUS.—Moses G. Farmer, Salem, Mass. Filed Sept. 30, 1872.

Claims that when the circuit of a duplex apparatus is closed the static charge in the line causes the coil in main circuit to momentarily affect the armature before the equating coils act thereon. Prevents this by introducing momentarily an inducted current into the main line, to hinder the action of such charge, or else into the equating circuit, to aid the action of the equating current.

- 1. The combination of a main telegraphic circuit and its batteries with an induction coil so arranged as to hinder the effects of static charge, substantially as set forth.
2. The combination of an induction coil with an equating circuit to help the equating circuit to neutralize the effect of static charge on the relay in the main circuit, substantially as set forth.
3. The combination of a continuity preserving key and an induction coil with an equating coil and an independent equating battery, substantially as set forth.
4. The combination, in the main or equating circuit of an induction coil or coils, in such parts of the main or equating circuits as are open when the main and equating batteries are disconnected, substantially as set forth.
5. The combination of the circuit preserving key above alluded to with a relay or its equivalent, and with one or more induction coils, substantially as set forth.
6. The combination of the continuity preserving key, with a relay, an induction coil or coils, and with a means of regulating both the strength of the induction stroke or strokes and the strength of the equating current, substantially as set forth.
7. The combination of primary and secondary helices with the means above described of preventing the appearance of a spark upon rupturing the primary circuit, substantially as above described.

For the week ended March 23, 1875, and bearing that date.

161,058.—INSULATING BLOCKS FOR TELEGRAPH LINES.—Geo. B. Pidgeon, Putaski County, Ill. Filed April 24, 1874.

- 1. An insulating block provided with two or more apertures, b c d, Fig. 1, to receive and retain wires to prevent crossing or contact.
2. The combination of the angular openings f with the apertures b c d in an insulating block, having two or more apertures to receive and retain wires, all substantially as and for the purposes set forth.

161,151.—PRINTING TELEGRAPHS.—George M. Phelps, Brooklyn, N. Y. Filed August 22, 1874.

- 1. The shifting lever b carried by the lever c that is operated by the crank e and shaft d, in combination with the shifting impression roller s and the independent frame s, carrying that roller, and the cam l6 for moving the same, substantially as set forth.
2. The deflecting plate 20 placed between the type wheels, in combination with the movable impression roller or pad s, as and for the purposes set forth.
3. The spring lever n', in combination with the magnet r, armature x, levers p v', and revolving arm u, for operating the printing mechanism, substantially as set forth.
4. The pause wheel t, gearing into the wheel u, in combination with the paper feed, substantially as set forth, so as to allow the paper to remain stationary while the impression takes place.
5. The arrangement of two sets of figures, fractional signs, and letters on one type wheel, combined with a second type wheel containing letters, substantially as set forth.
6. In a printing telegraph with two type wheels and a mechanism for shifting the printing from one to the other, the combination of the arm w, the detents therefor controlled by an electro-magnet, the wrist pin or cam operating the roller shifting mechanism, and the cam operating the printing mechanism, arranged relatively to each other, substantially as shown, the shifting mechanism being thereby operated and then removed from the parts moving with the type wheel before an impression is given, as set forth.

161,246.—GALVANIC BATTERIES.—J. Leiter, Vienna, Austria. Filed February 24, 1875.

Cup divided into two compartments by horizontal partition. Upper compartment divided into a number of cells containing the plates, and each communicating through a tube provided with a cock, operated from the top of the cup with the lower compartment, which contains the battery solution, and which has an opening in its side, through which air pressure is applied to force the solution up into the cells.

- 1. In a galvanic battery the combination of the cup A, its horizontal partition D, one or more connecting pipes, F, stopper G, and cock E, substantially as described.
2. In combination with the partition I of the compartment B, the tie piece b supporting the elements of the battery, substantially as described.
3. The combination with the cup A, of the lid L, having the holes N, and telescopic keys M, having springs f, substantially as described.

REMOVAL.

GEO. H. BLISS & CO.

We respectfully announce our removal to 220 KINZIE STREET, CHICAGO, ILL. Having determined to transfer our interests to the Western Electric Manufacturing Company, we offer our entire stock of TELEGRAPH INSTRUMENTS, GOODS and MACHINERY for sale upon terms which cannot fail to prove desirable to purchasers. Until our stock is disposed of we shall continue in the trade, and solicit a continuance of the patronage which has been so liberally bestowed by our many friends heretofore.

GEO. H. BLISS, President.

220 KINZIE STREET, CHICAGO, ILL., April 12th, 1875.

ANNOUNCEMENT.

Western Electric Manufacturing Company.

GEO. H. BLISS having acquired an interest with this Company, has been appointed its General Agent.

His attention will be given to the sale of the Instruments and Goods of our manufacture and in which we deal.

In addition to our former line we have added the various specialties heretofore controlled by GEO. H. BLISS & CO.

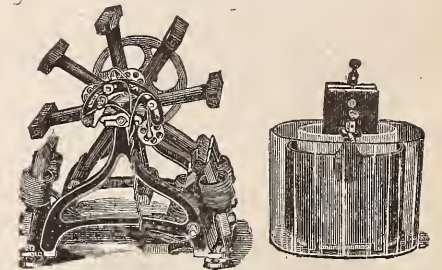
With our ample facilities we hope to give to customers and the trade increased satisfaction in prices, quality and variety of our goods.

We invite correspondence and solicit patronage.

WESTERN ELECTRIC MANUFACTURING CO.,

220 Kinzie street, CHICAGO, ILL.

BASTET'S NEW ELECTRICAL MOTOR AND BATTERY.



For Sewing Machines, Church and Parlor Organs, Small Printing Presses, Pumps, Lathes, Dentists' Instruments, or any Light Machinery.

My new ELECTRICAL BATTERY is the most powerful for quantity and durability manufactured, and does not crystallize the carbons. For Electroplating, Telegraphing, and for Motive Power, it cannot be surpassed.

Our No. 1 Engine, for Sewing Machines, with four cells of Battery, is furnished for \$40.

Other Motors at prices proportional to power required. BATTERY, No. 1 Cells \$5. " " No. 2 " " 10.

L. BASTET, 116 Fulton Street, New York.

LECLANCHE BATTERIES.

IMPORTANT NOTICE.

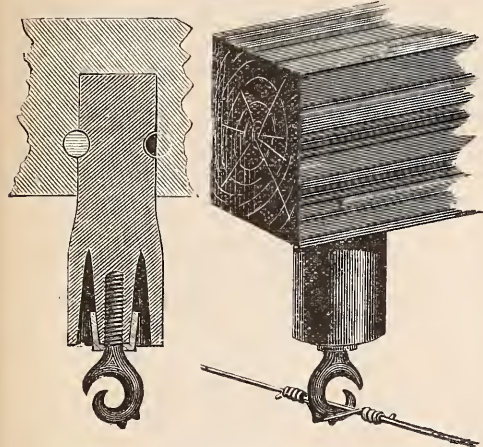


After JANUARY 1st, 1875, we will allow TWENTY cents for each used-up Porous Cell of this Battery that is returned to us free of charge, in good order. A change is made in the discount to the trade. A list will be furnished on application to

THE LECLANCHE BATTERY COMPANY, No. 40 WEST EIGHTEENTH STREET, or to L. G. TILLOTSON & CO., 8 Dey street, Sole Agents.

THE KENOSHA INSULATOR CO.
TELEGRAPH COMPANIES and
TELEGRAPH CONSTRUCTORS

are invited to examine the merits of our new and improved patterns of



KENOSHA CARBON INSULATORS!

These insulators are made of wood, thoroughly baked, and covered with an INDESTRUCTIBLE COATING, highly repellant of moisture, which does not change nor deteriorate after years of exposure to the weather.
 THE KENOSHA INSULATOR has now stood the test of SIX YEARS' actual service, and we feel warranted in stating that, although costing but little if any more than the ordinary glass insulator, its insulating qualities are on an average

MORE THAN TEN TIMES AS GREAT

during the prevalence of rain or fog.

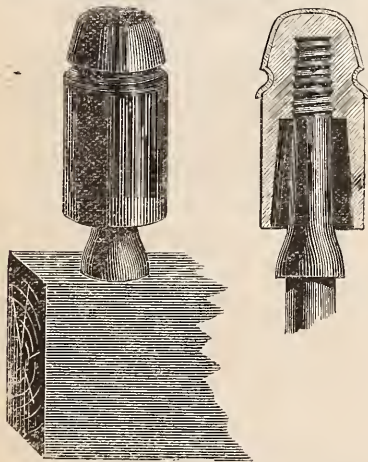
Immense numbers of these insulators are in use by

THE NORTH WESTERN TELEGRAPH CO.,
THE WESTERN UNION TELEGRAPH CO.,

as well as many RAILWAY and OTHER TELEGRAPH LINES, and they have invariably been found to give

ENTIRE SATISFACTION.

Besides the suspension insulator above shown, which is fitted with our IMPROVED WIRE HOLDER, arranged for a tie wire, and which does not cramp or injure the line wire, we manufacture several other patterns, among which is the



CAP INSULATOR, WITH PIN OR BRACKET,

which is fitted with a zinc protection, as shown in the above figure.

THE KENOSHA INSULATOR

is manufactured with the utmost care by skilled workmen and special machinery. Every individual insulator is TESTED IN WATER with a battery of 500 cells, and not a single imperfect one is allowed to leave the factory.

We are also prepared to furnish, at short notice,

CROSS-ARMS for ANY REQUIRED NUMBER OF WIRES,

prepared with our patent INDESTRUCTIBLE INSULATING COATING, either with or without wire insulators.

These insulators are packed for shipment in boxes containing 100 each, and may be ordered direct from us, or through any of the leading dealers in Telegraph Supplies.

We are now prepared to fill all orders promptly, however large, and we guarantee all insulators furnished by us to prove entirely satisfactory.

THE KENOSHA INSULATOR CO.,
 KENOSHA, Wisconsin.

L. G. TILLOTSON & CO.,
 General Eastern Agents.

GEORGE H. BLISS & CO.,
 220 Kinzie Street, Chicago, Ill.
 CINCINNATI, O.,
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Manufacturers and Dealers in

TELEGRAPH INSTRUMENTS AND SUPPLIES.

RELAYS—COMBINATION SETS; BOX and POCKET RELAYS.
 PONY and REPEATING SOUNDERS.

KEYS, various styles, including the SCHNEIDER KEY, wire connections above the table.

REGISTERS, with Springs or WEIGHT.

CUT OUTS, many varieties, including a new style of PEG CUT OUT, with an adjustable LIGHTNING ARRESTER, just out.

REPEATERS—HASKIN'S AUTOMATIC, and others,

SWITCH BOARDS—REPEATING, BATTERY and GROUND SWITCHES and LIGHTNING ARRESTERS.

ANDER'S GALVANIC and MAGNETO-ELECTRIC PRINTERS; also SELDEN PRINTER.

ELECTRIC BELLS, HOTEL ANUNCIATORS, FIRE and BURGLAR ALARMS, and WATCHMAN DETECTORS.

ELECTRIC RAILWAY SIGNALS and ALARMS, ELECTRIC GAS LIGHTING APPARATUS.

MEDICAL INSTRUMENTS and APPARATUS on hand and made to order. Second hand Instruments for sale cheap, and repairing done at short notice.

BATTERIES in great variety, including the latest inventions; also a full assortment of battery material.

WIRES—MOORE & SON'S and PHILLIPS' MAGNET and OFFICE WIRES, GUTTA PERCHA and KERITE WIRES, BEST GALVANIZED LINE WIRES; SUBMARINE, SUBTERRANEAN and HOUSE CABLES.

INSULATORS—BROOKS, SCREW GLASS and KENOSHA CARBON.

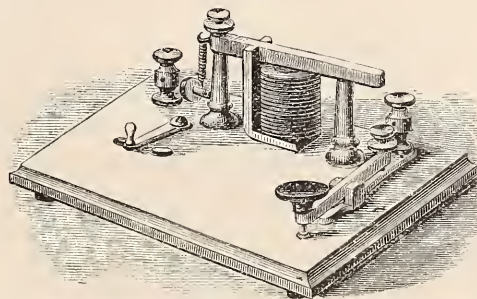
BRACKETS, PINS and SPIKES, TELEGRAPH POLES, LINE BUILDERS and REPAIRERS' TOOLS.

TELEGRAPH STATIONERY—REGISTER, MESSAGE and MANFOLD PAPERS, CARBON SHEETS, STEEL and AGATE STYLUSES, ORTON'S PENCIL HOLDER, SAFETY MESSAGE HOOK and AWL CLIP, STANDARD TELEGRAPH BOOKS, &c.

PRICE LISTS FURNISHED FREE ON APPLICATION.

Our TELEGRAPH INSTRUMENTS and ELECTRICAL APPARATUS are elegantly finished and mounted on highly polished rosewood, mahogany and walnut bases.

THE NONPAREIL TELEGRAPH APPARATUS,



NEW AND IMPROVED, WITH STRAIGHT LEVER KEY.

FOR AMATEURS, STUDENTS AND SHORT LINES.

This popular *Pioneer Cheap Telegraph Instrument* has recently been improved and a *Straight Lever Key* placed upon it, which makes it as nearly perfect as possible.

Since its introduction over 2,000 of them have been sold, and is still the *leading telegraphic apparatus of its class.*

They are furnished at the following popular prices:

Single Instruments with three cells of Battery, Chemicals,
 Connecting Wire and Instruction Book, - - - \$6.50
 Two sets of Instruments, etc., - - - - - 12.00

Send for our new Circular and Price List.

F. L. POPE & CO.,
 P. O. Box 5503.) 38 Vesey street, N. Y.

LEWIS' TELEGRAPH MANUAL.

A few copies of the last edition of
THE TELEGRAPHIC MANUAL,

by Mr. WALTER O. LEWIS, remaining, may be had of F. L. POPE & CO., 38 Vesey street, at fifteen cents each. Will be forwarded by mail postpaid on receipt of price.

20 PER CENT. REDUCTION IN THE
 PRICE OF
TELEGRAPH INSTRUMENTS!

SEE WHAT IT MEANS.

On First-class Morse Sets for Railway and Commercial Lines:

- No. 1 Relays, of standard size and resistance (120 to 150 ohms), on rosewood bases, fine finish, polished rubber covered coils, wound either with our patent glazed or with best silk covered pure copper wire, having soldered connection and firm nut fastenings throughout, and latest improved extension adjustments. Regular price, \$16, reduced to - \$12 80
- No. 1 Relay, same make throughout, but of higher resistance, 160 to 600 ohms. Price, \$18, reduced to - \$14 40
- No. 1 Relay, ditto, low resistance, 60 to 100 ohms. Price, \$15, reduced to - \$12 00
- No. 1 Sounders—"Railroad" or Bunnell's "New Giant" Sounders, with all the latest patented improvements in both. The best forms of Morse sounders ever invented. Beautifully finished. Mounted upon rosewood bases. Price, \$7 50, reduced to - \$6 00
- No. 1 Keys, Caton pattern, curved levers. Price, \$6 50 reduced to - \$5 20
- No. 2 Keys, W. U. pattern, curved or straight levers. Price, \$5 50, reduced to - \$4 40
- No. 1 Premium Register, \$45, reduced to - \$36 00
- " " Spring Register, \$47 50, reduced to - \$38 00
- " 2 Register. Price, \$38, reduced to - \$31 40

Box Relays, Combination Sets, Pocket Relays, Switches, Cut Outs, Lightning Arresters, etc., furnished at the same rate, viz., 20 PER CENT. REDUCTION from regular prices. See catalogue.

SINGLE SETS, OR PARTS OF SETS, WILL BE SENT BY EXPRESS AT THESE PRICES TO ANY PART OF THE U. S., ON RECEIPT OF MONEY ORDER OR DRAFT FOR THE AMOUNT OF THE BILL.

Superintendents and others about to purchase first class equipment for offices will readily see by a comparison with other price lists the advantages here offered to those who send their orders to us.

No. 2 SETS.

LEARNERS' APPARATUS, SHORT LINE INSTRUMENTS, Etc.

- No. 2 Relays, 150 to 175 ohms resistance Price, \$15, reduced to - \$12 00
- No. 2. Relays, 50 to 100 ohms resistance. Price, \$11, reduced to - \$8 80
- Pony Relays, complete and pretty little instrument for short lines, city wires, etc., \$7 50, reduced to - \$6 00
- No. 2 Pony Sounders, \$6 50, reduced to - \$5 20
- No. 3 Pony Sounders, \$5 50, reduced to - \$4 40
- No. 1 Main Line Sounders for lines from 1 to 6 miles in length. Price, \$8, reduced to - \$6 40
- No. 2 Ditto, \$7, reduced to - \$5 60
- No. 3 Keys, curved levers, Caton style, same as No. 1, but smaller. Price, \$5, reduced to - \$4 00
- No. 4 Keys. Price, \$4, reduced to - \$3 20
- AMATEUR KEY, \$3 50, reduced to - \$2 80
- EXCELSIOR AMATEUR INSTRUMENTS, \$6 50, reduced to - \$5 20
- BUNNELL'S CHAMPION LEARNERS' INSTRUMENTS, \$6 50, reduced to - \$5 20

At the above figures all grades of Telegraph Instruments may be obtained from L. G. TILLOTSON & CO. for less money than will buy as good materials at any other manufactory in America.

Orders, correspondence and inquiries will receive prompt attention. Make your memoranda of amounts for what you want from the above price list, and enclose the sum to us by postal order or draft along with your order for goods.

L. G. TILLOTSON & CO.,

S. Day street, New York,

54 SOUTH FOURTH STREET, PHILADELPHIA.

AMERICAN FIRE ALARM AND POLICE TELEGRAPH.

GAMEWELL & CO., Proprietors,
62 BROADWAY, NEW YORK.

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General Agent and Superintendent.

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J. A. BRENNER, Augusta, Ga.,

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Special Agent for New England.

ELECTRICAL CONSTRUCTION AND MAINTENANCE CO.,

San Francisco, Cal.,

Special Agents for California, Oregon and Nevada.

THIS SYSTEM OF

FIRE ALARM & POLICE TELEGRAPH

WITH A CENTRAL OFFICE,

OR

UPON THE AUTOMATIC PLAN,

is now in operation in the following Cities, to which references
made for evidence of its great

SUPERIORITY, VALUE

AND

UNIFORM RELIABILITY.

Albany, N. Y.,
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Boston, Mass.,
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Baltimore, Md.,
Chicago, Ill.,
Cincinnati, Ohio,
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Cambridge, Mass.,
Charlestown, Mass.,
Covington, Ky.,
Detroit, Mich.,
Dayton, Ohio,
Elizabeth, N. J.,
Fall River, Mass.,
Fitchburg, Mass.,
Hartford, Conn.,
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Montreal, Canada,
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New Orleans, La.,
New Bedford, Mass.,
New Haven, Conn.,
Newark, N. J.,
Omaha, Neb.,
Philadelphia, Pa.,
Pittsburg, Pa.,
Portland, Maine,
Peoria, Ill.,
Providence, R. I.,
Quebec, L. C.,
Rochester, N. Y.,
Richmond, Va.,
St. Louis, Mo.,
St. John, N. B.,
Springfield, Mass.,
San Francisco, Cal.,
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Washington, D. C.,
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The Distinctive Features of these Systems of

Fire Alarm and Police Telegraphs

ARE,

First—The **Automatic Repeater**, through which the apparatus may be distributed in a combination of circuits, and the entire system successfully worked, without the constant personal attention of either operators or watchmen.

Second—The **Automatic Signal Boxes**.

Third—The **Electro-Mechanical Bell Strikers**, adapted to produce the full tone of the largest church or tower bells.

Fourth—The **Electro-Mechanical Gong Striker**, for hose and engine houses, by means of which the location of the fire is instantaneously communicated to the members of each fire company.

These Features combined form the

Only **PERFECT, COMPLETE and RELIABLE** System

OF

FIRE ALARM TELEGRAPH

IN THE WORLD.

It is a sufficient vindication of the claims which are made by the Proprietors of these systems of

FIRE ALARM AND POLICE TELEGRAPHS,

that they have sustained the test of more than twenty years of practical use, and that the efforts which have been repeatedly made to supplant them by other inventions have

COMPLETELY FAILED;

the few instances in which municipalities have been induced to adopt other systems having demonstrated their insufficiency and unreliability, and resulted in their abandonment, and substitution thereof of the

AMERICAN FIRE ALARM TELEGRAPH.

Messrs. GAMEWELL & CO. are the owners of the original *FARMER & CHANNING PATENTS*, one of the most important of which has just been extended for seven years, and during the past seventeen years have spared no expense or effort to secure improvements, and the Systems are now covered by

MORE THAN TWENTY PATENTS.

The most important improvement which the Proprietors have adopted and introduced is the

AUTOMATIC SYSTEM,

the introduction and operation of which involves so little expense, compared to the benefit which it confers, that even small communities can profitably adopt and maintain it.

The American System of

FIRE ALARM AND POLICE TELEGRAPHS

has met with the universal approbation and commendation of the

People, Municipal Authorities,

AND THE

PRESS

throughout the UNITED STATES and CANADA.

NO EFFORT, TROUBLE OR EXPENSE

is spared by the Proprietors to obtain and secure ANY POSSIBLE IMPROVEMENT which shall increase the

EFFICIENCY, RELIABILITY and ECONOMY

of the system. They intend that, as far as possible, it shall be

ABSOLUTELY PERFECT!

The amount of property which has been saved from destruction, and the number of lives which have been preserved through the general adoption of this system, throughout the UNITED STATES and the DOMINION of CANADA,

CANNOT EASILY BE ESTIMATED,

but that, in every community where it has been introduced for any considerable length of time, they have been enormous, **THREE CAN BE NO QUESTION.**

The cooperation of **TELEGRAPHERS** in securing its introduction into their localities is cordially invited, and

their efforts will be duly appreciated and compensated.

Any information desired in regard to the above system will be cheerfully and promptly furnished upon application at the office.

A pamphlet, setting forth more fully its advantages and superiority, has been printed, and will be supplied to Municipal Authorities and others interested in Fire Alarm and Police Telegraphy, upon application as above.

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of the usual size, with KERITE COVER, believing that it will exceed, in insulation for submarine purposes, ANYTHING HITHERTO MANUFACTURED.

We shall be happy to furnish estimates for any amount and size of cable, which will be found to compete with any other construction, both in quality and price.

We manufacture the Genuine ELECTROPOION BATTERY, with Patent Platina Connection, introduced by us eight years since; also, THE ALPHABETICAL OR DIAL TELEGRAPH now extensively used in this and other cities for private lines being easily and quickly learned by any one.

We offer for sale, among other novelties, a SOUNDER that will work practically with a single DANIELL cell, a BATTERY that does not require to be taken down but once a year, and the very best MAIN LINE SOUNDERS made.

Our CATALOGUE, embracing a large amount of new matter and description, is now ready for distribution.

THE TELEGRAPHER

A JOURNAL OF
ELECTRICAL PROGRESS.

J. N. ASHLEY, PUBLISHER.

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[Written for THE TELEGRAPHER.]

"Nihil's" Grave.

By ICHABOD CRANE.

I.

WHEN the cold March wind blew its fiercest blast,
And the snows were drifting down,
While the old year quietly slept in his grave
And the new year wore a frown;
When the winter hung on the edge of the spring
And the spring yet hung aloof,
Poor NIHIL clipped his warp in twain
And reeled off the last of his woof.

II.

He'd swallowed a "Plug," in his wrath, poor man!
Which worked up his extra bile,
And then ran in on the women's time,
But *this* was too much for NIHIL;
A Canada thistle pierced his side
And NIHIL "tuckered out,"
He turned on his back and "kicked the pail,"
And so "went up the spout."

III.

He was made of delicate stuff, he was,
He couldn't abide the sight
Of women jerking the key for bread,
He didn't think it right,
So he grabbed his quill, and slung his ink,
And preached like the crack of doom;
But the women proved too many for him
And he "went up the flume."

IV.

He sa d, as he drew his last weak breath,
"I respect the women too much
To see them expose their precious minds
To the tendencies of such
A profession as this, I have done what I could
To prevent them from going astray,
Nothing more can I do—let them choose as they will,
A woman *maun* ha'er way."

V.

He died; his troubles will vex him no more;
His sleep will be quiet and still;
Since the fitful fever of life is o'er,
No more will he sling his quill,
And, as we bore his remains to the tomb,
One faithful friend was found,
Who followed the dust to its dismal home,
And wept o'er the lonely mound.

VI.

He came from the far off Quaker State;
He was quiet, and gentle and meek;
But he swallowed his martyred friend's belief
As a Dutchman swallows a leek,
His name he withheld, for reasons good,
But we heard him quietly say,
"I've come from a distant State to weep—
I am from Cent., Pa."

VII.

And now that he's dead, and gone, poor soul,
Let's lay his faults aside;
And give him a quiet, dreamless sleep,
Since from having *no rest* he died.
He had his faults, like many a man,
Who better knows how to conceal,
When the women can look upon his grave
Their wounds will surely heal.

VIII.

And if the ladies who "work the key,"
Should increase in number and price;
But "little he'll reck if they'll let him sleep,"
And forget his one little vice,
They may "peel their oranges," "write their notes,"
And earn sufficient bread
To feed the post deluvian world
So they "leave him be"—I've said.

Cincinnati, O., May 1st, 1875.

Original Articles.

The Anglo-American Automatic Telegraph.

By GEORGE LITTLE.

General THOMAS T. ECKERT, in his recent report to the stockholders of the Atlantic and Pacific Telegraph Company, asserted that my "American Automatic System of Transmission is not less than five times greater over a single wire than the quadruplex," and "that the Automatic is capable of clear transmission at a high rate of speed, under conditions of the line and of the atmosphere so unfavorable that an ordinary Morse circuit can hardly be operated at all."

Such an unbiassed concession as the above, emanat-

ing as it does from so candid a gentleman as Mr. Eckert, has induced me to present to the readers of THE TELEGRAPHER a brief account of the state of the science of electro-chemical telegraphy during the years 1853-4, when Mr. Edward Orange Wildman Whitehouse invented a long line local circuit and a short line direct circuit *Chemical Mechanical Telegraph*. The operation of this apparatus at the transmitting station was effected by the use of *sixty-five keys, contact springs and commutators*, instead of perforated papers; bringing into action high potential currents developed by a magneto-electric machine, operated by means of the foot and treadle—a third constant and a fourth local current, together with the most erroneous, injudicious and impracticable problem of grounding—to draw the line itself to earth, at the transmitting end of the line momentarily, or by the intervention the transmitting short circuit of, so called, draw tubes of water; with metal decomposing points along the line. The fact of the water contact points becoming more or less self-insulated by the accumulation of a gaseous film developed by the action of the current seems to have been entirely overlooked.

Interposition of these short circuits was to be effected by means of a "mechanical commutator disc," or by a "local circuit magnet vibrator" in connection with the transmitter, the magnet coil itself not being at any time in the short, or "draw circuit" to earth.

The receiving or recording apparatus was impelled by necessarily slow acting worm and pinion gearing, in connection with troublesome polarized relays and electro-magnetic circuits for long lines; which left the same subject to all the difficulties attendant upon the Morse system. Whilst for short line currents the "whole force of the received constant current circuit" was carried direct into and through the chemically prepared paper, the direct current itself being intended to be interrupted by high potential currents generated by magneto-electric apparatus—to the use of which the same fatal objection applies, which was shown by its employment in connection with the first Atlantic cable, the cover of which it assisted to destroy.

Mr. Whitehouse designed a long series of mechanical transmitting commutators, operated by the foot and both hands, with the addition of several hundred of short local interrupters, in a somewhat similar manner to that of the House Company cylinder or drum, being in fact a complicated substitute for the non-effective "assembling rods" invented by Alexander Bain in 1846, and lately reintroduced by another party.

The prepared receiving paper was carried, necessarily very slowly, over a wetted metal drum, the lower end of which was kept revolving in a trough of water. From one to six lines were intended to be used with this system, but there appears to be no record of its ever having been practically worked on even a short line.

Passaic City, N. J., May 10, 1875.

Jimmy S—; A Reminiscence.

By O. H. KAY.

IN the entire list of my telegraphic acquaintances there were none with more clearly defined conscientious scruples respecting matters of right and wrong than my bosom friend, Jimmy S—; none nobler, purer or more faultless; none more generous, none with a warmer sympathetic nature, none to whom I would sooner go for hope, encouragement, or a pipe of tobacco. Neither rigidly orthodox, nor yet heterodox, with nothing of formal primness about his manner, his was a pliable, easy and graceful nature that befitted every occasion, and was in appropriate keeping with every circumstance. He neither breakfasted, dined or supped with regard for any precision as to the hour, the quantity of time or food consumed, or the exact articles of diet. He slept when he felt that he required sleep, and awoke according to the requirements of the chambermaid. He walked or rode whenever he had the time and the inclination, or the spare ducats. His most prominent and peculiar feature was his desire always to see appreciated and properly accredited every good, virtuous and meritorious thing. If an article had merit he was loud in his appreciation of it. If a friend had virtues he spoke of them. If one's manner was uniformly urbane and disposition kind, he would compliment it if ever occasion offered. On the wire nothing ever gave him so much happiness as to say, "your writing is excellent," or "you take well." He would wear a smile of sweet contentment and joy which was beautiful to see the remainder of the day on these occasions.

But Jimmy was unacquainted with sophistry. He had not learned the wiles and wicked ways of a cunning and crafty world, and thus he was made the victim of a cruel and heartless joke, which it is the object of this to record.

Jimmy boarded with the rest of the boys, at the American. The American was not a comfortable or homelike hotel, but was much after the order of hotels. We were all quartered in the upper story, and had

things pretty much to ourselves up there. Our chambermaid was kept exclusively to do the work on that floor, and they were changed quite frequently. Among them a "beautiful stranger" made her advent, and quite excited the admiration of the boys, for she was, indeed, of better appearance than all the previous ones, and none of us had ever seen her before. In fact, none of us ever saw any of the chambermaids on that floor until they were regularly installed and instituted chambermaids. There was an order of discipline at that house governing the domestics that was never disregarded. There was a graduated line of promotion down which each descended in regular order until, unfit for service, they were cast out. I say this line of promotion was *descended*, for a subject started at the top floor, where we were, dropped with the whole household of servants one story when there was a vacancy created in the kitchen by dropping out the cook, dropped still another flight of stairs with the next occasion, and thus continued to settle until the door of the dining room was reached, where she was made waiter, and flitted about among us the object of much observation and speculation. The speculations were always cast in regard to her hair. We speculated as to how it would hold out, and whether it was wiry and stubborn hair, or soft and easily managed. We speculated as to the kind of pomade she used, or suggested that she used none at all. We wondered what the flavor would be and in what essential respects it would differ from the present infliction. We closely scanned to discover how much of the genuine article there was, and how long it would probably last. We also wagered as to which would be her favorite dishes and which would be served the finest quality—in fact as to the general distribution of it.

She would remain with us during five or six changes, gradually working back towards the kitchen door, from which had emanated all the varieties of hair and hash (the latter term is used in a general way) that had ever been devoured by a hungry public within those walls, and finally disappear altogether. The fourth variety after she had left us we knew was hers. Whether it was good, bad or indifferent, we received it regularly, three times a day, hair the same peculiar texture, quality and flavor, until the last was exhausted, and we knew that she, bald like a jug, was sent forth to shift for herself, and we should know her no more forever.

The "beautiful stranger" was tidy in appearance, and kept the rooms so. She supplied the water, towels and soap with more regularity than her predecessors, and we wished she might only stay. But time was fleeting—we knew she would soon be gone, and we tried to appreciate her while she lasted. Jimmy was particularly gratified with her, and told us often how nicely everything was kept in his room, and how cheerful and pleasant it was. He always found his trunk on its bottom and in the same corner of the room he had left it. His shoes and hat box were never thrown under the bed close to the wall, backside; his toothbrush was never appropriated to any one else; his blacking had less of a consumptive and wasted appearance, he said, than it usually did—in short, everything seemed to go on like a charm.

Finally he could stand it no longer. He felt that she ought to know that she was appreciated, and, for one, he resolved that her merits should not go unrewarded; so he prepared a little speech in his mind, and determined that he would deliver it at the first opportunity. It offered before long for as he was one day occupying his room she passed his door and went to work in the one adjoining. Jumping up, he glanced hastily in the glass, adjusted his cravat and hitched at his collar, jerked his vest down in front, turned away, turned back and gave his hair a brush; was not satisfied with the result, and brushed vigorously at it a full minute, and, finally, with a lingering glance he strode out into the hall, and stepped modestly just inside the next door, where he beheld Jennie in the act of turning over a heavy straw mattress on the slat bedstead before her, and looking charmingly pretty with her sleeves rolled up to her elbows, and her cheeks flushed with a rosy tint that just became them. Now, of course, at the precise moment when he required them, the fellow's wits forsook him. So would any one's after so much elaboration. When I compliment any one I just slap them on the shoulder; or if it be a lady, pinch her cheek and say: "Now, do you know—" thus, and so, and I go on with my statement. Compliments ought to be delivered in this way. Otherwise, if one goes at it seriously and laboriously it is always embarrassing and irksome.

Jimmy hesitated a moment, and his cheeks tinted in sympathy with hers. He heaved and said:

"I—ah—good morning! I—ah—that is—I have wanted to say something to you for some time."

"Indeed?" and she smiled bewitchingly. Jimmy's color heightened a shade, and he wondered what she could see to be so particularly surprised at.

"Yes; I have felt that I ought to say something—just a word."

"I should be pleased to hear it," very interestedly.

"In the short two weeks that you have been here I—ah—have learned that—that when you go—ah—I shall—you will be—I shall miss you—very much—"

"Oh! I guess not. I suppose you tell all the chambermaids that, though."

"Indeed! I never—but you do not understand me. I never told any one that before. You are the first and only woman I ever could have told it to. You are my very ideal of a girl. You are just such as I have hoped and prayed, ever since I came to think about such things, might some day be found."

There was a confused and startled look, then a reddening of the tint, and an exclamation of surprise and astonishment.

"Why, goodness! What do you mean?"

This was not at all what Jimmy intended to have said. Dislocated fragments of his intended speech had rushed through his brain an instant before, but they had all deserted him when the critical moment came to put them in shape and deliver them. The original was nothing like as serious as this, and it was to have been spoken much more mildly, and with a great deal more suavely and gracefully carelessness.

"I mean as I say. I would not speak to you in figures. I would not flatter you, nor would I deceive you. You are indeed a jewel—a treasure of your kind—a very gem of great and exceeding rarity."

"Indeed, sir, you are trifling. Let me implore you to deal less extravagantly with your expressions, and apply them where time, place and circumstances will better warrant them. You either trifle or else you are laboring under some strange mistake."

The oozing moisture of Jimmy's face became starting beads, which darted down his cheek, and dripped from his nose, and trickled down his neck. He seemed about to commit a fearful thing. He did not want to talk in *this* manner, but his language seemed to take shape without his being able to control it. He felt desperate, but in his desperation, instead of submitting to her that all was a joke he persisted in declaring that he never was more serious in his life. Now, like an instantaneous flash, a sudden inspiration seemed to dawn upon Jennie, and at once she guessed that she had been mistaken as to the seriousness of the business, and in some unaccountable way formed a pretty correct idea of what had been intended; but the spirit of mischief was too greatly imbued within her to let a good thing pass, so, in a pretty, drooping way, she urged him not to act too rashly, and said she was sure he had made a mistake. With remarkable pertinacity he obstinately refused to admit any mistake on his part. He said that when she first came to the house she had produced an impression upon him, which had grown more favorable every day. For the last week he had felt that he must seek her out, as he had now, and tell her all—that he wished she might always arrange his pillow, and make his room cheerful and his heart glad. At this she gave an affecting little scream, and fluttered over in blissful helplessness against him, threw her arms about his neck and stammered:

"Oh, my darling, my own, my darling Jimmy. It is too good. Indeed, it is a dream; and yet it is real—yes, it is true. No, darling, I cannot refuse you. I will be your own little wife to—"

"Thunder and fiddlesticks! Who said anything about darling or wife?" And Jimmy, now frantic, disengaged himself in a not very gentle manner, and rushed from the house.

The interview was as brief as I have recorded it. It required but a few moments to work a fearful mischief. Jimmy was certain that he had committed a terribly serious blunder, that might result in untold misery and anguish to one soul, and so it did—to his. The girl, though, it is said, fairly screamed with laughter, until she brought the servants up stairs from all points of the house; and that is the way the story got out. Jimmy found a private boarding house that afternoon, and shortly after left town. I have never seen him since, though I learn that a year or two after he found another that could smooth his pillow to his eminent satisfaction, and to her he contracted the job for "always."

Protection Against Lightning.

M. NOUËL, a French scientist, has recently devised an original plan for protecting buildings from lightning.

The idea is not to prevent a bolt from striking a house, but to direct its current so that it shall harmlessly reach the ground. Usually the highest point, say the chimney of a house, attracts the fluid. Thence it makes its way from one metallic projection or surface to another, until it attains the spout, when it follows the stream of water to the ground. As water is an excellent conductor of electricity, M. Nouël suggests that the chimneys of city houses be provided with an iron ear, or even with funnels, which shall be united with the spout by plates of zinc. Thus the lightning, first striking the chimney, will leap along the track laid down for it, and enter the ground without deflection from its course and causing damage to the house or its inmates.

Correspondence.

We do not hold ourselves responsible for the opinions of our Correspondents. Our columns are open to free discussions on all Telegraphic subjects, without distinction of person or opinion.

No notice will be taken of anonymous communications.

New Telegraph Projects.—Unreliability of Oregon Winter Weather.—A Telegraph Superintendent's Experience.

ALBANY, OREGON, April 10.

TO THE EDITOR OF THE TELEGRAPHER.

I EXPECT that it has often occurred to your mind, as it does to mine at this moment, that in the way of telegraphic news from Oregon, it's either a feast or a famine; but that's the way it is, and however much I may feel like improving this, I can do nothing but give you the items as they occur from time to time.

Oregon is sort of stirred up at this time over proposed new telegraphic enterprises; and the one that looks the most feasible to my mind is the construction of a line, to be controlled in the interests of the A. & P. Co., from Winnemucca, Nevada, to Portland, Oregon, via Montana, Idaho and Washington Territories.

The A. & P. Co. now have a line from Winnemucca to Silver City, Idaho. From Silver City to Walla-Walla, W. T., there is a gap of 150 miles. From the latter place to Portland, the Oregon Steam Navigation Co. operate a first class telegraph line; and it's now proposed to fill up this gap between Walla-Walla and Silver City, thus giving us communication with California and the East by an "opposition" to the W. U. Co., who have heretofore and now hold an absolute monopoly of all the telegraph business to and from Oregon. Mr. Platt Burr, Superintendent of this line from Winnemucca to Silver City, has just paid this part of the country a visit, for the purpose of seeing what could be done in aid of this project; and I understand that a contract has been arranged, if sufficient aid can be obtained up the Columbia, to put the line across the gap referred to above.

That this line would be a paying investment there seems to be no doubt, and that shortly after it goes into operation *The Daily Bulletin*, of Portland, which is now debarred from receiving press dispatches, would be a steady patron of the new line. We sincerely hope that this season may (and we think it will) see this line in successful operation, for it will be a great benefit to that part of the country through which it will run, and also give the "boys" some new chances for "sits."

Since this "Winnemucca line" has been talked of the W. U. Co., according to the *Oregonian*, which claims to have seen a letter from Col. James Gamble to that effect, propose building a line alongside this other wire from *Winnemucca to Portland*. Most of the persons immediately concerned consider this a terrific game of "bluff," as this would have paid as much, if not more, years ago, when Oregon controlled the Idaho and Montana trade. Nothing was said about it then, and I am of opinion that there will only be one line built, at least for some years yet.

Work on the Canadian Pacific Railway is reported to commence on the 15th of this month. This is the Vancouver Island Division. The Telegraph Expedition will number about 300 men, and wages for linemen, etc., will probably not exceed \$45 per month, as there are a great number of idle men on Puget Sound that can be obtained. This line will be in the domain of and controlled by "Johnny Bull;" but we suppose enough men can be employed who are not particular whether they work for the "bloody Britishers," so long as they get good solid "British gold" therefor.

Work on the Coos Bay Telegraph Line, from Roseburg, Oregon, has not been commenced yet. I learned some time since that a party of California capitalists were ready to put this project through, provided satisfactory arrangements with the W. U. Co., regarding tariff rates from Roseburg to San Francisco, could be made. Nothing being said for some months leads us to suppose this arrangement was not perfected. This is also a line that would eventually be a paying investment.

Our winter has been a great deal more severe than usual, but the different lines have "kept up" remarkably well. At no time, with the exception of a few hours, has communication with California been interrupted. Crosses are about our only trouble, and the way we "hustle 'em out" is a caution. Oregon winter weather is one of the things decidedly uncertain and unreliable, as is shown by the experience of Superintendent Faling. Having by too close attention to duty in the management of his lines in the past year or two worked himself into a rather precarious condition of health, he concluded to take a vacation, and lay off for a few weeks. Our chief operator was accordingly ordered to Portland to look after the telegraphic interests during the Superintendent's absence.

After Mr. Faling got well enough to travel he started like a good Oregonian, taking his umbrella under his

arm, and water proof clothing along, it being reasonable to anticipate extra moisture at the season of the year. Taking this case for Roseburg, a change in the weather suggested forcibly the reflection that *furs* would be in better keeping than umbrellas and water-proofs. Upon his return to Portland the weather turning out pleasant he thought to take a trip up the Willamette by steamer; he accordingly took passage, this time determined to enjoy himself and have a good time. No sooner, however, had he got fairly on his way, when the heavens opened and the rain descended in regular Webfoot style.

By the time the party reached Albany the general opinion was that they "had enough!" and to add to the pleasures of the situation on landing at the wharf, no carriages were to be had. They therefore were obliged to undertake to find the depot amid the most terrific rain storm ever known, and by the time they arrived at the station, it could make no difference to them how hard it might rain, for they couldn't be any wetter. The party boarded the train in a most desolate and uncomfortable condition, and Mr. Faling thinks he has had enough of winter pleasuring and recreation in this climate, and will postpone further experience in that line till the weather shall become more settled and reliable. When again he takes a vacation it is to be hoped that he may have a more pleasant time than on this trip. However, the cold and the wet were not damaging, except to his clothes and temper, and he is again attending to his duties, feeling very much improved, notwithstanding his uncomfortable experience. WEBFOOT.

The Female Operator Question.—"Nihil Nameless" Annihilated.—Profanity of Managers, etc.

"And still they gazed, and still the wonder grew,
That one small head could carry all he knew."

Goldsmith.

TO THE EDITOR OF THE TELEGRAPHER.

HAD I the "gift of gab" which has reached such a wonderful stage of development in "Nihil Nameless," and a little of his conceit, I might indulge in a few rhetorical gymnastics, introducing the "Reverberating Thunders," the "Lurid Lightnings," etc., until Milton, nay Homer himself, should "pale his ineffectual fires" and shine but as penny dips 'i' the sun. But unfortunately I am but a plain, practical sort of a man, with no particular mania for airing the results of my researches among the "Latin phrases" in the dictionary, nor for poetical quotations, unless they are more *appropos* than those "Nihil" gives us. I feel flattered by his tribute to my earnestness on the subject in dispute.

It is comforting to know that the time when the class to which he belongs could block the wheels of progress has long since gone by; and when the heads of such conservatives as "Nihil" show themselves, they are quickly belabored by literary cudgels until they are withdrawn into the obscurity from which they emerged. There are some however, whose mental faculties are so obtuse that they cannot realize that in their opposition to the overwhelming odds of justice, public sentiment and established usage, they are but imitating the example of Mrs. Partington, and making themselves very ridiculous. Let me say to "Nihil," that what he is pleased to call a "powerful and prolonged mental effort," was not intended as an argument, but merely as a pleasant satire upon his assertion, that the occupation of Telegraphing is derogatory to the purity and delicacy of women. Any woman who walks alone on the streets of our large cities in the evening runs a far greater risk of insult than would a female operator in a county village in a year.

A lady remarked to me, after reading "Nihil's" communication, that it was noticeable that those men who are so extremely solicitous for the purity of women, were usually men who had good reason to be so, knowing that if the rest of mankind were like themselves their own sisters would not be safe from contamination. "Nihil" must not, however, understand this remark as quoted with any personal application, I merely give it as the opinion of a lady on the subject.

"Nihil" indulges in italics and exclamation points, with an appeal to the "shade of Murray," the point of which I am at a loss to understand, unless it is that he thinks he has discovered a grammatical error in the expression, "contribute little if anything to the cost of her maintenance." It such is the case, I hope he will procure a dictionary at once and guard himself from such an exposure of his ignorance in future. This suggestion is inspired by a feeling of benevolence for a rising young man.

Again, "Nihil" exhibits his *pouchar* for italics over my classification of agriculture as one of the coarser trades, and again I am puzzled as to the real depth of his mental faculties. He exhibits alarming symptoms of *hiatus maxime defendendus*. (If he wishes to know the meaning of that phrase, he can find it where I did—in the back part of a dictionary among the "Latin phrases.") However, lest the reader should suppose he made a point on me there, I beg to assure him that Worcester defines the word *trade*

"occupation or employment." Now, if agriculture isn't an occupation or employment I should be pleased to have "Nihil" inform me what it is.

"Nihil" gave me the impression that his pedigree could be traced directly back to that small but select company of distinguished exiles who arrived in the Mayflower. Therefore, I spoke of my ancestors in that connection, but only to prove that my comments were not inspired by the hostile feelings which some people of different descent entertain toward the Puritan. I shouldn't otherwise have alluded to any one's ancestors. I have noticed that people who are the most blatant in boasting of their Puritan descent can seldom trace their origin farther back than their great grandfather, and couldn't for the life of them ascertain whether he was English, Irish, French or Spanish. However, as "Nihil" is sensitive on the subject I will allow that he can trace his family back to the Mayflower, and as I can't go back so far by 150 years, I'll take a back seat.

But the most amusing of all "Nihil's" effusions is his last, in which occurs that brilliant preroration in which he quotes Phillips' speech on Bonaparte, and makes him characterize that matchless warrior as a woman! I suppose that any possible doubts on that point were effectually disposed of by the events which followed his marriage to Marie Louise.

I cannot find in his last communication any attempt at a refutation of the arguments I did advance, namely, that there is nothing in the occupation of telegraphing incompatible with the highest degree of refinement and culture in either sex, and that ladies have just as good a right to earn a livelihood in our calling as in any other; therefore I must believe that "Nihil" finds them unanswerable. I cannot see why the "accident of sex" should deprive women of any of the rights enjoyed by men, if they choose to avail themselves of them; and I believe that only the fact that the great majority of American women do not, as yet, desire those rights, has prevented the other sex from granting them.

In reply to "Occasional." I have to say that I see no material difference between my condensed quotation of his paragraph about Rule 34 and the original. Surely no gentleman would fear any offence from the profanity, &c., of any woman in the profession. It must be conceded that such an offence would come, if at all, from the males, whom, by custom, we call "gentlemen," whether their character entitles them to the appellation or not. This being granted, as well as the fact that such language in the presence of a lady would be an insult, and it necessarily follows that my condensation of "Occasional's" paragraph did not misrepresent its meaning. If he is willing to stand by that paragraph I must repeat that such a construction of that rule is far from complimentary to the male portion of the fraternity; for though we have some tough characters in our ranks, I must admit, yet I do not believe there is an operator in America who would be guilty of an offence of the kind in an office where ladies were employed side by side with gentlemen, and if there should be a man contemptible enough to offend in that way, I believe he would be summarily thrown out of the window by the gentlemen present without the aid, and perhaps in violation, of the book of rules.

In regard to the "manager" question, I can only plead ignorance. I never had the misfortune to work under a manager of the character described by "Occasional." With one exception, my superior officers have been gentlemen in every sense of the word. The exception it would be idle to mention, as time has long since dissipated all unpleasant memories connected with that period.

I do not profess any greater desire for the elevation of the craft than, I hope, is entertained by "Occasional," and hundreds of others. It would ill become me to take up the cause of the ill treated in a district which has such an able and vigilant champion of the rights of operators as "Occasional." I am not spoiling for a fight of any kind, but I will assure him of this, that if such a case as those to which he refers ever occurs within my personal observation and knowledge, I shall not hesitate to give the facts and names the publicity they deserve. My reply to his former letter was based on the assumption that he was one of those chronic grumblers who seize upon every incident, real or imaginary, which can be used as a peg on which to hang morbid complaints and insinuations in regard to the treatment of operators. I am convinced that this impression was erroneous, and hope he will pardon any injustice I may have done him.

Can you inform me, Mr. Editor, where I can find an account of the incident mentioned in the last *Journal of the Telegraph* of a dying man in a western city, &c.? The similar incident I gave you, occurred precisely as related, and can be vouched for by three persons who were present. If the incident mentioned in the *Journal* is true, it would afford further proof of the desirability of a knowledge of "Morse" by persons who may think some of "shuffling off this mortal coil" shortly. Think what a hit Dumas might have made in his "Count of Monte Cristo" if he had made the apoplectic old M.

Nortier communicate with his granddaughter by Morse signals instead of by winking his eyes!

By the way, what does "Con Spirito" think now of the quadruplex? contrary to his predictions, and learned demonstration of its absolute mechanical impossibility—the "quad" has been improved, and is now worked day and night with perfectly satisfactory results. Both the printing instruments also will soon be worked on one wire by a "quad."

JOHN STERLING.

Origin of the Underground Telegraph Bill.—Successful Working of the Quadruplex.—Telegraphic Extensions, &c.—The New A. & P. Office.—Personals.

ALBANY, May 11th.

TO THE EDITOR OF THE TELEGRAPHER.

QUITE a lively breeze was raised in the Assembly last week by the charges published in the *New York Tribune* against the members of the Assembly Committee on Cities. The *Tribune*, in a short, but bitterly sarcastic article, insinuated that money had been used to prevent the passage of the Underground Telegraph Bill. This at once created the storm which, it is said, that paper was glad to quiet by offering an ample apology to Mr. Hess, who is a member of that Committee, and who had already dug up the tomahawk, and was on the warpath when the apology was received. It is expected that the other members of the committee will insist upon a similar vindication. It is pretty generally understood up here that this bill is a joint outgrowth of the *Tribune's* grievance—that big telegraph pole in front of their building—and Mr. Jay Gould's desire to rake in another pile of filthy lucre. Should this bill pass, Western Union stock would inevitably suffer a heavy fall, and this opportunity would not be overlooked by so sharp a financier as the above named gentleman. However, speculations as to what might have been are without weight now, as the bill is undoubtedly killed as effectually as was the similar attempt to influence W. U. stock which was made in Congress last Spring. The *Albany Express*, in publishing the letter from Vice-President Cornell to the *Tribune*, denying the charges made against the committee, heads the item "Underground Typography." Some one suggests that the editor of the *Express* was thinking of the printing telegraphs when he wrote the above caption.

Mr. S. C. Rice, Assistant Chief Operator of the Albany office, was recently made the recipient of a handsome and valuable present, in the shape of a diagram book containing twenty sketches and diagrams, from the simple office connections of a terminal station to the complicated arrangement known as the quadruplex. It contains eight styles of repeaters, differential and bridge duplexes, duplex repeater, duplex arranged to change to two sets of single instruments, and a number of other ingenious and useful devices. Among the miscellaneous sketches is a view of the cable station at Duxbury, Mass. The diagrams are in colors, and very artistically drawn. The work was executed and presented by Mr. Chas. H. Davis, of Worcester, Mass., formerly an operator in this office, and is finished up in a manner highly creditable to "Da." The New York and Albany quadruplex circuit is now conceded to be one of the best of its kind connected with New York. The fact that it has been worked nearly a week, during the unsettled spring weather, without any change in "balance," disposes of the argument which has been put forward against it, viz., that great delay is caused by the necessity for frequent "balancing." It now works four sides as clearly and steadily as a duplex. It is said that the new double coil, short core relay recently introduced by Mr. Gerritt Smith, will remove the last "bug," and render the system much more effectual than ever before. We have always coincided with the editor of THE TELEGRAPHER in his oft expressed conviction that genuine improvements would eventually be recognized and appreciated as such; but our ideas as to the genuineness of certain so called improvements has differed somewhat from those which he evidently entertains.

The work of extension and improvement of lines is going on quite actively in this section at present. The different companies seem to appreciate the necessity for greater facilities, and are actively at work preparing to meet the wants of the business public. Last fall the Delaware and Hudson Canal Co. erected a line from Whitehall to Port Henry, a distance of fifty miles, along the line of the new New York and Montreal Railroad; they are now constructing a line of ninety miles from Albany to Rutland, Vt., for their own exclusive use. Poles are now being strung along the line of railroad for the same.

The work of reinsulating the Hudson River lines of the W. U. has been completed, and the wires are now in prime condition. The rebuilding of the Harlem wires of the same company is to begin as soon as possible, and when completed will give them fourteen first class wires between New York and Albany.

Extensive preparations are in progress to meet the requirements of the Saratoga business during the coming season, which opens in a few weeks. The main office is to be materially enlarged and thoroughly equipped with the best appliances for doing its immense business in the best and quickest manner possible. Among the improvements will be a quadruplex for the N. Y. circuit, and a duplex for the Albany wire.

A line is to be immediately constructed to Moon's, on Lake Saratoga, taking in the grounds of the Saratoga Racing Association. We suppose the A. and P. folks will trot out their automatic to enable them to compete any way successfully with the W. U. By the way, there's John Morrissey, who is universally conceded to be a first class "puncher," perhaps he might be engaged, in case of emergency, to help clear up business.

Work on the fire alarm extension in this city is progressing with all possible despatch, and it is expected it will be fully completed by the first day of June.

During their recent visit to this city the Papal Envoys inspected this branch of our fire department.

The work of repairing the Museum building (perhaps you have heard us mention the building before) is going forward rapidly; the floor timbers for the French roof have been placed in position, and there seems to be a prospect of our being able to occupy it sooner than was at first expected. We are informed that the upper stories and the ground floors are to be put ahead as fast as possible, while the rest will be finished more leisurely. The operating room is to be in the French roof, the battery room on the floor below, the delivery department probably in the second story, and the receiving room on the ground floor, as before.

The A. and P. Telegraph Co. moved into their new office, No. 444 Broadway, two doors above State street on Sunday last. The outward appearance of the office is very much disfigured by an unsightly wooden beam placed over the door and windows; upon it are perched a row of glass insulators, from which the wires are led into the office. We understand that it was the original intention to use hard rubber hook insulators for this purpose, but orders to the contrary were received from President Eckert, and glass was accordingly substituted. The interior of the office is arranged very neatly and conveniently, and seems to have been fitted up with especial reference to the prompt transaction of business. The location is second only to that of the museum corner, and it is probable that a material increase in business will be experienced by reason of the change.

Mr. William B. Derby, late receiver and cashier for the A. and P., has accepted the position of head book-keeper for the W. U., made vacant by the transfer of Mr. W. A. Austin to the operating department.

Mr. F. S. Smith has been appointed to a position in Saratoga main office for the coming season.

An office will be opened in a few days in the lumber district, located in the Dock Master's office, and will be in charge of Mr. John Brayton, a graduate of A. office, lately employed as manager and operator at Coxsackie, N. Y. His successor at "Ck." is not yet known.

Mr. Eugene A. Gay, formerly an operator in this office, but more recently in charge of the A. and P. office in the Delevan House, has been confined to his room for several weeks. A cataract had formed over one of his eyes, which it was found necessary to remove by a surgical operation. The operation was, it is hoped, successfully performed, and Mr. G. is expected to be able to be out in a few weeks.

Mr. C. E. Lincoln, of Providence, R. I., is "subbing" for him. DOUBLE SIX.

Where Gutta Percha Comes From.

DURING the year ended June 30, 1874, there was imported into the United States, free of duty, 14,191,320 pounds crude India rubber and gutta percha, valued at \$6,196,729, as follows:

From Brazil.....	6,880,185 lbs.
“ Central American States.....	166,672 “
“ France.....	30,722 “
“ England.....	930,097 “
“ Quebec, Ontario, etc.....	1,726 “
“ British West Indies & Honduras..	367,693 “
“ British East Indies.....	925,728 “
“ British Possessions in Africa.....	11,512 “
“ Other British Possessions.....	88,233 “
“ Mexico.....	72,963 “
“ Dutch East Indies.....	37,958 “
“ United States of Colombia.....	4,526,848 “
“ Venezuela.....	4,846 “
“ Other countries.....	146,137 “

AN hypothesis is the explanation of effects by possible cause; a theory is the explanation of effects by real causes.—*Flourens*.

Habit is a Cable. Every day we weave a thread, and soon we cannot break it.

THE TELEGRAPHER

DEVOTED TO THE INTERESTS
OF THE
TELEGRAPHIC FRATERNITY.

SATURDAY, MAY 15, 1875.

THE TELEGRAPHER:
PUBLISHED EVERY SATURDAY at 38 VESSEY ST.

ELEVENTH VOLUME.

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Communications must be addressed to

J. N. ASHLEY, Publisher,

(P. O. Box 5503.) 38 VESSEY ST., New York.

Telegraph Lines in Cities.

THE bill, introduced by Mr. DALY in the Lower House of the New York Legislature, to compel telegraph companies to put their wires under ground in cities of this State of more than 200,000 inhabitants, having been reported adversely by the Committee on Cities and Villages, to which it was referred, and tabled by a decisive vote, is disposed of for the present session. It was opposed mainly by the Western Union and Gold and Stock Telegraph Companies, other companies not having appeared in opposition to it.

The *New York Tribune* charged that corrupt means had been used to secure an adverse report from the committee. This was denied by Mr. A. B. CORNELL, the acting President of the Western Union Company (in the absence of Mr. ORTON), in a communication to the *Tribune*, and we are satisfied that the charge was without foundation.

We have not favored the bill, although not inimical to the object proposed to be accomplished. For this there were several reasons: First, because we believed that the time in which the change was required to be made was too short, and besides this, we think that before so radical a change is required careful experiments should be made to decide what the best mode of effecting it may be. It was urged, in opposition to the bill, that some of the instruments used, especially by the Gold and Stock Company, break and close the circuit so rapidly that the static charge which is experienced in working conductors insulated and submerged in the water or buried in the ground would materially interfere with, if not entirely prevent their use. Experience in working submarine and subterranean wires gives a reasonable coloring to this argument, and it was probably the most effective one, and had the most influence in securing an adverse report from the committee.

But, although the proposed action is postponed for the present year at least, telegraph managers must not flatter themselves that the danger is entirely passed. There is no doubt but that the effort to procure the passage of a law for this purpose will be renewed, probably in the next Legislature, and if nothing is done in the meantime to solve the questions connected with the subject, it is not impossible that a different result will be reached.

The enormous increase of telegraph poles and wires in the large cities necessarily and inevitably brings into prominence the desirability that some different system than that at present in vogue should be

adopted. It is evident that we cannot go on indefinitely increasing the number of such poles and wires without seriously interfering with the proper uses of our streets. The new uses to which telegraphy, in its various applications, is constantly being adapted, must necessitate the constant increase of the number of lines in the larger and more populous places. How these may be provided with the least inconvenience and infringement upon the ordinary use of the streets is a problem of a very serious character, to the solution of which telegraph managers should devote immediate, earnest, and intelligent consideration.

That some method *must* be devised which shall relieve the streets from the incumbrance we regard as indisputable. It will, then, be for the interest of telegraph companies and telegraph managers to take the necessary steps towards determining the most effective and economical method of doing it. It will not answer for them to ignore the subject, for unless they manifest a disposition to take hold of it, and show that they are honestly seeking to meet the public demand in this matter their interests will not receive consideration, and a pressure will be brought to bear upon the law makers which they will find it impossible to resist, and they will be compelled at last to conform to legal requirements which may prove unnecessarily expensive and damaging.

Undoubtedly, any change from the present system will be inconvenient and costly to the telegraph companies, but may be made much less so, if proper investigation and a disposition to gradually and intelligently remove existing difficulties show to the public that they are disposed to yield to the requirements of the people, and voluntarily relieve the streets from the incumbrances and obstructions arising from their use for telegraphic purposes.

We write this more in the interest of the telegraph companies themselves than in that of the public. The latter have the remedy in their own hands, and will, undoubtedly, eventually enforce it, though we are satisfied that there is no disposition, so far as the people themselves are concerned, to act in an unfriendly spirit towards the telegraphists. In the end the best interests of the telegraph will be served by the manifestation of a friendly and accommodating spirit in this matter.

The Direct United States Cable Company.

WE have received from the Chief Representative of the Company in this City a copy of the report and account of the Directors of the Direct United States Cable Company, submitted to the shareholders at the general meeting held at the City Terminus Hotel, Cannon street, London, March 31st, up to the close of the year 1874.

The Directors state that the shares are now fully paid up. The cable has been paid for, with the exception of £97,300, which will become due when it is laid, and has been in working order for thirty days. To meet this payment the Directors have in hand £126,858 0s. 10d.

The Directors state that the Canada Cables Act has passed through both Houses of the Dominion Parliament, and that the effect of this will be to throw open the shores of Newfoundland to the Company.

All arrangements for commencing work at the Company's several stations in London, Ireland, Nova Scotia and America have been completed, and a staff engaged, ready to begin at any moment.

The offices of the Company in this city are at No. 16 Broad street, where a full staff of employes are awaiting the completion of the cable, which is momentarily expected.

The Quadruplex Patents Controversy.

IN his brief in behalf of EDISON, in "the matter of the application of THOMAS A. EDISON for certain letters patent to issue to himself and GEORGE HARRINGTON," filed by General B. F. BUTLER, with the Secretary of the Interior, the counsel characterized THE TELE-

GRAPHER as "the newspaper organ of the Western Union Telegraph Company."

This will, no doubt, be news to the managers of that Company; as well as to ourselves and our readers. We suppose that Gen. BUTLER not being very well informed in regard to telegraphic matters, has confounded THE TELEGRAPHER with the *Journal of the Telegraph*, which latter, as is well known, is "the newspaper organ of the Western Union Telegraph Company."

We rather pride ourselves upon the fact that this paper is not the "organ" of any telegraph company, but in a position to deal fairly and disinterestedly with all telegraphic organizations, interests, and inventions.

The Automatic vs. the Morse.

WE have received from Mr. D. H. CRAIG a caustic reply to the article of JOHN STERLING on the Morse vs. the Automatic, printed in the last number of THE TELEGRAPHER, which is unavoidably crowded out of this week's issue, but will appear next week.

Our correspondents and contributors have taken up this discussion at such length as to preclude the necessity or space for editorial treatment of it at present. We have no doubt but that it will be quite as ably handled.

"Nihil's" Grave.

THE verses which we publish on our first page this week from the pen of ICHABOD CRANE, indicate that NIHIL NAMELESS has succumbed to the assaults which his ill judged communications on the subject of the propriety of females engaging in, and their adaptability to the business of telegraphy have brought upon him. Under the circumstances we may, perhaps, regard the communication of JOHN STERLING in the present number as another "nail in his coffin." Had not the communication been crowded out heretofore it might perhaps have appeared in time to aid in dispatching NIHIL. While we mourn the sad fate of our correspondent, we cannot but confess that it was not entirely undeserved. It was a rash act on his part at this late day to argue on his side of this question, the discussion of which has in years past occupied so much space in THE TELEGRAPHER, and which by the inexorable logic of events has been decided adversely to him.

The discussion now, as heretofore, has developed one fact, and that is that women telegraphers can *write* as well as telegraph, and that those who have the temerity to venture to attack them must be prepared for the consequences. We admire the ability, zeal and energy with which Jo. and her sisters have responded to NIHIL's literary attacks, and, now that he is no more, have no doubt but that they will, in a spirit of womanly forgiveness and pity, drop a tear upon his (metaphorical) grave. Henceforth we have no doubt but that they will be permitted to exercise their chosen calling without let or hindrance, and our columns will cease to be occupied with the fierce charges and repulses which have for some months past enlivened them. Cannot Jo. prepare a suitable and sympathetic obituary for her discomfited and fallen (literary) foe?

Orton's Patent Awt Clip, and Secure Message Hook.

THESE useful articles, which are advertised in this number of THE TELEGRAPHER by the Western Electric Manufacturing Company of Chicago, should be used in every telegraph office and by every operator. Large numbers of them have already been sold, and the small price at which they are offered place them within the reach of every one who may have occasion to use such articles.

Something New.

ATTENTION is called to the advertisement of Messrs. LENNART & DECKER, manufacturing electricians, of Cleveland, Ohio, under this caption, which will be found worthy of consideration.

We have received one of the pocket galvanometers

referred to, and shown in the cut, and it is a very neat little affair, and, we should judge, would be very useful to electricians, telegraph operators, etc., who have occasion to test the direction and force of electrical currents. It is substantially made, and we have no doubt will meet with a general demand.

Back Volumes of the Telegrapher Wanted.

A GENTLEMAN in Europe is desirous of obtaining a complete file of THE TELEGRAPHER of the first eight volumes, if they can be had at reasonable cost. Any person who may have these volumes, either bound or unbound, in good condition, and is willing to dispose of them, is requested to communicate with the publisher, stating particulars, price, etc.

Illness of President Eckert.

WE regret to learn that President T. T. ECKERT, of the Atlantic and Pacific Telegraph Company, has been quite ill for nearly two weeks past, from an attack of pneumonia. He is better now, however, although unable at this writing to leave his room, but it is expected that he will be able to attend to business again in a few days.

Personals.

MR. GEO. W. BAUSMAN has retired from the Western Union, Oil City, Pa., office for the purpose of visiting his home for a short vacation.

MR. SMITH, formerly of St. Petersburg, Pa., takes the position vacated by MR. BAUSMAN, in the Oil City, Pa., Western Union office.

MR. S. M. MCKEE, for some time past "press" operator at Parker, Pa., has been appointed manager of St. Petersburg, Pa., Western Union office. Mac is to be congratulated on his promotion.

MR. E. W. WELLER, book-keeper, Oil City, Pa. Western Union office, has obtained three months' leave of absence, for the purpose of visiting his friends in England. MR. HAMILTON will attend to the book-keeping department during MR. WELLER'S absence.

MR. D. K. BLANKNEY has been appointed manager of Houston, Texas, Western Union office, vice MR. GEO. E. NETHERLAND, who has accepted the position of chief operator of the Louisville Ky., office of the same company.

MR. CHAS. E. TODD, supt.'s chief clerk and train dispatcher of the St. L., K. C. and N. R. R. at Kansas City, Mo., has resigned, and accepted a position in the Western Union office in that city.

MR. ARTHUR H. ELLIOTT, of the Kansas City, Mo., Western Union office, has resigned, and returns East.

MR. ED. SCHERMERHORN is acting as line repairer for the Western Union Co. at Wallace, Kansas.

MR. W. M. SPINK has resigned his position with the Western Union Co. Kansas City, Mo., to accept a position on the reportorial staff of the *Globe*, at St. Louis, Mo.

MR. DAVID CAMPBELL has been transferred from the Jefferson, Texas, to the Marshall, Texas, Western Union office.

MR. JOHN L. CASSIDY, of St. Louis, Mo., Western Union office, who has been rusticated at Barry, Ill., has returned looking handsomer than ever.

MR. HENRY C. MAHONEY, of St. Louis, Mo., Western Union office, is visiting at Quincy, Ill.

MR. D. S. RYAN, of Galveston, Texas, has accepted a situation in the St. Louis, Mo., Western Union office.

MR. M. S. BACON has been transferred from the St. Louis to the Kansas City, Mo., Western Union office.

MR. ROBERT BROWN, the well known veteran telegraph constructor and contractor, has removed his office from No. 5 Dey street to No. 206 Broadway, New York, where he may be found in rooms 52 and 53.

The Telegraph.

By Cable.

THE REDUCTION OF TARIFF CABLE MESSAGES.

LONDON, May 6.—The reduction of fifty per cent. in the cable telegraph rates to North America, which was made on the first inst., has given the commercial community much satisfaction.

The Southern and Atlantic Telegraph Company.

A NEW line on the Brunswick and Macon Railroad, about twenty miles in length, has been connected with the Southern and Atlantic system, and new offices opened at Buffalo, No. 2, and Darien, Georgia. The business of this company is reported to have very largely increased during the last six weeks.

New and Superior Location of the Atlantic and Pacific Broad Street Office.

THE office of the Atlantic and Pacific Telegraph Company which has been so long located at No. 11 Broad street, in the basement, has been removed to No. 8 Broad street, nearly opposite. The new office is next door to the Stock Exchange, and is in every respect a vast improvement upon the old office. This is one of the most important offices of the company in this city, and could not be better situated for business purposes than it now is. The entrance is directly from the street, the office being located on the first floor, front, handsomely fitted up and well lighted. It is gratifying to notice this indication of business tact and energy on the part of the management of the Atlantic and Pacific Company, and equally gratifying to know that it is appreciated by the public, as is proved by a large increase of business already. The old office was underground, dark, dismal and unhealthy, while the new one is the reverse of this in every respect.

There are at present ten loops, putting this office in direct-connection with the principal telegraphic points, and additional loops are to be run shortly. It is understood, also, that this office is to be fitted up with a set of automatic telegraph apparatus to facilitate disposing of the increasing business. The following is the force at present employed:

Manager, Mr. Jeremiah Case; chief operator, Mr. C. E. Merritt; operators, Messrs. C. M. Fulton, E. D. Forbes and Miss Fanny M. Brown; book-keeper, Mr. C. E. Merritt.

Removal.

THE office of the Automatic Signal Telegraph Company has been removed from No. 42 Pine street to the new *Evening Post* building, on the corner of Broadway and Fulton streets, room 39. The flattering success which this company has met with is fully deserved. Its system of notifying the first commencement of fires in buildings has already prevented several conflagrations in this city, some of which would have otherwise proved very extensive and destructive.

New Loan for the Western Union Telegraph Company.

THE Western Union Telegraph Company offer for subscription through Morton, Bliss & Co., bankers, of this city, a loan of \$4,000,000 six per cent. gold bonds, interest payable semi-annually, and the principal in the year 1900. Subscriptions for these bonds will be received until Thursday, the 25th day of May, at noon. A minimum price of 97½ per cent. and accrued interest is reserved, below which no offers will be accepted. Subscriptions will become binding as soon as they reach \$2,000,000; if the subscriptions exceed \$4,000,000 the \$2,000,000 first subscribed will be allotted in full, and the balance *pro rata*.

The proceeds of this loan are to be used to redeem bonds of the company which mature Nov. 1, 1875, amounting to \$4,448,900, and will be included in any mortgage the company may make in the future, the amount of which shall in no event exceed \$6,000,000.

When the above bonds of Nov. 1 are redeemed, the only bonded debt of the company, besides the present issue, will be \$1,500,000 seven per cent. Gold Building Bonds, issued in 1872, and £206,000 Sterling Bonds, and the total interest on the company's debt, including this issue, will be \$405,000 gold, or with gold at 115 per cent. premium, \$465,750 currency; the net earnings of the company last year showing a margin over this amount of \$2,610,910, in excess of expenses and interest account.

The payment for the new bonds, when allotted, will be due June 1, and the Currency Bonds of the company, due Nov. 1 next, will be received at 100½ and interest, in payment for them.

Foreign Telegraphic Notes.

THE total number of messages forwarded from postal telegraph stations in the United Kingdom for the week ended April 17, 1875, was 402,903, an increase on the corresponding week of last year of 32,038.

The Engineer-in-Chief of Hooper's Telegraph Works telegraphs on the 18th ult. from Santiago, "Cuba cable laid yesterday. Insulation superb. Commence discharging cable from the Hooper into the Great Northern to-morrow."

The dividend of the German Union Telegraph Company has been fixed at 27 marks, or £1 6s. 5d. per share for the past year.

The directors of the Hamburg-Heligoland Telegraph Company have declared a dividend for the year 1874 of 21 marks, being equal to 7 per cent. per annum.

The Eastern Telegraph Company gives the following as the average time in transit between London and India *via* Falmouth, of all outward messages to India, viz: During the week ended the 9th April, one hour nineteen minutes; week ended 16th April, one hour twenty-eight minutes.

Telegraphic and Electrical Brevities.

THE municipal authorities of Providence, R. I., are considering the economy and expediency of adopting an underground insulated system of lines for the police and fire alarm telegraph purposes of the city.

The Western Union Telegraph Co. are building a loop line from Cherryvale to Independence, Kansas, a distance of ten miles.

The Western Union Co. are repairing and rebuilding the Great Western Telegraph lines (leased by them) through Kansas, Missouri and Nebraska, thus enlarging the facilities of the company in the West.

A repeater has been put in at Nebraska City, Neb., thus giving Lincoln, Neb., a direct line to Omaha.

The Massachusetts Supreme Court has decided, in the case of John C. Gray against the Boston Gas Light Company, that the latter is liable for damage done by a telegraph line it had fastened to a chimney belonging to the plaintiff, without his permission.

West India and Panama Telegraph Company.

THE report states that the amount received during the half year ending the 31st of December last on revenue account was £16,263, and the expenses had been £13,337, leaving a balance of £2,926, which was carried to general reserve account. The traffic receipts during that period were larger than in any previous half year, and showed an increase of 45 per cent. over those of the corresponding period of last year. The company's cables had worked without intermission since the last report. An interruption to one of the connecting cables, between Havana and Key West, occurred on the 16th of September and continued until 1st December, 1874, thus stopping for eleven weeks all through telegraphic communication between the West India system and America and Europe. This had a serious effect on the receipts. The Cuba Company had decided to lay the cable from Cienfuegos to Santiago, thus duplicating its part of the system. The section of 140 miles from Santiago to Jamaica belonging to the West India and Panama Company was left unduplicated for the present. The Trinidad St. Croix-Ponce section of new cables was completed on the 25th March, thus duplicating an important part of the company's system. The St. Croix-St. Thomas cable had also been laid. The directors had purchased the steamship Investigator for £10,500. She would shortly proceed to her station and would take 100 miles of spare cable for repairing purposes. The company had acquired by the settlement of the suit the whole mileage covered by the India rubber Company's claim, including the Jamaica-Colon cable, without any further payment. Thus the former capital expenditure of £525,836 on account of the contract with that company now represented a much greater length of cable than heretofore. The balance sheet showed that the capital expenditure was £809,510.

Beefsteak Electricity.

THE six Christmas lectures for juvenile listeners at the Royal Institution were delivered by Dr. J. H. Gladstone, F. R. S. He chose for his subject "The Voltaic Battery." Most of the experiments and teachings were, of course, too elementary to interest the readers of these pages, but one of the experiments revealed a fact not generally known. He said that in daily life weak electrical currents are at work where their presence is often little suspected; for instance, supposing a person at dinner to have a silver fork in one hand and a finger upon the steel part of a knife held in the other, it follows that, when he plunges the knife and fork into a beefsteak, two dissimilar metals are thereby placed in a moist conducting substance, consequently a voltaic circuit is formed and an electric current flows through the body of the individual between the knife and fork. To prove that this was really the case, he connected a reflecting galvanometer with the knife and fork by means of wires; he then proceeded to cut a beefsteak, and the current thus generated deflected the needle of the galvanometer, so that the spot of light which it reflected was seen travelling along the screen by all the observers.

Quotations of Telegraph Stocks at N. Y. Stock Exchange,

Showing Lowest and Highest Prices each day during week.

Table with columns: May, WESTERN UNION, ATL. AND PAC., AMER. DIST., GOLD AND STOCK. Rows 6-12 showing stock prices.

New Patents.

OFFICIAL COPIES of any U. S. Patent issued since July 1st, 1871, including drawings, specifications and claims in full, sent free to any address for 25 cents each.

For the week ended March 30, 1875, and bearing that date.

161,561—ELECTRICAL RAILWAY SIGNALING APPARATUS.—Erdst W. Siemens and Carl L. Frischen, Berlin, Germany. Filed Aug. 1874.

1. The toothed semaphore arm or segment R1 R2, biased by a weight or spring to move either upward or downward, in combination with an anchor engaging with its teeth, and connected to the armature of an electro-magnet, which is rendered active by a number of successive and alternating electric currents, whereby the arm or segment, being moved tooth by tooth in obedience to its bias, is not materially affected in its position by accidental or defective currents, or by atmospheric electricity, substantially as herein described.

2. The combination of the said semaphore arm or segment R1 R2 with a knob or handle, T1 or T2, and its rod for moving a sliding weight C or C2, to give the bias to the arm or segment, and at the same time moving a commutating lever, L, to alter the electric circuits of the apparatus, substantially as herein described.

3. The combination, in one instrument or apparatus, of two sets of biased arms or segments, R1 R2, and their appropriate knobs or handles, T1 T2, with their rods and commutating levers L, with one magneto-inductor, b, and with line wires L1 L2, connecting them to distant instruments or apparatus of like kind, substantially in the manner and for the purposes herein set forth.

4. The combination of the biasing and commutating knobs or handles T1 or T2, and their rods with extended rods G, acting by means of spring pawls, on point rods or signal pulleys, and held down or released by detent levers L M, being engaged with or escaping the axes Z of the arms, substantially as herein described.

5. The combination, in one apparatus, of two or more sets of biased arms or segments, R, and their knobs, T, rods and commutators L, with extended rods G, acting in the manner above referred to, on two or more sets of point or signal motors, substantially in the manner and for the purposes herein set forth.

For the week ended April 6, 1875, and bearing that date.

161,721.—COMPOUND SWITCHES FOR FIRE ALARM TELEGRAPHS.—Samuel Weeks, New Orleans, La. Filed January 11, 1875.

A compound switch for fire-alarm telegraphs, for throwing by one movement a series of switches into circuit, composed of a series of upper switch fingers, establishing and breaking circuit of main alarm battery, and of a set of lower spring fingers for closing and opening the local batteries, in combination with an intermediate insulated crank shaft, with opposite non-conducting cam excursions, so arranged that a turn of the crank shaft causes simultaneously the contact of the upper fingers and the disconnecting of the lower, or the breaking of contact of the upper and the closing of the lower, substantially in the manner and for the purpose set forth.

161,739.—TRANSMITTERS AND RECEIVER FOR ELECTRIC TELEGRAPHS.—Alex. G. Bell, Salem, assignor to himself and Thos. Sanders, Haverhill, and G. G. Hubbard, Cambridge, Mass. Filed March 6, 1875.

Receiver set into vibration by isochronous pulsations transmitted from the sending end. The vibrating piece b takes against a lever, f, whose times of vibration are less than those of b; hence, during such vibration, its end j is kept depressed, changing the intermittent contacts of b and f into a continuous close of circuit.

1. In a system of telegraphy in which the receiver is put in vibration by electrical impulses sent along the line wire from the transmitting station, as described, the combination at the receiving end of a local circuit independent of a receiver and a vibratory circuit breaker in said local circuit, acted upon by said receiver to effect a permanent make or break, as the case may be, of the local circuit, which is continued so long as the receiver continues to vibrate, and ceases with the cessation of the receiver's vibration, substantially as herein set forth.

2. The combination, substantially as herein described, with the vibratory portion of a receiver, of a vibratory circuit breaking lever which will vibrate or oscillate at a slower rate than that at which the former moves when in vibration, as and for the purposes set forth.

3. The autograph telegraph comprising the combination of a series of transmitters and transmitting bristles or wires, a single main wire, receivers corresponding in number to the transmitters, tuned to a pitch to vibrate in unison with the succession of electric impulses transmitted from their respective transmitters, vibratory circuit breakers, one for each receiver, and a local circuit, electro-magnet and recording lever for each circuit breaker, the whole for operation substantially as shown and described.

For the week ended April 13, 1875, and bearing that date.

161,874.—MAGNETO-ELECTRIC MACHINES.—Moses G. Farmer, Salem, Mass. Filed June 21, 1873.

Cores of magnets of cast iron; initial magnetism therein induced by earth currents; by rotation of helical armature currents are produced therein, which are led around cast iron magnets, strengthening the magnetic field.

1. A dynamo-electric machine, constructed substantially as set forth, in which the electro-magnetic field is sustained solely by

the magnetism produced by currents which, circulating in it, are evolved from the armature which rotates in this field.

2. The combination of the non-magnetic plate F, provided with lugs H H', having bushings n n' thereon, the pivots P P', the armature O, the plates A A' the coils B B', and the cross piece D, substantially as and for the purpose set forth.

3. The combination of the cross piece D, having lugs or ears E E' attached thereto, the shaft I, wheel K, the pinion L, pivot P, armature O, and commutator R, substantially as set forth.

4. The arrangement of the coils B B', armature O, segments a a' of the commutator springs b b', screw cups W V, connecting wires c c' c'' d, and the external wire connecting the screw cups in one and the same electric circuit, substantially as set forth.

5. A dynamo-electric machine having the cores A A', and connecting cross piece D of the electro-magnet, and the armature O, constructed of cast iron, substantially as and for the purpose set forth.

162,057.—ELECTRIC ANNUNCIATORS.—Elisha Gray, Chicago, Ill. Filed September 24, 1874.

The spindles carrying the pointers have attached to them, on the inside of the case, irregularly shaped arms having two projections. In restoring the pointers to their normal position, one of these projections catches upon a hook-shaped arm extended from the armature, and the other serves to push the armature away from its pole, across the face of which it vibrates.

1. The armature D, provided with the hooked levers D', in combination with the tilting piece G, rigidly connected to the index, and constructed and arranged substantially as shown and described, to be struck by the restoring mechanism, to strike the said armature, and to be engaged by the said lever, as and for the purposes set forth.

2. The combination of the pivoted armature D, provided with the hooked lever D', the tilting piece G, rigidly attached to the spindle or sleeve of the index, and the sliding bar H, provided with the extensions h h', the piece G being constructed and arranged to be struck by the said extensions, to strike the said armature, and to be engaged by the said lever, all substantially as and for the purposes specified.

6,377.—LIGHTING GAS BY ELECTRICITY.—S. Gardiner, Jr., Washington, D. C. Patent No. 45,241, dated Nov. 29, 1864. Filed February 23, 1875.

For insulating the platinum coil and the conducting wires.

1. A tip of lava or other non-conducting material, in combination with an apparatus for lighting gas by electricity.

2. In apparatus for lighting gas by electricity a non-conducting pillar burner, whereby the conducting wires are isolated from the gas fixtures.

3. The combination, in the burner for lighting gas by electricity, of a non-conducting burner pillar, B, with a lava tip, F, substantially as and for the purpose set forth.

4. The combination, in apparatus for lighting gas by electricity, of the lava tip with the conducting wires c c and their supporting insulators c c, substantially as described.

5. The combination, in the burner for lighting gas by electricity, of a lava tip with a platinum coil and a metal pillar, substantially as and for the purpose herein set forth.

6. The combination, in a burner for lighting gas by electricity, of a non conducting pillar, B, with a lava tip, D, and an intervening metallic pillar or nipple, A, substantially as and for the purpose herein set forth.

Married.

PEPPER—ROSS.—At the Capital Hotel, Marshall, Texas, on the evening of April 29, 1875, Mr. CHAS. H. PEPPER, Sup't T. and P. S. R., to Miss LILLIE ROSS, of Marshall.

Born.

MCDONALD.—To the wife of Mr. J. W. MCDONALD, of the St. Louis, Mo., W. U. office, April 3rd, at 8 o'clock P. M., a daughter, 14 pounds. "Well done thou good and faithful servants."

ORTON'S PATENT SECURITY MESSAGE HOOK.

The damage resulting from the loss of a single message is frequently sufficient to equip a line many times with the hook.

Papers cannot be blown or carelessly crowded from it.

These hooks were first introduced by Geo. H. Bliss & Co. Thousands of them are in use in telegraph offices, banks and counting rooms.

Price, 30 cents each; or, \$3.00 per dozen. Liberal terms to the trade.

WESTERN ELECTRIC MANUFACT'G CO., 220 KINZIE STREET, Chicago, Ill.

WESTERN ELECTRIC MANUFACTURING CO. SOLE AGENTS

ORTON'S PATENT AWL CLIPS.

These Clips have been in practical use for three years, and are rapidly displacing all others. They are designed for holding messages, and every form of blanks.

For convenience, durability and economy they are unequalled.

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IMPORTANT TO INVENTORS.

Inventors of Electrical and Telegraphic arrangements are invited to communicate with the

ELECTRO-MAGNETIC MAN'G CO., 36 Broad Street, (P. O. Box 1,804), NEW YORK.

REMOVAL. GEO. H. BLISS & CO.

We respectfully announce our removal to 220 KINZIE STREET, CHICAGO, ILL. Having determined to transfer our interests to the Western Electric Manufacturing Company, we offer our entire stock of TELEGRAPH INSTRUMENTS, GOODS and MACHINERY for sale upon terms which cannot fail to prove desirable to purchasers. Until our stock is disposed of we shall continue in the trade, and solicit a continuance of the patronage which has been so liberally bestowed by our many friends heretofore.

GEO. H. BLISS, President.

220 KINZIE STREET, CHICAGO, ILL., April 12th, 1875.

ANNOUNCEMENT.

Western Electric Manufacturing Company.

GEO. H. BLISS having acquired an interest with this Company, has been appointed its General Agent.

His attention will be given to the sale of the Instruments and Goods of our manufacture and in which we deal.

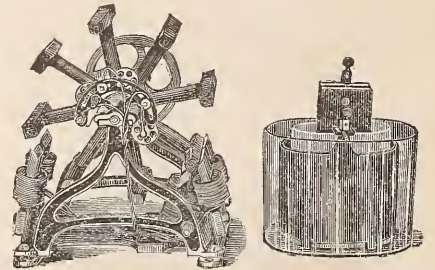
In addition to our former line we have added the various specialties heretofore controlled by GEO. H. BLISS & CO.

With our ample facilities we hope to give to customers and the trade increased satisfaction in prices, quality and variety of our goods.

We invite correspondence and solicit patronage.

WESTERN ELECTRIC MANUFACTURING CO., 220 Kinzie street, CHICAGO, ILL.

BASTET'S NEW ELECTRICAL MOTOR AND BATTERY.



For Sewing Machines, Church and Parlor Organs, Small Printing Presses, Pumps, Lathes, Dentists' Instruments, or any Light Machinery.

My new ELECTRICAL BATTERY is the most powerful for quantity and durability manufactured, and does not crystallize the carbons. For Electroplating, Telegraphing, and for Motive Power, it cannot be surpassed.

Our No. 1 Engine, for Sewing Machines, with four cells of Battery, is furnished for \$40.

Other Motors at prices proportional to power required. BATTERY, No. 1 Cells \$5. No. 2 " " 10.

L. BASTET, 607 Broadway, New York.

SOMETHING NEW!

25 Pocket Galvanometers to be given away!!



To any Chief Operator who will favor us with his address, accompanied by the bona fide addresses in full of ten operators, with name of company, we will forward by mail, FREE OF CHARGE, a finely finished, nickel plated POCKET GALVANOMETER. Only one will be sent to the same office. Apply early, to secure an instrument. Time limited to one week from date of this publication.

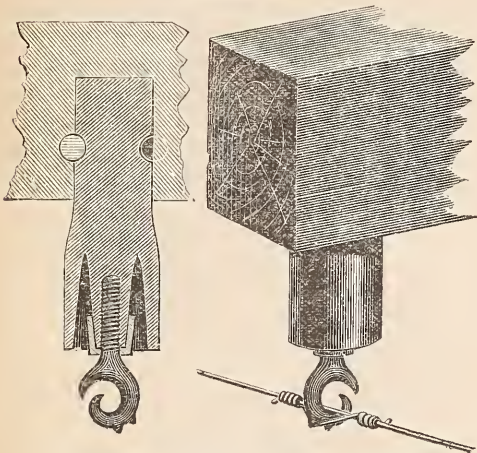
Instruments will be sent two weeks from date of this publication.

LENNART & DECKER, Manufacturing Electricians, Cleveland, O.

THE KENOSHA INSULATOR CO.

**TELEGRAPH COMPANIES and
TELEGRAPH CONSTRUCTORS**

are invited to examine the merits of our new and improved patterns of



KENOSHA CARBON INSULATORS!

These insulators are made of wood, thoroughly baked, and covered with an **INDESTRUCTIBLE COATING**, highly repellant of moisture, which does not change nor deteriorate after years of exposure to the weather.

THE KENOSHA INSULATOR has now stood the test of **SIX YEARS'** actual service, and we feel warranted in stating that, although costing but little if any more than the ordinary glass insulator, its *insulating qualities* are on an average

MORE THAN TEN TIMES AS GREAT

during the prevalence of rain or fog.

Immense numbers of these insulators are in use by

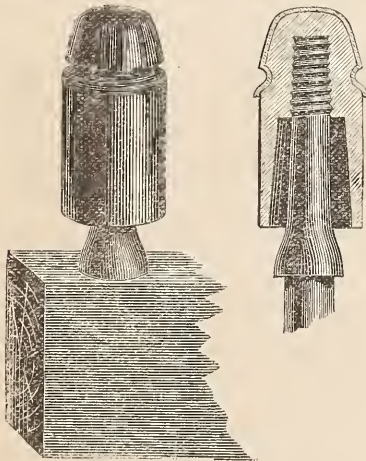
THE NORTH WESTERN TELEGRAPH CO.,

THE WESTERN UNION TELEGRAPH CO.,

as well as many RAILWAY and OTHER TELEGRAPH LINES, and they have invariably been found to give

ENTIRE SATISFACTION.

Besides the suspension insulator above shown, which is fitted with our **IMPROVED WIRE HOLDER**, arranged for a tie wire, and which does not cramp or injure the line wire, we manufacture several other patterns, among which is the



CAP INSULATOR, WITH PIN OR BRACKET,

which is fitted with a zinc protection, as shown in the above figure.

THE KENOSHA INSULATOR

is manufactured with the utmost care by skilled workmen and special machinery. Every individual insulator is **TESTED IN WATER** with a battery of 500 cells, and *not a single imperfect one is allowed to leave the factory.*

We are also prepared to furnish, at short notice,

CROSS-ARMS for any REQUIRED NUMBER OF WIRES,

prepared with our patent **INDESTRUCTIBLE INSULATING COATING**, either with or without wire insulators.

These insulators are packed for shipment in boxes containing 100 each, and may be ordered direct from us, or through any of the leading Dealers in Telegraph Supplies.

We are now prepared to fill all orders promptly, however large, and we guarantee all insulators furnished by us to prove entirely satisfactory.

THE KENOSHA INSULATOR CO.,

KENOSHA, Wisconsin.

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TELEGRAPH INSTRUMENTS AND SUPPLIES.

RELAYS—COMBINATION SETS; BOX and POCKET RELAYS.

PONY and REPEATING SOUNDERS.

KEYS, various styles, including the SCHNEIDER KEY, wire connections above the table.

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CUT OUTS, many varieties, including a new style of PEG CUT OUT, with an adjustable LIGHTNING ARRESTER, just out.

REPEATERS—HASKIN'S AUTOMATIC, and others,

SWITCH BOARDS—REPEATING, BATTERY and GROUND SWITCHES and LIGHTNING ARRESTERS.

ANDER'S GALVANIC and MAGNETO-ELECTRIC PRINTERS; also SELDEN PRINTER.

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MEDICAL INSTRUMENTS and APPARATUS on hand and made to order. Second hand instruments for sale cheap, and repairing done at short notice.

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BRACKETS, PINS and SPIKES, TELEGRAPH POLES,

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After JANUARY 1st, 1875, we will allow TWENTY CENTS for each used-up Porous Cell of this Battery that is returned to us free of charge, in good order. A change is made in the discount to the trade. A list will be furnished on application to

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A few copies of the last edition of

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by MR. WALTER O. LEWIS, remaining, may be had of F. L. POPE & CO., 38 Vesey street, at fifteen cents each. Will be forwarded by mail postpaid on receipt of price.

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On First-class Morse Sets for Railway and Commercial Lines:

- No. 1 Relays, of standard size and resistance (120 to 150 ohms), on rosewood bases, fine finish, polished rubber covered coils, wound either with our patent glazed or with best silk covered pure copper wire, having soldered connections and firm nut fastenings throughout, and latest improved extension adjustments. Regular price, \$16, reduced to - \$12 50
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GAMEWELL & CO., Proprietors,
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UPON THE AUTOMATIC PLAN,

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Quebec, L. C.,
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The Distinctive Features of these Systems of

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ARE,

First—The **Automatic Repeater**, through which the apparatus may be distributed in a combination of circuits, and the entire system successfully worked, without the constant personal attention of either operators or watchmen.

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Only **PERFECT, COMPLETE and RELIABLE** System

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IN THE WORLD.

It is a sufficient vindication of the claims which are made by the Proprietors of these systems of

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that they have sustained the test of more than twenty years of practical use, and that the efforts which have been repeatedly made to supplant them by other inventions have

COMPLETELY FAILED;

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Messrs. GAMEWELL & CO. are the owners of the original *FARMER & CHANNING PATENTS*, one of the most important of which has just been extended for seven years, and during the past seventeen years have spared no expense or effort to secure improvements, and the Systems are now covered by

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The most important improvement which the Proprietors have adopted and introduced is the

AUTOMATIC SYSTEM,

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has met with the universal approbation and commendation of the

People, Municipal Authorities,

AND THE

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NO EFFORT, TROUBLE OR EXPENSE

is spared by the Proprietors to obtain and secure ANY POSSIBLE IMPROVEMENT which shall increase the

EFFICIENCY,
RELIABILITY and
ECONOMY

of the system. They intend that, as far as possible, it shall be

ABSOLUTELY PERFECT!

The amount of property which has been saved from destruction, and the number of lives which have been preserved through the general adoption of this system, throughout the UNITED STATES and the DOMINION OF CANADA,

CANNOT EASILY BE ESTIMATED,

but that, in every community where it has been introduced for any considerable length of time, they have been enormous, THREE CAN BE NO QUESTION.

The cooperation of **TELEGRAPHERS** in securing its introduction into their localities is cordially invited, and their efforts will be duly appreciated and compensated.

Any information desired in regard to the above system will be cheerfully and promptly furnished upon application at the office.

A pamphlet, setting forth more fully its advantages and superiority, has been printed, and will be supplied to Municipal Authorities and others interested in Fire Alarm and Police Telegraphy, upon application as above.

CHARLES T. CHESTER,
104 Centre Street,
NEW YORK,

TELEGRAPH ENGINEER,

AND MANUFACTURER OF

INSTRUMENTS,

BATTERIES,

AND EVERY DESCRIPTION OF

TELEGRAPH SUPPLIES.

BUNNELL'S PATENT REPEATER.

These instruments are now made in two different styles, at \$120 and \$135 a set, consisting of two Relays, two Sounders, two Keys and Governor.

JONES' LOCK SWITCH-BOARD,

a most compact and reliable Switch, forming a clean spring-locked connection between any number of wires, occupying for each different connection only one square inch of space, and though made of the largest size, not subject to the warp and contraction of wood-work.

EXCLUSIVE AGENTS OF

A. G. DAYS

KERITE,

OR

COMPOUND RUBBER COVERED WIRE

SUBTERRANEAN & AERIAL WIRES,

OF THE

HIGHEST INSULATION.

We are now prepared to furnish, after an experience of three years, an Insulated Wire which can be buried in the earth or exposed to rain and sun, or to the vapor of acids, without injury. Professor SULLIMAN, who has exposed it to the most destructive agencies, finds that it remains uninjured in an atmosphere of ozone, which would destroy gutta-percha in a few hours. It exceeds glass or any other known substance as a non-conductor.

We have made special arrangements to furnish this article for office purposes at a reduced rate.

ALSO, TO FURNISH

IRON CLAD CABLES

of the usual size, with KERITE COVER, believing that it will exceed, in insulation for submarine purposes, ANYTHING HITHERTO MANUFACTURED.

We shall be happy to furnish estimates for any amount and size of cable, which will be found to compete with any other construction, both in quality and price.

We manufacture the Genuine **ELECTROPOION BATTERY**, with Patent Platina Connection, introduced by us eight years since; also, **THE ALPHABETICAL OR DIAL TELEGRAPH**, now extensively used in this and other cities for private lines being easily and quickly learned by any one.

We offer for sale, among other novelties, a **SOUNDER** that will work practically with a single DANIELL cell, a **BATTERY** that does not require to be taken down but once a year, and the very best **MAIN LINE SOUNDERS** made.

Our **CATALOGUE**, embracing a large amount of new matter and description, is now ready for distribution.

THE TELEGRAPHER
A JOURNAL OF
ELECTRICAL PROGRESS.

J. N. ASHLEY, PUBLISHER.

SATURDAY, MAY 22, 1875.

VOL. XI. WHOLE No. 462.

A Soliloquy.

BY A FIFTY DOLLAR MAN.

Shakespeare—Revised by J. S.

To BE, or not to be an operator?
Whether 'tis nobler in a man to suffer
The slings and arrows of outrageous fortune,
Or to take arms against this sea of troubles,
And, by resigning, end them? Resign—swim out
No more; and by that "swim" to say we end
The heartaches and the thousand dismal doubts
That rack our brains; 'tis a consummation
Devoutly to be wished. Resign—Swim out;
Swim out! Perchance to beg; aye there's the rub—
For by resigning beggary may come!
So ere we shuffle off this uly toil
We must e'en pause. There's the five years
That we have s'ent in learning this profession—
Five years lost from the heyday of our youth;
Those years devoted to another trade
Had made us independent of the grasp
Of those two corporations which divide
Telegraphy between them. We need not then
Have borne without redress the slights and spurs
That patient merit of the unworthy takes;
The false economy of great corporations
Which clouds the prospects of ambitious "plugs"
By cutting off promotion! Who would be ar
To toil and toil, with prospects such as ours,
But for the knowledge that, as 'twas his choice,
He must with patience bear the ills he suffers
Not fly to those unknown which may be worse?
He who resigns begins the world anew;
Unlearn what took him weary years to learn;
Throws all those years away! Necessity
Does thus make cowards of us all.
And thus the native hue of resolution
Is sicklied o'er with the pale cast of thought,
And enterprises of great pitch and moment
With this regard, their currents turn awry
And lose the name of action.

Electric Telegraphy in Australia.

A VERY interesting lecture or *conversazione* was given last evening in the Athenaeum Hall by the members of the Victorian Electrical Society. There was a very large attendance, and the chair was occupied by Mr. Turner, Deputy Postmaster-General, who made a few introductory remarks. The society had provided plenty of instruments for experiments, and to Mr. Daniels was entrusted the task of explaining the whole of the proceedings, which he did in a very lucid manner. During the evening the systems of Morse and Wheatstone were fully explained, and in order to elucidate the manner in which telegraphic messages were transmitted from one station to another, a station was arranged on the platform and another in the gallery, with an intermediate station halfway down the hall. At the former, Messrs. M'Gauran and Smibert officiated; in the gallery, Messrs. Clay and Jenvey were stationed; while Mr. Cumming was the operator at the intermediate station. The first part of the evening's entertainment was devoted to the explanation, in as simple a manner as possible, of the various systems of working the electric telegraph; and this was very lucidly done by Mr. Daniels, as was also the system of the construction of the circuit, so that the messages might be transmitted on the various lines. He explained that under the present system it was a matter of impossibility to send a message from both ends of the line at the same time, and when two messages crossed on the way it became necessary for the operators to break the circuit and allow one message to pass along the line before the other message was transmitted. The rate of speed attainable in sending messages by the Morse system was about the same as that attainable by a fast writer; but he thought there were not many writers with the pen who could keep up with some of the more expert operators. Twenty-five words per minute was the presumed competent operator's limit; but as much beyond that as he could do was his ambition, and as much as eighty words per minute, under certain conditions, had been attained. At the last Melbourne Cup meeting one operator sent two hundred and twenty messages in two hours—a feat only surpassed by the skill of the operator who received them. This part of the proceedings was illustrated by the transmission and reception of messages from different parts of the hall. Mr. Daniels then proceeded to give a scientific explanation of the system of duplex telegraphy, or the sending of two messages in

opposite directions at the same time by the same wire. He stated that the system was not at all new, as it was discovered in 1853, but had not hitherto come into general operation. After making the explanation, Mr. Daniels had to admit that the explanation was difficult to understand without fully understanding the full working of the whole of the telegraph system. That the duplex system could be successfully worked was shown by the fact that several messages were sent from the platform and the gallery, and *vice versa*. The messages crossed one another most successfully, and were received simultaneously at each end of the hall. One of the questions asked, was whether messages could be transmitted without any wire, and Mr. Daniel answered this in the affirmative by stating that it could be done in short distances, and by means of a new American invention called a "snapper sounder," which can be carried in the waistcoat pocket, transmitted a message from the platform to the gallery. The remainder of the entertainment consisted of a number of interesting experiments with the electrical machine, including the explosion of torpedoes by electricity, all of which were attentively watched by the audience and loudly applauded. It had been intended to give an explanation of the drum mystery, as shown by Heller and Haschmayer at their entertainments, but owing to some defect in the battery the circuit could not be obtained, and as the instrument would not work, Mr. Daniels apologised to the audience for the excision from the programme. A vote of thanks to the chairman terminated the proceedings.—*The (Melbourne, Australia) Argus*, February 2d.

The Gramme Magneto Machine.

MR. H. WILDE sends to the London *Engineer* the following rather important note—highly important for the assignees of the Gramme patent: A short time since, Dr. Antonio Pacinotti, of the University of Pisa, was good enough to send me a reprint of his memoir "Sulle Elettro Calamite Trasversali," from the *Nuovo Cimento* of 1846, Vol. XIX, page 378, which contains a description of an electro-magnetic machine with an armature in the form of a closed ring, wrapped round with a series of small coil of insulated wire, in the same manner precisely as in the machine of Gramme. The learned Italian professor states in the memoir that he had one of these machines constructed as early as 1860, for the Cabinet of Technological Physics of the University of Pisa, and that, with either permanent or electro-magnets, it could be used as a magneto-electric machine for producing a continuous current: "Una macchina magneto-elettrica con corrente continua," p. 383.

The volumes of the *Nuovo Cimento* are to be found in the libraries of the Royal Institution, London, and other learned societies in Europe and America.

The memoir is illustrated with an excellent engraving from which it will be seen that Signor Pacinotti has anticipated most completely the communication of Mr. Gramme, entitled "Sur une machine magneto-electrique produisant des courants continus," published in the *Comptes Rendus de l'Academie des Sciences*, tome 73, p. 175, 1871, as well as his English patent of 1870, No. 1668.

What renders the Gramme scheme the more remarkable at the present time, is the fact that, in the month after the appearance of Gramme's note in the *Comptes Rendus*, Signor Pacinotti sent his reclamation of the invention to the French Academy, where it was admitted, as will be seen by reference to p. 544, and to the index of tome 73, where it is described as "Une machine electro-magnetique construite en 1860, d'apres le même principe que la machine de M. Gramme."

It is scarcely necessary for me to state that, as Signor Pacinotti's memoir of 1864 is to be found in the public libraries of this and other countries, the knowledge therein communicated belongs to the commonwealth of learning, and cannot be made the subject of a valid patent. The publication of these facts, to which I have felt it my duty to draw attention, will doubtless prove of public advantage.—*English Mechanic*.

The kind of Lightning Rod Peddlers they have in Indiana.

AS THE season when the lightning rods are supposed to be of a great deal of service to buildings has arrived, probably an account of the *oily tongued* kind of lightning rod peddlers they have in Indiana would not be out of place. I clip the following from the *Madison (Ind.) Courier*, it being the best of the kind I have ever seen.

The widow lady mentioned was needing a man to run the farm and help her take care of those "eight small children," and as she was prepared for an offer of marriage, no wonder she was enraged when all the eloquence below was wasted on the introduction of a lightning rod instead of being a *bona fide* offer of her hand, heart, and those "forty acres of sub-carboniferous limestone land."

"He drove his team close up to the fence, got down and rapped on the door. The widow Gilkens opened it, when he said: 'Mrs. Gilkens, I am cognizant of the circumstances by which you are at present surrounded, left as you are to trudge down the journey of life through a cold and heartless world—no longer sustained and encouraged by the noble one to whom you gave the treasures of your heart's affection, and bowed down by the manifold cares and responsibilities incidental to the rearing of eight small children on forty acres of sub-carboniferous limestone land; yet, Mrs. Gilkens, you are aware that the season is now approaching when dark, dismal, dangerous clouds at frequent intervals span the canopy of heaven, and when zigzag streaks of electricity dart promiscuously hither and thither, rendering this habitation unsafe for yourself and those dear little ones—hence, therefore, let me sell you a copper wire, silver tipped, and highly magnetic lightning rod.'

"The woman staggered back a few paces and yelled, 'Nareis, unfasten old Cronch!' In another instant a savage bull dog came darting round the corner of the house, with bristles up, thirsting for gore. The dog had already mangled a machine agent and a patent soap man, and was held in great esteem by the better class of citizens for his courage and service: but when his eye met the hard, penetrating gaze of Mr. Parsons, his chops fell, and he slinked off and hid in the currant bushes. Then the man said: 'My dear lady, you seem to be a little excited. Now, if you will allow me to explain the probable inestimable—'

"'Durn ye, I know something that will start ye,' said Mrs. Gilkens, as she reached under some bed clothing, and brought forth a horse pistol; but, owing to the shattered condition of her nerves her aim was unsteady, and the charge of buckshot missed, save where a few scattered ones struck his cheek and glanced off. A hard, metallic smile spread over his countenance, as he leaned his shoulder against the door frame, and again commenced: 'My dear madam, such spasmodic manifestations of your disinclination to make a judicious investment of a few paltry dollars—'

"'Hi—eo,' shrieked the widow, and collapsed into a kind of jerking swoon, and before she had recovered a highly magnetic lightning rod decorated her humble domicile, and Parsons had the blank note filled out all ready for her signature."

Queer Conceits.

A COLORED gentleman entered the Victoria (B. C.) office a few days ago and inquired of the operator if he was "de boss wat drives de telegraph;" on being answered in the affirmative, he expressed a desire to have "a word driven to New Westminster," which was done accordingly. In about two minutes the negro returned and asked if an answer had been received, when the following dialogue ensued:

Op.—"No sir, even lightning can't travel as fast as that."

Cæsar.—"Well, ain't it done got thar, de telegraph wat you sent for me?"

Op.—"I can't say for certain, but at all events it will soon be there."

Cæsar.—"Well, den it wou't be long a coming back for it had head wind going!"

Another man, a son of Erin this time, sent a message to Cache Creek, but failed to receive a reply, which made him feel very uneasy. About a week later on hearing that the line had been down, he inquired if it was not possible that his message was on the way just when the line broke "and had jumped off into the Frazer!" (B. C. line runs along the banks of that river.)

Shocking the Negroes.

THE Lexington, Ky., *Gazette* thus describes a "right funny scene" which occurred the other day at one of the stations on the Kentucky Central: A couple of negroes cut down a tree across the telegraph wire and broke it. The operator came out at once, determined on revenge. He quietly took his seat and ordered the negroes to bring the two ends of the wire together and mend it. Each seized end and end, but the moment they came in contact there was a sharp electric shock, and they let go. It was raining, and the battery was strong. However, the negroes didn't know where the shock came from, and tried it again. By this time they were so wet that the current would pass if the clothes of one but touched the other. Frightened and bewildered they brought the wires together again and again; each time, to their great astonishment, an electric shock convulsed them. And when the train started there sat that operator under the shelter of the depot still egging the negroes to fresh efforts.

As you cannot avoid your own company, make it as good as possible.

Correspondence.

We do not hold ourselves responsible for the opinions of our Correspondents. Our columns are open to free discussions on all Telegraphic subjects, without distinction of person or opinion.

No notice will be taken of anonymous communications

Automatic vs. Morse Telegraphy.

TO THE EDITOR OF THE TELEGRAPHER.

YOUR correspondent, John Sterling, has a very novel, but, it must be confessed, very convenient and summary way of disposing of the facts and arguments of his opponents. It would be odd indeed, if he could not write down the Automatic or write up the Morse systems, when he not only and utterly ignores facts, but draws solely from his own narrow and partisan imagination, and thereby constructs a theory in accordance with his wishes, but totally at variance with facts known to everybody who knows anything of either of the systems of telegraphy now before the public.

Your correspondent thinks it was "not fair" in me to quote the sworn testimony of Mr. Orton, before the Senate Committee, in which he said "that six hundred words per hour is a large average speed of the Morse system." Mr. Sterling clinches his assertion of "unfairness" against me in these most innocent words—the average given by Mr. Orton, he says, "was based upon calculations in which the whole vast business of the company was included." When Mr. Sterling writes his next four column article upon the Telegraph controversy I hope he will find time and room to explain what he understands by "fairness" in quoting the deliberate and sworn testimony of leading gentlemen upon vital points of the Telegraph question.

Whilst I quoted Mr. Orton's judgment, in the matter of speed, I am satisfied he was in error, and I have freely conceded, in all my estimates of the Automatic and Morse systems, that first class Morse operators could transmit eight thousand to ten thousand words per day, of ten hours. I do not need Mr. Sterling's assurances that there are to be found among the eight or ten thousand operators of the Western Union Co., several—possibly a dozen or more—who are capable of transmitting in short circuits, and in good weather, forty words per minute, and for several minutes consecutively; but, of course, only an idiot or something worse, would assert that there were "dozens of Morse operators in every large office," who do or who could do, for love or money, twenty-four thousand words per day of ten hours, and day by day—no, nor half of twenty-four thousand, without killing themselves, or becoming inmates of a mad-house within ten days. What earthly use, therefore, was there in your correspondent's framing, what he is pleased to call, a "table," to illustrate the practical value of the Morse system, on such an illusory foundation as two thousand and four hundred words per hour, day by day—when the fact is beyond question that there are not ten Morse operators out of any ten thousand, who can show a record of ten days, consecutively, where they transmitted twelve hundred words, or even one thousand per hour, day by day, and for several days, consecutively.

In an editorial of the "Official Journal" of the Western Union Company, which is under the absolute control of Mr. Prescott, that company's electrician, the editor says, in the number for January 15, 1875, that a "single Morse wire in a lively circuit may average per hour 40 messages of 20 words each"—aggregating 800 words per hour and 8,000 per day—not 2,400 words per hour and 24,000 per day, as your correspondent so absurdly claims for his pet system.

Your correspondent shows a lamentable degree of ignorance of Automatic telegraphy when he assails my modest claim of five hundred words per minute, at only fair speed in transmitting messages. I do not care to go into the mathematical question of "breaks" or "pulsations," but I will say what everybody knows who knows anything of the science of Automatic telegraphy, and that is, that accurate and reliable transmission and recording of fifteen hundred words per minute, between Washington and New York, over two hundred and eighty-two miles of wire, is perfectly practicable, has been repeatedly accomplished, and can be at any time by the Automatic system, and this feat can be much more easily accomplished, hour by hour, than forty words per minute, hour by hour, by the Morse system.

We all know, of course, that Mr. Orton, Mr. Prescott, and all the other shining lights of the Western Union Co., have often declared, officially and otherwise, that even one hundred and fifty words per minute, in circuits of two hundred and fifty miles, was impossible, contrary to all science, and contrary to all that Mr. Prescott, Mr. Orton, and their scientific and practical assistants could possibly accomplish in Automatic or fast telegraphy, between Boston and New York, over a specially insulated wire, and after daily and nightly efforts, lasting through more than ten days. Indeed,

the "concentrated talent and wisdom" of the Western Union Co. could not accomplish over seventy words per minute, and cannot, now by any of the devices known to or controlled by the Western Union Co.

And yet your very verdant correspondent appears to be astounded at the fact that I should think highly of the Automatic system, when such wonderfully astute gentlemen as Mr. Orton and Mr. Prescott, ("who are paid large salaries," and therefore, of course, the correspondent thinks, must have a "heap of brains.") insist that there is no value whatever in it, "either in connection or in competition with the Morse system." So, too, those two shining lights in the science of Telegraphy, have gravely informed their shareholders "that messages cannot be sent by the Automatic system at a faster rate of speed than by the Morse system, except over comparatively short distances, and cannot be used upon a wire strung upon poles with other wires! Again, has your correspondent forgotten how indignantly those two gentlemen, "who are paid large salaries," spurned the duplex system, for more than three years, whilst it was in daily use on an opposition line, strongly insisting that it was useless, and yet, within a month after they purchased the very shaky patents, they declared that the duplex system had virtually duplicated the transmitting capacity of the Company's 100,000 miles of wire. Of course, there was at best only the shadow of truth in their statements, but yet they served to inflate the bubble, and thus they earned their "large salaries," and a score of curbstone brokers were made happy.

People who are at all observing, understand very well that in the estimation of the officers of the Western Union Co., nothing possesses merit, or real value, or legal foundation, until it becomes the property of that Company, nor is anything practical until it is understood and has been pronounced so by the electrician of the Company, who is always and notoriously behind even third rate operators in discovering or appreciating real improvements in telegraphy.

Your correspondent says, "it is admitted that the Western Union Co. could have easily secured the automatic system, if they had deemed it for their interests to do so." This is a gratuitous statement, without substantial truth, and made in the face of the well known fact that for more than a year past a distinguished diplomatist, acting in the interests of the Western Union Co., has endeavored, but without success, to get from the Automatic Co. an offer of sale of the Automatic patents. The Automatic system was at its birth dedicated to the breaking down of the Western Union monopoly, and the time is not distant when its power, under its new and more practical managers of the Atlantic and Pacific Company, will be fully appreciated by the Western Union Company in that direction.

Your correspondent also says that "the Automatic system, if introduced, would be practicable only on thorough lines doing a heavy business." All gentlemen of intelligence, and some real knowledge of the Automatic system, concede that it is really more advantageous, practically, for side or way lines than for through lines, for the obvious reason that on a way line of say twenty offices every operator can find constant employment, if the business exists, in perforating, sending, receiving or copying messages, whilst every office in circuit can be "called" through once in twenty or thirty minutes, no one having occasion to hold the wire more than a few seconds at a time, whilst with the Morse line there must be necessarily eighteen of the twenty operators waiting all the time, and utterly unable to advance the business of the line at all until they can get the control of the wire, whilst all the offices could not be "called" for business oftener than once in two to five hours.

Those who understand the practical working of the Automatic system, know that it can be used successfully on much longer circuits than the Morse, and on wires upon which the Morse system cannot be worked at all. They also know that they can send reports by the Automatic system, and drop copies to any desired number of way offices with very much less difficulty than this class of work can be done by the Morse system. They also know that Mr. Orton's and Mr. Prescott's disgraceful ignorance in asserting that the Automatic system could not be worked on long lines at a faster rate of speed than the Morse system, has no shadow of foundation, and it is within the truth to say that it is more than thirty times faster. They also know that the Automatic operator can at pleasure, and in a fraction of a second, work his wire by the Morse system and in the next moment by the Automatic system—the machinery for both systems resting upon the same table—so that if there is in ordinary or extraordinary office or other business any advantage in one system over the other the Automatic people, or Atlantic and Pacific Co., control one, whilst the Western Union Co. controls neither, and never will.

I dismiss the argument of your correspondent, based upon the duplex and quadruplex systems, with the single remark as to duplex, that it costs the Western Union Co. very considerably more to do their business

by the duplex than by the Morse system; and as to the quadruplex, that Mr. Prescott had no more to do with the brains part of that invention than the Man in the Moon; and neither Mr. Prescott or the Western Union Co. will ever see their names officially associated with the real inventor's, Mr. Edison, in any patent which may be issued from the Patent Office.

Your correspondent's opening paragraph promised us some "facts" and a clear solution of the much befogged questions connected with Morse and Automatic telegraphy, and he occupies four columns of stuff which is alike destitute of "facts" and even of probabilities; and in every allusion to the Automatic system he displays the most lamentable ignorance and the most stupid prejudices. His so-called "tables," showing large advantages in favor of duplex over Automatic telegraphy, are too utterly preposterous to justify me in asking for space to expose their fallacies—more especially as past numbers of your journal have contained careful and elaborate estimates (as yet unanswered), based upon well known facts in connection with Morse, duplex, quadruplex and Automatic telegraphy, and clearly showing advantages in favor of the latter, of more than two to one, in the matter of labor, and more than eight to one in the expense of lines, batteries and other incidentals connected with the telegraph business.

Your correspondent says that the maximum speed of the Automatic perforator is 40 words per minute, and of the copying machine 20 words per minute; and yet his mentor, Mr. Prescott, saw, in my presence, the perforator worked up to 135 words per minute, and the copying printer up to 85 words per minute.

Argument and common sense is alike thrown away in discussing the principles or the practice of Automatic telegraphy with correspondents such as John Sterling. Who next? D. H. CRAIG.

May 10, 1875.

A Pleasant Office.—Improved Management.—Changes.—Selling a Stranger.

CHICAGO, ILL., May 8

TO THE EDITOR OF THE TELEGRAPHER.

THE new management here seems to have inaugurated a general clearing up and remodeling of the office.

The ceiling has been kaesomined white, with a large border all around, of high tau color, fringed with blue, and a design in each conspicuous corner, of the latter color, which, for aught we know, is copied from some Chinese engraving; but it's mighty pretty—at least the effect is very pleasing to the sight, and, on the whole, that's what every one says. The walls are lavender tint, and we have certainly one of the most cheerful rooms you ever saw. The walls in the hall leading to the elevator have been wainscotted and grained in imitation of live oak, about seven feet high.

The old order of things seems to be reversed. Instead of being ordered under penalties (if disobeyed) to do certain things, the operators are requested to obey, as for instance, after the repairing was done the maleness of the employes was appealed to, to preserve the beauty of the office. If I am not very much mistaken the new departure will work wonders. If any are found so mean as to mar the beauty of our office they should not be screened by their fellow laborers, but reported for the offence and suffer the penalties imposed, as such consideration from our employers deserves our hearty acquiescence.

A great many changes in the operating force has occurred recently. As "Occasional" predicted, "preference would be given the older night men for day work." Such has been the case. "Eph." Martin takes the place of Mr. French on the Cincinnati duplex days. The two Martins, "Jack" and "Eph." will make this end warm no doubt. As "Eph." was recently *duplexed* he probably "knows how it is himself." Mr. French takes the Janesville and Green Bay line; Frank Richardson taking the Peoria wire; Mr. M. L. Lawson, of the night force, takes the Fort Wayne line, "Billy" Manners being promoted to the first New York. "Curt" Meserve, of the extra force, takes one side of the New York duplex days, regular, Mx. Lester not yet being able to resume his duties at the office.

"Ed." Dorval and Eitemiller, of the extra force, have been put on regular, nights, the latter on one side of the N. Y. duplex, with "Sam" Wallace. If that isn't "a team," then we don't know where you will find one. "Ed." Delano, who has been laid up a week with an alicerated tooth, is again in his place on the day force.

Mr. "Eddie" Swift bid the "girls" and "boys" good bye this afternoon, as he leaves for Indianapolis Monday. Who will work with Amboy now, and keep flowers on that table to perfume the room? Echo answers—who?

"Ed." Cuthbert, formerly of Dubuque, who recently took night report at Des Moines W. U. Office, has accepted a situation on the extra force here.

Mr. J. W. Strong, of the New York Press wire, nights, also goes on days Monday; and Mr. "Dug" Burnett, an old timer, takes the N. Y. Press wire.

Mr. Pettitt, Ass't Board of Trade Manager, who has been on the sick list for nearly a week, expects to be able to resume his duties Monday.

The day boys had lots of fun day before yesterday, with a "Granger," as they called him, who visited the office. He was seemingly the guest of Mr. Avery. They tried to make him believe the large round iron pillar that supports the roof, which stands near the centre of the office, was the ground wire, and that "Z." was the fastest sender in the world. They sent him notes, &c., "he smiled childlike and bland," and did not betray his feelings. Such conduct towards any one, whether green or not, to say the least, is *unbecoming*. Some of those foremost in this *sell* were the *greenest* set of men when they first struck Chicago, and knew as little for men as conceited as they proved to be that ever (dis)graced a telegraph office. We hope if this Granger ever gets a chance to show them the wonders of his section he will enlighten them in the same way they did him.

A lightning arrester, designed by Asst. Manager F. W. Jones, to protect duplex relays, has been placed on nearly all the duplex tables. WESTERN UNION.

Increase of Business, and New Western Union Office at Kansas City, Mo.

KANSAS CITY, Mo., April 28.

TO THE EDITOR OF THE TELEGRAPHER.

MONDAY, April 26th, the main office of the Western Union Telegraph Company, in this city, was removed to a more suitable building on Fifth, between Main and Delaware streets. The building is a three story brick, with stone front and plate glass on first floor.

This change has been brought about by the constantly increasing business of the company at this point, and the necessity for more roomy quarters.

Half a dozen years ago a single wire from this point was considered amply sufficient to perform such telegraphic service as the demands of Kansas City and its suburbs required. That such is no longer the case the net work of wires now radiating from this city in all directions fully establishes, and, for various reasons, Kansas City is now considered the most important station between St. Louis or Chicago and the Pacific Coast. In addition to the local business, which is very heavy, Kansas City distributes for all points in Western and Southern Kansas, Colorado, New Mexico, and a large portion of Missouri, Iowa and Nebraska. It is also frequently the outlet for California business by means of its Colorado connections, but this only occurs when the regular "overland" wires, *via* Union Pacific Railroad, are interrupted between Chicago and Cheyenne.

Col. R. C. Clowry, Assistant General Superintendent, left nothing undone to make the new office a model one.

The tables and instruments are arranged on a similar scale to those in the new offices of the company in New York, St. Louis and Chicago. The wires were under the supervision of Sol. Palmer, Chief of Construction, and the nicety with which it was done cannot be surpassed.

The Instruments and apparatus is of the most finished workmanship and latest design. It includes three sets of "repeaters" for the benefit of St. Louis and Galveston, Omaha and St. Louis, and the Western Associated Press, also a "Duplex," which is worked between St. Louis and Kansas City. Five wires are worked direct to St. Louis—one ends at Sedalia, one at Newton, Kansas, *via* Topeka, two at Brookville, Kansas; one at Denver, one at Baxter, one at Camerou, Mo., four at Omaha, one at Coffeyville, and another at Galveston, as well as numerous Railroad lines.

The office staff consists of M. D. Wood, Manager; M. D. Crain, Chief Operator; Geo. McMahon, Night Chief; C. H. White, Robert Livingston, John E. Magill, Arthur H. Elliott, and W. M. Spink, a corps of expert and accurate telegraphers; C. N. Davis, Receiving and Delivery Clerk; N. P. Ferris, Book-keeper; and Wm. Warrance has charge of the batteries, which consist of 400 cups of Callaud. In addition to these gentlemen, the W. U. Company employ about fifteen operators at various branch offices throughout the city. C.

A Correction.—Personals.—A Great Telegraphic Centre.

CHICAGO, ILL., May 10.

TO THE EDITOR OF THE TELEGRAPHER.

We have been having very changeable but quite moderate kind of weather, and Saturday was quite warm, making overcoats uncomfortable.

In my communication in the "Type Writer," of March 28th, which appeared in your issue of May 1st, I notice a mistake, no doubt my own. Instead of say-

ing "to make an! to touch . and ," I should have said "touch" and "

"Charley" Robinson has again mastered the rheumatism so far as to he out parts of pleasant days, and puts in a few hours each day in the W. U. office here, where he will no doubt go to work regularly as soon as entirely recovered.

"Charley" Lithgow has taken "Qu." W. U. office here, on commission, and intends to establish shortly a general ticket office for the sale of railroad, steamboat, theatre and circus tickets of all kinds. "Q" is an "old timer," one of those "go ahead" fellows who always win, and we know THE TELEGRAPHER will join us in wishing him success. His office is on Madison street, a few doors west of McVicker's theatre, on the same side of the street, in the segar store. "The boys" from abroad should not fail to call when they come to "Ch."

The W. U. operating room has been thoroughly repaired, and is a model of beauty and neatness. The employes are loud in their praises of it.

The way those three receivers, Catliu, Louderback and Crowley, take in business down stairs is enough to make a fellow's head swim, and one would naturally suppose the other companies were doing little or nothing; but a glance at "Bentley" and "Curran" at the A. and P. during business hours will soon convince a stranger that, as a telegraphic centre, Chicago is indeed a big place.

The Great Western do very little at their main office, but do a very heavy board of trade business between Chicago and Milwaukee.

The A. and P. find the automatic just the thing when short of wires. OCCASIONAL.

The Telegrapher Contributors.—Political Fore-shadowing.

CINCINNATI, O., May 8.

TO THE EDITOR OF THE TELEGRAPHER.

I HAVE been much amused of late by some of the contributions appearing in your paper. The contributors seem to have the lion's share of your space. It is customary for editors to say to contributors, "Owing to the pressure on our columns, we have not been able to find space for your communication." For some time past the *pressure* has been so great on the columns of THE TELEGRAPHER as to exclude the editor.

"Nihil" seems to have waxed fuller and more sonorous as he grew upon our acquaintance, like the notes of a bass horn well blown upon approaching us from a distance. He lifted up his voice in strange causes, and discharged his piece vigorously, and, it must be confessed, brought down his man handsomely at every shot. He is a trump, and no mistake, and he handles his key as well as his pen.

The *woman* subject seems at last, after endless wanderings from the "previous question," to have terminated very much in nothing, like the suit in court over the broken kettle. A sued B for damages for a broken kettle, which he claimed was borrowed *whole* and returned *hole*. B, the defendant, replied by his attorney, in three pleas, either of which, he claimed, if established, would clear the case. "First," said he, "I never borrowed the kettle; second, it was cracked when I got it; and third, it was whole when I returned it." "Let us have peace."

In the wake of this great unsettled question begins to loom up the lesser one, "Who is to be elected President of this great Republic in 1876?" I do not pretend to predict; I am no prophet, to myself nor anybody else, but I venture to suggest that, in the present corrupt state of political affairs, some man of *sterling* integrity ought to be selected. Can such a man be found? I know they are scarce, but think there still remains an *occasional* one. I have one in my mind now, but for the present it is best that he should be *nameless*. When a very small boy, under the tutelary care of Miss Mary Ann Weaver, spinster, I was vigorously instructed in the names of the different marks used in books (called by us punk-che-wation points). We were told that a comma was a *dot* with a curl to it, at which we should "stop long enough to count one," while the period, king of points, was a *dot* without a curl, at which we were to pause reverently and count *six*. Now, with the memory of that self-complacent and learned feminine Assham vividly before me, I would very respectfully ask how I am to deport myself in presence of this "dot?" How long must I pause? How many must I count?

How she did apply the ferule! Whack! whack! whack! "Nihil" bore it well, probably feeling it an honor to be flagellated by so fair a hand. "Oh, the pain, the bliss!" etc.

Upon the whole, we may be glad that while so much hair was pulled so little blood was spilled: "Cease fond Nature, cease thy strife."

Have you seen the new telegraphic journal published in St. Louis? It is about the size of the defunct *Plug*, and seems to be carried on with equal *spirit*. It really seems a pity that Cincinnati cannot support a telegraphic paper of its own.

Business dull, provisions scarce and high. Nothing plenty but loafers. Nothing low but morality. The lawyers seem to be the only persons who do well, and they only because others do ill. When you see one you fancy him *Beach*; the next one you meet is sure to be *Beecher*.

I don't feel well. Good bye! UNO HOO.

The Weather.—Successful Trial of the Nicholson Quadruplex.—Electric Railroad Signals.

CHICAGO, ILL., May 17.

TO THE EDITOR OF THE TELEGRAPHER:

VERY little has transpired since my last, worthy of note. That everlasting topic, the weather, of course must be commented upon. Although we have had cold winds and sudden changes, the weather can be (generally speaking) said to be quite pleasant. Spring seems to be a full month behindhand. The season, though, may be prolonged far enough into summer—summer into autumn, and autumn into winter—to make up for this delay—yes, it *may*—and then it *may not*. As this is the month for *maybe's*, let them *fly*.

I understand that quite a successful test of the "Nicholson" Quadruplex was made in the Western Union office, between here and Cincinnati, last week, all four sides of it being worked successfully for several hours.

I am told the Prescott-Edison "quad" has been worked a great deal as a duplex recently, its advantage over the "Stearns" being (as mentioned in a former letter of mine) that the receiving operators can break without stopping the sending operators on the other side. Several times lately three sides of it have been worked almost up to the capacity of three wires; but (if I am correctly informed) only once in the last three or four months has it been worked on all four sides, and then only for about an hour.

The attention of railroad managers is being very generally attracted to electric railroad signals. There seems to be a general waking up on this subject. Mr. Hendrickson, the agent of the Electric Railroad Signal Company, is working quietly but very successfully in introducing it to the notice of those interested in such matters. He has made some simple but effective improvements since I last visited the one so successfully working at South Park Station, on the I. C. R. E. Several of our leading railroads here are now negotiating for signals for their crossings, but I am not at liberty to mention them particularly.

OCCASIONAL.

A Disclaim of Authorship and Responsibility.

SAN FRANCISCO, CAL., May 4.

TO THE EDITOR OF THE TELEGRAPHER.

"GIVE a dog a bad name and then hang him," is a proverb which finds an illustration in my case. As every letter to THE TELEGRAPHER from California, whether loaded with bitter invective or bathed in the oil of fulsome flattery, was laid at my door, and lest the last cowardly effort sent to THE TELEGRAPHER for a double purpose should be by my facetious friends attributed to me, I beg to say that whatever may be my faults, cowardly double dealing, or two faced back-biting, is not, and I hope never will be one of my characteristics, and I therefore disclaim all knowledge thereof, and furthermore say that hereafter any and all of my communications will bear my own signature, and no cognomen. The letters I have written for publication in THE TELEGRAPHER were not of that kind to which I would feel ashamed to append my name. T. S. CUNNINGHAM.

A New Liquid Rheotome.

M. DUCRETET calls attention to a "liquid rheotome of constant direction," based on a new property of aluminum. Suppose two electrodes, one of aluminum A, the other of platinum P, in a voltmeter connected with a battery. If P receive the positive electricity and A the negative, the water is decomposed, and the current passes freely through the liquid space between the electrodes; but if the current be reversed, the water is not decomposed and the current passes very weakly. In the former case, an electric bell placed in the circuit will sound, or a piece of platinum wire will melt; but not in the latter case. Now, M. Ducretet proposes to utilize this property if electrified positively, where it is required to send a current only in one direction. Coupling two liquid rheotomes by the plates of contrary name, different effects may be produced in the same electric apparatus (such as a printing telegraph) and in this case, with only one line wire. It may be variously applied in telegraphy.—*English Mechanic.*

For full, accurate and reliable telegraphic news and information, THE TELEGRAPHER is the only journal.

THE TELEGRAPHER

DEVOTED TO THE INTERESTS OF THE TELEGRAPHIC FRATERNITY.

SATURDAY, MAY 22, 1875.

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PREMIUMS FOR SUBSCRIPTIONS.

1,000 NEW SUBSCRIBERS WANTED.

It is desired to add 1,000 new names to the present Subscription List of THE TELEGRAPHER during the next two months. To accomplish this it is only necessary for the friends of the paper to engage energetically in presenting its claims to the consideration of the Telegraphers generally throughout the country.

To encourage such efforts it has been decided to offer the following

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NEW YORK.

The Contest for the Title to the Edison Quadruplex Patents.

OUR readers will doubtless feel interested in knowing the progress and status of the contest for the title to certain patents, known as the quadruplex patents, for which applications are pending before the Patent Office, made by THOMAS A. EDISON, and assigned jointly to himself and Mr. GEORGE B. PRESCOTT.

Probably no inventions, or supposed inventions, for which patents have been applied for, in this country at least, have been as much sold as these. It is certainly a most remarkable case, and undoubtedly will hereafter be cited as a cause celebre in the annals of patent litigation.

Since we last referred to this case another purchaser, who antedates all the others, has put in an appearance, with one of EDISON'S numerous contracts and assignments, in the person of Mr. E. B. WELCH, of Boston, Mass. That assignment was dated April 7, 1869, and recorded in the Patent Office January 30th, 1875, Liber W, page 18, and contains the following agreement:

"I do also hereby agree and bind myself to sell, assign and convey to said WELCH, for the considerations before mentioned herein, one undivided half interest in any other instrument, or any other principle, method or system which I may invent, or obtain a caveat or patent for, to be used for the transmission of messages on telegraph lines both ways simultaneously.

"THOMAS A. EDISON."

It may be of interest to recapitulate the sales of these inventions which have thus far been developed or claimed. First, of a half interest to Mr. WELCH; second, a two thirds interest to Mr. HARRINGTON; third, of a half interest to Mr. PRESCOTT; and fourth, of the entire interest to Mr. JAY GOULD. What additional claimants there may be will be developed probably as the matter progresses. As the record now stands, according to his own showing, EDISON has sold the entire interest in these patents two and two third times. Our readers will understand from this the appropriateness of the title bestowed upon him of "Professor of Duplicity and Quadruplicity."

The Professor seems to have been more fortunate than the generality of inventors, who are apt to find it difficult to secure even one purchaser for their inventions; whereas he is enabled to sell his inventions "short," and to several different purchasers at the same time.

In this connection we wish to correct an error which we find in the "statement of GEORGE HARRINGTON, of his relations with THOMAS A. EDISON and his improvements in fast telegraphy," which was filed with the Commissioner of Patents prior to the first hearing of the application of Mr. HARRINGTON for the issue of the patents to himself and EDISON, as the assignee of the latter. In this statement Mr. HARRINGTON quotes from THE TELEGRAPHER several articles in regard to fast systems of telegraphy, and refers to Mr. F. L. POPE, as their author, or as controlling the columns of this paper as editor. Mr. POPE did not write a line of the articles quoted, and neither edits or controls the paper. He was formerly, before the connection with it of the present publisher, the editor, and for two or three years subsequently was associate editor, but since the first of January, 1873, has not been responsible for anything that appears in his columns except such articles as appear over his own signature.

The more this matter is investigated the more extraordinary appear the manoeuvres of EDISON in connection with these patents. In the brief of Mr. PRESCOTT'S counsel they say "it would be no longer just to the parties, nor to the law officers having this matter in charge, to treat the new pretences of EDISON as anything but the impudent rogeries which they are. * * * * *

"This proceeding is an attempt to enable the roguish inventor to sell three times, and receive three prices for his invention, once to Mr. WELCH, in 1869, as shown below; once to the Western Union, and once to Mr. GOULD; the last sale having the added beauty, in a

rogues eyes, not only to cheat a former purchaser, but also of cheating his partner of a share of profits. If this interpretation now given to the sale to HARRINGTON were anything but a dishonest and stupid afterthought, the series would be complete as a quadruplex."

As we remarked in a former article on this subject, the business complications of this man, EDISON, would furnish employment to a legion of lawyers indefinitely to unravel.

We have not room or space, nor do we propose to discuss the equities of the case. They must ultimately, whatever the action of the Secretary of the Interior, or the Commissioner of Patents may be, be judicially decided. It will perhaps have the very desirable effect of inducing more caution in dealing with a person who has such an uncommon faculty for making and breaking contracts and agreements, and whose bond, so far as it relies upon himself, is just as good as his word --and no more so.

The matter will undoubtedly result in prolonged and costly litigation.

The Telegraphic Situation.

ALTHOUGH there is nothing of controlling interest in connection with telegraphic matters to communicate this week, there are some items of importance and interest which have transpired or been developed.

The "Faraday" succeeded in raising the ends of the Direct Cable, and has completed the work of laying the gap which existed within about twenty miles, and when this is done the cable will be completed and in operation. The ocean, in the part where the remainder of the cable is to be laid, was covered with an immense field of very heavy ice, and as there was likely to be some delay waiting for the ice to move, it was decided to run the steamer into Sidney, Cape Breton, to take on board a supply of coal, where she is at this present writing. Both ends of the cable are buoyed, and a few hours' work will complete the cable, and the long delayed competition in Atlantic telegraphy will be commenced. It is probable that we shall be able to announce in our next issue the completion of this important work.

As has been before stated, a full corps of operators are at the different stations with the necessary instruments and apparatus for working the cable the minute the final splice is made.

The Directors of the Pennsylvania Railroad Company, at their meeting in Philadelphia last week, voted to grant the Atlantic and Pacific Telegraph Company the right to extend its lines over all the routes covered by the roads owned or operated by the company. This is an important concession, and is understood to be the result of negotiations which have been for some time in progress. We are not informed as yet as to the details of the arrangement between the two companies. The contest over the EDISON quadruplex patents is still progressing vigorously, and briefs and counter briefs are being filed with the Secretary of the Interior in numbers which must rather perplex that official, if he reads them all. The literature of this complicated case is likely to make quite a large volume before it is completed, and the quadruplex will undoubtedly prove profitable—to the lawyers at least, if it does not to the parties who are striving so earnestly to secure exclusive possession and control of the same. The name of the Professor of Duplicity and Quadruplicity will go down to our telegraphic posterity—if not in a blaze of honor and renown—as the great legal telegraphic complicator of the age.

The courts and lawyers are likely to be well occupied during the next two or three years with suits, and counter suits arising out of the telegraphic complications which have arisen, and "legal expenses" will cover large items in the accounts of the principal telegraph companies.

To what is the great Professor of Duplicity and Quadruplicity now devoting his gigantic genius and intellect?

Our New Premium Offer.

WE would call attention to the list of premiums offered to those who may interest themselves in increasing the circulation of THE TELEGRAPHER. We hope that the friends of the telegraphers' paper will avail themselves of this opportunity to obtain a valuable premium, while at the same time advancing the interests of the paper and increasing its usefulness. Of the thousands of practical telegraphers who are now not in receipt of THE TELEGRAPHER, we believe that by proper exertion a considerable percentage could be induced to avail themselves of its weekly visits. One lady in Canada has within a few weeks by personal efforts obtained and forwarded to us over fifty subscribers. We are confident that others may succeed as well, if they will but undertake the work with similar energy and persistence.

The inducements offered are liberal, and we confidently expect a liberal and satisfactory response.

A Letter from Mark Twain.

MR. GEORGE CUMMING, an operator with the Western Union Company in this city, and an occasional contributor to the columns of THE TELEGRAPHER, has received the following letter:

FARMINGTON AVENUE, HARTFORD, CONN.,
May 15, 1875.

GEO. CUMMING, Esq., New York.

Dear Sir—Your paragraph about old jokes encountered me just as I was thinking in a similar vein upon the same subject. You remember "Punch's" joke: "Advice to people about to marry.—Don't!" I was astonished two years ago to run across that same joke in some old author, who was dead, petrified (and perhaps damned) before Socrates's time. It never occurred to me before, but I would give something to know what they are going to do with the petrified people at the general resurrection. It seems to me I would polish them. However, my judgment may be at fault in this; and, besides, I do not think a mere man ought to be trying to make suggestions in a matter of this kind, when he has had no experience in resurrections. But, if you believe me, there are plenty of people with no better manners than to do it. In my opinion, such persons are entitled to no respect whatever.

Yours truly,
S. L. CLEMENS.

The following paragraph from one of Mr. Cumming's letters to the Springfield (Ohio) *Republic* elicited the above:

One queer fact about many of our current stories, squibs, paragraphs, etc., is their ancient origin. Is it not Wendell Phillips who says in his lecture on "Lost Arts," in illustrating the Solomonian proverb, "There is nothing new under the sun," that even our jokes are as old as the hills, and that out of the thousands of novels published the plots can all be traced back to a foundation ages ago, to a few romances, perhaps less than a dozen in number. Phillips also claims the proverbial Irish bull to be not Hibernian at all but Greek. Who knows how much further the Grecians could trace it? Fancy Socrates spitting his sides over a story we still rehash as new. Hence the expression, no doubt, "He's a Greek refugee from Cork."

Personals.

MR. GEORGE SIMPSON has been appointed train despatcher at Aurora, Ill., of the Chicago, Burlington and Quincy R. R., in place of Mr. W. M. MIXER, chief train despatcher, who has been transferred to the general office in Chicago.

MR. THOMAS E. MARSLAND, Inspector for the Automatic Signal Telegraph Co., New York, has obtained six weeks' leave of absence, and left for a visit to his home in Merrie England.

MR. LOUIS W. CLARKE, of Providence, R. I., for nearly seven years agent of the Gold and Stock Telegraph Company, has resigned his position to engage in telegraph line construction and other telegraph work.

MR. GEORGE WARREN has accepted a position at the Western Union office corner Broadway and Dey street, New York.

MR. FRANK P. ROSS has accepted a position at the Western Union office corner Broadway and Dey street, New York.

MR. HARRY LARCOMBEE, formerly of Washington,

D. C., has taken a position with the Western Union Co., main office, in this city.

MR. THOMAS R. TALTAVAL, late of the Western Union, New York main office, has accepted a position in the Associated Press at Washington, D. C., as operator.

MISS MARY SELOVER, of Bentley's City Line, Philadelphia, Pa., has been transferred from No. 1,330 Girard avenue to the office of the same company at the corner of Third and Chestnut streets.

MR. E. R. HOWE, formerly of Louisville, Ky., has accepted a position with the Western Union Co., at Lexington Ky.

The Telegraph.

Foreign Telegraphic Notes.

THE annual account of the gross public income and expenditures of the United Kingdom of Great Britain, etc., for the year ending March 31st, 1875, puts the receipts for telegraph service at £1,120,000, and the expenditures for the same at £1,193,060.

At a special general meeting of the shareholders of the Panama & South Pacific Telegraph Co., held recently in London, the Chairman said the meeting had been called, as they were aware, to confirm the special resolutions passed at the special general meeting of the company held on the 8th of April. He would therefore now move that the resolution—namely, "That the company be wound up voluntarily—be now confirmed." This resolution was seconded and carried *nem. con.* The Chairman moved that Mr. James A. Brand be appointed the liquidator. The motion was seconded and carried unanimously.

The report of the trustees of the Submarine Cable's Trust, presented recently to the fourth ordinary annual meeting of the certificate holders, stated that the revenue for the past year has amounted to £28,310, and the expenses (limited by the trust deed to £2,000) have been £1,695, leaving a balance of £26,615. Of this sum £21,213 has been applied to the payment of the coupons due on the 15th October, 1874, and 15th April, 1875; £3,179 was expended in the purchase of twenty-nine certificates in October last, and the balance has been carried forward. No change has been made in the securities held by the trustees since the last report was issued.

A strong demand for the shares of the Telegraph Construction & Maintenance Co. in London is reported. It is understood that this company has recently made or will shortly conclude some very profitable contracts. At the dinner given to the Governor of Victoria, Sir James Ferguson announced, amid loud cheering, that Mr. Vogel had successfully negotiated the formation of the last remaining link of telegraphic communication between England and New Zealand, and had secured important modifications in the tariff. It is understood that it is the contract for this cable which has caused the recent advance in the price of the shares of this company.

The number of messages transmitted from postal telegraph stations in the United Kingdom for the week ended April 24th, 1875, was 391,403—an increase of 17,347 on the corresponding week last year.

It is rumored that the new cable to connect New Zealand with the Eastern Extension, Australasia & China Company's telegraph system, will be laid during the present year.

The total number of messages forwarded from postal telegraph stations in the United Kingdom for the week ended May 1, 1875, was 394,518—an increase on the corresponding week last year of 16,669.

The average time occupied in the transmission of telegrams between Madrid and England, "via Santander," during April, was two hours and fiftyseven minutes, including transmission over Spanish land lines.

The receipts of the Brazilian Telegraph Company for the month of April, 1875, were £11,945.

The number of messages by the Cuba Submarine Telegraph Company's lines during the month of April was 2,235, estimated to produce £2,200, against 1,518 messages, producing £1,525, in the corresponding month of last year. The cable was cut from the 7th to the 13th to establish communication with the new station which has now been open at Cienfuegos.

The traffic receipts of the Eastern Telegraph Company for the month of April, 1875, amounted to £31,252, and for the corresponding period of 1874 to £30,766.

The receipts of the Eastern Extension, Australasia and China Telegraph Company for the month of April amounted to £18,413, and for the corresponding period of 1874 to £16,670.

The traffic receipts of the Great Northern Telegraph Company for the month of April amounted this year to 851,662 fr., and last year to 348,153 fr. Total traffic receipts from 1st of January to 30th of April, this year, 1,235,974 fr. (£49,439); and last year, 1,826,066 fr. (£53,043).

The receipts of the Submarine Telegraph Company for the month of April, 1875, amount to £9,298. The receipts for the corresponding month of the preceding year amounted to £8,510.

The receipts of the Western and Brazilian Telegraph Company for the five weeks ending the 30th of April was £12,552.

Messrs. Morton, Rose & Co., of London, announce that the definitive bonds of the Western Union Telegraph Company of the United States, of the issue of £1,030,000 six per cent. loan, are now ready for delivery in exchange for the fully paid Scrip Certificates.

Telegraphic communication in Japan is to be extended to the Loochoo Islands.

The Government of Western Australia has commenced a line of telegraph which will establish instant communication between that colony and Adelaide, South Australia.

A military telegraphic service is about to be organized in France.

Telegraphic and Electrical Brevities.

Monsignor RONCETTI, *Ablegat Apostolique*, and Prof. Ubaldo Ubaldi, of Rome, Italy, the bearers of the scarlet cap to Cardinal McCloskey, accompanied by the Very Rev. J. O'Connor and the Rev. Edward McGlynn, visited the Western Union Building on Wednesday last, and were shown through the various departments.

The Southern and Atlantic Telegraph Company have opened new offices on their lines at Darien, Ga., and High Point, N. C.

The American District Telegraph Company is being established at Washington, D. C., under the management of Mr. A. G. Davis, of Baltimore, Md.

The Western Union cable steamer *Morse* sailed last week for London, to take on board the new cable which has been contracted for by Mr. Orton, for the International Ocean Telegraph Company, to be laid between Key West and Punta Rasa, Florida. The cable is being manufactured by the Telegraph Construction and Maintenance Co., at the Silvertown works.

The hearing in the case of the Atlantic and Pacific Telegraph Company against the Southern and Atlantic Telegraph, in the application for a preliminary injunction, was set down for the 21st inst., in Supreme Court, General Term.

The case against the Atlantic and Pacific Telegraph Co., to vacate the lease of the Franklin lines to that Company, and for the appointment of a Receiver, brought by certain stockholders of the Franklin Company, is to be heard in Boston on the 25th inst., if not again postponed.

Marine Glue.

F. H. COLLINS writes to the *English Mechanic* that an excellent marine glue, far superior to the ordinary kind, and more workable, can be made by dissolving 2 oz. of bottle rubber in half a gallon of mineral naphtha. When the rubber is all dissolved add twice the quantity of shellac in the naphtha, place the whole in an iron vessel, apply heat cautiously, stir till well mixed, and then pour out on a slab to cool. This glue can be melted at the same heat as common glue, can be applied with a brush, sets very quickly, is elastic, and perfectly insoluble in water.

[CORRESPONDENCE.]

Western Union Chicago Notes and Personals.

CHICAGO, ILL., May 15.

TO THE EDITOR OF THE TELEGRAPHER.

EVERYTHING seems to be moving along harmoniously under the new management.

Some of the old timers that we never expected to see working in the office again are among us again.

The noon hour has not yet been abolished; but the boys don't growl over it any, as they are confident, when all the plans of the new management are matured, that some arrangement will be made whereby they will (after a night of toil) have the day for rest.

I understand that the extra work which has been done heretofore at fifty cents per hour will not be paid for in this manner hereafter, but that seven extra hours will be considered a day's work, and men who work extra will be paid for such work the same as for regular, in proportion to their salary. Although very few will get quite as much for their extra work as here-

tofore, this is certainly the fairest way to pay for over time.

Only a few changes have occurred since my last, and I might keep them over for another time, but guess a short letter written every week will be more readily appreciated than a long one every two or three weeks; so here goes.

Mr. Fred. Goodrich, who has been subbing here for some time, has been added to the regular night force.

Mr. Roger Pearson, General Superintendent of the American District Telegraph Company, in addition to his duties at the American District office is working extra, nights; also Mr. E. J. Stevenson and Mr. "Jack" Desmond, both old timers. Mr. Frank Farley, "one of the boys," and by no means a "slow one," and Mr. "Guss" Carroll, recently of Des Moines, Iowa, W.U. office, are subbing at this office now. Jack Congdon, our new late night manager, who has been home to visit his old parents on his farm in Michigan, ever since his appointment, returned to-night, and will take charge to-morrow night.

Mr. Kelley, first assistant night manager, has been filling in "Jack's" time during his absence.

WESTERN UNION.

Quotations of Telegraph Stocks at N. Y. Stock Exchange,

Showing Lowest and Highest Prices each day during week.

Table with columns: May, WESTERN UNION, ATL. AND PAC., AMER. DIST., GOLD AND STOCK. Rows show prices for dates 13, 14, 15, 17, 18, 19.

New Patents.

OFFICIAL COPIES of any U. S. Patent issued since July 1st, 1871, including drawings, specifications and claims in full, sent free to any address for 25 cents each.

For the week ended April 13, 1874, and bearing that date.

162,091—ELECTRO-THERAPEUTIC BATHS.—James W. Moliere, Detroit, Mich. Filed July 29, 1874.

The combination of the metallic lined chamber A, having a lid composed of the sections M N O, slide P, coiled pipe F, and electric pile plates G, substantially as herein shown and described.

For the week ended April 20, 1875, and bearing that date.

162,204.—INSULATED TELEGRAPH WIRES.—Wilson Striker, Lebanon, Pa. Filed August 22, 1874.

1. As a new article of manufacture, a telegraphic wire insulated by a covering of India rubber or gutta percha, coated with coal tar, and provided with mica applied both to the outside and inside of the gutta percha or India rubber covering for the wires, as and for the purpose set forth.

2. The method herein described of insulating a telegraphic wire consisting of the application of mica around the wire, and then encompassing the wire and mica with a covering of India rubber or gutta percha dipped in coal tar, to which mica is then applied, the coal tar performing the double functions of closing the pores of the covering and causing the retention of the mica in place, as set forth.

For the week ended April 27, 1875, and bearing that date.

162,633—DUPLEX TELEGRAPHS.—Thos. A. Edison, Newark, N. J., assignor to himself and Geo. Harrington, Washington, D. C. Filed April 26, 1883.

1. The armature lever L, pivoted between the magnets A and B, and operated by an increase and decrease in the tension of the line current, in combination with the key K' and rheostat R, for the purpose set forth.

2. The sounder lever S L, double spring contact a, and batteries M B and M B', arranged substantially as set forth, and for the purpose specified.

3. The combination, with the main line circuit, of a receiving instrument operated by changes in the polarity of the current independently of tension, with another receiving instrument operated by changes of tension independent of polarity, means of changing the polarity of the current, and means of changing the tension of the current, substantially as and for the purpose specified.

162,676—FRICTIONAL ELECTRICAL MACHINES.—Geo. M. Mowbray, North Adams, Mass. Filed Nov. 30, 1874.

Hard rubber cylinder surrounded by two semi-cylindrical condensers. Machine discharged by reversing the crank, as in the Smith patent, No. 93,563, August 10, 1869, with the addition that a partial reversal breaks the connections from the rubber and the collector to the condensers. Other features explained by claims.

1. The arrangement of a frictional exciting surface between two curved dielectrics, both of these curved dielectrics having on each surface, respectively, metal armatures with sufficient marginal insulation to form a condenser, the inside surface of one of them so situated during excitation as to receive electricity from the rubber, while the inside surface of the other curved dielectric simultaneously receives electricity from the collector, and withal the inner surface or armature of each one being in connection with the outer surface or armature of the other, substantially as described.

2. The accumulator or Leyden jar, of any preferred shape, built up of sheet hard rubber and metal plates, insulated from external influence by other sheets of hard rubber, and enveloped in pure sheet rubber, substantially as described.

3. An electric rubbing cushion, formed of two distinct sur-

faces, the one resinous, to receive the amalgam and excite electricity, the other filamentous, felted, or velvety, to cleanse and polish the exciting surface with the usual oiled or varnished silk flap, substantially as described.

4. The combination of an exsiccator, composed of a material capable of absorbing moisture from the atmosphere, packed in a permeable envelope, with a frictional electric machine in a water tight case, substantially as described.

5. The oscillating cylinder, independent of the condenser, which is stationary, composed of two disks, each having a slot cut out of its periphery for about sixty degrees, carrying two semi-cylindrical sheets of hard rubber, there being affixed to one of these the rubbing cushion and its conducting knob, to the other a knob projecting through it, this oscillating cylinder admitting of a determinate limited motion from the rotation of the exciting surface, the range of oscillation being determined by the collecting rod, which is stationary, and passes through the slots of the disks, serving a triple purpose, viz: First, isolating the condenser from the rubber collector and lead wires when it receives a thirty degree reverse motion; second, discharging the battery through the leading and return wires when this reverse motion is continued to sixty degrees of a circle; and, third, conducting the charge from the rubber and from the exciting surface to the condenser by a forward motion of sixty degrees, substantially as described.

6. The graduated test gauge, with sliding or movable standard and connections for terminal wires, substantially as described, and for the purposes set forth.

7. The hard rubber shaft of a frictional electric machine, with sunken socket for crank, substantially as described, and for the purposes set forth.

8. The elastic wire connections between the knobs moving and the fixed knobs of a frictional electric machine, for the purpose of cushioning violent movement, substantially as described.

9. The combination of a rotating exciting surface, an independent oscillating frame, carrying a rubber and connecting knobs, with a stationary collector and a stationary condenser, all enclosed in a water tight case or keg, substantially as described.

WILLIAM BROWNLEE, Dealer in CEDAR TELEGRAPH POLES. OFFICE, FOOT OF SHELBY STREET, DETROIT, MICHIGAN.

SPECIALTIES. The Galvano-Electric Machine, for Medical and Family Use, will be furnished by us COMPLETE FOR \$10.

This apparatus contains a powerful induction coil, constructed to combine strength with cheapness and durability. The whole apparatus is enclosed in a neat walnut case, and is of the best workmanship throughout.

As a source of amusement it is unsurpassed. A LIBERAL DISCOUNT WILL BE MADE TO THE TRADE.

We also offer an entirely new article, A Pocket Galvanometer, Manufactured by Launert & Decker, of Cleveland, Ohio. This is a very handsome and useful article for electricians, operators, etc., etc.

It detects, indicates and shows the direction of very feeble as well as stronger currents, and in telegraphy may be advantageously used for the purpose of ascertaining the source of reversed currents in case of reversed batteries and crosses, etc. A Card of Instructions with each Instrument. The Galvanometer will be sent to any address by mail, post-paid, on receipt of price. They are furnished, finely finished in brass, for \$1 each; with extra finish and nickel plated, \$1.25.

F. L. POPE & CO., P. O. Box 5503. 38 Vesey St., New York.

WESTERN ELECTRIC MANUFACTURING CO. SOLE AGENTS ORTON'S PATENT AWL CLIPS.

These Clips have been in practical use for three years, and are rapidly displacing all others. They are designed for holding messages, and every form of blanks.

For convenience, durability and economy they are unequalled. WESTERN ELECTRIC MANUFACTURING CO., 220 KINZIE STREET, Chicago, Ill.

THE POCKET GALVANOMETER,



FINELY FINISHED IN BRASS, will be sent to any address by mail, on receipt of ONE DOLLAR, and 3 cents to pay the postage. NICKEL PLATED, Twenty-five Cents extra.

Special inducements to Operators and others acting as Agents. Further information and Circulars on application.

LANNERT & DECKER, Manufacturing Electricians, CLEVELAND, Ohio.

REMOVAL. GEO. H. BLISS & CO.

We respectfully announce our removal to 220 KINZIE STREET, CHICAGO, ILL. Having determined to transfer our interests to the Western Electric Manufacturing Company, we offer our entire stock of TELEGRAPH INSTRUMENTS, GOODS and MACHINERY for sale upon terms which cannot fail to prove desirable to purchasers.

GEO. H. BLISS, President. 220 KINZIE STREET, CHICAGO, ILL., April 12th, 1875.

ANNOUNCEMENT. Western Electric Manufacturing Company

GEO. H. BLISS having acquired an interest with this Company, has been appointed its General Agent.

His attention will be given to the sale of the Instruments and Goods of our manufacture and in which we deal.

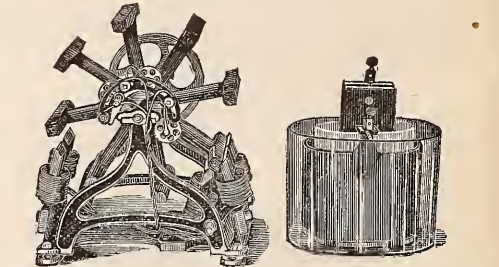
In addition to our former line we have added the various specialties heretofore controlled by GEO. H. BLISS & CO.

With our ample facilities we hope to give to customers and the trade increased satisfaction in prices, quality and variety of our goods.

We invite correspondence and solicit patronage.

WESTERN ELECTRIC MANUFACTURING CO., 220 Kinzie street, CHICAGO, ILL.

BASTET'S NEW ELECTRICAL MOTOR AND BATTERY.



For Sewing Machines, Church and Parlor Organs, Small Printing Presses, Pumps, Lathes, Dentists' Instruments, or any Light Machinery.

My new ELECTRICAL BATTERY is the most powerful for quantity and durability manufactured, and does not crystallize the carbons. For Electroplating, Telegraphing, and for Motive Power, it cannot be surpassed.

Our No. 1 Engine, for Sewing Machines, with four cells of Battery, is furnished for \$40. Other Motors at prices proportional to power required.

BATTERY, No. 1 Cells \$5. No. 2 " 10.

L. BASTET, 607 Broadway, New York.

ORTON'S PATENT SECURITY MESSAGE HOOK.

The damage resulting from the loss of a single message is frequently sufficient to equip a line many times with the hook.

Papers cannot be blown or carelessly crowded from it. These hooks were first introduced by Geo. H. Bliss & Co. Thousands of them are in use in telegraph offices, banks and counting rooms.

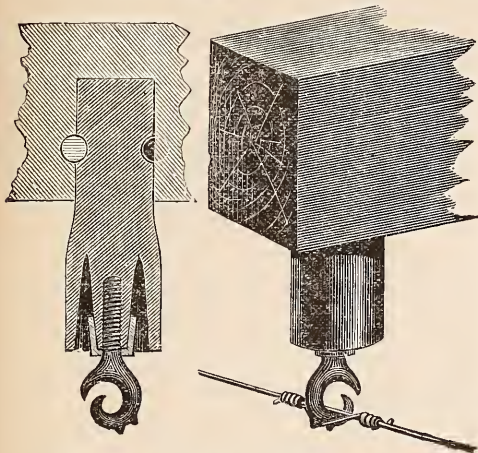
Price, 30 cents each; or, \$3.00 per dozen. Liberal terms to the trade.

WESTERN ELECTRIC MANUFACTURING CO., 220 KINZIE STREET, Chicago, Ill.

THE KENOSHA INSULATOR CO.

**TELEGRAPH COMPANIES and
TELEGRAPH CONSTRUCTORS**

are invited to examine the merits of our new and improved patterns of



KENOSHA CARBON INSULATORS!

These insulators are made of wood, thoroughly baked, and covered with an INDESTRUCTIBLE COATING, highly repellant of moisture, which does not change nor deteriorate after years of exposure to the weather.

THE KENOSHA INSULATOR has now stood the test of Six Years' actual service, and we feel warranted in stating that, although costing but little if any more than the ordinary glass insulator, its insulating qualities are on an average

MORE THAN TEN TIMES AS GREAT

during the prevalence of rain or fog.

Immense numbers of these insulators are in use by

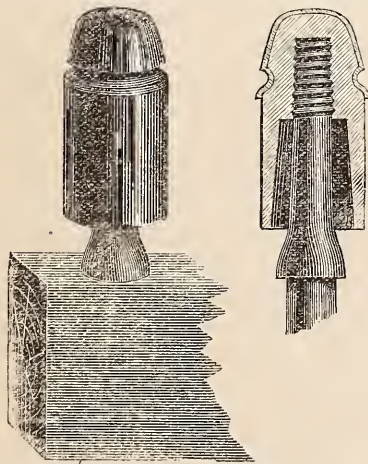
THE NORTH WESTERN TELEGRAPH CO.,

THE WESTERN UNION TELEGRAPH CO.,

as well as many RAILWAY and OTHER TELEGRAPH LINES, and they have invariably been found to give

ENTIRE SATISFACTION.

Besides the suspension insulator above shown, which is fitted with our IMPROVED WIRE HOLDER, arranged for a wire, and which does not cramp or injure the line wire, we manufacture several other patterns, among which is the



CAP INSULATOR, WITH PIN OR BRACKET,

which is fitted with a zinc protection, as shown in the above figure.

THE KENOSHA INSULATOR

is manufactured with the utmost care by skilled workmen and special machinery. Every individual insulator is TESTED IN WATER with a battery of 500 cells, and not a single imperfect one is allowed to leave the factory.

We are also prepared to furnish, at short notice,

CROSS-ARMS for any **REQUIRED NUMBER OF WIRES,**

prepared with our patent INDESTRUCTIBLE INSULATING COATING, either with or without wire insulators.

These insulators are packed for shipment in boxes containing 100 each, and may be ordered direct from us, or through any of the leading Dealers in Telegraph Supplies.

We are now prepared to fill all orders promptly, however large, and we guarantee all insulators furnished by us to prove entirely satisfactory.

THE KENOSHA INSULATOR CO.,

KENOSHA, Wisconsin.

L. G. TILLOTSON & CO.

General Eastern Agents.

GEORGE H. BLISS & CO.,
220 Kinzie Street, Chicago, Ill.

CINCINNATI, O.,

Elm St., cor. 5th.

Manufacturers and Dealers in

TELEGRAPH INSTRUMENTS AND SUPPLIES.

RELAYS—COMBINATION SETS; BOX and POCKET RELAYS.

PONY and REPEATING SOUNDERS.

KEYS, various styles, including the SCHNEIDER KEY, wire connections above the table.

REGISTERS, with SPRINGS or WEIGHT.

CUT OUTS, many varieties, including a new style of PEG CUT OUT, with an adjustable LIGHTNING ARRESTER, just out.

REPEATERS—HASKIN'S AUTOMATIC, and others,

SWITCH BOARDS—REPEATING, BATTERY and GROUND SWITCHES and LIGHTNING ARRESTERS.

ANDER'S GALVANIC and MAGNETO-ELECTRIC PRINTERS; also SELDEN PRINTER.

ELECTRIC BELLS, HOTEL ANUNCIATORS, FIRE and BURGLAR ALARMS, and WATCHMAN DETECTORS.

ELECTRIC RAILWAY SIGNALS and ALARMS, ELECTRIC GAS LIGHTING APPARATUS.

MEDICAL INSTRUMENTS and APPARATUS on hand and made to order. Second hand Instruments for sale cheap, and repairing done at short notice.

BATTERIES in great variety, including the latest inventions; also a full assortment of battery material.

WIRES—MOORE & SON'S and PHILLIPS' MAGNET and OFFICE WIRES, GUTTA PERCHA and KERITE WIRES, BEST GALVANIZED LINE WIRES; SUBMARINE, SUBTERRANEAN and HOUSE CABLES.

INSULATORS—BROOKS, SREW GLASS and KENOSHA CARBON.

BRACKETS, PINS and SPIRES, TELEGRAPH POLES, LINE BUILDERS and REPAIRERS' TOOLS.

TELEGRAPH STATIONERY—REGISTER, MESSAGE and MANIFOLD PAPERS, CARBON SHEETS, STEEL and AGATE STYLUSES, ORTON'S PENCIL HOLDER, SAFETY MESSAGE HOOK and AWL CLIP, STANDARD TELEGRAPH BOOKS, &c.

PRICE LISTS FURNISHED FREE ON APPLICATION.

Our TELEGRAPH INSTRUMENTS and ELECTRIC APPARATUS are elegantly finished and mounted on highly polished rosewood, mahogany and walnut bases.

LECLANCHE BATTERIES.

IMPORTANT NOTICE.



After JANUARY 1st, 1875, we will allow TWENTY CENTS for each used-up Porous Cell of this Battery that is returned to us free of charge, in good order. A change is made in the discount to the trade. A list will be furnished on application to

THE LECLANCHE BATTERY COMPANY,
No. 40 WEST EIGHTEENTH STREET,
or to
L. G. TILLOTSON & CO.,
8 Dey street, Sole Agents.

ELECTRIC BELLS.

We have on hand and will furnish all descriptions of

ELECTRIC BELLS,

either Table or Wall Bells or Gongs, at manufacturers' prices.

F. L. POPE, & CO.,

38 Vesey street.

Send for new illustrated circular and price list.

LEWIS' TELEGRAPH MANUAL.

A few copies of the last edition of

THE TELEGRAPHIC MANUAL,

by Mr. WALTER O. LEWIS, remaining, may be had of F. L. POPE & CO., 38 Vesey street, at fifteen cents each. Will be forwarded by mail postpaid on receipt of price.

20 PER CENT. REDUCTION IN THE PRICE OF TELEGRAPH INSTRUMENTS!

SEE WHAT IT MEANS.

On First-class Morse Sets for Railway and Commercial Lines:

- No. 1 Relays, of standard size and resistance (120 to 150 ohms), on rosewood bases, fine finish, polished rubber covered coils, wound either with our patent glazed or with best silk covered pure copper wire, having soldered connections and firm nut fastenings throughout, and latest improved extension adjustments. Regular price, \$16, reduced to - - - \$12 80
- No. 1 Relay, same make throughout, but of higher resistance, 160 to 600 ohms. Price, \$18, reduced to - - - \$14 40
- No. 1 Relay, ditto, low resistance, 60 to 100 ohms. Price, \$15, reduced to - - - \$12 00
- No. 1 Sounders—"Railroad" or Bunnell's "New Giant" Sounders, with all the latest patented improvements in both. The best forms of Morse sounders ever invented. Beautifully finished. Mounted upon rosewood bases. Price, \$7 50, reduced to - - - \$6 00
- No. 1 Keys, Caton pattern, curved levers. Price, \$6 50 reduced to - - - \$5 20
- No. 2 Keys, W. U. pattern, curved or straight levers. Price, \$5 50, reduced to - - - \$4 40
- No. 1 Premium Register, \$45, reduced to - - - \$36 00
- " " Spring Register, \$47 50, reduced to - - - \$38 00
- " 2 Register. Price, \$38, reduced to - - - \$31 40

Box Relays, Combination Sets, Pocket Relays, Switches, Cut Outs, Lightning Arresters, etc., furnished at the same rate, viz., 20 PER CENT. REDUCTION from regular prices. See catalogue.

SINGLE SETS, OR PARTS OF SETS, WILL BE SENT BY EXPRESS AT THESE PRICES TO ANY PART OF THE U. S., ON RECEIPT OF MONEY ORDER OR DRAFT FOR THE AMOUNT OF THE BILL.

Superintendents and others about to purchase first class equipment for offices will readily see by a comparison with other price lists the advantages here offered to those who send their orders to us.

No. 2 SETS.

LEARNERS' APPARATUS, SHORT LINE INSTRUMENTS, Etc.

- No. 2 Relays, 150 to 175 ohms resistance. Price, \$15, reduced to - - - \$12 00
- No. 2. Relays, 50 to 100 ohms resistance. Price, \$11, reduced to - - - \$8 80
- Pony Relays, complete and pretty little instrument for short lines, city wires, etc., \$7 50, reduced to - - - \$6 00
- No. 2 Pony Sounders, \$6 50, reduced to - - - \$5 20
- No. 3 Pony Sounders, \$5 50, reduced to - - - \$4 40
- No. 1 Main Line Sounders for lines from 1 to 6 miles in length. Price, \$8, reduced to - - - \$6 40
- No. 2 Ditto, \$7, reduced to - - - \$5 60
- No. 3 Keys, curved levers, Caton style, same as No. 1, but smaller. Price, \$5, reduced to - - - \$4 00
- No. 4 Keys. Price, \$4, reduced to - - - \$3 20
- AMATEURS' KEY, \$3 50, REDUCED TO - - - \$2
- EXCELSIOR AMATEUR INSTRUMENTS, \$6 50, REDUCED TO - \$5 20
- BUNNELL'S LEARNERS' INSTRUMENTS, PERFECTED, \$6 50, REDUCED TO - - - \$5 20

At the above figures all grades of Telegraph Instruments may be obtained from L. G. TILLOTSON & CO. for less money than will buy as good materials at any other manufactory in America.

Orders, correspondence and inquiries will receive prompt attention. Make your memoranda of amounts for what you want from the above price list, and enclose the sum to us by postal order or draft along with your order for goods.

L. G. TILLOTSON & CO.,

8 Dey street, New York,

64 SOUTH FOURTH STREET, PHILADELPHIA.

AMERICAN FIRE ALARM AND POLICE TELEGRAPH.

GAMEWELL & CO., Proprietors,
62 BROADWAY, NEW YORK.

J. W. STOVER,

General Agent and Superintendent.

L. B. FIRMAN, Chicago, Ill.,

General Agent for the West and North-West.

TELEGRAPH SUPPLY AND MANUF'G CO., Cleveland, Ohio,
Special Agents for the Middle States.

R. DOWELL, Richmond, Va.,

Special Agent for Virginia and North Carolina.

J. A. BRENNER, Augusta, Ga.,

Special Agent for Georgia and South Carolina.

L. M. MONROE, New Canaan, Conn.,

Special Agent for New England.

ELECTRICAL CONSTRUCTION AND MAINTENANCE CO.,
San Francisco, Cal.,

Special Agents for California, Oregon and Nevada.

THIS SYSTEM OF

FIRE ALARM & POLICE TELEGRAPH WITH A CENTRAL OFFICE,

OR

UPON THE AUTOMATIC PLAN,

is now in operation in the following Cities, to which references
made for evidence of its great

SUPERIORITY, VALUE

AND

UNIFORM RELIABILITY.

Albany, N. Y.,
Alleghany, Pa.,
Boston, Mass.,
Bridgeport, Conn.,
Buffalo, N. Y.,
Baltimore, Md.,
Chicago, Ill.,
Cincinnati, Ohio,
Columbus, Ohio,
Cambridge, Mass.,
Charlestown, Mass.,
Covington, Ky.,
Detroit, Mich.,
Dayton, Ohio,
Elizabeth, N. J.,
Fall River, Mass.,
Fitchburg, Mass.,
Hartford, Conn.,
Indianapolis, Ind.,
Jersey City, N. J.,
Louisville, Ky.,
Lowell, Mass.,
Lawrence, Mass.,
Lynn, Mass.,
Mobile, Ala.,
Montreal, Canada,
Milwaukee, Wis.,

New York City,
New Orleans, La.,
New Bedford, Mass.,
New Haven, Conn.,
Newark, N. J.,
Omaha, Neb.,
Philadelphia, Pa.,
Pittsburg, Pa.,
Portland, Maine,
Peoria, Ill.,
Providence, R. I.,
Quebec, L. C.,
Rochester, N. Y.,
Richmond, Va.,
St. Louis, Mo.,
St. John, N. B.,
Springfield, Mass.,
San Francisco, Cal.,
Savannah, Ga.,
Syracuse, N. Y.,
Troy, N. Y.,
Taunton, Mass.,
Toledo, Ohio,
Toronto, Canada,
Washington, D. C.,
Worcester, Mass.

The Distinctive Features of these Systems of

Fire Alarm and Police Telegraphs

ARE,

First—The **Automatic Repeater**, through which the apparatus may be distributed in a combination of circuits, and the entire system successfully worked, without the constant personal attention of either operators or watchmen.

Second—The **Automatic Signal Boxes**.

Third—The **Electro-Mechanical Bell Strikers**, adapted to produce the full tone of the largest church or tower bells.

Fourth—The **Electro-Mechanical Gong Striker**, for hose and engine houses, by means of which the location of the fire is instantaneously communicated to the members of each fire company.

These Features combined form the

Only **PERFECT, COMPLETE and RELIABLE** System

OF

FIRE ALARM TELEGRAPH

IN THE WORLD.

It is a sufficient vindication of the claims which are made by the Proprietors of these systems of

FIRE ALARM AND POLICE TELEGRAPHS,

that they have sustained the test of more than twenty years of practical use, and that the efforts which have been repeatedly made to supplant them by other inventions have

COMPLETELY FAILED;

the few instances in which municipalities have been induced to adopt other systems having demonstrated their insufficiency and unreliability, and resulted in their abandonment, and substitution thereof of the

AMERICAN FIRE ALARM TELEGRAPH.

Messrs. GAMEWELL & CO. are the owners of the original *FARMER & CHANNING PATENTS*, one of the most important of which has just been extended for seven years, and during the past seventeen years have spared no expense or effort to secure improvements, and the Systems are now covered by

MORE THAN TWENTY PATENTS.

The most important improvement which the Proprietors have adopted and introduced is the

AUTOMATIC SYSTEM,

the introduction and operation of which involves so little expense, compared to the benefit which it confers, that even small communities can profitably adopt and maintain it.

The American System of

FIRE ALARM AND POLICE TELEGRAPHS

has met with the universal approbation and commendation of the

People, Municipal Authorities,

AND THE

PRESS

throughout the UNITED STATES and CANADA.

NO EFFORT, TROUBLE OR EXPENSE

is spared by the Proprietors to obtain and secure ANY POSSIBLE IMPROVEMENT which shall increase the

EFFICIENCY,

RELIABILITY and

ECONOMY

of the system. They intend that, as far as possible, it shall be

ABSOLUTELY PERFECT!

The amount of property which has been saved from destruction, and the number of lives which have been preserved through the general adoption of this system, throughout the UNITED STATES and the DOMINION OF CANADA,

CANNOT EASILY BE ESTIMATED,

but that, in every community where it has been introduced for any considerable length of time, they have been enormous, **THREE CAN BE NO QUESTION.**

The cooperation of **TELEGRAPHERS** in securing its introduction into their localities is cordially invited, and

their efforts will be duly appreciated and compensated.

Any information desired in regard to the above system will be cheerfully and promptly furnished upon application at the office.

A pamphlet, setting forth more fully its advantages and superiority, has been printed, and will be supplied to Municipal Authorities and others interested in Fire Alarm and Police Telegraphy, upon application as above.

CHARLES T. CHESTER,
104 Centre Street,
NEW YORK,
TELEGRAPH ENGINEER,

AND MANUFACTURER OF

INSTRUMENTS,

BATTERIES,

AND EVERY DESCRIPTION OF

TELEGRAPH SUPPLIES.

BUNNELL'S PATENT REPEATER.

These instruments are now made in two different styles, at \$120 and \$135 a set, consisting of two Relays, two Sounders, two Keys and Governor.

JONES' LOCK SWITCH-BOARD,

most compact and reliable Switch, forming a clean spring-locked connection between any number of wires, occupying for each different connection only one square inch of space, and though made of the largest size, not subject to the warp and contraction of wood-work.

EXCLUSIVE AGENTS OF

A. G. DAYS

KERITE,

OR

COMPOUND RUBBER COVERED WIRE

SUBTERRANEAN & AERIAL WIRES,

OF THE

HIGHEST INSULATION.

We are now prepared to furnish, after an experience of three years, an Insulated Wire which can be buried in the earth, or exposed to rain and sun, or to the vapor of acids, without injury. Professor SILLIMAN, who has exposed it to the most destructive agencies, finds that it remains uninjured in an atmosphere of ozone, which would destroy gutta-percha in a few hours. It exceeds glass or any other known substance as a non-conductor.

We have made special arrangements to furnish this article for office purposes at a reduced rate.

ALSO, TO FURNISH

IRON CLAD CABLES

of the usual size, with KERITE COVER, believing that it will exceed, in insulation for submarine purposes, ANYTHING HITHERTO MANUFACTURED.

We shall be happy to furnish estimates for any amount and size of cable, which will be found to compete with any other construction, both in quality and price.

We manufacture the Genuine ELECTROPOION BATTERY, with Patent Platina Connection, introduced by us eight years since; also, THE ALPHABETICAL OR DIAL TELEGRAPH, now extensively used in this and other cities for private lines being easily and quickly learned by any one.

We offer for sale, among other novelties, a SOUNDER that will work practically with a single DANIELL cell, a BATTERY that does not require to be taken down but once a year, and the very best MAIN LINE SOUNDER made.

Our CATALOGUE, embracing a large amount of new matter and description, is now ready for distribution.

THE TELEGRAPHER
A JOURNAL OF
ELECTRICAL PROGRESS.

J. N. ASHLEY, PUBLISHER.

SATURDAY, MAY 29, 1875.

VOL. XI. WHOLE No. 463.

Original Articles.

The Gold and Stock Telegraph Company.—Its Inception, Development, Business, etc.

THE removal of the offices of the Gold and Stock Telegraph Company from No. 61 Broadway, which was occupied by it for about five years, to the new Western Union building, corner of Broadway and Dey street, has been completed, and the company is now thoroughly and permanently established in its new quarters. It may not be uninteresting to the readers of THE TELEGRAPHER to be informed more in detail than they have been heretofore in regard to the business and apparatus of this enterprise, which from small and feeble beginnings has become one of the leading telegraphic enterprises of the country.

Like most of the new applications of telegraphic facilities to the purposes of business, the system of reporting the quotations of the Stock Exchange originated in this country. To Mr. E. A. Calahan belongs the credit of developing the first apparatus and system which was to become an indispensable business institution. It is not proposed at this time to trace the gradual development of this system to its present enormous proportions, but any account of it which should fail to accord to Mr. Calahan the credit due him for his foresight and ingenuity would be unjust to him, and would be incomplete and partial in its statements. Mr. S. S. Laws, who was at one time in its earlier days Vice-President of the Gold Exchange, about the time that Mr. Calahan was developing his system of stock reporting, was impressed with the necessity and advantages of immediate and continuous reports of the quotations of gold, which at that time greatly fluctuated, and he devised and introduced a system of "gold indicators," as they were termed, which were extensively patronized. Mr. Laws also invented and had commenced to introduce a stock reporting system and instrument, when he was bought out by the Gold and Stock Telegraph Company, and eventually retired from the business.

After Mr. Laws' sale to the Gold and Stock Company another system of printing telegraph instruments was invented by Mr. Frank L. Pope and T. A. Edison, for reporting the quotations of gold and exchange. The then firm of Pope, Edison & Co. entered into the business and met with considerable success. Unlike their predecessors, Mr. Laws and the Gold and Stock Telegraph Company, they did not seek their customers specially among the brokers, but undertook mainly to supply a different class, the merchants and others who were interested in the quotations. This firm never undertook to furnish stock quotations, and did not, therefore, enter into direct competition with the Gold and Stock Telegraph Company. However, the latter company eventually purchased their system and consolidated it with its own. Subsequently this firm, in connection with the Gold and Stock Co., established the American Printing Telegraph Company, for the construction of what are known as private telegraph lines, which also eventually was consolidated with the Gold and Stock Company. Before any of the purchases and consolidations above referred to had been consummated Gen. Marshal Leferts had become President and Executive Manager of the Gold and Stock Telegraph Company, resigning the situation which he had previously held with the Western Union Telegraph Company to accept the position. In the meantime the Western Union Telegraph Company had looked jealously upon the success and prosperity which had attended the enterprise inaugurated by the Gold and Stock Telegraph Company, and had made preparations to enter into competition with it. Mr. G. M. Phelps, the well known and ingenious Superintendent of the Western Union Company's shop in this city, had invented an instrument for the purpose, which was an improvement in many respects on that used by the Gold and Stock Co. The managers and principal stockholders of the latter company were considerably disquieted at the prospect of encountering so formidable a competitor as the Western Union Company, and after considerable negotiation a compromise was effected, by which the latter company obtained a controlling interest in the former, and abandoned its project of establishing a reporting system of its own. By the

terms of the arrangement the Western Union Company turned over to the Gold and Stock Company its system of commercial news reports (known to telegraphers as the C. N. D.), which had become a leading and successful feature of its business.

It will thus be seen that the Gold and Stock Telegraph Co. had purchased and absorbed all its rivals and competitors, and by its alliance with the Western Union Company had largely extended the sphere of its operations and increased its power and importance.

Subsequently, however, another rival and competitor made its appearance. The field was too good a one to be left entirely to the company. The Manhattan Quotation Company was organized. A new and very fast printer was devised and invented for this company by Mr. John E. Smith, then and still connected with Mr. Charles T. Chester, the well known telegraph and electrical instrument manufacturer of this city. Mr. Chester was largely interested in the new company, and was, in fact, its leading spirit. A bitter and protracted competition was inaugurated between the two companies. The charge for the introduction of the instruments was first done away with, and ultimately the price charged customers for the reports was reduced from \$6 per week to \$10 per month, the latter price by no means defraying the actual cost of furnishing the quotations and keeping the lines and apparatus in working order. A number of lawsuits for infringement of patents resulted from this competition, and while the Gold and Stock Telegraph Company were deprived of a large share of their profits, the opposition company was brought to the verge of bankruptcy. A few months since, as was announced in THE TELEGRAPHER at the time, an arrangement was made by which both companies maintained their existence, unprofitable competition was abandoned, and the charge for reports was advanced to \$20 per month—a not unreasonable amount, but one which affords a margin for reasonable profit.

The history of the inception, progress and present state of the Gold and Stock Telegraph Company has thus been hastily sketched, as a preliminary to the account which it is proposed to give of its present facilities, accommodations, and extent of operations.

The new offices of the Gold and Stock Telegraph Company are located in the fourth story of the new Western Union building, a large part of which is occupied by it. The executive officers of the company occupy three rooms on the left hand side of the hall, which extends from the elevator to the rear of the building. These offices are handsomely furnished and fitted up with every convenience for the accommodation of the officials, clerks, and the public who may have business with them. They are very light and pleasant, and are an improvement on those previously occupied. In these offices may be found during business hours the President, Gen. Marshall Leferts, the Secretary and Treasurer, Mr. H. H. Ward, the Superintendent of the Commercial News Department, Mr. E. F. Ludwig, and their assistants.

On the right hand side of the hall is found the offices of Mr. George B. Scott, the Superintendent of the Gold and Stock Department, and of Mr. W. K. Applebaugh, Superintendent of the Private Lines and Bank Lines. The Commercial News Department proper is located in the main operating room of the Western Union Telegraph Company, in the seventh story, one end of which is specially fitted up for its use. It will, perhaps, be well to give an account of each of the departments into which the business of the company is necessarily divided, and of the mode of doing the business, and the apparatus employed for the purpose.

As has before been stated, the principal and original business of the company is the reporting of the quotations of stocks and gold from the Stock Exchange and Gold Exchange, or Gold Room, as it is more generally termed.

The reports from the Gold Room are sent out directly from the room on the Laws Indicators, which are still used by the company for that purpose. These do not record the quotations, but indicate them by figures, which appear at perforations in the face or disk of the apparatus as they are transmitted from the Gold Room. Each subscriber is furnished with one of these instruments, which works automatically. The quotation shown is always the last one sent, which remains until some change takes place in the price. There is also used in connection with these indicators, for those who desire and are willing to pay an extra price therefor, what is termed the "bid system." This is, in fact, a simple galvanometer. The deflection of the needle to the right indicates that the "bid" price is $\frac{1}{2}$ per cent. below the selling price; a deflection to the left, that the "bid" and the selling prices are the same.

But one person is required to work the transmitter and report the quotations of gold from the Gold Room. A Morse wire also connects the Gold Room with the C. N. D., by which the quotations are transmitted to that department, and communication for other purposes kept up with the main office. The gold quotations are also sent with the stock quotations on the "stock" instruments.

The wider range of business at the Stock Exchange necessitates more extensive and elaborate arrangements. There are five reporters, who are also operators, employed in the Stock Exchange from its opening in the morning to its close in the afternoon. Each of these reporters and operators has a certain line or "pool" of stocks to look after and report, and is expected and required to keep track of them, and report any changes in quotations or bids. These reports are sent by telegraph to the central or main office, and are distributed from there by operators and instruments specially employed and designed for the purpose. The apparatus designed and used for this distribution is very elaborate and efficient. The original three wire system of Calahan, although of course much improved from what it was at first, is still used for what is known as the Down Town, or Brokers' System. Three wires are required to be connected with the receiving instruments by this system. The quotations are sent to all the offices in this division at one time by means of a Phelps Automatic Transmitter, which is run by a Phelps Electrical Motor. The cylinder and break-wheel used in this transmitter are similar in principle to the original transmitter in the House Printing Telegraph instrument. Projections on the cylinder are caught by the keys, and its revolution stopped at any desired letter or figure, which is then automatically printed on each of the numerous instruments in connection with it. A keyboard is used in connection with this transmitter resembling in its arrangement a piano keyboard. The keyboard has a very familiar appearance to an old House operator.

The Up Town System, as it is termed, is worked by what is known as the "Universal" instruments; but these are, it is understood, shortly to be abandoned and replaced with the stock printer invented by Mr. G. M. Phelps. A transmitter having no special peculiarities worthy of note is used in connection with the Universal.

Another circuit, known as the Up Town and Brooklyn Circuit, is operated with the Phelps Stock Printer. These instruments are very fast, and are excellent for the purposes for which they are designed and used. The transmitter used with these instruments is also a very ingenious affair, and is run, as are the others, by a Phelps Electric Motor.

By an excellent arrangement of relays the signal transmitted from these different instruments are automatically repeated on every instrument in connection with them respectively. Large cases on one end and side of the operating room contain hundreds of these repeating relays, and the whole apparatus is in the immediate control of the managers and operators.

The Private Lines Department is under the immediate management of Mr. W. K. Applebaugh. This is one of the most important branches of the business of the Gold and Stock Company. There are nearly 200 different contracts for supplying this facility to merchants, manufacturers, steamships, agents, etc., and over 350 instruments are now in operation in this city and Brooklyn. These lines and instruments are leased by the company, who maintain and keep them in order, supply ink and paper, etc. The instruments used are Gray's Printer, the Universal Printer, Phelps Printer, and the ordinary Morse telegraph instruments.

Under the care and management of this department there is also a system of "Bank Lines," by which a number of the leading banks of the city are connected with the Clearing House, and can, when so desired, be connected with each other for the interchange of communications. That is to say, by notifying the central office, any bank having one of these instruments can be connected temporarily with any other bank similarly provided, which is undoubtedly a most important convenience, and much facilitates the transaction of business between them.

The Produce and Cotton Exchange are connected directly with the Commercial News Department. Reporters are employed at each to prepare and transmit reports of quotations, state of the markets, etc., to the C. N. D. main office, which are there consolidated, and at certain specified times are simultaneously transmitted to subscribers, not only in this and adjoining cities but also throughout the country. The C. N. D. also receives and transmits through its agents commercial news and reports from all the important business localities. The system is a very perfect one, and supplies at a small individual cost to each subscriber an amount of reliable information which it would be almost impossible to obtain at any expense in any other manner. There are 250 printing instruments in connection with the C. N. D. in this city and Brooklyn. The reports are automatically sent to these by a direct acting transmitter, which is also the invention of Mr. G. M. Phelps, by means of which the necessity of using repeating relays is avoided. By means of this transmitter the reports are sent on all the circuits at the same time, and it is truly a very perfect and beautiful piece of machinery.

There is also another two wire apparatus used to a limited extent, but this is soon to be dispensed with. The printers mainly used by the C. N. D. are the inven-

tion of Mr. Henry Van Hovenburgh, who is Assistant Superintendent of this department.

This gentleman, although very modest and unassuming, is an able and accomplished electrician and mechanic, and the perfection of the apparatus and its adaptation to the commercial news system is largely due to his labors, talent, and inventive genius.

The marine news department of the Gold and Stock Company is located in the basement of the Cotton Exchange. This department was established a few months since, in consequence of the difficulties between the Western Union Telegraph Company and the Merchants' Exchange and News Room, and is under the management and superintendence of Mr. Thomas P. Scully. It is in direct competition with the old News Room and Association. A system of marine news reports is being perfected in connection with this room, and it is intended to be permanently established as a department of the company.

This article has already exceeded the limits assigned to it; but it would give an inadequate idea of the extent of the business of the company, present and prospective, if no reference were made to its operations in places outside of this city and its immediate vicinity.

The company has agencies and its special reporting instruments in use in Providence, Boston, Buffalo, Cincinnati, Chicago, Milwaukee, San Francisco, New Orleans, Memphis, Shreveport, and a multitude of other places of less note.

Its system of leased private lines and instruments is also established at St. Louis, Louisville, Chicago, Milwaukee, Cincinnati, Cleveland, Buffalo, Indianapolis, Memphis and Pittsburg, and its operations generally are being constantly extended.

With a few additional statistics this lengthy, but it is hoped by no means uninteresting, article will be closed.

There are used by the Gold and Stock and Private Lines Departments about 4,000 cells of carbon and 250 cells of Western Union Callaud battery. The battery room is in the upper stories of the building adjoining the Western Union building on Dey street, the lower stories of which are occupied by Messrs. L. G. Tibbottson & Co. The C. N. D. have, in addition to this, 2,600 cells of Western Union Callaud battery in constant use.

There are nearly 500 Three Wire Stock Instruments in use in this city and Brooklyn; 75 Universal Stock Printers; 13 Phelps Stock Printers; 86 Gold Indicators; 30 Gold Printers; 25 "Gold Bids" Instruments; about 250 instruments in connection with the C. N. D., and over 350 Private Line Instruments.

The company has about 100 miles of lines suspended on buildings, known as "housetop" lines; an air cable from 61 Broadway to Canal street, about one mile long, containing 11 wires; and 10 wire air cables to the Western Union building—aggregating about eight miles. Besides these it has 23 miles of pole lines in New York and 29 miles in Brooklyn, some of which carry as many as 43 wires to the pole. Seven cables, containing 7 wires each, connect New York with Brooklyn, and other cables, aggregating about a thousand feet, are laid at the Wallabout and in Newtown Creek.

The company employs in this city 140 persons in its service.

The above hastily prepared figures will give some idea of the extent and importance of the business of the company.

"The Telegrapher" deserving of a far more Liberal Support.—What it has accomplished, and what it is doing for the Fraternity.—How every Operator can Subscribe for it without missing the Money.

BY AGITATOR.

THE TELEGRAPHER commenced its career on the 26th day of September, 1864, under the auspices of the "National Telegraphic Union," an association of operators organized to build up and promote fraternal intercourse, help brothers in distress, etc.; but which, for lack of sympathy or disinterestedness, failed to accomplish anything enduring except the founding of THE TELEGRAPHER. In doing this the N. T. U. conferred upon the profession a benefit that will endure to the end of time. The chords that were then ever so lightly touched will continue to vibrate when we of this generation are sleeping beneath the sod.

Mr. L. M. Smith was first called to the editorial chair, who after a few months, was succeeded by Mr. Frank L. Pope. The last act of the Union was to call the present editor and publisher to the chair in place of Mr. Pope, who was desirous of retiring, on account of the pressure of other business. Mr. Ashley took the founding gently in his arms and commenced its nurture with a father's fondness for a child. He never fed it with skim-milk, but at the outset, seeing the positive necessity for its sturdy growth, poured into its veins the most nourishing food.

Scorning all offers to make the paper an organ, he said, "No; this nursling is the offspring of no narrow minded monopoly, but is fathered, and mothered, too, by the working class, poor but honest, and as their mouthpiece it shall continue to be so long as I have any connection with it. It shall be taught to speak boldly the truth, irrespective of combinations, cliques or individuals." That was over six years ago, and what has been the career of THE TELEGRAPHER up to this time? Has it ever been the exclusive organ of any company? Has it ever favored the strong to the exclusion of the weak? Has it ever indulged in bitterness towards a single person not deserving the same? Has not its course from its first to its last issue been one of honesty, straightforwardness and fair dealing towards all? Is it not right where Mr. Ashley then intended it should be—i. e., head and shoulders above any other publication of its character in the country? We think so; and it is only necessary to look at it and read it to be satisfied that he has performed an arduous task. From a small sized semi-monthly it has become a twelve page weekly. From a publication with very little reading matter of interest, he has made it to contain five or six pages of good sound articles, scientific, humorous and newsy. At first, with a very small list of subscribers and advertising patronage, he has added very materially to both, until the paper long since became self-supporting. Many have complained because of too much space being taken by advertisements. They forget that without this aid, relying upon subscribers alone, the paper never would have become even self-sustaining.

I don't think telegraphers fully appreciate the benefits which result to each one of them in the support and publication of such a journal in their midst. Suppose any of the telegraph companies should adopt an overbearing course with their employes—which has been done, and which will continue to be done—would not THE TELEGRAPHER be quick to sound the notes of condemnation, and speak forth manfully, fearlessly in the cause of the oppressed? Has it not done so in the past, and prevented many wrongs from which the operator would have suffered?

The fear of publication prevents many things, and we have THE TELEGRAPHER to thank for many things left undone.

Notwithstanding the paper has become self-supporting, operators should not withdraw the helping hand. It still needs and is deserving of your utmost support. Every telegrapher employed in the land should be a willing subscriber, and the more liberal the support in this quarter the more interesting will be THE TELEGRAPHER. Mr. Ashley is progressive, and when properly encouraged the paper will assume larger proportions and become more attractive.

There are hundreds of operators not taking the paper on the plea that times are hard, money scarce, and they can't afford it. Hundreds of these same operators smoke from three to six segars a day, costing ten cents each; now, cut off one segar a day (thereby doing yourself a good) for twenty days and you have two dollars saved; send it to Mr. Ashley, and within one year thereafter you will have received one hundredfold more gratification than those twenty segars would have afforded.

The other hundreds who don't smoke segars drink from three to (well, that's a stumper)—glasses of lager every day, at ten cents a glass. Cut it short only twenty glasses in a year—just think of it, only twenty glasses and send the two dollars, for which you will receive, not swill but something that will instruct your mind and make you a more noble ornament to the profession.

Boys, I have taken THE TELEGRAPHER from its first number to the present, and I would not be without it on my instrument desk and at my home fireside for five times its cost. I have it bound, and no money would buy it. As a volume for reference, telegraphically, it has no equal, and when I want to find the date of any prominent telegraphic occurrence in the past I can always get it from THE TELEGRAPHER.

Let us make it to the telegraphic world what the *Scientific American* is to the scientific world, and a few segars unsmoked, and a few glasses of lager untasted will accomplish it.

Correspondence.

We do not hold ourselves responsible for the opinions of our Correspondents. Our columns are open to free discussions on all telegraphic subjects, without distinction of person or opinion.

No notice will be taken of anonymous communications.

"Express" Telegraph Messages.

TO THE EDITOR OF THE TELEGRAPHER.

THE official *Journal* of the Western Union Co., of the 15th inst., referring to Latimer Clark's advocacy, in England, of the "express" telegraph message system, takes occasion to publicly express the well known

views of the managers of that Company against this class of business—stating, in that elegant, forcible, and convincing language for which that truly *scientific* (!) and representative "journal" has long been distinguished, that the system, if established here, "would be perilous, and destructive, and disastrous," and that "no low priced message could hope for speedy delivery."

The "express" telegraph message system has long been in operation on the Continent, in Europe, and is there universally popular, both with the governments (who own the wires) and the peoples—and as we, in America, have all other kinds of "expresses," it is not quite so clear to my mind as it appears to be to the managers of the Western Union Co., that the system of "express" telegraph messages might not be introduced in this country with great advantage to the public and also to the telegraph companies.

With the exception of the messages incident to stock and kindred speculations between a few large cities, it is probable that more than one half the business of our telegraph companies is of a class for which great speed in delivery is of little, if any, importance; and the senders and receivers would be quite satisfied if the same were sent and delivered within one, two, or three hours. Why, then, should not that class of patrons be served at less expense than that other class whose business requires that their messages should be sent and delivered within a few minutes, or within the briefest possible time?

By the American system of treating all messages alike during the daytime, the really hurried messages are often delayed by others which are in no special haste. It is not infrequently the case in bad weather that a Morse telegrapher cannot send over a wire of even 100 miles in length as many as ten or even five ordinary business messages in an hour. At such times especially, and, indeed, it is an every day experience in telegraphing, that there is a class of business which can afford to pay five or ten times as much as other and unimportant business would justify; and it would be interesting if the opponents of the "express" system would state even one plausible reason why, as a matter of policy or of justice, the rule of *intrinsic value* should not be applied to telegraphing as well as to all other kinds of business. Suppose, for instance, that there are 1,000 messages to be sent from New York to Boston, between 10 o'clock A. M. and 6 o'clock P. M., and that 500 of them would be useless if not delivered before 2 o'clock P. M., whilst the other 500 would answer all practical purposes if delivered at any time before 6 o'clock P. M. Surely, in such a case, the 500 hurried messages ought to have precedence, and I can conceive of no more just principle than to charge for their transmission something more, and for the less hurried something less, and thus spread the business of telegraphing throughout the whole day, at the same time extending to all patrons more equally the facilities they really stand in need of and can afford to pay for. The effect would be unquestionably to bring on to the wires, at low rates of tariff, a vast number of long and short communications which now go through the mails.

The President of the Western Union Co. has stated to his shareholders the astounding fact that it costs that Company 32½ cents per message of 10 words for two of the many items which go to make up the total expense of telegraphing. Doubtless this statement is true, and it suggests urgent need for the managers of that company to scrutinize the workings of its whole system, and see if there is not some way by which the ordinary business of telegraphing can be reduced in cost; and when that duty shall have been faithfully and intelligently performed, I predict that one of the first conclusions will be that, in order to reduce the cost of telegraphing, the operators and wires must be occupied more uniformly through the whole day, thereby performing more labor with less operative force; and secondly, that these results can in no way be accomplished with advantage to all parties, except by the introduction of the European system of "express" messages, at a higher tariff than for ordinary or less hurried messages.

D. H. C.

A Lively Telegraph Business in Canada.—Enterprise and Extensions of the Dominion Telegraph Company.—No Obituary but Some Appreciative Words for "Nihil Nameless."

TORONTO, CANADA, May 21.

TO THE EDITOR OF THE TELEGRAPHER.

AS THE TELEGRAPHER is largely circulated among Canadian operators, perhaps a little Canadian news would not be out of place in its columns.

No need to complain of dull times any longer, at least not on the Dominion lines. In fact, they are getting almost too lively to suit those of the fraternity who are "constitutionally tired." One day last week 425 messages and about 5,000 words of "specials" passed over the Duplex, from Toronto to Montreal, between the hours of 10 A. M. and 6 P. M. It is the

D'Infreville Duplex which is in use here, and it has proved a great success.

A very busy season is anticipated, and in order to be able to handle the rapidly increasing business successfully the company is running up quite a number of new lines. Already this season a line of thirty-five miles has been built from Toronto to Whitby, giving five or six offices, which were formerly on a branch line, direct communication with Toronto; also a new line to Port Perry, fifty-five miles in length, taking in Markham, Uxbridge and Stouffville, so that there are now eight wires east from Toronto. Then there is another new seventy mile wire to Barrie; a 140 mile one to London; a 70 mile one from Hamilton to Fort Erie and Buffalo, and a 75 mile one from Harriston to Southampton. An additional line is also to be completed on the present poles to Buffalo, so that a duplex can be put on. Not a bad beginning for one season—a ray of hope for some of those ambitious students who are perhaps beginning to lose faith in the veracious insinuating circulars which give such glowing pictures of the large number of lucrative situations waiting for them to step into as soon as they shall have graduated. The present head office of the company is getting too small to accommodate the number of lines which are being run into it and the number of operators required to work them. In order to economize space as much as possible the desks which formerly stood in the centre of the room have been moved up close against the wall. This arrangement gives quite a bit more room, but I doubt if it will long prove sufficient. Nothing short of a "brand new" office, built to order, will satisfy the "rising young company."

Your editorial invitation in last week's paper to write an obituary for "Nihil Nameless" is "declined, with thanks," as your editorials sometimes say to aspiring authors. (Hope you won't feel it as keenly as I did when my first brilliant effusion, which I fondly imagined would bring me fame and cash, was returned with that encouraging remark.) I don't believe "Nihil" is dead at all, in spite of the neat burial Ichabod Crane gave him, and the touching requiem he sang over his grave; and I have no fancy for writing obituaries on live men—it makes one look silly when they "resurrect." He was fighting in a hopeless cause and against fearful odds. In talking skirmishes most men—even brave men—retreat ignominiously when the women open their mouths to speak. Poor "Nihil!" had the men as well as the women arrayed against him, and it must be admitted that he fought it out bravely. He certainly did not show any signs of "dying" in his last article—made some pretty good points. His generous offer to "share the honor" of using many words to express few ideas is neatly put and his home I assure you, for it is a fact that he is not the only one of your correspondents who is "extravagant in his use of the English language (not to mention the Latin). It was a good while before we heard the end of "Honest Irjun, share and share alike," and it was generally admitted here that he was fully entitled to score one that time. It certainly was a rash act for him to argue on his side of the question, but I think few could have argued it more skilfully than he did. He is evidently pretty clever, and can write well when he likes, and if he would only choose better subjects to write on his contributions would add considerably to the interest of the paper. I hope he will write often, and let his friends (and foes too, if he has any,) see that he is still alive, in spite of his rumored death and burial.

O. H. Kay and John Sterling deserve a vote of thanks from the ladies for so gallantly coming to their assistance. Had I known that "our side" was going to be so ably defended I would not have had so much to say on the subject.

I have a lot more news to tell, but as you seem prejudiced against long letters I'll just "hold it." Jo.

The Latest Strike.—The Boston, Mass., Western Union Telegraph Messengers Strike Against the Great Monopoly and Fail.

BOSTON, MASS., May 18.

TO THE EDITOR OF THE TELEGRAPHER.

AS WILL be seen from the following account which appeared in the *Boston Herald* of the 13th inst., there has been a little breeze here to relieve the monotony of the situation:

"Around the Doane street entrance to the rooms of the Western Union Telegraph Company, where the delivery boys have their headquarters, there was something of a breeze about noon to-day as the startling word went round that the boys had "struck." Forty young Mercuries had taken a stand against tyranny and oppression, which, in their eyes, was as outrageous as any that ever oppressed a people, and rising in their might had determined to overthrow and destroy the gigantic monopoly which stood between them and their rights. The cause of the trouble related to the uniform system which has been in operation since the first of the current year. The company furnished the uniforms on the first of January and charged each boy

\$10 for his outfit, deducting the amount from his wages by regular instalments. Many of the youngsters have been dissatisfied with this arrangement, but submitted to it, and would probably have done so longer had not new grievances been heaped upon them, as they think. With the opening of summer the company desired to have the boys appear in a fresh and lighter uniform, and made their arrangements accordingly. Last night the boys were informed that they were to receive Summer uniforms, and that \$11.25 would be charged for them. The young heroes went home and thought it over, and came this morning determined to resist. This they did as already shown, all but one or two of the entire party throwing up their commissions and leaving the corporation to its fate. There was no trouble or disturbance, but the resolution and sturdy determination in the faces of the youngsters could not be mistaken. They contented themselves with lingering around the street for a short time and then leaving the offensive locality. The company called in such boys as they could pick up to fill the vacancy, and it is not expected that they will have to suspend business on account of the "strike." The boys have received from \$5 to \$8 per week; the average being \$6.50. The officers of the company claim that this is more than they can earn anywhere else, and that the boys are foolishly injuring themselves. On the other hand, the boys say that they cannot afford to be buying clothes all the time. They say that when the clothes were furnished, the company stated that in case the boys were discharged or left before three months, an additional \$5 would be charged them, and this they thought a hardship. They were compelled to leave their uniforms at the office nights, and several had been discharged for wearing their pants home. Believing that having paid for the clothes they are now their own property, the boys took the uniforms with them when they left. They formed in a body and marched through several of the principal streets, stating their case to the merchants and business men, who generally gave them their sympathy. The boys have headquarters at 186 Washington street, whither they repaired for consultation.

"Mr. Twitchell, who has charge of the delivery boys, states that when the suits were delivered each boy was made to understand thoroughly that the uniforms were to be retained by the company. The amount charged for them, \$10, was considerably less than the cost, and the company deemed it necessary for their own protection, as well as the public interest, to retain the uniforms, since the principal object of the uniform system was to guard against the delivery of bogus telegrams and other forms of imposition."

The strike referred to above ended in complete failure. The strikers' places were speedily filled, and those who desired to return to work were not allowed to do so. One of the striking messengers, it is said, had a bank account of nearly \$1,000, which he had accumulated during the seven or eight years he was employed as a messenger. At first thought it would seem unjust that they should be compelled to pay for their uniforms, but when it is considered that the amount is really only about half their value, and that the system insures a neatness of appearance which could not be obtained if they were allowed to dress as they pleased, it will be seen that the boys were somewhat hasty and inconsiderate in their action. It will be a severe blow to many families which, in these hard times, have depended in part upon the money earned by the boys for support. S.

Cincinnati Musical.—Ruminations of a slightly Musical and very Hungry Telegrapher.

CINCINNATI, OHIO, May 15.

TO THE EDITOR OF THE TELEGRAPHER.

DURING the present week Cincinnati is in her best attire. The May Musical Festival has been in full blast, horns are tooted and fiddles squeaked till the very bricks of Cincinnati have become atomically adapted to the rhythmical motion of musical sound, and are fairly ready to "break forth into singing." I scarcely dare to speak of our city without a musical instrument in my hands, and as the flute is the only instrument which, in my wrestling, I have overcome, I keep one always handy and "breathe it softly" through that. In default of that I resort to a *subterfuge*. I once knew how to pound "The girl I left behind me" (I mean the tune, not the girl,) on a snare drum, so when I have not the flute at hand I put it through *juba* fashion on my stomach; not on account of its great size, but because, during the prevailing "tight times" and high price of *boards*, it is mostly empty enough to answer for one. Well, however scarce money may be, flags are plenty and cheap, and so 12 x 18 patriotism can afford to indulge itself in an unlimited number of small flags. Cincinnati is draped in flags (I am not certain that *draped* is the correct word, it may seem a trifle funeral but I'll let it pass). The W. U. office is ornamented with some eighty flags, I was out Wednesday evening on the Esplanade, and

there mingled with the throng which had congregated to "see the doings." Thousands were there viewing the statue fountain, so graphically named by Gris, the "Fat Contributor," "Mrs. Scattahwatah," and the display of calcium lights thrown upon it from opposite windows.

First a white light was projected upon it and the effect was, indeed, beautiful. The showers of water falling from her hands into the basin below, and springing into jets from the smaller founts, sparkled and flashed in the brilliant light like drops of molten silver. Who shall blame me if, like a boy, I wished that I might hold my hat in the argent stream until I had supplied myself with enough to keep the gaunt wolf from the door through the financial "Cramp?" While the thought was yet fresh and strong upon me a green light was thrown upon the same. A change came "over the spirit of my dream," my own late wish received then a portion of the light, and I saw it in its true color. A red light was used and my thoughts went back through the ages, and paused in the streets of ancient Rome, beside the bier of Julius Caesar. I saw Marc Antony stand over it, and heard his voice as he told the Romans his great love for him who should command their legions, win their victories, guide their state no more forever. In the statue I remembered the great Pompey's statue, and in the reflected color could see, as I had never seen before, the picture Antony painted for them, when he said—

"Then burst his mighty heart,
And in his mantle muffling up his face,
Even at the base of Pompey's statue,
Which all the while ran blood, great Caesar fell."

There was no strong probability that any otherwise unemployed Brutus would take it into his head to make a Caesar out of me. It was well that such was the case, since I had no mantle to use as a muffler. I know of no one who could or would officiate as a Marc A., and as I looked around upon the multitude of up-turned faces I thought I saw another probable dissimilarity in the twin circumstances. I could not help thinking to myself who in all this assemblage would miss me were I suddenly to pipe out? Echo did not answer who. Echo was not there, but I could answer the question myself. One figure would have expressed the sum total of their number, and that would have been the sum of one minus one. Then, in the independent spirit of a true operator, I remembered that I didn't care if they didn't care! So I whistled to myself something I tried to think had once been a tune before times got so hard and board so high, and slowly wandered homeward, wondering whether I should have for breakfast the faded ghosts of to-night's supper, or the prophetic type of to-morrow's dinner—so practical, so worldly do we become as soon as the back of an elevating thought is turned.

Having, as you see, already dwindled from the moralist over the corpse of Caesar to the careless hungerer after the loaves and fishes, I will bid you an "affectionate farewell!"
ICHABOD CRANE.

Business Improving on the Philadelphia & Erie Railroad.—Personals.

NORTHWESTERN, PA., May 1.

TO THE EDITOR OF THE TELEGRAPHER.

WINTER as yet holds on with a firm grip; the weather is cold and unseasonable, with snow frequently clothing the hills in a garb of white. The health of the operators along the line of the Philadelphia and Erie railroad is, however, good, and all are at their respective posts.

Succeeding the excitement occasioned by the "ice gorges," came the thawing weather. A few land slides occurred, but in no instance were trains seriously delayed.

The following is a list of the stations and operators on the Western Division of the Philadelphia and Erie railroad, commencing with Erie, Pa., the headquarters of the division: Mr. J. W. Scobell is chief operator at Erie, but is at present absent on his wedding tour through Canada; Messrs. J. S. Henry, J. W. Shatto, and G. Clarke are the train despatchers, with Messrs. J. A. Ebaugh and J. C. Curtis as operators in the same office, N. S. Connors, operator at the passenger depot, and J. Grace, day, and F. E. Wagner, night, operators at "O. D." outer depot.

Mr. G. W. Langdon is the operator at Langdon's, Pa.; Mr. Guenther, day operator at Waterford, Pa.; Mr. P. Deviney is the day, and Mr. W. S. Jeffery night operator at Union, Pa.; Mr. E. M. Chidester, day, and Mr. Wm. Atherly, night operator at Corry, Pa.; Mr. F. McDonald, day operator at Spring Creek Station, Pa., and Mr. D. Hubble at Garland, Pa.; Mr. J. M. Cronenberg is day, and Mr. J. D. Wells night operator at Princeton, Pa.; Mr. J. H. Harrison day, and Mr. L. W. Quirk night operator at Warren, Pa.; Mrs. E. J. Bouton, day, and Mr. J. F. Zurn, night operator at Sheffield, Pa.; Mr. J. C. Caswell day, and Mr. M. Hickey night operator at Ludlow Station, Pa.; and last, on the Summit, Mr. P. Small, day operator and P. Osborne, night operator at Kane, Pa.
THE WANDERER.

THE TELEGRAPHER

DEVOTED TO THE INTERESTS
OF THE
TELEGRAPHIC FRATERNITY.

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NEW YORK.

Business Prospects and the Telegraphs.

THE spring season is over and summer is at hand. It is certainly and painfully apparent that the hopes of a revival of business, which were so generally entertained, have not been realized. The depression in business continues, and prices of most kinds of merchandise, property and labor are still tending downwards. The railroads are competing for business at unprofitable, and in some cases at ruinous rates, and the good time which was by many so confidently looked for during the season which has just passed, is now by common consent postponed till next fall. Whether it will come then is problematical, but it is perhaps better to live in hope even if eventually compelled to die in despair.

The financial centres are flooded with capital seeking temporary employment at very low rates of interest, while at the same time enterprises of good promise languish because capital for their development is unattainable on account of lack of confidence and timidity on the part of capitalists. This is not an encouraging picture of the situation, but it is a true one, and it is better to look the truth squarely in the face than to delude ourselves with a fool's paradise.

The fact is that the financial disease with us lay much deeper than was realized by people generally when the panic of 1873 suddenly arrested us in a seeming prosperity, which was in fact getting us farther and deeper and more inextricably involved in certain though future difficulty and embarrassment. As a nation we had been living beyond our means, and recklessly incurring indebtedness abroad, which must eventually be liquidated or repudiated. The country as a whole was by no means bankrupt, but we were drifting towards bankruptcy, and, notwithstanding the enormous resources of the country, it is a matter of time, and one of much suffering and rigid economy that is to restore us as a people to prosperity and a renewal of remunerative and profitable business enterprise. We are undoubtedly making progress in that direction, and while the path to solvency and prosperity is a hard and difficult one, yet it must be followed, and the more determinedly we pursue it the sooner will the goal be reached.

Our readers may, perhaps, wonder why we indulge in this line of reflection and reasoning, but if they will consider a moment they will realize the connection between the general financial and business condition of the country and the prosperity and success of telegraphs and telegraphic enterprises. While the telegraph enters so intimately into all the habits and peculiarities of our people that in any event there will always be a considerable amount of use of telegraphic facilities, yet it is undeniably true that the telegraphs cannot attain a satisfactory measure of prosperity unless the community generally is prosperous. When business is dull and unremunerative there cannot be so much demand for telegraphic facilities, and this fact has become practically apparent to telegraph managers. There is also at such times a demand for cheaper rates for telegraphic service, for people forced to economize in other directions are inclined to practice it in the use of the telegraph as well. It, therefore, becomes a matter of serious concern with telegraph managers how these demands shall be met, and the resources of their lines made commensurate with their expenditures.

A necessity has undoubtedly arisen for a more careful and economical administration of telegraphic affairs. It is believed that a wise and judicious economy might materially reduce the aggregate expenditure without diminishing the efficiency or earning capacity of the lines. There is not much chance for saving by a reduction in the compensation of the operators and clerks, for, as a general thing, this is now about as low as it could reasonably be made, but there are many ways in which economy might be profitably introduced.

At this time of general financial depression our telegraph corporations seem to be indulging quite ex-

tensively in the luxury of legal proceedings, which we fear will not prove very profitable to anybody but the legal fraternity. We do not know that these lawsuits could very well be avoided, but it is to be regretted that such a generally litigious disposition should be developed at such an unfortunate time. It would be well if telegraph companies could agree upon some other and less expensive mode of settling their differences and arranging conflicting interests. However, human nature is pretty much the same, whether shown in telegraph management or otherwise, and while individual or corporate interests are to be served by litigation, we suppose it will go on.

That we shall eventually work out of the present situation, as in former similar seasons of financial difficulty, is, of course, unquestionable; but the good time may not be so near as many are inclined to believe. We must all, whether connected with telegraphy or engaged in other business, economize as much as possible. If we make but little we must be content to spend but little until such time as we are more favorably situated. And while this very economy of expenditure contributes to the prevalent dulness of business, it will in the end prove most beneficial. There is no royal road to national prosperity and wealth. Real prosperity and wealth can come only by the exercise of intelligent industry and wise economy.

Reform Needed in the Patent Office.

WE hear much complaint in regard to the administration of affairs in the Patent Office. It is evident that a thorough reorganization and reform is needed in that branch of the Government administration. Unreasonable delay is constantly experienced, especially in that division which has charge of electrical and telegraphic inventions. This arises, in part at least, because the force is too small to act promptly on applications. The business of the Patent Office increases very rapidly, and no adequate provision is made for meeting this increase. The number of Examiners should be increased, and applications, instead of being delayed, should be promptly acted upon, and either granted or rejected speedily.

There would, perhaps, be some excuse for this condition of things if the Patent Office, like some other departments of Government business, was a losing concern; but, on the contrary, it is, and has been for many years, a source of revenue. Were it otherwise, it would be better that the amount of the fees required should be increased.

It is also charged that there is partiality and unfairness in the treatment of applicants, and that while some have no difficulty in getting their applications passed upon promptly, others are obliged to wait months and years before they can obtain final official action. It is undoubtedly true that some patents get through the office with suspicious promptness. What influences are brought to bear in such cases is more than we are prepared to state; but in one instance, at least, it is understood by those familiar with the business of the office that a patent was passed within a few days of its being filed, through the direct influence and interposition of the President. This is all wrong, for the President of the United States should have no more influence upon the action of the Patent Office officials than the humblest applicant for a patent. It was, in our estimation, most improper for the President to interfere in behalf of or adverse to any applicant, and we regret very much that he should have allowed himself to do so.

It is also privately asserted that there is a Patent Office Ring, composed of certain officials, and ex-officials, and patent solicitors, and that in order to get applications promptly and favorably acted upon in the office, it is necessary to employ certain solicitors who are connected with this ring. We do not assert the truth of this charge, but, at the same time, there are some things which indicate that it is not entirely destitute of foundation. We have not heard it asserted or intimated that the present Commissioner of Patents is

connected with this ring; but, in order to insure its success, this is not necessary. We desire simply to call the attention of the Commissioner to the unfavorable reports which are circulated—and by many who have business with his office are certainly believed to be true—in the hope that he will take the necessary steps to ascertain whether they are true, and remedy the evils complained of. If it is ascertained that any of the subordinates in the office are unfaithful to their trust, or partial in the discharge of their important duties, they should be removed; and if any such ring exists as is privately stated, it should at once be broken up, and its members, however high their position, debarred from further intercourse or business with the office.

Congress is very much to blame for its refusal to act upon the recommendations of the present and former Commissioners of reforms in the patent laws, which are urgently required. Notwithstanding this failure of Congress to act, the Commissioner under existing laws has power to remedy many of the evils complained of; and, while by prompt and energetic action he will, no doubt, incur the enmity and opposition of those who find their profit in the present condition of affairs, he will be supported in any reforms which he may attempt by every honest patentee and patent solicitor.

The Gold and Stock Telegraph Co.

THE account which we print in this number of THE TELEGRAPHER of the Gold and Stock Telegraph Co. will, we have no doubt, prove generally interesting to our readers. There has been no more wonderful development of telegraphic enterprise than is shown in the history of this company. It originated an entirely new system and application of telegraphic facilities, and in no other city in the world could its advantages have met with such an instant appreciation as in New York. Attempts to introduce this system in London and Paris have met with but indifferent success, and it will probably be years yet before it will come into general use in any of the financial centres of Europe. Its influence upon financial business in this city has been very great, and it is now indispensable.

But the Gold and Stock Telegraph Co., under the management of Gen. LEFFERTS, its President and Executive officer, has extended its sphere of operations, and its system of leased private telegraph lines cover this and adjoining cities, and it has been introduced into many of the other larger cities. Its commercial news reports are sent over the whole country, as well as generally distributed in this locality, and its last enterprise, a Marine news system and News room, shows that it still seeks for pastures new in which to display its enterprise.

The sketch of the company, although not as full and complete as could be desired, embodies the most important facts in regard to its past and present, and gives an idea of the extent of its operations. No other similar telegraphic enterprise is to be found in the world, and everything at present indicates for it a successful and prosperous future.

The Latest Telegraphic Strike.

IT seems, from the account which is printed in our correspondence column, that the messenger boys employed by the Western Union Telegraph Company, at Boston, have been indulging in the luxury of a strike. The cause of this was not insufficient compensation, but because of dissatisfaction at being required to pay for the uniforms furnished to them by the company, and which every messenger is obliged to wear while in the discharge of his duties.

As was to be expected this strike was a failure, and the only result was some temporary inconvenience to the company, and the loss of their situations by the strikers. This is not a good year for strikes, and none that have been undertaken thus far have been successful. These boys were evidently badly advised, and if they had considered the superabundance of

labor, especially of juvenile labor, in our large cities, they would have known what the result must be. Strikes are seldom beneficial to the strikers, and should be resorted to only in extreme cases, when the evils are unbearable, and no other remedy is possible.

Personals.

Mr. H. J. FORMAN has accepted a position with the Southern and Atlantic Telegraph Co., at New Orleans, La.

Mr. JOSEPH E. MCILVAINE of St. Louis, Mo., has accepted a position in the Leavenworth, Kansas, Western Union office.

Mr. S. T. ARMSTRONG, late manager Leavenworth, Kansas, Western Union office, has been appointed Superintendent Telegraph of the sub-division, and manager Denver, Colorado office, *vice* Mr. B. F. Woodward, resigned.

Mr. ALF. BREWER is taking "night press" at Sedalia, Mo., Western Union office.

Mr. ROBERT IRWIN, "the lightning transmitter of the West," is working on the night force, St. Louis, Mo., Western Union office.

Mr. FRED. B. MOXON, who was at Jefferson City, Mo., during the session of the Constitutional Convention, has returned to St. Louis, Mo., and accepted a position on the Western Union night force. 'Tis said that while at Jefferson City Fred. made the boys get down to their work a "little soon." That's a fact.

Mr. B. N. TROUT has been appointed Manager of the new Western Union office, just opened at Independence, Kansas.

Mr. CHARLES F. SNYDER, at St. Louis, Mo., who has been confined to his bed by sickness for the past seven months, has recovered sufficiently to be out again.

Mr. GEO. A. BOSWORTH has been appointed Manager of the Western Union office at Colorado Springs, Colorado.

Mr. E. L. RYDER, Chief Train Despatcher of the Mo. Pacific R. R. at State Line, Mo., has resigned.

Mr. C. H. SUMMERS, of Chicago, Ill., Electrician of the Western Union Telegraph Co., paid St. Louis, Mo., a brief visit recently.

Mr. SAMUEL ALLEN, Manager of the Atlantic and Pacific, Denver, Colorado, office, has resigned to accept a position in a bank in that city.

Mr. JAMES P. KEANE, of the New Orleans, La., Western Union office, is rusticiating at Titusville, Pa.

Mr. MORELAND, late press operator, Parker, Pa., Western Union office, has accepted a situation on the day force, same office.

Mr. JNO. ALGEO, of Oil City, Pa., Western Union office, succeeds Mr. MORELAND as press operator, Parker, Pa., same company.

Mr. BROOKS, formerly of Millerstown, Pa., Western Union office, but more recently of Parker, Pa., has been transferred to the Oil City, Pa., office, same company.

The Telegraph.

The Lease of the Franklin Telegraph Company's Property Annulled.

THE lease of the lines and property of the Franklin Telegraph Company to the Atlantic and Pacific Telegraph Company for ninety-nine years has been cancelled by agreement of the parties thereto. The validity of this lease was contested by a majority of the stockholders of the company (which was effected through the ownership by the Atlantic and Pacific Company of a controlling interest in the stock). This action restores the lines and property to the company, and the old arrangement will be resumed for the present, at least, by which the two companies connected for business purposes, but the organizations and accounts were kept separate. This action also restores to the Franklin Company the control of the connection with the Direct Cable, when it is completed.

The petition of the stockholders to the Supreme Judicial Court of Suffolk County, Mass., for the appointment of a Receiver, and the sale of the property and winding up of the company, on the ground of alleged frauds on the part of the Atlantic and Pacific Company, was to be heard before Judge Morton, Friday, the 28th inst.

The Western Union Telegraph Company have just had their poles through Richmond, Va., repainted.

A New District Telegraph.

YESTERDAY a number of gentlemen were, by special invitation, at the office of the Western Union Telegraph Company, to witness the practical operations of Messrs. Kates and Paynter's automatic telegraph. As previously stated, instruments have been placed in a large number of private residences and offices of the city. These instruments consist, as far as the uninitiated can see, of small walnut boxes, out of which run a lot of tapes attached to rings. Over the slots through which the tapes pass are indicated "Fire," "Dray," "Carriage," "Police," &c. If anything is wanted all one has to do is to pull the proper tape out to its full length and let it go. This immediately signals the central office, and the business is attended to by a corps of messengers forthwith. In case of fire the alarm passes through the central office direct to the engine house. The sender of the call is notified of the reception of his message by the vibrations of a needle on a dial attached to the face of his box. At eighteen minutes past 12 Mr. Paynter called the City Ambulance, which is stationed at the almshouse. In about a minute and a half came the answer, "Ambulance started," and in exactly fifteen minutes after the call the vehicle, in charge of Dr. F. Hannah, resident physician of the almshouse, and the driver, and provided with stretchers, lanterns, medicine case, surgical instruments, bandages, &c., was standing at the door of the office. Several other tests of the efficiency of the invention were made, after which all hands adjourned to discuss a collation.—*Richmond (Va.) Enquirer.*

Foreign Telegraphic Notes.

THE directors of the Great Northern Telegraph Company have issued an abridged report of the general meeting held at Copenhagen on the 28th April. It goes into details respecting the condition of the cables, &c., and states that the total dividend for the year was fixed at 7 per cent., after an amount had been added to the reserve fund; also that the traffic during 1874 had increased 492,072fr. compared with the previous year, or 27 per cent. It further states that the receipts had increased 567,068fr., or 38 per cent. against 1873.

There is every reasonable hope of a telegraphic line being shortly established between the Cape Colony and the Free State.

Some indignation is felt at the collapse of the Telegraph Cable Company to Aden *via* Mauritius (Hooper's), and the Ministry at the Cape will have to answer several plain questions about this contract during the ensuing session.

The "Indo-Australasian Telegraph Company (Limited)" has just been registered, with a capital of £2,000,000, in £10 shares. Its object is the establishment of telegraphic communication between India, Australia and New Zealand, and the intermediate points, in connection with the lines of the Indo-European Telegraph Company (Limited).

The total number of messages forwarded from postal telegraph stations in the United Kingdom for the week ended May 8, 1875, was 402,502, an increase on the corresponding week of last year of 26,632.

Telegraphic and Electrical Brevities.

The Western Union Telegraph Co. have built a loop from Cherryvale to Independence, Kansas, a distance of ten miles. Heretofore business for the latter point had to be mailed at Cherryvale.

The Government telegraph line from Deuison, Texas, to Fort Sill, has just been completed to Fort Richardson, Indian Territory, 114 miles west of Denison, and it is expected will reach Fort Sill by the first of June.

The Rocky Mountain Telegraph company are building a line from Central City to Georgetown, Colorado.

The Southern and Atlantic Telegraph Co. have opened new offices at 57 Second street and 58 Exchange place, Baltimore, Md.; and 42 Kilby street, Boston, Mass.

Branch offices have been opened at the Grand Avenue Base Ball Park, and at the corner of Garrison and Eastern avenues, St. Louis, Mo., for the accommodation principally of base ballists.

Death of Mr. Geo. Vail.—An Early Co-operator with Prof. Morse in Perfecting the Telegraph.

MR. GEORGE VAIL, a prominent citizen of Morristown, N. J., died at that place on Sunday evening of Bright's disease of the kidneys, at the age of seventy-two. Mr. Vail was in Congress from 1853 to 1857, and was United States Consul at Glasgow during Mr. Buchanan's administration. He was also a Judge of the Court of Errors of New Jersey. Among the dis-

inctions claimed for Mr. Vail is the fact that he co-operated with his father, his brother Alfred and Professor Morse in perfecting the telegraph and the first telegraphic instruments.

Failure of the Proposed New Western Union Loan.

THE bids for the loan of \$4,000,000 on bonds of the Western Union Telegraph Company, for which a call was made by Messrs. Morton, Bliss & Co., bankers of this city, which were opened on Tuesday, May 25th, aggregated less than \$300,000, and were not, therefore, held binding. The company therefore, in order to provide for the \$4,448,000 due November next, will probably have to adopt some new plan. The money can be raised by the sale of the stock of the company held in the treasury, or by using the net revenue for the purpose, and suspending dividends for a time.

The Illness of Prest. T. T. Eckert.

GENERAL T. T. ECKERT, President of the Atlantic and Pacific Telegraph Company, whose illness from a severe attack of pneumonia was recently noticed in THE TELEGRAPHER, although still confined to his room, is convalescent, and is progressing favorably. It is expected that he will be able in a few days to resume the discharge of his telegraphic duties.

Telegraphic Litigation.—Atlantic and Pacific Telegraph Co. Against the Southern and Atlantic Telegraph Co.

THE answer of the Southern and Atlantic Telegraph Co. to the complaint of the Atlantic and Pacific Telegraph Co. in the suit commenced by the latter, for breach of contract, asking for an injunction restraining the defendant from connecting with the Western Union Co., for damages, &c., has been filed.

The Southern and Atlantic Telegraph Co. claim that the contract of the 13th January, 1871, for connection, &c., made with the Franklin Co. was never legally ratified by the former company, and was the unauthorized act of the President of the company, Mr. Dorphley, that the plaintiffs have no standing in Court, as the contract was legally unassignable, and had in fact never been assigned by the Franklin Co. to the Atlantic and Pacific; that the lease of the lines of the Franklin Co., under which the Atlantic and Pacific Co. sue as plaintiffs, was fraudulent and illegal. Notwithstanding the contract to enforce which action is brought, was legally unauthorized, executed and ratified, the defendant claims that up to about the 6th of April, 1875, its stipulations on the part of the defendant were, so far as they legally could be, performed. That the stipulations on the part of the plaintiff and the Franklin Co. were grossly and continually violated; that the facilities agreed upon were not furnished, and that, in other respects, the agreements were persistently ignored and violated by the Franklin Co. and the plaintiff; and that this caused great and increasing damage to the defendant, amounting to at least \$100,000. That its business was constantly decreasing, its complaints and remonstrances fruitless and that, finally, for self-preservation, from ruin and bankruptcy, it was compelled to seek elsewhere for the facilities which the Franklin Co. and the plaintiff failed to furnish. It also asserts, on information and belief, "that plaintiff's company has fallen into the hands of certain speculators, who are ambitious to obtain the control of all the telegraph companies in the country, and then, by consolidating them, to form a gigantic monopoly of the entire telegraph business." That they have conspired to depreciate the stock of the different telegraph companies, and then, under guise of long leases, to absorb and consolidate them. That they have already thus seized the Franklin Telegraph Co. and have absorbed or obtained the control of the Automatic Telegraph Co., and that it intended to depreciate the stock of the defendant, secure a controlling interest therein, or by forcing it to a consolidation, "finish it up as they have done with the Franklin Co."

The answer further asserts that the defendant is a perfectly solvent and responsible corporation, in much better financial condition than the plaintiff; that its business is profitable, and since the discontinuance of its relations with the plaintiff, is increasing; that its telegraph business is now promptly and satisfactorily done, and that thus the increased patronage is secured and retained. Judgment is therefore demanded, dismissing the action, with costs.

Vacations of Telegraphic Employes.

A QUESTION that has often occurred to us, and caused much thought, is why the telegraph companies do not allow their employes leave of absence during the dull season, when a reduction of force is found necessary; and when with a little extra labor, they can spare one or more men.

The employes in the Government departments, in

business houses of all kinds, and even the man of all work (politely termed "clerk") of the humble "corner grocer," are allowed a brief week or so, in which to browse around, to gambol on the green, so to speak, in fact to refresh themselves and to recuperate their wasted energies.

To be sure telegraph operators are not the same as common mortals—"they make the lightning speak," and all that nonsense, but in our experience we have found that members of our fraternity can, under propitious circumstances, stand a little rest, and, without seriously discomposing the calmness of their spirits; in isolated cases they can stand a deal of "hard rest;" as for instance, the immortal Parsons, at Washington. But, do they ever have an opportunity to enjoy a brief season of uninterrupted doing-nothingness (to be sure we except ourselves, who were fortunate enough to be sent to Jefferson City, to send "specials," and assist the inhabitants in disposing of some country edibles)? The officials of our company have no objection to their employes going off on a visit if they provide a suitable substitute. But, how many among the thousands of us can afford the expensive luxury of a vacation on increased expense *without salary*? Alas, they are like angels' visits, few and far between.

In our business, at least, the saying that "none but the wealthy enjoy this life," is true. We want it otherwise, and look forward to the day when the company (the officials of the company—all the same) shall see the error of their ways and allow us all a short vacation, wherein to hie ourselves to the mountains, to the farm or any where, where we can find health and enjoyment.

"And low of cattle, and song of birds,
And health and quiet. * * *"

Every one would return to their duties with renewed life and energy, and tackle the increased work with a will.

O, ye bloated bondholders, and "high mucky mucks," who watch o'er the destinies of the toilers on the wires, if generosity, if goodness of heart is inherent in you, come down, in the language of the immortal bard—"give us a rest."—*The Electric.*

The Conflicting Quadruplex Interests of the Professor of Duplicity and Quadruplicity.

Extract from brief of counsel for Mr. Prescott to the Secretary of the Interior:

"For reasons controlling him (Edison) at that time," he did, as shown above, agree to assign an interest in these inventions conflicting with those claimed by Prescott, Harrington and the Atlantic and Pacific Telegraph Company, to Mr. Welch; and "for reasons controlling him at THAT time," he again conveyed the same inventions to Mr. Mills, through his attorney, Mr. Gould; and "for reasons controlling him at THAT time" he appeared before the Patent Office, asking that the patents might be issued to himself and Mr. Harrington; and "for reasons controlling him at THIS time" he now asks that, notwithstanding all former conveyances and requests, the patents should be "issued now to himself alone."

Telegraphic Test of Chronometric Time between Persia and England.

SOME idea of the ramifications of the electric telegraph may be gathered from an experiment successfully accomplished in London a few weeks since. Capt. Sartorius, at present in Teheran, Persia, wished to test his pocket chronometer, and to check with absolute correctness its time in Persia with Greenwich time. To do this it was necessary to have a clear line from Teheran to London, a distance by "wire" of nearly 4,000 miles. After some little trouble in getting the German relays into satisfactory order (the lines come through Berlin) the important signal was made several times to insure accuracy, with the result that the watch was found to be two seconds slow by Greenwich time. The experiment was of double interest, as it also tested the performance of a watch which has been constructed on a plan calculated to withstand a great deal of comparatively rough usage, and yet keep time with sufficient accuracy for many scientific observations. The watch was a half chronometer double rolled lever, made by Messrs. Barraud & Lund.

Miscellanea.

ELECTRICAL PROPERTIES OF THERMAL SPRINGS.—The water of thermal springs is sometimes possessed of remarkable electric properties, as appears from recent observations by M. M. Thury and Minich, at Baden, Switzerland. They inserted two platinum electrodes (connected with a galvanometer), one in a thermal spring, the other in the River Limmatt, and a continuous deflection of 74° was obtained. Later, when the electrode in the spring got covered with bubbles, the needle went back to 60°; but it returned to 70° again when the bubbles were removed. The thermal

water was shown to be negatively electric. Fresh and still warm mineral water in a vessel was also found to be negatively electric to cold river water in another vessel. The deflection was 44½°, and came down to zero as the mineral water cooled. Polarization was here not the cause of return of the needle. When the cooled water was heated to 47° Cent. no current was obtained with the cold water. Nor, again, did heated water that was charged with carbonic acid give a current with cold water. It would, therefore, appear that the electricity in question depends neither on a thermoelectric action nor an action of carbonic acid on the electrodes. Further experiment is required to explain it sufficiently.—*English Mechanic.*

Quotations of Telegraph Stocks at N. Y. Stock Exchange,

Showing Lowest and Highest Prices each day during week.

May.	WESTERN UNION.		ATL. AND PAC.		AMER. DIST.		GOLD AND STOCK.	
	Bul.	Asked.	Bul.	Asked.	Bul.	Asked.	Bul.	Asked.
20	76½	77½	24½	25½	..	..	..	..
21	76½	77	24½	24½	..	..	..	..
22	76½	76½	23½	24½	..	..	..	..
24	76	77½	23½	24	..	..	..	75
25	75½	77½	23½	25	..	..	33	.. 75
26	75½	76½	23½	24	..	..	34	.. 75

New Patents.

OFFICIAL COPIES of any U. S. Patent issued since July 1st, 1871, including drawings, specifications and claims in full, sent free to any address for 25 cents each. Address F. L. POPE, P. O. Box 5503, New York City.

For the week ended May 4th, 1874, and bearing that date.

162,806.—GALVANIC BATTERIES.—William M. Davis, Cleveland, Ohio. Filed March 9, 1874.

Automatically gives notice of the total consumption of the sulphate of copper or of the zinc. Water level automatically regulated by a hydrometer.

1. In combination with the zinc bar E of a galvanic battery, the guiding cell F and its supporting shell f, substantially as and for the purpose specified.

2. The combination, in a galvanic battery, of a water reservoir, G, a hydrometer, H, and valve K, operating together, substantially as and for the purpose specified.

3. The combination, with the reservoir D and the common call circuit, of the call weight P and the contact spring Q, substantially as and for the purpose specified.

4. In combination with the descending bar of zinc E of a galvanic battery and a common call circuit, the call catch R and the contact spring r operating together substantially as and for the purpose specified.

5. In combination with the ascending bulb H, in the liquid of a galvanic battery and a common call circuit, the contact spring S on beam I, or their mechanical equivalents, operating together substantially as and for the purpose specified.

162,953.—FIRE ALARM TELEGRAPHS.—Andrew Rosenbusch, Quincy, Ill., assignor of one half his right to Theodore W. Kretz, same place. Filed Mar. 3, 1875.

Pointer in each box continues to be carried around by a step by step movement, produced by automatic interruptions of the circuit at the central box, until circuit is permanently broken at the box from which signal is sent in by means of an arm upon the shaft of the pointer operating a circuit breaking lever; said arm being so arranged with relation to the pointer that the circuit shall be broken at the moment that the pointers stand at the number indicating that particular box.

1. A system of fire alarm signal boxes in a common closed circuit, with an alarm box common to them all, upon the breaking and making of which circuit at any signal box the number of said box is automatically transmitted from the common alarm box and indicated at all the other boxes.

2. The lever I, provided with the detent R, in combination with the curved tooth U, operated by the shaft r, substantially as set forth.

3. The lever O, of non-conducting material, provided with the tongue b, and operated by the lock Q, substantially as set forth.

4. The curved tooth U, for the purpose specified.

NOTICE.

In consequence of the number of applications for the POCKET GALVANOMETER, which we offered as a premium for addresses being so much greater than we anticipated, we are compelled in justice to the applicants and to ourselves, to resort to what we believe will be a more satisfactory method of distribution than that of "first come first served," which would entirely exclude those from a distance and give to those near at hand.

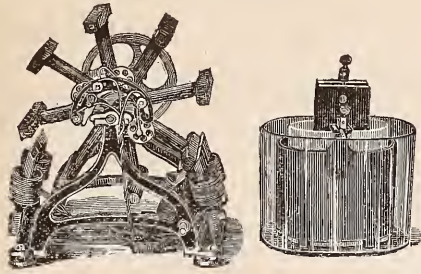
Desirous of giving all an equal chance we have resorted to the following plan of distribution:

As many cards as applicants (with the name of an applicant on each card), were placed in a box, and in another box were placed as many cards as applicants, 25 of which were premiums, and the remainder blanks, then a disinterested person, blindfolded, drew a card from each box at the same time, until all were drawn. The applicants whose names were drawn with prizes will receive a GALVANOMETER, which will be sent at time stated.

In order to satisfy all applicants that we have distributed the number advertised, we will be compelled to send to each applicant, a list containing the address of those who will receive an instrument. Thankful for the favors extended us, we remain,

Very respectfully,
LANNERT & DECKER,
Manufacturing Electricians,
CLEVELAND, O.

BASTET'S NEW ELECTRICAL MOTOR AND BATTERY,



For Sewing Machines, Church and Parlor Organs, Small Printing Presses, Pumps, Lathes, Dentists' Instruments, or any Light Machinery.

My new ELECTRICAL BATTERY is the most powerful for quantity and durability manufactured, and does not crystalize the carbons. For Electroplating, Telegraphing, and for Motive Power, it cannot be surpassed.

Our No. 1 Engine, for Sewing Machines, with four cells of Battery, is furnished for \$40.

Other Motors at prices proportional to power required.

BATTERY, No. 1 Cells - - - \$5.
" No. 2 " - - - 10.

L. BASTET,
607 Broadway, New York.

WESTERN ELECTRIC MANUFACTURING CO.

SOLE AGENTS

ORTON'S PATENT AWL CLIPS.

These Clips have been in practical use for three years, and are rapidly displacing all others.

They are designed for holding messages, and every form of blanks.

For convenience, durability and economy they are unequalled.

WESTERN ELECTRIC MANUFACTURING CO.,

220 KINZIE STREET,
Chicago, Ill.

THE POCKET GALVANOMETER,



FINELY FINISHED IN BRASS,

will be sent to any address by mail, on receipt of ONE DOLLAR, and 3 cents to pay the postage.

NICKEL PLATED, Twenty-five Cents extra.

Special inducements to Operators and others acting as Agents.

Further information and Circulars on application.

LANNERT & DECKER,

Manufacturing Electricians,

CLEVELAND, Ohio.

ELECTRIC RAILROAD SIGNALS

ECONOMY, RELIABILITY AND SAFETY

Are secured by the use of our improved

AUTOMATIC BLOCK SIGNALS,

SEMAPHORE SIGNALS,

SWITCH AND DRAWBRIDGE SIGNALS.

We have Patented and Manufacture an

ELECTRIC BELL,

FOR

RAILROAD CROSSINGS,

Superior to anything of the kind heretofore used.

IT IS LOUDER,

MORE RELIABLE

AND ECONOMICAL

Than any similar apparatus ever offered for sale.

Our inventions are covered by numerous patents, and the entire system is the most reliable and complete of any in this or any other country.

For Pamphlet, containing full description, Illustrated, Railroad Officers and Managers will please send to

THE ELECTRIC RAILROAD SIGNAL CO.,

38 VESEY STREET,

NEW YORK

P. O. Box 5408.

GEORGE H. BLISS & CO.,

220 Kinzie Street, Chicago, Ill.

CINCINNATI, O.,

Elm St., cor. 5th.

Manufacturers and Dealers in

TELEGRAPH INSTRUMENTS AND SUPPLIES.

RELAYS—COMBINATION SETS; BOX and POCKET RELAYS.

PONY and REPEATING SOUNDERS.

KEYS, various styles, including the SCHNEIDER KEY, wire connections above the table.

REGISTERS, with SPRINGS or WEIGHT.

OUT OUTS, many varieties, including a new style of PEG CUT OUT, with an adjustable LIGHTNING ARRESTER, just out.

REPEATERS—HASKIN'S AUTOMATIC, and others,

SWITCH BOARDS—REPEATING, BATTERY and GROUND SWITCHES and LIGHTNING ARRESTERS.

ANDER'S GALVANIC and MAGNETO-ELECTRIC PRINTERS; also SELDEN PRINTER.

ELECTRIC BELLS, HOTEL ANUNCIATORS, FIRE and BURGLAR ALARMS, and WATCHMAN DETECTORS.

ELECTRIC RAILWAY SIGNALS and ALARMS, ELECTRIC GAS LIGHTING APPARATUS.

MEDICAL INSTRUMENTS and APPARATUS on hand and made to order. Second hand Instruments for sale cheap, and repairing done at short notice.

BATTERIES in great variety, including the latest inventions; also a full assortment of battery material.

WIRES—MOORE & SON'S and PHILLIPS' MAGNET and OFFICE WIRES, GUITA PERCHA and KERITE WIRES, BEST GALVANIZED LINE WIRES; SUBMARINE, SUTERRANEAN and HOUSE CABLES.

INSULATORS—BROOKS, SOREW GLASS and KENOSHA CARBON.

BRACKETS, PINS and SPIKES, TELEGRAPH POLES, LINE BUILDERS and REPAIRERS' TOOLS.

TELEGRAPH STATIONERY—REGISTER, MESSAGE and MANIFOLD PAPERS, CARBON SHEETS, STEEL and AGATE STYLUSES, ORTON'S PENCIL HOLDER, SAFETY MESSAGE HOOK and AWL CLIP, STANDARD TELEGRAPH BOOKS, &c.

PRICE LISTS FURNISHED FREE ON APPLICATION.

Our TELEGRAPH INSTRUMENTS and ELECTRICAL APPARATUS are elegantly finished and mounted on highly polished rosewood, mahogany and walnut bases.



LECLANCHE BATTERIES.

IMPORTANT NOTICE.

After JANUARY 1st, 1875, we will allow TWENTY CENTS for each used-up Porous Cell of this Battery that is returned to us free of charge, in good order. A change is made in the discount to the trade. A list will be furnished on application to

THE LECLANCHE BATTERY COMPANY,

No. 40 WEST EIGHTEENTH STREET,

or to

L. G. TILLOTSON & CO.,

8 Dey street, Sole Agents.

ELECTRIC BELLS.

We have on hand and will furnish all descriptions of

ELECTRIC BELLS,

either Table or Wall Bells or Gongs, at manufacturers' prices.

F. L. POPE, & CO.,

38 Vesey street.

Send for new illustrated circular and price list.

LEWIS' TELEGRAPH MANUAL.

A few copies of the last edition of

THE TELEGRAPHIC MANUAL,

by Mr. WALTER O. LEWIS, remaining, may be had of F. L. POPE & CO., 38 Vesey street, at fifteen cents each. Will be forwarded by mail postpaid on receipt of price.

20 PER CENT. REDUCTION IN THE PRICE OF TELEGRAPH INSTRUMENTS!

SEE WHAT IT MEANS.

On First-class Morse Sets for Railway and Commercial Lines:

- No. 1 Relays, of standard size and resistance (120 to 150 ohms), on rosewood bases, fine finish, polished rubber covered coils, wound either with our patent glazed or with best silk covered pure copper wire, having soldered connections and firm nut fastenings throughout, and latest improved extension adjustments. Regular price, \$16, reduced to - - - \$12 80
- No. 1 Relay, same make throughout, but of higher resistance, 160 to 600 ohms. Price, \$18, reduced to - - - \$14 40
- No. 1 Relay, ditto, low resistance, 60 to 100 ohms. Price, \$15, reduced to - - - \$12 00
- No. 1 Sounders—"Railroad" or Bunnell's "New Giant" Sounders, with all the latest patented improvements in both. The best forms of Morse sounders ever invented. Beautifully finished. Mounted upon rosewood bases. Price, \$7 50, reduced to - - - \$6 00
- No. 1 Keys, Caton pattern, curved levers. Price, \$6 50 reduced to - - - \$5 20
- No. 2 Keys, W. U. pattern, curved or straight levers. Price, \$5 50, reduced to - - - \$4 40
- No. 1 Premium Register, \$45, reduced to - - - \$36 00
- " " Spring Register, \$47 50, reduced to - - - \$38 00
- " 2 Register. Price, \$38, reduced to - - - \$31 40

Box Relays, Combination Sets, Pocket Relays, Switches, Cut Outs, Lightning Arresters, etc., furnished at the same rate, viz., 20 PER CENT. REDUCTION from regular prices. See catalogue.

SINGLE SETS, OR PARTS OF SETS, WILL BE SENT BY EXPRESS AT THESE PRICES TO ANY PART OF THE U. S., ON RECEIPT OF MONEY ORDER OR DRAFT FOR THE AMOUNT OF THE BILL.

Superintendents and others about to purchase first class equipment for offices will readily see by a comparison with other price lists the advantages here offered to those who send their orders to us.

No. 2 SETS.

LEARNERS' APPARATUS, SHORT LINE INSTRUMENTS, Etc.

- No. 2 Relays, 150 to 175 ohms resistance. Price, \$15, reduced to - - - \$12 00
- No. 2. Relays, 50 to 100 ohms resistance. Price, \$11, reduced to - - - \$8 80
- Pony Relays, complete and pretty little instrument for short lines, city wires, etc., \$7 50, reduced to - - - \$6 00
- No. 2 Pony Sounders, \$6 50, reduced to - - - \$5 20
- No. 3 Pony Sounders, \$5 50, reduced to - - - \$4 40
- No. 1 Main Line Sounders for lines from 1 to 6 miles in length. Price, \$8, reduced to - - - \$6 40
- No. 2 Ditto, \$7, reduced to - - - \$5 60
- No. 3 Keys, curved levers, Caton style, same as No. 1, but smaller. Price, \$5, reduced to - - - \$4 00
- No. 4 Keys. Price, \$4, reduced to - - - \$3 20
- AMATEURS' KEY, \$3 50, REDUCED TO - - - \$2 50
- EXCELLENT AMATEUR INSTRUMENTS, \$6 50, REDUCED TO - - - \$5 20
- BUNNELL'S LEARNERS' INSTRUMENTS, PERFECTED, \$6 50, REDUCED TO - - - \$5 20

At the above figures all grades of Telegraph Instruments may be obtained from L. G. TILLOTSON & CO. for less money than will buy as good materials at any other manufactory in America.

Orders, correspondence and inquiries will receive prompt attention. Make your memoranda of amounts for what you want from the above price list, and enclose the sum to us by postal order or draft along with your order for goods.

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54 SOUTH FOURTH STREET, PHILADELPHIA.

AMERICAN FIRE ALARM AND POLICE TELEGRAPH.

GAMEWELL & CO., Proprietors, 62 BROADWAY, NEW YORK.

- J. W. STOVER, General Agent and Superintendent. L. B. FIRMAN, Chicago, Ill., General Agent for the West and North-West. TELEGRAPH SUPPLY AND MANUF'G CO., Cleveland, Ohio, Special Agents for the Middle States. J. R. DOWELL, Richmond, Va., Special Agent for Virginia and North Carolina. J. A. BRENNER, Augusta, Ga., Special Agent for Georgia and South Carolina. L. M. MONROE, New Canaan, Conn., Special Agent for New England. ELECTRICAL CONSTRUCTION AND MAINTENANCE CO., San Francisco, Cal., Special Agents for California, Oregon and Nevada.

THIS SYSTEM OF FIRE ALARM & POLICE TELEGRAPH WITH A CENTRAL OFFICE, OR UPON THE AUTOMATIC PLAN, is now in operation in the following Cities, to which reference is made for evidence of its great SUPERIORITY, VALUE AND UNIFORM RELIABILITY.

- Albany, N. Y., Alleghany, Pa., Boston, Mass., Bridgeport, Conn., Buffalo, N. Y., Baltimore, Md., Chicago, Ill., Cincinnati, Ohio, Columbus, Ohio, Cambridge, Mass., Charlestown, Mass., Covington, Ky., Detroit, Mich., Dayton, Ohio, Elizabeth, N. J., Fall River, Mass., Fitchburg, Mass., Hartford, Conn., Indianapolis, Ind., Jersey City, N. J., Louisville, Ky., Lowell, Mass., Lawrence, Mass., Lynn, Mass., Mobile, Ala., Montreal, Canada, Milwaukee, Wis., New York City, New Orleans, La., New Bedford, Mass., New Haven, Conn., Newark, N. J., Omaha, Neb., Philadelphia, Pa., Pittsburg, Pa., Portland, Maine, Peoria, Ill., Providence, R. I., Quebec, L. C., Rochester, N. Y., Richmond, Va., St. Louis, Mo., St. John, N. B., Springfield, Mass., San Francisco, Cal., Savannah, Ga., Syracuse, N. Y., Troy, N. Y., Taunton, Mass., Toledo, Ohio, Toronto, Canada, Washington, D. C., Worcester, Mass.

The Distinctive Features of these Systems of

Fire Alarm and Police Telegraphs

First—The Automatic Repeater, through which the apparatus may be distributed in a combination of circuits, and the entire system successfully worked, without the constant personal attention of either operators or watchmen.

Second—The Automatic Signal Boxes.

Third—The Electro-Mechanical Bell Strikers, adapted to produce the full tone of the largest church or tower bells.

Fourth—The Electro-Mechanical Gong Striker, for hose and engine houses, by means of which the location of the fire is instantaneously communicated to the members of each fire company.

These Features combined form the

Only PERFECT, COMPLETE and RELIABLE System OF FIRE ALARM TELEGRAPH IN THE WORLD.

It is a sufficient vindication of the claims which are made by the Proprietors of these systems of

FIRE ALARM AND POLICE TELEGRAPHS,

that they have sustained the test of more than twenty years of practical use, and that the efforts which have been repeatedly made to supplant them by other inventions have

COMPLETELY FAILED;

the few instances in which municipalities have been induced to adopt other systems having demonstrated their insufficiency and unreliability, and resulted in their abandonment, and substitution thereof of the

AMERICAN FIRE ALARM TELEGRAPH.

Messrs. GAMEWELL & CO. are the owners of the original FARMER & CHANNING PATENTS, one of the most important of which has just been extended for seven years, and during the past seventeen years have spared no expense or effort to secure improvements, and the Systems are now covered by MORE THAN TWENTY PATENTS.

The most important improvement which the Proprietors have adopted and introduced is the

AUTOMATIC SYSTEM,

the introduction and operation of which involves so little expense, compared to the benefit which it confers, that even small communities can profitably adopt and maintain it.

The American System of

FIRE ALARM AND POLICE TELEGRAPHS

has met with the universal approbation and commendation of the

People, Municipal Authorities,

AND THE PRESS

throughout the UNITED STATES and CANADA.

NO EFFORT, TROUBLE OR EXPENSE

is spared by the Proprietors to obtain and secure ANY POSSIBLE IMPROVEMENT which shall increase the

EFFICIENCY, RELIABILITY and ECONOMY

of the system. They intend that, as far as possible, it shall be

ABSOLUTELY PERFECT!

The amount of property which has been saved from destruction, and the number of lives which have been preserved through the general adoption of this system, throughout the UNITED STATES and the DOMINION OF CANADA,

CANNOT EASILY BE ESTIMATED,

but that, in every community where it has been introduced for any considerable length of time, they have been enormous, THREE CAN BE NO QUESTION.

The cooperation of TELEGRAPHERS in securing its introduction into their localities is cordially invited, and their efforts will be duly appreciated and compensated.

Any information desired in regard to the above system will be cheerfully and promptly furnished upon application at the office.

A pamphlet, setting forth more fully its advantages and superiority, has been printed, and will be supplied to Municipal Authorities and others interested in Fire Alarm and Police Telegraphy, upon application as above.

CHARLES T. CHESTER, 104 Centre Street, NEW YORK,

TELEGRAPH ENGINEER,

AND MANUFACTURER OF

INSTRUMENTS,

BATTERIES,

AND EVERY DESCRIPTION OF

TELEGRAPH SUPPLIES.

BUNNELL'S PATENT REPEATER.

These instruments are now made in two different styles, at \$120 and \$135 a set, consisting of two Relays, two Sounders, two Keys and Governor.

JONES' LOCK SWITCH-BOARD,

a most compact and reliable Switch, forming a clean spring-locked connection between any number of wires, occupying for each different connection only one square inch of space, and though made of the largest size, not subject to the warp and contraction of wood-work.

EXCLUSIVE AGENTS OF

A. G. DAY'S

KERITE,

OR

COMPOUND RUBBER COVERED WIRE

SUBTERRANEAN & AERIAL WIRES,

OF THE

HIGHEST INSULATION.

We are now prepared to furnish, after an experience of three years, an Insulated Wire which can be buried in the earth or exposed to rain and sun, or to the vapor of acids, without injury. Professor SILLIMAN, who has exposed it to the most destructive agencies, finds that it remains uninjured in an atmosphere of ozone, which would destroy gutta-percha in a few hours. It exceeds glass or any other known substance as a non-conductor

We have made special arrangements to furnish this article for office purposes at a reduced rate.

ALSO, TO FURNISH

IRON CLAD CABLES

of the usual size, with KERITE COVER, believing that it will exceed, in insulation for submarine purposes, ANYTHING HITHERTO MANUFACTURED.

We shall be happy to furnish estimates for any amount and size of cable, which will be found to compete with any other construction, both in quality and price.

We manufacture the Genuine ELECTROPOION BATTERY, with Patent Platina Connection, introduced by us eight years since; also, the ALPHABETICAL OR DIAL TELEGRAPH, now extensively used in this and other cities for private lines, being easily and quickly learned by any one.

We offer for sale, among other novelties, a SOUNDER that will work practically with a single DANIELL cell, a BATTERY that does not require to be taken down but once a year, and the very best MAIN LINE SOUNDBERS made

Our CATALOGUE, embracing a large amount of new matter and description, is now ready for distribution.

THE TELEGRAPHER
A JOURNAL OF
ELECTRICAL PROGRESS.

J. N. ASHLEY, - - - - - PUBLISHER.

SATURDAY, JUNE 5, 1875.

VOL. XI. WHOLE No. 464.

Original Articles.

The Chemistry of the Automatic Telegraph.

By GEORGE LITTLE.

DURING my investigations in the endeavor to discover a chemical formula, or formulas, whereby to prepare the paper for the proper reception and retention of the electro-chemical writing by my "American automatic system of fast telegraphy," it occurred to my mind, after much thought and reasoning on the subject, that a chemically prepared receiving paper should be saturated with a chemical preparation that would possess the following *desideratums*.

First.—The avoiding of all dark, or light, too heavy bluish, or greenish shades of color, any of which would be likely to involve the risk of *assimilating* with the possible varying shades of writing that may be brought about by the changing electro-chemical condition of the line current, and which would be likely to result in the obscuring or the loss to sight of some portion of the telegram.

Second.—The chemical formula to be economically prepared, and to be of such a nature that the paper saturated therewith, should be possessed of deliquescent or moisture absorbing property, in order that the same should not dry too rapidly before use by exposure to atmospheric influences; and instead of, as heretofore, according to old formulas, giving off poisonous vapors in the operating room, it should possess the additional properties of absorbing and retaining the carbonic acid from the air of the room, and to be in all respects to the parties handling the same *perfectly harmless*.

Third.—To dispense with the objectionable use of sulphuric acid in the formula as a conductor, its use causing a rapid decomposition and consequent abstraction of the equivalents of iron held by the *ferrocyanide of potassium*, as also effecting the gradual decomposition of the iron stylus, which should not take place when the receiving instrument and line is in a *normal state*.

Fourth.—To select an auxiliary oxydizing agent which should not seize upon the equivalents of iron held in the solution whilst in a normal state; but that such a condition of abstraction and union should be fulfilled only at the moment, or at such times as when the equivalents of iron are "set free" by *electro-decomposition*.

Previous to the adoption of my electro-chemical formulas, now in constant use with slight or unimportant change in their proportions, I had gone through the range of the sulphurets and salts of metals, avoiding altogether the salts of more costly metals, as also the salts of those metals not very readily decomposed; also manipulated with the various preparations of *tannin*, including a *decoction of tea*, in combination with bi-carbonate of soda and chloride of sodium. Neither of these preparations fulfilling the before named requisite conditions I finally prepared a formula, whose elements consisted in the use of *chloride of calcium*.

As, being very *greedy of water*, and will absorb its own weight at zero C., its presence does not affect the equivalents of iron held in solution during the normal state of the line current; it requires two hundred degrees of heat, centigrade, before it will part with all its water; it has also the singular property of abstracting the poisonous carbonic acid from the air of the operating room, and it keeps cool. I noticed that when the salts of *ferrocyanide of potassium* was used in less proportion than heretofore, that it was very easily decomposed by the long line currents, I therefore selected this yellow salt also for the following reasons: as possessing only two equivalents of iron in its composition, and therefore in that state capable of being made to take up one more equivalent of iron. I do not here refer to *ferrocyanide of potassium*, a reddish salt known as having three equivalents of iron in combination, acquired during the process of electro-decomposition; the positive iron stylus yields up the one other equivalent, the three equivalents of iron being then set free, and reduced as a "white precipitate," *i. e.*, as cyanide of iron, but not visible to the eye on account of the rapidity with which oxygen converts the same into *Prussian blue*.

As a substitute for sulphuric acid I found a perfectly

harmless conductor in common salt, and one which has also a great affinity for moisture, taking up one hundred parts of water to thirty parts of *chloride of sodium*.

For an auxiliary oxydizing agent which will not seize upon the equivalents of iron during the interval of electro-decomposition, I found that which fulfilled the required conditions in a preparation of *chromium*.

The advantages resulting from the use of the before named simple and comparatively inexpensive preparations are, that when properly prepared according to the formula the same may be decanted and put aside for future use, whilst the paper saturated with this solution assumes a delicate canary or yellow color, and possessing great desideratums in regard to health, time and economy. A brief description of the foregoing *fiducial features* appears in my specifications of 1872, as also my "iodide formula" and method for the recovery and reutilizing of old stock.

Passaic City, N. J., June 1, 1875.

(To be continued.)

A Pair of Stars.

By DOUBLE SIX.

OUR telegraphic literature at present seems to be mostly of a reminiscence character. Almost every one of our class papers contain weekly a number of anecdotes and stories of old-time telegraphers, their astonishing exploits in rapid work, the immense amount of whiskey they could carry, etc., in many of which—if we are to credit the accounts given—they were far in the advance of the present generation of operators. There are a number of stories, which may possibly come under this head, floating about here; and as they may be new and amusing to some of your readers we will venture to trot a couple of them forth for inspection.

Some years ago, in the course of his wanderings, "Hank" Cowan, a well known character to American operators, dropped into A— office one evening, after the majority of the boys had gone home for the night. As usual, Hank had on board a tremendous cargo of "tanglefoot," and was in just the mood for showing off his superior abilities as an operator. Our friend "W." was in his accustomed place on State Press, rolling out his well known steel plate Spencerian copy, etc., etc. (believe that's the orthodox way to mention it), when Cowan espied him, and, marching over as steadily as possible, he hauled him forcibly from the chair, remarking as he did so: "Here, you (hic) get out; let a man sit down (hic); you can't take press." "W.," having undoubted faith in Hank's ability to do the work, willingly accepted his very polite invitation, and sauntered off to the other end of the room to enjoy a little rest after his evening's work. In about half an hour "W." took it into his head to step over and see how the "man" was getting along. He went, but not a whit too soon. The sight which met his eyes was one well calculated to make any operator feel like doing something not laid down in Christian ethics. There sat Hank, blind as a bat, unable to see an inch beyond his nose, scratching away for dear life over and over, line upon line, within a space of about half an inch in width, which was already worn as black as the carbon sheets beneath. Into this space he had crowded half an hour's rapid sending. It was all there, of course; but, then—Well, "W." finally had it all repeated; but, rest assured, he is more careful about letting strangers "sit in" for him since this experience.

And the next is "Bogy." Ah!

"When Greek meets Greek,
Then comes the tug of war."

Can this terrestrial sphere of ours produce another pair like unto these? We trust not.

Mr. Bogardus, better known to the world at large as "Bogy," was a character, indeed, always hard up, short of stamps, always in search of a job, always ready to embrace any opportunity to gather in the needful. One of our most popular summer watering places was the scene of his operations at one time. He had been continually applying for a position for several days, but to no purpose. Johnny O— knew his man, and acted accordingly. One night Bogy came and begged to be allowed a night's lodging in the room back of the office, used for a cloak room and other purposes. This modest request was granted, as the manager had not the heart to refuse him. Next morning bright and early he was up, washed, dressed and hair combed as neat and tidy as a country school ma'am, and stationed at the receiving window ready for customers. By the time Johnny arrived he had taken in about a dozen messages for various points, the greater part of which were checked, "Collect guaranteed by Bogy."

Comment is unnecessary, suffice it to say that our would-be receiver probably had a good square drink that day.

A more recent incident is too good to lose. It was an original description of last sending, given a few days ago by a New York artist, who was at the time being made the target for some pretty lively shooting by one

of our fast men. After struggling for a while—and, by the way, it happened on the "off" side of the quad, at that—with some of the high-toned eloquence of the speaker of the house, he threw open his key with a desperate snap, and rattled back, in accents of unmistakable excitement: "Oh! ———, this stuff comes like beans through a horn."

The Utility of the Electric Fluid.

SINCE the establishment of the first telegraph line, the rapidity with which electricity has been utilized, and the multiplicity of purposes to which it is now applied, are truly astonishing. The manufacture of electric apparatus has become a business of great and constantly increasing importance, employing the best scientific and mechanical skill. One of the most useful applications of electricity is for the establishment of instantaneous communication between the various apartments in dwelling houses, factories and buildings of all descriptions, either as a safeguard against fire, protection from burglars, or for the purpose of facilitating business operations, and no first class building is now regarded as containing "all the modern improvements" unless supplied with telegraphic appliances.

To-day, Mr. Tom. A. Graham, the popular manager of the W. U. Telegraph office in this city, exhibited and explained to us one of the most wonderful of these inventions, and which is destined soon to become generally introduced throughout the land. It is a marvelous electrical invention for the purpose of guarding against fire, and if the example of other cities is imitated here there is a good prospect for those of our citizens who avail themselves of its utility to secure a reduction in the rates of insurance now charged.

The mercurial fire alarm is to be placed in hotels, factories, storehouses, or any large buildings or residences. It consists (1) of mercurial bulbs or thermostats placed in the ceiling throughout the building; (2) of insulated copper wire running from the thermostats to the office of the building, or to police headquarters, and forming with the battery an electric circuit; (3) an electric annunciator and bell, placed in the circuit of the office or terminus of the wires.

The thermostat consists of a glass bulb filled with mercury and placed in a metallic shield for protection. The bulb has two upright tubes, in each of which is a platinum wire. In the shorter tube, which is closed, the platinum wire connects with the mercury at all times. In the other the wire is set above the mercury at that degree of temperature at which the alarm is intended to be given.

When the atmosphere around any thermostat in the building is overheated, the electric circuit is completed at that point, the bell rings to draw attention to the fire, and the annunciator indicates where it is. This is the invention of a Chicago genius, and in that city the alarm is being generally introduced in all large buildings. As an indication of the practical utility and the great merit of this alarm, the action of the fire underwriters of Chicago has been to make a reduction of ten per cent. per hundred dollars on all buildings and stocks insured where this mercurial fire alarm has been introduced.

We hope that Mr. Graham may be successful in introducing this truly wonderful invention in our city, and that he may meet with the hearty coöperation of our board of underwriters. By calling at his office parties may see and test this alarm, where also may be seen Holmes' burglar alarm, designed for private residences, call bells, batteries, etc.

Mr. Graham has put up a large number of the latter in private dwellings, offices and manufactories, in this city. Their convenience is very evident; by merely touching a small knob clerks may be summoned to the office, servants called to any part of the house, the coachman from the stable, etc. They can be arranged either for a single stroke or for a continuous series of strokes. D. M. Osborne has a line connecting his residence and office, nearly a mile in length. Wm. C. Barber has stable gongs, etc., and Dr. Willard a burglar alarm complete throughout his large and handsome residence. Others are in contemplation by numerous citizens.—*Auburn (N. Y.) Daily Advertiser.*

Amalgamation of Battery Zincs.

THE simplest and quickest method is that of M. Berjot (a chemist at Caen), which consists in immersing the zinc in a liquid composed of nitrate of mercury and hydrochloric acid. A few moments is sufficient for the complete amalgamation of the zinc, however solid its surface may be. With a quart of this liquid, which costs less than 50 cents, 150 zincs can be amalgamated. The liquid should be prepared in this manner:—Dissolve in warm water 200 grains of mercury in 1,000 grains of aqua regia (nitric acid one part, hydrochloric acid three parts). When the mercury is dissolved, add 1,000 grains of hydrochloric acid.

Correspondence.

We do not hold ourselves responsible for the opinions of our Correspondents. Our columns are open to free discussions on all Telegraphic subjects, without distinction of person or opinion.

No notice will be taken of anonymous communications.

The "Quadruplex" Controversy.

TO THE EDITOR OF THE TELEGRAPHER.

WITH the single exception of automatic telegraphy, probably no question has ever arisen in connection with the telegraph upon which intelligent and practical telegraph experts have differed more widely than they have as to the importance or value of the quadruplex system.

That experienced and exceedingly astute gentleman, the President of the Western Union Co., has publicly expressed his sense of the importance of the invention, in the declaration that it virtually quadrupled the transmitting capacity of that company's 150,000 miles of line wires—thus making the 150,000 equal to 600,000! and as the same authority has fixed the actual cost of keeping each mile of the company's wires in working order at upwards of \$8 per annum, it appears that Mr. Orton thinks the actual value of the quadruplex system to the Western Union Co. may be considerably in excess of \$3,600,000 per annum.

It is only just, however, to say, on behalf of Mr. Orton, that when he gave currency to this fabulous estimate of the value of the quadruplex system, he seems, in his enthusiasm, to have forgotten that his company already owned a duplex system, which is claimed to be capable of double the speed of the ordinary Morse system, and of half the speed of the quadruplex—so that, in fact, the latter system only added to his company's facilities the value of \$1,800,000, instead of \$3,600,000 per annum.

There is also another and very important consideration to be taken into account, so far as Mr. Orton is concerned, and that is that when he spoke of the value of the quadruplex system to his company he supposed he had the poor inventor securely within his toils, and that it rested with him to say when his company should clutch the prize for a mere nominal consideration.

Recently some judicial facts have come before the public, in the Court of Chancery in New Jersey, which indicate that the Western Union Co. are not yet, nor likely in the future to be the owners of the quadruplex system; and as it is a well known maxim with Mr. Orton, that there is no value and no legality in any patents or systems which his company does not own, it is quite likely that that gentleman will issue another dispensation upon the quadruplex, and place it in the same position as he did the automatic system—"totally impracticable, either in connection or in competition with the Morse system."

My own idea is, as your readers have been specifically informed, that Mr. Orton and all others who have written upon the duplex and the quadruplex systems are most absurdly wrong in their estimates of the intrinsic value of either of those systems—and I assert that no one can truthfully affirm that a specified large amount of telegraphing can now be done between any two points in the country, say 400 miles apart, and daily through the year, as cheaply, or as expeditiously, by the duplex or by the quadruplex, as it can be done by the regular Morse system.

Whilst I say this I by no means mean to say that the quadruplex system is not of great value to the Western Union Co.; and it is not surprising that Mr. Orton should make the desperate struggle he is now making before the officers of patents in Washington, and before the Chancery Court in New Jersey, to maintain his hold upon that very meritorious invention.

The quadruplex controversy has developed so much heat and passion on both sides, and it has been discussed in the newspapers with such unreasonable bias, that even the telegraph fraternity have at best only a glimmer of the real truth in the premises; and as we now have all the contracts or other papers connected with the subject published and sworn to through the legal tribunals, I propose, with your permission, to lay the exact facts before your readers.

Near the close of 1870, and after the success of automatic telegraphy between Washington and New York had, under my direction, been fully demonstrated to the extent of a reliable speed of transmission and recording of over 1,000 words per minute, the system was handed over to George Harrington, who assumed, in the interest of the Automatic Telegraph Co., the duty of putting the system into operation throughout the country. In furtherance of this duty he entered into a contract with T. A. Edison, of Newark, the inventor of the quadruplex system, by which Mr. Edison and Mr. Harrington agreed to unite their interests "as owners in all original inventions and improvements, invented, purchased or obtained by them, or either of them," for the term of five years.

In a subsequent section Mr. Edison reserved certain specified inventions made or to be made for the Gold and Stock Telegraph Co., not at all in dispute; but all other inventions, and the profits arising from the same, were to be owned, one third by Edison and two thirds by Harrington.

On the 4th of April, 1871, Mr. Edison conveyed to Mr. Harrington, by power of attorney, irrevocable, the absolute control of his one third interest in his inventions and patents, "whether already issued, applied for, or to be hereafter applied for, * * * * * and of all the patents that may be issued therefor, that are or may be applicable to automatic telegraphy or mechanical printers."

The second instrument (which, in no sense, invalidated the first one) between Edison and Harrington was somewhat less comprehensive in its terms than the first one, and voluminous arguments have been made and published by no less than six of the leading lawyers of the country in regard to the legal bearings of those two agreements in connection with other agreements subsequently made between Mr. Edison and Mr. Prescott, the electrician of the Western Union Co.; but though the legal gentlemen have succeeded in greatly befogging the legal rights of the contesting parties, yet the equitable rights of all are so clearly apparent from an examination of the legal papers in the case, that no unprejudiced person who examines them can for a moment doubt as to the final result of the litigation, when it reaches, as it ultimately must, the Chancery Courts.

Under the contract of 1870, between Edison and Harrington, some thirty or forty inventions were made by Edison, and the patents were duly assigned to Harrington; but as early as January, 1873, Edison had made many experiments looking to the development of duplex and quadruplex telegraphy, and had actually completed several duplex and at least one quadruplex machine, and those machines really embrace some of the essential features of the present quadruplex machines. Both inventions, duplex and quadruplex, were as fully completed as it was possible to carry them without the aid of more extended circuits than were at Edison's command; whereupon, without the knowledge of Harrington, Edison applied to Mr. Orton for the use of the wires of the Western Union Co. between the hours of midnight and seven o'clock in the morning, which Mr. Orton, with his usual kindness in such matters, readily conceded. Thereupon Mr. Edison entered up a series of careful experiments, running through one hundred nights upon the wires and a good part of one hundred days in adjusting his machines at his own machine shop, and at the end of that time he had so far perfected his duplex machines as to feel satisfied they would perform satisfactorily in regular business, and he had also made some valuable improvements in his quadruplex machines; and at this stage of the matter Mr. Edison applied to Mr. Orton to have his duplex machines put to regular work, whilst he would continue his efforts to develop his quadruplex ideas. Mr. Orton promised compliance with Mr. Edison's wishes, but failed to give any orders to his subordinates to carry Mr. Edison's wishes and his own promises into effect, and finally sailed for Europe, without even noticing an urgent letter from Mr. Edison upon this subject.

After Mr. Orton had sailed for Europe Mr. Edison addressed himself to Mr. Prescott, the Electrician of the Western Union Co., and stated his difficulty to him, and asked his aid in having the duplex instruments put to work on the Western Union lines, and as an inducement for him to do so, Edison was constrained to promise to him a half interest in his inventions, and was also forced to agree to recognize Mr. Prescott as joint inventor of the duplex and quadruplex inventions, although up to this time Prescott had done nothing directly or indirectly towards the inventions, and did not even understand, and probably does not to the present day, the exact principles involved in the operation of the machines.

Thereupon Mr. Prescott draws up a contract, on the 9th of July, 1874, between himself and Mr. Edison, wherein Prescott recited that he and Edison were the "joint inventors" of the machines before referred to, and this fraudulent paper was forced upon Mr. Edison as the only condition upon which he could be permitted to continue the development of the duplex and quadruplex inventions upon the wires of the Western Union Co.

After Prescott had forced upon Edison compliance with his demands, and had signed in due form this fraudulent agreement, it was discovered, on consultation with the patent attorney, that a patent obtained by an oath on the part of Mr. Prescott, which would be rank perjury (as he had no hand or brains in the inventions), would have no validity, and thereupon Mr. Prescott subsided as a "co-inventor" in the patent papers, and at the same time procured the suppression of the fraudulent "co-inventor agreement, and procured Mr. Edison's signature to a second contract, which admitted that Edison was the sole inventor, but that Prescott was half owner; but whilst the "co-in-

ventor" dodge was omitted in the patent papers, it was by no means omitted in the *Journal of the Telegraph*, the official journal of the Western Union Co., wherein Mr. Prescott published, soon after, a leading and flaming editorial, in which the inventions before described were stated as those of "George B. Prescott and T. A. Edison, and the same were held up to the admiring gaze of the partisans of the Western Union Co. as the greatest achievements in telegraphy since the discovery of the telegraph. This editorial article was marked out and sent to all the leading journals of this country and of Europe, and for several weeks afterwards Mr. Prescott's name rung throughout the civilized world as the leading inventor of duplex and quadruplex telegraphy, whilst in truth he had no more to do with those inventions than the man in the moon.

Up to this time, to wit, the 9th day of Aug., 1874, neither Mr. Prescott nor Mr. Orton had done anything more than has been described, to aid in the development of the duplex or quadruplex systems. And at no future time did Prescott ever invest brains or money in the inventions of Mr. Edison, except a small sum for solicitor's fees and for some new machines—and the only money ever given to Edison by any one connected with the Western Union Co. was the sum of \$5,000, from Mr. Orton, on the 10th day of Dec., 1874, full one week before any formal proposition to sell the quadruplex inventions to the Western Union Co. had been made by Prescott or Edison—and this was the only money consideration that Mr. Edison ever received from any person connected with the Western Union Co. The receipt which Mr. Edison was required to give for the \$5,000, recited that he and Prescott had agreed to assign the quadruplex inventions to the Western Union Co. "provided the terms of payment for such assignment should be satisfactorily adjusted between said parties and said company."

Thereupon Mr. Edison and Mr. Prescott consulted about the terms of sale of the inventions to the Western Union Co., and on the 16th of Dec., 1874, made a formal written offer of sale, and the only formal offer which Edison and Prescott ever made to the Western Union Co. The proposition was not satisfactory to Mr. Orton, and he treated the matter with indifference and rather repelled the overtures of Mr. Edison, who, at that time, was in such great straits for money to pay his workmen that he was disposed to make almost any concession for ready money.

Mr. Orton well knew Mr. Edison's necessities, but treated his anxieties with silent contempt, and set out on an extended tour through the West.

Soon afterwards Mr. Edison offered his interest in the quadruplex inventions to Mr. Jay Gould, and, with the approval of Mr. Harrington, a formal sale of Edison's and Harrington's interests in the duplex and quadruplex inventions were duly executed between Gould, Edison and Harrington, before any intimation had been received from Mr. Orton that the Western Union Co. would purchase the inventions upon any terms. And it is clearly proven that Mr. Orton took no notice of Edison's proposition of sale until after he had been informed that the title to the inventions had passed into the possession of Mr. Gould. Then, of course, Mr. Orton became very anxious, and was ready to accept anything in the form of an agreement to sell the inventions to the Western Union Co.; but it was too late. Jay Gould had bagged the game and left Mr. Orton only the poor consolation of a realizing sense of the operation of biting off his own nose, by too much "smartness" in driving a bargain with a needy inventor.

Shortly after Mr. Orton returned from the West (in the following month) Mr. Edison apprised him and Mr. Prescott that he had disposed of his interest in the inventions to Mr. Gould, influenced thereto by Mr. Orton's apparent indifference about the inventions, but more particularly because he had become satisfied that the inventions were legally held under one or both of his contracts with Mr. Harrington, of 1870 and 1871. Mr. Edison, at the same time, offered to refund to Mr. Orton and Prescott their advances to him, which they declined to accept.

Following this came the withdrawal from the Patent Office, by Mr. Edison, of his application for patents for his inventions, for the joint benefit of himself and Mr. Prescott, and filing new papers for the patents to issue, as some thirty or forty had already issued to Edison and Harrington under the agreements of 1870 and 1871.

Thereupon followed legal proceedings at Washington and in New Jersey, instituted by the Western Union Co. and Prescott, against Edison and Harrington, the objects of which are to compel Edison to make a title to his inventions to the Western Union Co. and Prescott and to restrain the issuance of the patents except to Edison and Prescott. Competent and disinterested legal gentlemen, who have read all the pleadings, assure me that Mr. Prescott has no legal control whatever as to the form in which the patents shall issue—that resting, under the law and the facts, absolutely in the discretion of the inventor, Mr. Edison—Mr. Prescott's only legal remedy for any real or imaginary wrong to himself being a suit for damages against

Edison or a suit in Chancery against Edison and Harrington, where, of course, Mr. Prescott will be met by the two *bona fide* contracts between Edison and Harrington of 1870 and 1871, under which it is alleged, under oath, that Harrington has expended \$100,000, whilst Prescott has never expended, so far as has been shown, any money whatever.

In an equity suit, therefore, as far as Prescott and Harrington are concerned, there would seem to be no room for agreement, and the equities are so apparent that it would seem unlikely that Prescott will ever attempt to litigate the question. His own record in the matter of the inventions, and his unsuccessful attempt to foist himself upon Edison as a "co-inventor" will naturally induce him to subside and leave the controversy to Mr. Orton and Mr. Gould, who will not be apt to surrender any of his legal rights at the bidding of the President of the Western Union Co., whose equities in this controversy have now been fairly placed before the readers of THE TELEGRAPHER.

From the sworn papers in the suits, it appears that when Edison commenced his dealings with Mr. Orton, early in 1874, and with Mr. Prescott in the spring or summer of that year, he supposed that his second agreement with Harrington, of 1871, superseded the first one of 1870; which was a very natural idea to a gentleman like Mr. Edison, who has all the ordinary characteristics of his class of scientific and ingenious men, who are habitually careless, even to recklessness, in scrutinizing contracts or other forms of commitments in business matters.

Previous to 1874, Mr. Edison and Mr. Harrington had been working together to perfect all the details of the Little system of automatic telegraphy, and having accomplished this duty far beyond the original hopes of Mr. Little or myself—having indeed made the automatic system absolutely perfect—Mr. Edison switched off on to duplex and quadruplex telegraphy, more as an interesting electrical study than with any idea of making a valuable invention; and as he never contemplated, and does not now contemplate, quadruplex or duplex telegraphy, as even a possible competitor of automatic telegraphy, he overlooked the fact that Mr. Harrington might object to his dealing with the Western Union people—and as Mr. Harrington was absent from the State at the time, and for some months subsequently, he had no knowledge of what Edison was doing, and, of course, had no occasion to dissent from what Edison proposed to do—whilst Edison, thinking that he was doing nothing which could have any real value in Harrington's estimation, and in comparison with automatic telegraphy, kept on with Mr. Orton and Prescott, as we have seen, and with the results detailed.

If the real truth were spoken, it is probable that if Mr. Orton had not so unreasonably magnified in his annual report to his shareholders the importance and value of the (as he then styled them) Prescott and Edison quadruplex inventions, though he knew two months before that Prescott had nothing to do with the creation of the invention, and if Prescott had not filled the editorial columns of the official "journal" of the W. U. Co. with his own laudatory and inflated claims as the chief "inventor" of the quadruplex machines and system, and absurdly expressed the opinion that there was "millions in it," and that it was *the* invention of the age, and the final solution of the cheap telegraph problem—I say, except for these manifest absurdities on the part of Mr. Orton and Prescott, it seems extremely probable that Mr. Harrington would never have taken the trouble even to inquire what Edison was about, or how far he was acting outside or inside of his contract obligations. But when Mr. Harrington's attention was finally called to the real position of Edison with Prescott, he placed his contract of 1870 before him, and from the reading of which Edison quickly perceived that his invention of the quadruplex system belonged, in its results, two thirds to Harrington and one third to himself, and that the absolute business control of the invention was vested in Harrington, both by the contract of 1870 and of 1871.

The business relations between Mr. Harrington and Edison from 1870 till 1874 were well known to Mr. Orton and Prescott in a general way, and they were specifically notified before they made any agreement with Edison that all his inventions, made or to be made, belonged to Harrington, and through him to the Automatic Company, and Mr. Orton will not deny this statement, so far as he is personally concerned.

With this simple statement of facts your readers will not find it difficult to understand where the equities are in this much discussed and wholly misunderstood triangular fight over the quadruplex inventions.

D. H. C.

Chicago Western Union Changes and Personals.

CHICAGO, ILL., May 22.

TO THE EDITOR OF THE TELEGRAPHER.

THERE have been but few changes since my last in the Western Union office here. Messrs. Armstrong, of the Detroit duplex, and McCulloch, of the Galesburg

and Quincy wire, have been assigned to duty on the Cincinnati duplex. "Dad" and "Mack" make a good duplex team. "Jack" Martin, of the Cincinnati duplex, was to take the Detroit duplex, but has been on the sick list ever since the day after the change. A. J. Long has been filling Jack's place on the Detroit duplex since his (Jack's) indisposition. "Eph." Martin takes McCulloch's place on the Galesburg and Quincy wire. Among the visitors to our office recently were Miss Dean (daughter of Judge Dean, of San Francisco, visiting friends at Highland Park, Ill.), and Miss Stager (daughter of Gen. Anson Stager), who were shown around the office by Gen. Stager; Miss Lillie Smethells, now employed on the Michigan Central R. R. line; and Mr. Fisher, Chief Clerk of the St. Paul, Minn., North Western office.

Mr. Lester, of the N. Y. duplex, who has been so seriously ill, was out yesterday and called at the office. Although but a shadow of his former self, he is on the mend, and hopes soon to be able to gladden the office by his presence again.

We were lately shown a poem, written by an old timer, a brother of "Billy" Manners, of the First N. Y. wire. It is well written, and reflects great credit on Mr. Manners, who, by the way, is a first class phonographer as well as operator. He certainly has talent in his new departure, and should cultivate it still more.

The following, for Hawthorne avenue, in the address of a message from Shenandoah, Iowa, is pretty good: "*Hawehorhounnie Street*;" the street, no doubt, was added to make it read right. This Scandinavian word originated among the *grangers* between the office that repeated the message to Burlington and Shenandoah. It looks like a sender's mistake.

Probably the most *impudent* occurrence which transpired recently was that of a man with such a beard (!) as "Billy" Manners has got (*to get*) asking Ass't Manager Jones to let him go out to get shaved to-day. The day men say it's fearful.

I can't stand it. I subside also.

WESTERN UNION.

Weather.—No Meeting of the American Electrical Society.—Important Legal Decision.—Disastrous Effects of Lightning.—Response to "John Sterling."

CHICAGO, ILL., May 24.

TO THE EDITOR OF THE TELEGRAPHER.

ALTHOUGH we have had a few chilly days recently, reminding us that stern winter was loth to be driven from his stronghold, still we can say truly that spring, with its birds, refreshing showers, beautiful flowers, &c., is at last with us. We bask in the sunlight one minute, the next we rush for shelter (under some friendly awning) from one of these western thunder storms.

There being no business of importance on the tapis, there was no meeting of the American Electrical Society last Wednesday evening. As there is generally a lull just before a storm, as well as after one, no doubt the next meeting will be as characteristic for its interest as the one at which Mr. Gray's telephone was explained—that being the last one held.

We noticed our friend Mr. "Harry" Garner, lately of the Supt's office, Renovo, Pa., P. & E. R. R., in town Saturday.

Mr. "Steve" Robinson, Manager of the W. U. Board of Trade office in this city, was recently elected a Vestryman of Dr. Cooper's Church (Episcopalian of the Dr. Cheney School) on the north side. On Saturday he gave "the boys" of the different offices a call, and gently requested them to "come down" with "two bits" apiece to help him to buy a library for the Sunday school they were starting in connection with that church. As Steve is one of the kind not to be put off with a negative answer to such requests, he gathered in a good many "bits."—Don't tell us, old "Vets," that the fraternity are deteriorating in morals, when we see one of the old sinners like "Steve" go to work in such a good cause.

Quite an important decision was rendered here on Friday, in the Superior Court, by Judge Geary, in the case of Findley vs. Bagley, wherein the latter attempted to show that a telegram could not be regarded as a contract. The Court held that the telegraph company should be considered as the agent of Bagley in effecting the purchase of goods, and that the defendant was liable for damages resulting from nonfulfillment of such contract. The Judge directed an order for the assessment of damages to be entered, and the defendant moved for a new trial.

Geo. Baron, an operator at Joliet, Ill., was considerably bruised and scared by the horse he was driving running away and plunging into an excavation for a new building in that city on last Thursday evening; his companion, Paul Deiss, a clerk in the post office, had his skull broken and was otherwise seriously injured, and will probably die.

Lightning played some curious pranks during a

heavy storm at Burlington, Iowa, about dark on Thursday evening last; striking the house of Alderman George Kreichbaum it passed down through the flue and stovepipe, prostrating all the inmates of that house, as well as those of the house immediately adjoining. Mr. K., who was sitting, reading, with his arm upon the stove, was rendered insensible; his shirt sleeve torn off his arm and detached from the garment, and his neck badly burned and blistered. His injuries were pronounced very serious but not fatal. He should have one of "Winters'" lightning rods.

In reply to "John Sterling" I wish to say that I did not mean to take him to task for his construction of rule 34, but only for not quoting my language correctly, *i. e.*, as I used it; for, to me at least, his construction of my language as he quoted it did not convey my meaning; but when quoted just as I wrote it, it does convey my meaning.

I thought by his construction of my language that he was an ally of "Nihil Namless," but I am very glad I was mistaken, as you know, Mr. Editor, I am very radical on this "female operator" question. As I have before expressed myself, "I believe women should not only be 'telegraph operators' if they desire to, but when they perform the same service they should have the same pay as men, ability, etc., being equal."

You also know me well enough to know that I am willing to stand by every paragraph I have ever written for publication, and to end the matter, if my construction of rule 34 was not complimentary to the male portion of the fraternity I can't help it. I meant just what I said; but if any of them feel aggrieved, I will say this much, that I am very sorry, as no offence to any one, male or female, was intended; as I grow older I shall probably be able to write so that I shall not be misunderstood by any one, from messenger boy to Gen'l Supt.

Mr. Sterling has been indeed fortunate in having had such pleasant superiors, and in this connection, with two or three exceptions, I myself have been peculiarly fortunate also; but I personally know of operators, both male and female, who have been ill treated in just the manner I formerly noticed; and in their interest I ventilated the subject. I admire Mr. Sterling's grit, but it may be that when such a case comes under his notice he may consider "discretion the better part of valor," and think as I did that a proper ventilation of facts, first without names, may work such a reform that personalities need not be indulged in. I believe in doing a good work quietly if you can, without any special flourish of trumpets; wait a while for the other side to capitulate, without wasting any ammunition; then, if they don't surrender, fire your broadsides.

My judgment for once has been right; in neither of the cases I referred to will any further ventilation be necessary.

The fact that such is the case gives me heartfelt pleasure, and I do not care to know whether I was instrumental in effecting the change or not, as long as I know that a change for the better has been wrought.

I am glad "John" is not spoiling for a fight, for I am one of the best runners that ever left tracks with the heels towards the enemy.

Although I cannot help feeling a little nettled (and honesty compels me to admit this) at being attacked on what I consider a side issue in this case, *i. e.*, misinterpretation of the rule in question, still, I do honor Mr. Sterling for his manliness in acknowledging his erroneous impression of my character, and assure him he is freely forgiven. In conclusion I will say (without any flattery) that I have been very much amused and instructed by "John Sterling's" writings, not only in THE TELEGRAPHER, but also in other telegraph papers (as I take them all), and hope he will continue to favor the fraternity with his readable and interesting contributions for many years. OCCASIONAL.

He Appeared to Have a Prejudice Against Telegraphs.

Soon after the first telegraph line was constructed through Alabama, on the way from New York to New Orleans, in 1847 or '48, an unprecedented drought occurred in that section of country, which was attributed by the ignorant and superstitious inhabitants to the malign influence of the poles and wires. Accordingly, the Ku Klux turned out in force, and many miles of the line were torn down and destroyed. The following is a *verbatim* copy of a notice which was posted in Marion County at that time:

"The state of Alabama } this the 5 of
Marion county } may.

Notice to the managers of the Tellegraft Ware you ar hereby forewarned to not put up the Ware any more for it shall not stay up any more long at a time if you do not let it stay Down the hole county is going to Just go before your Eyes and Tare it down and throw away the glassis and throw away the Ware and Skin the first man says anything Agant it and throw his hide a crows a Pole and split

JUMP UP JOHN, THE WOLF KETCHER."

THE TELEGRAPHER

DEVOTED TO THE INTERESTS
OF THE
TELEGRAPHIC FRATERNITY.

SATURDAY, JUNE 5, 1875.

THE TELEGRAPHER:
PUBLISHED EVERY SATURDAY at 38 VESEY ST.

ELEVENTH VOLUME.

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NEW YORK.

The Quadruplex Controversy.

In accordance with the principle which has always governed us in the management of THE TELEGRAPHER, of affording in its columns opportunity for free discussion of all telegraphic matters, we print this week a communication upon "the quadruplex controversy," which purports to give a full and correct statement of the matters in dispute from the EDISON-HARRINGTON-GOULD standpoint. Evidently the statements made in regard to the dealings of the putative inventor of the quadruplex are derived mainly from EDISON himself, whose word is as good as his oath—and the value of both is as well known to our correspondent as to us and others who have had dealings with him.

We have from the first declined to discuss editorially the equities in this matter, as between EDISON and Mr. PRESCOTT, or between EDISON, Mr. HARRINGTON, Mr. GOULD and the Western Union Telegraph Co. We do not now propose to depart from this, but we have exhibited and propose to exhibit the duplicity and "crookedness" of the course characteristically pursued by this remarkable genius, EDISON, in his dealings with all parties in connection with these inventions. In the first place, every person who has had dealings heretofore with EDISON knows that he is utterly unreliable, that it is a well known characteristic of his to systematically and deliberately "go back" on every person who has ever endeavored to aid or cooperate with him in his inventions or business.

The attempt (for originating which the credit belongs to Gen. BENJ. F. BUTLER) to make EDISON appear as the guileless and overreached inventor beguiled by "wicked partners," causes incredulous amusement to all who know him. From the time that he obtained his first patent until the present time, probably not a single person has had dealings with him in his inventions but what has suffered more or less severely pecuniarily. He has taken up one after another, and when they had been squeezed as much as possible, has dropped them, and generally is found working directly against his late friends, associates or partners, and is by no means backward in publicly denouncing his quondam partners as "damn fools," "public nuisances," &c.

EDISON made his appearance at the Western Union office under the circumstances narrated by our correspondent. He was at that time, and had been for some time before, as was well known, connected with the Automatic Telegraph Co., a rival and competitor of the Western Union Telegraph Co. The idea advanced was that he desired to perfect and improve the duplex inventions of Mr. STEARNS; his real purpose, of course, was to get an opportunity to bring out the quadruplex. Whether at that time he had conceived the idea of using the Western Union facilities to build up a system for its rivals cannot of course be certainly known. Eventually he, of his own motion, and for advantages which will readily be perceived, proposed to Mr. PRESCOTT that they should cooperate in developing the quadruplex, which was then in a crude state, and that for his cooperation and assistance he, PRESCOTT, should have a one half interest in all his duplex and quadruplex patents and inventions. The suggestion of the co-inventor idea was EDISON'S, not PRESCOTT'S, and it was supposed by both that any cooperation of the latter in perfecting the invention would entitle him to join in the applications for patents. They were subsequently advised, however, that the patents, if so issued, would be of questionable legality, and a new contract was substituted, under which the one half interest was to be secured by an original assignment. Thus far every thing was working smoothly. It should be stated, however, that Mr. PRESCOTT in the meantime had been warned of EDISON'S peculiarities, and that it was only a question of time and opportunity when he would go back on him and the Western Union Telegraph Company—his informant indicating the very course which he subsequently pursued—that is, that suddenly he would disappear from the Western Union premises without warning or notice, and would be seen there no more.

It was upon this information that Mr. PRESCOTT took the steps to legally secure, so far as possible, his interests in the patents and inventions.

EDISON had filed his applications, assigning the patents to himself and Mr. PRESCOTT, had received \$5,000 on account from the Western Union Company; and of course was on the lookout for a new customer, whom he found in Mr. JAY GOULD. He was seen no more at the Western Union office, and the efforts of Mr. PRESCOTT and other Western Union officials and messengers to find him were ineffectual. He had gone across the street and was doing his best to make it "hot," as he expressed it, for his partner and his other former Western Union friends.

If he had been "coerced" into making the agreements with Mr. PRESCOTT and the Western Union Co., as alleged, why should he, at midnight, in a cowardly manner run out of a side door of his shop in Newark to avoid an interview with the former? Would not an honest and honorable man, who found that he had inadvertently and mistakenly entered into an arrangement and agreements which he had no moral or legal right to make, have met his partner fairly, explained the situation in which he found himself, and endeavored to find some satisfactory solution of the situation? Would he not seek to repair, as far as possible, the injury he had done, and if that was impossible, at least exhibit a manly, and not a cowardly and sneaking spirit, seeking by hurried flight into the darkness of the night to avoid the presence of the man he had attempted to wrong? "Conscience doth make cowards of us all," says SHAKESPEARE, and thus EDISON, telegraphically warned that Mr. PRESCOTT had called at his house and was then on his way to the shop to have an interview with him, left his studies and his work and fled, hoping that the darkness of the night and sneaking through the alleys and byways of Newark would secure him from recognition. His hopes were realized, and from that day to this Mr. PRESCOTT has never set eyes upon or exchanged a word with his partner.

As between the numerous claimants of these duplex and quadruplex inventions we do not take sides, we have endeavored to state fairly the facts and arguments presented by all parties. As we have before remarked, the only thing that seems to be clear is that whoever may eventually succeed in establishing title and interest in them, THOMAS A. EDISON certainly has none left. He has so numerously conveyed his interests that it may, perhaps, be regarded as an abandonment to the public use, so far as he is concerned; and he has succeeded not only in divesting himself of title and interest in these inventions and patents, but of any claim he might have had to respect and confidence as a man, and has exhibited his true character so plainly, that if, hereafter, any person or corporation shall be deceived or humbugged by him, they will not be entitled to sympathy or morally to assistance in maintaining their supposed rights.

As to the relative value of the duplex, quadruplex and automatic systems, we do not care to discuss them at the present time. In fact, our correspondents and contributors have kindly relieved us of the necessity therefor, for which we are much obliged to them. We will only say that the quadruplex apparatus, when it was abandoned in the Western Union office by EDISON, was by no means perfected, and that the improvements which have been effected upon it since by Mr. GERRIT SMITH and others have made it much more efficient and reliable than it ever was under EDISON'S manipulations.

We will conclude this article by a brief statement of the present legal situation of this quadruplex matter. The Commissioner of Patents having decided that the patents should issue as a matter of legal right and practice to EDISON and PRESCOTT, as assignees of EDISON, HARRINGTON and EDISON have brought the matter before the Secretary of the Interior, by an application to him to withhold his signature from any patents so issued, that may be presented to him to sign. Numerous briefs, *pro* and *con*, have been filed

with him by leading lawyers. His decision will not probably be authoritatively known until the patents are ready to issue.

A suit in equity has also been commenced, and is now pending in the Chancery Court of New Jersey, by the Western Union Telegraph Company against EDISON and PRESCOTT (the latter being joined *pro forma*), praying for an injunction restraining the defendants from making any assignment, license, or conveyance of the patents to other parties; and to compel them to execute the necessary documents under an alleged written agreement between the parties, to give the plaintiffs exclusive use and benefit of said invention. The bill of complaint and the answer of the defendant, EDISON, have been filed, and are lengthy documents, which we have not space to refer to more particularly. What other litigation may grow out of the matter will be developed hereafter.

The cause of this costly and troublesome litigation is solely the double dealing and duplicity of EDISON. As he now claims he first went back on his contract with Mr. HARRINGTON (who had, as he swears, invested over \$400,000 in his experiments) for the benefit of the rival of the company, of which he (HARRINGTON) was President. Having obtained the facilities he required and five thousand dollars in money, he then goes back on his new friends and allies for the benefit of Mr. HARRINGTON, Mr. GOULD, and the Atlantic and Pacific Telegraph Company.

His first contract with Mr. HARRINGTON, if it has the scope and effect now claimed for it, was a fraud upon Mr. E. B. WELCH, one of his numerous partners (and as usual pecuniarily a sufferer therefrom) in Boston, who held another of EDISON'S multitudinous contracts for a half interest in his duplex and quadruplex inventions, made in 1869—a copy of which has already appeared in THE TELEGRAPHER. His first contract with Mr. HARRINGTON was also a fraud upon Mr. D. H. CRAIG, with whom he had an existing contract of a similar character. In fact, his contracts and assignments are so numerous, and of so conflicting a character, that it will doubtless afford the courts and the lawyers abundant employment for some years to come to unravel them, and decide their respective bearing, effects and legality. And EDISON still lives, ready and anxious to affix his signature to as many more contracts, agreements and assignments as he may consider his interests may call for from time to time.

The Telegraphic Situation.

THERE does not seem to be anything specially noteworthy in regard to the telegraphic situation, but some matters of interest may, perhaps, be stated. The companies competing with the Western Union are waiting as patiently as possible for the establishment of independent telegraphic connection by the Direct United States Cable, which, if successful, will undoubtedly be an important addition to their present facilities, and add to their strength in the contest which is progressing for the telegraphic business of the country.

The Atlantic and Pacific Telegraph Co., in addition to the new lines already reported as commenced, are engaged in building a new line from Philadelphia to Pittsburg, Pa., over the route of the Pennsylvania R. R. The line from Chicago to Milwaukee is approaching completion, and the line from Chicago to St. Louis is progressing.

The automatic apparatus is being extensively introduced upon the lines of this company, and is reported as doing good service and aiding the company materially in disposing of its business.

President T. T. ECKER has recovered sufficiently to be out, but has gone to the country for a few days to complete his restoration to health, before taking up the full burden of his duties again.

The price of Western Union stock has fluctuated widely during the past week, having been sold down as low as 71, but with a speedy recovery to 76 & 77. There don't seem to be any special reason for the de-

cline or advance, other than such as is afforded by the speculative movements of the street.

Dulness is the prevailing characteristic of the telegraph, as of other business, and we do not look for any special activity in any direction for a few weeks to come.

The Direct United States Cable.

WE had hoped to be able, in this issue of THE TELEGRAPHER, to record the fact that the Direct Cable had been completed, and was in actual operation between Rye Beach and Ireland. Its completion may possibly be announced before the paper goes to press, as the Faraday, after coaling and making such repairs etc., as were necessary, sailed from Sydney, Cape Breton, on Tuesday last, for the location of the buoy to which the ends of the cable are attached. As only some twenty miles of the cable remain to be laid to close up the gap, it will take but a few hours after reaching the buoy, with favorable weather and the sea clear of ice, which latter alone prevented its being finished before, to complete the work.

Rumors and reports of amalgamations with the Anglo-American and arrangements with the Western Union Telegraph Co., etc., have been very freely and generally circulated upon the street, especially during this week, but we have good reason to assure our readers that they are merely stockjobbing reports, circulated for the purpose of advancing the price of Western Union stock. The actual working of the cable in connection with the companies competing with the Western Union will soon demonstrate the falsity of the statements which have been so positively and persistently made.

Personals.

Mr. JAMES C. DE LONG, late of Shreveport, La., is taking night press at St. Louis, Mo., Western Union office.

Mr. DAVID S. RYAN has been appointed Night Chief Operator of Western Union, St. Louis, Mo., office.

Mr. DAVE CAMPBELL is subbing in the St. Louis, Mo., W. U. office, for Mr. H. C. MAHONEY.

Mr. B. A. OSTRANDER, of Lawrence, Ks., has been appointed assistant to Mr. C. E. SMALLS, at Denison, Texas.

Mr. E. BURR, of Leavenworth, Kansas, has accepted a position with the Western Union Co. at Denver, Colorado.

Mr. M. AHERN has been appointed to a position on the day force at St. Louis, Mo., W. U. office.

MESSRS. JOHN McNEVIN and GEO. W. HUDDLESTON, at the St. Louis, Mo., Western Union office, have been transferred from the night to the day force.

Mr. P. H. SHAUGHNESS, formerly Supt. of the Manhattan Quotation Telegraph Co., of this city, has retired from the telegraph business, and is now accumulating wealth as the proprietor of a boot and shoe emporium, at Wappinger's Falls, N. Y.

MESSRS. H. L. WATERBURY and HENRY H. SHELLY, of Albany, N. Y., favored this city and THE TELEGRAPHER with a brief visit last week.

Mr. H. A. DUSONCHET, operator at Washington, D. C., in the United States Signal Service, has been transferred from the Washington to the San Diego, Cal., office.

Mr. O. K. TOMPKINS has been transferred from the Washington, D. C., to Maricopa Wells, Arizona, office, United States Signal Service.

Mr. GEORGE PAULSOCKET, of the Buffalo, New York and Phila. R. R., General Office, Buffalo, N. Y., has resigned, to take a position in the Police force, Buffalo Precinct, No. 2, as operator and doorman.

Mr. J. E. BEBER, of the B., N. Y. and P. Rwy., at Emporium, Pa., has been transferred to the Buffalo, N. Y., General Office, same road.

Mr. GEO. A. BROSS, of the B., N. Y. and P. Rwy., at Port Alleghany, has been transferred to Emporium, Pa., in place of Mr. BEBER.

Mr. A. L. TURNER, formerly on Lake Shore and M. S. R. R., at North East, Pa., relieved Mr. G. A. BROSS at Port Alleghany.

Mr. H. J. BROSS, of Olean, N. Y., has resigned, to

take a position on the Police force at Buffalo, N. Y., Precinct No. 5.

Mr. RANDALL, of L. S. & M. S. Rwy., relieved Mr. BROSS at Olean, N. Y.

Mr. W. THOMAS, of Franklinville, Pa., has resigned, and been relieved by Mr. RYAN.

The Telegraph.

By Cable.

MEETING OF THE INTERNATIONAL TELEGRAPHIC CONFERENCE.

ST. PETERSBURG, June 2.—The International Telegraphic Conference was opened here to-day. The Czar gives a banquet to the delegates to-morrow.

The Franklin Telegraph Stockholders' Suit for Dissolution of the Company.

THE majority of the stockholders, but holding a minority of the stock of the Franklin Telegraph Co., petitioned the Supreme Judicial Court of Suffolk County, Mass., for a decree vacating the lease of the lines of the company to the Atlantic and Pacific Telegraph Company, at an annual rental of \$27,000, which it was claimed was fraudulently and illegally obtained, and for the appointment of a Receiver, the dissolution of the company, the sale of its property, and the winding up of its business. Pending the hearing of this petition, as has before been stated in THE TELEGRAPHER, the obnoxious lease was annulled by agreement between the parties. A hearing was given on the 25th of May, when the respondents, by a sworn amendment to their former answer, further answered that, during the preceding week, the lease complained of in the petition had been cancelled by agreement of both companies, and thereupon claimed that all ground of complaint had been removed. The petitioners claimed, however, that the act of cancelling the lease was a subterfuge, and simply served to show further, and if possible, more distinctly, the complete power of the New York over the Massachusetts corporation. The Judge reserved decision upon the matter at that time, with a view of reporting the case to the full Court, but gave the petitioners time till the 31st ult. to consider whether, in view of the amended answer of the respondents, they would make any amendment to their petition. At the hearing on Tuesday, June 1st, the petitioners decided that they would make no amendment, but let the case go up as it stood in the pleadings. The question for the consideration of the full bench is, therefore, whether the lease having been cancelled in the manner stated, there is any remaining ground on which the Court should exercise its discretion and appoint a Receiver. The case now goes over to the November Term.

It is not probable that, the lease having been annulled and the company restored to its former status, the prayer of the petitioners will be granted.

Foreign Telegraphic Notes.

AT a meeting of the Great Northern Telegraph Company, at Copenhagen, on the 28th March, the total dividend for the year was announced as being at the rate of 7 per cent., and £12,114 14s. 1d. was added to the reserve fund.

The directors of the German Union Telegraph and Trust Company have issued their report for the year ending May 1st, 1875. The available balance amounts to £12,096 3s. 7d., out of which an interim dividend of 5s. 9d. per share was distributed in January last, and a further payment is now recommended of 7s. per share—making a total distribution of 12s. 9d. per share, or at the rate of £6, 7s. 6d. per cent. per annum.

Recently a man fell from the roof of the Pomona Gardens, near Manchester, England, and, fortunately for him, his fall was broken by the telegraph wires on the Bridgewater Canal, otherwise he must have been killed, or, at all events, lamed for life.

Trial is to be made at Portsmouth, England, of a system of signaling by bugle, which has been introduced by Capt. Bamber, Royal Marines, for use in fogs or at night, when no signal lantern is available. The plan consists mainly in the adaptation of Morse's telegraphic alphabet to bugle calls, the "long" and "short" being represented by different notes.

The traffic receipts of the Direct Spanish Telegraph Company for the month of April (30 days), 1875, were £1,494, 14s. 5d., against £1,475 3s. in March (31 days).

At a special meeting of the Eastern Telegraph Company, specially convened for the purpose of considering the advisability of the company's acquiring a convention with the Italian Government for a new cable be-

tween the Island of Sardinia and the Italian continent. After some discussion and opposition the resolution providing therefor was adopted. The length of the cable will be about 116 miles, and the price agreed to be paid to the contractors is £32,000, either in shares of the company at the market price, or in 6 per cent. debentures at par. The concession was granted to Baron Erlanger, and it is from that gentleman the company propose to purchase it. The Italian Government pays a subsidy for the cable of £4,400, or nearly 14 per cent. on the capital cost of the cable.

The total number of messages forwarded from postal telegraph stations in the United Kingdom for the week ended May 15, 1875, was 406,574—an increase on the corresponding week last year of 31,050.

The cable steamship Hooper has arrived in the Mill-wall Docks after an expedition of five months in laying the cables of the Central American, West India and Panama, and Cuba Submarine Telegraph Companies.

The Telegraphers' Mutual Benefit Association.

RECEIPT OF ASSESSMENTS—NEW YORK, May 27, 1875.

ASSESSMENT No. 73.

4, 5, 23, 28, 33, 46, 53, 54, 55, 60, 61, 64, 65, 67, 72, 77, 86, 88, 89, 90, 91, 93, 108, 114, 121, 134, 136, 137, 140, 141, 142, 143, 144, 145, 148, 153, 157, 176, 177, 179, 181, 183, 184, 201, 202, 215, 218, 220, 235, 244, 247, 254, 257, 267, 269, 273, 276, 280, 294, 301, 302, 328, 346, 347, 349, 351, 352, 353, 367, 371, 372, 378, 379, 380, 383, 385, 391, 394, 398, 402, 405, 406, 413, 416, 425, 430, 431, 434, 463, 467, 509, 526, 532, 536, 542, 546, 547, 548, 552, 553, 554, 561, 664, 576, 577, 586, 587, 592, 597, 603, 604, 615, 649, 659, 671, 672, 685, 690, 692, 694, 703, 708, 717, 729, 731, 734, 735, 740, 750, 751, 756, 764, 766, 769, 772, 799, 803, 808, 815, 825, 830, 831, 843, 855, 874, 886, 901, 915, 916, 917, 922, 923, 938, 941, 943, 976, 977, 978, 991, 995, 998, 1001, 1005, 1013, 1023, 1028, 1039, 1040, 1047, 1054, 1055, 1072, 1081, 1085, 1088, 1090, 1099, 1126, 1134, 1135, 1136, 1143, 1144, 1147, 1167, 1173, 1175, 1177, 1183, 1193, 1194, 1200, 1205, 1208, 1224, 1226, 1227, 1251, 1252, 1260, 1266, 1276, 1277, 1282, 1292, 1294, 1295, 1300, 1304, 1306, 1825, 1329, 1345, 1353, 1354, 1355, 1356, 1358, 1364, 1365, 1368, 1376, 1394, 1402, 1403, 1404, 1409, 1410, 1440, 1444, 1453, 1454, 1455, 1458, 1484, 1485, 1498, 1504, 1505, 1506, 1507, 1508, 1517, 1518, 1522, 1524, 1527, 1532, 1550, 1554, 1555, 1560, 1568, 1569, 1571, 1579, 1582, 1589, 1593, 1594, 1615, 1626, 1630, 1635, 1656, 1658, 1672, 1681, 1695, 1597, 1698, 1707, 1708, 1721, 1823, 1728, 1753, 1745, 1773, 1875, 1778, 1790, 1791, 1810, 1811, 1812, 1815, 1817, 1830, 1831, 1847, 1852, 1869, 1881, 1894, 1901, 1911, 1913, 1914, 1916, 1919, 1938, 1942, 1943, 1944, 1950, 1957, 1964, 2965, 1970, 1985, 1991, 1995, 2019, 2021, 2026, 2027, 2028, 2030, 2036, 2044, 2049, 2057, 2061, 2063, 2065, 2082, 2097, 2113, 2114, 2119, 2133, 2135, 2138, 2143, 2147, 2159, 2162, 2172, 2174, 2175, 2178, 2180, 2181, 2182, 2191, 2194, 2195, 2196, 2197, 2199, 2201, 2202, 2203, 2204, 2205, 2206, 2212, 2214, 2216, 2221, 2223, 2224, 2228, 2229, 2233, 2239, 2241, 2243, 2244, 2254, 2259, 2263, 2288, 2289, 2295, 2296, 2297, 2298, 2309, 2310, 2312, 2321, 2330, 2331, 2333, 2334, 2335, 2337, 2338, 2343, 2345, 2346, 2348, 2350, 2351, 2354, 2358, 2363, 2364, 2365, 2371, 2374, 2386, 2387, 2392, 2395, 2412, 2413, 2414, 2415, 2416, 2424.

ASSESSMENT No. 74.

6, 26, 31, 39, 52, 70, 84, 97, 98, 101, 112, 120, 154, 157, 158, 160, 164, 171, 175, 189, 190, 191, 193, 197, 198, 206, 227, 228, 230, 248, 252, 316, 323, 334, 341, 350, 356, 357, 360, 362, 364, 366, 382, 392, 393, 411, 418, 426, 431, 476, 481, 482, 484, 511, 512, 527, 545, 556, 557, 573, 575, 584, 590, 600, 618, 642, 646, 648, 652, 655, 662, 663, 664, 665, 669, 701, 710, 712, 722, 723, 724, 725, 730, 780, 781, 783, 785, 786, 790, 802, 809, 812, 813, 820, 823, 836, 838, 842, 869, 876, 897, 899, 904, 905, 906, 908, 920, 926, 929, 931, 944, 949, 954, 957, 959, 963, 964, 979, 980, 1000, 1002, 1005, 1014, 1016, 1030, 1031, 1033, 1034, 1041, 1046, 1050, 1057, 1063, 1069, 1080, 1100, 1101, 1105, 1106, 1107, 1108, 1109, 1110, 1112, 1113, 1115, 1117, 1119, 1120, 1122, 1123, 1131, 1139, 1141, 1149, 1152, 1191, 1196, 1210, 1211, 1217, 1233, 1234, 1248, 1251, 1255, 1256, 1268, 1269, 1273, 1174, 1281, 1283, 1284, 1285, 1286, 1288, 1339, 1340, 1342, 1344, 1346, 1348, 1349, 1350, 1351, 1352, 1366, 1375, 1385, 1390, 1391, 1405, 1406, 1407, 1415, 1417, 1421, 1426, 1427, 1428, 1430, 1432, 1433, 1448, 1457, 1458, 1465, 1469, 1471, 1474, 1476, 1481, 1483, 1497, 1513, 1528, 1529, 1530, 1537, 1542, 1546, 1558, 1559, 1573, 1575, 1586, 1596, 1597, 1510, 1611, 1612, 1616, 1620, 1649, 1666, 1667, 1673, 1676, 1678, 1684, 1687, 1688, 1696, 1700, 1701, 1702, 1704, 1709, 1710, 1713, 1714, 1718, 1724, 1733, 1737, 1746, 1747, 1750, 1751, 1753, 1754, 1757, 1756, 1757, 1758, 1759, 1760, 1765, 1766, 1767, 1769, 1771, 1785, 1788, 1789, 1798, 1799, 1802, 1813, 1828, 1837,

1838, 1839, 1840, 1841, 1857, 1858, 1859, 1860, 1863, 1864, 1877, 1889, 1895, 1917, 1922, 1926, 1951, 1972, 1973, 1982, 1992, 1993, 1996, 1997, 2004, 2007, 2010, 2012, 2015, 2022, 2023, 2024, 2033, 2035, 2038, 2041, 2050, 2063, 2069, 2072, 2074, 2075, 2085, 2086, 2092, 2095, 2108, 2112, 2120, 2136, 2137, 2141, 2142, 2145, 2154, 2166, 2157, 2171, 2183, 2184, 2185, 2200, 2211, 2215, 2217, 2220, 2225, 2226, 2227, 2230, 2231, 2234, 2237, 2238, 2245, 2246, 2248, 2250, 2252, 2258, 2261, 2262, 2265, 2266, 2267, 2268, 2271, 2273, 2279, 2281, 2282, 2283, 2284, 2286, 2292, 2293, 2299, 2300, 2301, 2303, 2304, 2305, 2307, 2313, 2314, 2316, 2317, 2323, 2324, 2325, 2326, 2327, 2330, 2342, 2349, 2357, 2361, 2366, 2369, 2372, 2374, 2375, 2376, 2377, 2379, 2380, 2381, 2388, 2389, 2390, 2391, 2398, 2401, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412.

ASSESSMENT No. 73.

185, 186, 187, 232, 240, 565, 695, 697, 705, 848, 871, 927, 939, 1058, 1063, 1071, 1198, 1241, 1307, 1309, 1311, 1312, 1313, 1314, 1315, 1317, 1318, 1319, 1320, 1321, 1322, 1336, 1372, 1400, 1437, 1438, 1500, 1501, 1515, 1556, 1557, 1570, 1580, 1613, 1670, 1722, 1727, 1795, 1796, 1797, 1804, 1823, 1824, 1854, 1924, 1945, 1946, 1947, 1969, 1987, 2110, 2123, 2125, 2151, 2236, 2339, 2291, 2352, 2370.

Members of the Association who look to THE TELEGRAPHER for receipt of assessments paid, will please take notice that an acknowledgment of the receipt of one assessment should be taken as a receipt for all previous assessments.

Curious Magnet.

In the year 1607 Galileo wrote to a friend about a wonderful magnetic stone, one property of which was that the same pole would both attract and repel the same piece of iron. At a distance of four or five finger lengths it attracted the piece, but at a distance of one finger length it repelled it. He found, on examination, that the piece of iron was magnetized steel. In a note to the French Academy, M. Janin says he is able to produce the phenomenon in a quite intelligible way. He magnetizes a bar to saturation with a current producing (say) austral magnetism. Then with an inverse current he communicates the certain amount of boreal magnetism, less than the austral, and leaving some of it in the deeper parts. Then he dissolves the steel with acid, which gradually removes the boreal layers, and ere long discloses the austral. Now, the latter are not disclosed equally all over; they make their first appearance at the extremity, on the edges and corners, the boreal layers still occupying most of the surface; and (in contrariety to the latter) they have great tension but small magnetic moment. Suppose, now, the austral pole of a magnet to approach. While it is still distant it is subject to the predominating effect of the boreal layers of the bar, and is attracted; but, when brought quite near the extremity, the austral points gain the predominance and there is repulsion; thus matching Galileo's mysterious stone (which, somehow or other, got lost).

Quotations of Telegraph Stocks at N. Y. Stock Exchange.

Table with columns: May, WESTERN UNION, ATL. AND PAC., AMER. DIST., GOLD AND STOCK. It shows bid and asked prices for various telegraph stocks.

New Patents.

OFFICIAL COPIES of any U. S. Patent issued since July 1st, 1871, including drawings, specifications and claims in full, sent free to any address for 25 cents each. Address F. L. POPE, P. O. Box 5503, New York City.

For the week ended May 11th, 1874, and bearing that date. 163,190.—ELECTRO-MECHANICAL PRINTING INSTRUMENTS.—Hans R. M. J. Hansen and Christopher P. Jurgensen, Copenhagen, Denmark. Filed Feb. 14, 1874.

1. The writing ball U and keys K p, having their points of contact arranged in a straight or diagonal line over the cylinder e, as set forth, in combination with the disk cylinder e, sectors f, the shield T, provided with a series of contact pieces, arranged either in a straight or diagonal line, to correspond with the points of contact of the keys K p, substantially as specified, the escapement R, spindle O, contact wheel K, tooth a, electro-magnets 2g, armatures 2d, armature type arms 2a, and a clockwork, substantially as and for the purposes set forth.

2. The writing balls U and keys K p, arranged as described the disk cylinder e, sectors f, the shield T, having a series of contact pieces arranged thereon, substantially as set forth, and a clockwork, when used as a separate apparatus, and at any distance from e and in combination with the electro-magnets 2g, armatures 2d, armature type arms 2a, an escapement regulated by electro-magnetism, and a clockwork, as another and separate apparatus, the two being connected together by a series of wires of the same number as the keys K p, and such wires being joined in a cable, when the two apparatus may be used as an electric printing telegraph, substantially as set forth. 3. The disk cylinder e and sectors f, in combination with the drum S, substantially as and for the purposes specified. 4. The writing ball U, the keys K p, disk cylinder e, sectors f, escapement R, and a clockwork, in combination with the pinion L, rollers 2f, 2g, 2h, having a carbonized paper band wound around them, the armature type arms 2a, and a moving surface, such as a paper band, Z, substantially as and for the purposes set forth. 5. The writing ball U, keys K p, disk cylinder e, escapement R, and a clockwork, in combination with the spindle O, pinions t and s, spindle V, carrying milled edge wheel z, and the paper band or other moving surface Z, substantially as and for the purposes described. 6. The rollers 2p, in combination with the paper band Z, substantially as and for the purposes set forth.

163,221.—COMPOUNDS FOR INSULATING TELEGRAPH WIRES.—Alphoso A. Maglaughlin, Coldwater, Mich., assignor of one half his right to Llewellen H. Johnson, same place. Filed Feb. 8, 1875. Pine tar, eleven; coal tar, four; rosin, fifty; pulverized coke, sixteen; India rubber, three and a half.

An insulating material composed of pine tar, coal tar, rosin, coke and India rubber, mixed and compounded in the proportions and manner substantially as herein set forth.

TRADE MARK. 2,491.—TELEGRAPH INSTRUMENTS AND APPURTENANCES.—Patrick & Carter, Philadelphia, Pa. Application filed April 13, 1875.

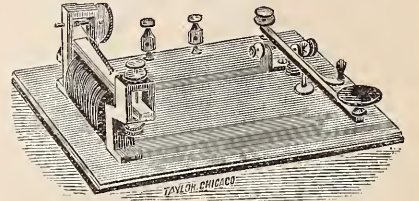
"Word 'CHAMPION.'" Born. NYE.—At Hokah, Minn., May 14, 1875, to the wife of Mr. J. M. Nye, Sup't Telegraph of the Southern Minn. Railroad, a son.

Married. HUGHES—BARROW.—At the residence of the bride's parents, Ringtown, Pa., May 29, 1875, Mr. GEO. S. HUGHES, Operator P. & R. R. K., Mooresburg, Pa., to Miss EMMA BARROW.

THE AMATEUR'S TELEGRAPH APPARATUS.

Comprising SOUNDER, KEY, CUP OF BATTERY, CHEMICALS, WIRE AND MANUAL.

Several Thousands of these Instruments already sold. They give good satisfaction.



PRICES. Amateur outfit, complete, No. 1, \$7 50. " " " 2, " " " 6 50. " Sounder and Key, No. 1, " " " 6 50. " " " 2, " " " 5 50. Battery, per Cell, " " " " " 45

DISCOUNT. Twenty per cent. discount will be allowed when remitted for in advance.

GEO. H. BLISS & CO., 220 Kinzie St., Chicago, Ill.

WESTERN ELECTRIC MANUFACTURING CO.

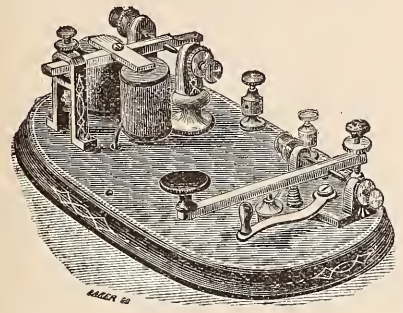
SOLE AGENTS. ORTON'S PATENT AWL CLIPS.

These Clips have been in practical use for three years, and are rapidly displacing all others. They are designed for holding messages and every form of blanks. For convenience, durability and economy they are unequalled.

WESTERN ELECTRIC MANUFACTURING CO., 220 KINZIE STREET, Chicago, Ill.

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 220 Kinzie Street,
 CHICAGO, ILL.

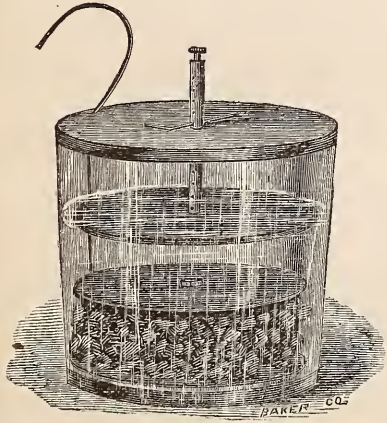
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 PRIVATE LINE OUTFIT.
 THE BEST IN THE WORLD.



PRIVATE LINE INSTRUMENT.

This instrument is mounted on an iron base and finely finished.

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A discount of twenty per cent. will be allowed when remittance accompanies the order. Remit by express, registered letter, postal order or draft.

In ordering state length of line, so that the resistance of instruments may be proportioned accordingly.

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- RELAYS—COMBINATION SETS; BOX and POCKET RELAYS. PONY and REPEATING SOUNDERS.
- KEYS, various styles, including the SCHNEIDER KEY, wire connections above the table.
- REGISTERS, with SPRINGS or WEIGHT.
- CUT OUTS, many varieties, including a new style of PEG CUT OUT, with an adjustable LIGHTNING ARRESTER, just out.
- REPEATERS—HASKIN'S AUTOMATIC, and others.
- SWITCH BOARDS—REPEATING, BATTERY and GROUND SWITCHES and LIGHTNING ARRESTERS.
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- ELECTRIC RAILWAY SIGNALS and ALARMS, ELECTRIC GAS LIGHTING APPARATUS.
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- INSULATORS—BROOKS, SCREW GLASS and KENOSHA CARBON. BRACKETS, PINS and SPIKES, TELEGRAPH POLES, LINE BUILDERS and REPAIRERS' TOOLS.
- TELEGRAPH STATIONERY—REGISTER, MESSAGE and MANFOLD PAPERS, CARBON SHEETS, STEEL and AGATE STYLUSES, ORTON'S PENCIL HOLDER, SAFETY MESSAGE HOOK and AWL CLIP, STANDARD TELEGRAPH BOOKS, &c.

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After JANUARY 1st, 1875, we will allow TWENTY CENTS for each used-up Porous Cell of this Battery that is returned to us free of charge, in good order. A change is made in the discount to the trade. A list will be furnished on application to

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 8 Dey street, Sole Agents.

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FINELY FINISHED IN BRASS, will be sent to any address by mail, on receipt of ONE DOLLAR, and 3 cents to pay the postage.
 NICKEL PLATED, Twenty-five Cents extra.
 Special inducements to Operators and others acting as Agents.
 Further information and Circulars on application.

LANNERT & DECKER,
 Manufacturing Electricians,
 CLEVELAND

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On First-class Morse Sets for Railway and Commercial Lines:

- No. 1 Relays, of standard size and resistance (120 to 150 ohms), on rosewood bases, fine finish, polished rubber covered coils, wound either with our patent glazed or with best silk covered pure copper wire, having soldered connections and firm nut fastenings throughout, and latest improved extension adjustments. Regular price, \$16, reduced to - \$12 80
- No. 1 Relay, same make throughout, but of higher resistance, 160 to 600 ohms. Price, \$18, reduced to - \$14 40
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- No. 1 Sounders—"Railroad" or Bunnell's "New Giant" Sounders, with all the latest patented improvements in both. The best forms of Morse sounders ever invented. Beautifully finished. Mounted upon rosewood bases. Price, \$7 50, reduced to - \$6 00
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- No. 1 Premium Register, \$45, reduced to - \$36 00
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- EXCELSIOR AMATEUR INSTRUMENTS, \$6 50, REDUCED TO - \$5 20
- BUNNELL'S LEARNERS' INSTRUMENTS, PERFECTED, \$6 50, REDUCED TO - \$5 20

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WITH A CENTRAL OFFICE,
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UPON THE AUTOMATIC PLAN,

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Cambridge, Mass.,
Charlestown, Mass.,
Covington, Ky.,
Detroit, Mich.,
Dayton, Ohio,
Elizabeth, N. J.,
Fall River, Mass.,
Fitchburg, Mass.,
Hartford, Conn.,
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Montreal, Canada,
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Omaha, Neb.,
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Providence, R. I.,
Quebec, L. C.,
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Richmond, Va.,
St. Louis, Mo.,
St. John, N. B.,
Springfield, Mass.,
San Francisco, Cal.,
Savannah, Ga.,
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Fourth—The Electro-Mechanical Gong Striker, for hose and engine houses, by means of which the location of the fire is instantaneously communicated to the members of each fire company.

These Features combined form the

Only **PERFECT, COMPLETE** and **RELIABLE** System
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It is a sufficient vindication of the claims which are made by the Proprietors of these systems of

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that they have sustained the test of more than twenty years of practical use, and that the efforts which have been repeatedly made to supplant them by other inventions have

COMPLETELY FAILED;

the few instances in which municipalities have been induced to adopt other systems having demonstrated their insufficiency and unreliability, and resulted in their abandonment, and substitution thereof of the

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SUBTERRANEAN & AERIAL WIRES,

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We are now prepared to furnish, after an experience of three years, an Insulated Wire which can be buried in the earth or exposed to rain and sun, or to the vapor of acids, without injury. Professor SILLIMAN, who has exposed it to the most destructive agencies, finds that it remains uninjured in an atmosphere of ozone, which would destroy gutta-percha in a few hours. It exceeds glass or any other known substance as a non-conductor.

We have made special arrangements to furnish this article for office purposes at a reduced rate.

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of the usual size, with **KERITE COVER**, believing that it will exceed, in insulation for submarine purposes, ANYTHING HITHERTO MANUFACTURED.

We shall be happy to furnish estimates for any amount and size of cable, which will be found to compete with any other construction, both in quality and price.

We manufacture the Genuine **ELECTROPOION BATTERY**, with Patent Platina Connection, introduced by us eight years since; also, **THE ALPHABETICAL OR DIAL TELEGRAPH**, now extensively used in this and other cities for private lines, being easily and quickly learned by any one.

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THE TELEGRAPHER

A JOURNAL OF
ELECTRICAL PROGRESS.

J. N. ASHLEY, PUBLISHER.

SATURDAY, JUNE 12, 1875.

VOL. XI.

WHOLE No. 465.

Original Articles.

The Chemistry of the American Automatic Telegraph.

BY GEORGE LITTLE.

Inventor and Patentee of the American Automatic Telegraph.

(Concluded from page 133.)

IN my previous article relating to the "Electro-chemical science" of the automatic telegraph, I notice a *typographical error* as follows: FERRI-CYANIDE of potassium is represented as a yellow salt, it being well known as a reddish salt; whilst FERRO-CYANIDE of potassium is stated as being a reddish salt and known as having three equivalents of iron in combination—it being a well known yellow salt with two equivalents of iron.

Both of the above salts of iron have been known to telegraph scientists during the last quarter of a century, the yellow salt always being preferred (as also by myself for reasons heretofore stated), but owing to the want of a correct formula, it had previous to the publication of my chlorides of calcium and sodium formulas in 1872, seemed to be impossible to make up the solution with either of the *prussiates of iron*, in such a way as to prevent *self-decomposition* going on during the normal state of the line, due in part to the use of sulphuric and nitric acids. (See Culley, pp. 195-7, fourth edition, and p. 203 fifth edition; also, Sabine, 1869, pp. 200-2.)

It took me nearly *three years* to bring my *formula*, involving the use of the *prussiates of iron*, to that absolute state of perfection in regard to economy, durability, sensitiveness and freedom from contaminating effects.

Perhaps it will be as well to direct a little more attention in respect to the RED and YELLOW *prussiates of potassium*. Drs. Ure and Watts, the eminent British chemists, say of both of these salts that the transformation of the FERRO-CYANIDE into that of the FERRI or FERRID-CYANIDE can be effected by electricity; see vol. 2, pp. 239-40; see also other authorities on chemistry, in regard to this FERRI or FERRID-CYANIDE of potassium, which differs only from FERRO-CYANIDE in its having one equivalent of iron more, and can consequently, therefore, be, and is developed from the FERRO-CYANIDE by the abstraction and union, in this case, with the one equivalent of iron set free from the iron stylus, by electro-chemical action.

In conclusion, I will here remark that in neither case will the *cyanide of iron* be reduced from either of these salts of the red or yellow *prussiates* with sufficient *rapidity* for use with my "American automatic telegraph system," unless a conducting media be added to the solution, and which I prefer to be *chloride of sodium*; i. e., common salt. The addition of *chloride of calcium* materially augments the deliquescent nature which I always prefer that the receiving paper should possess, when prepared in accordance with my *established formula*.

Passaic City, N. J., June 8, 1875.

A Telegraph Operator's Lark 25 Years Ago.

THE representative operator of to-day is not what the representative operator was twenty-five years ago; those who in the early days of telegraphy sat perched upon high wooden stools, at high flat tables, picking out despatches, letter by letter, and word by word, from the dimly indented dots and dashes of the old time register, reading the press reports once a day (when the *wire* wasn't down), to grumbling old time editors, with two ounces of German silver spectacles on their noses, have some perception of the grand march of improvement which has taken place, both in operators, instruments and mode of doing business.

Then, as a rule, operators who could not play a good game of billiards, drink a proportionate share of whiskey when out with a crowd, carouse all night, work all day, and be on hand for a lark the second and even third nights until a late hour, were looked upon by their fellows with a large share of contempt.

In some respects those good old days of passes on

railroads and at hotels were more preferable to the majority of operators than these latter days of no passes, no privileges, and monopoly imposition. At the time of which we write, the N. Y. A. & Bu. Tel. Co. was a *large* institution, with headquarters at U—. Several days previous to the first of January, 185—, it was generally understood all along the line, from N. Y. to Bu., that a sort of reunion was to be held at S—, on that first day and night of the new year. No specified programme as to the order of exercises was promulgated, but it was understood that the boys were to have a good time *generally*. By noon of the day appointed about twenty operators were assembled at the G— Hotel, all duly registered, and pointed out as distinguished guests; yes, *distinguished*, for it must be borne in mind that at this time a telegraph operator was no common specimen of humanity. He was considerably above the ordinary mortal in the estimation of the public; and in the estimation of very many whose occupations smattered not of novelty or "greased lightning," he was an object of admiration and awe. Our legislators uow-a-days do not receive so many marks of respect as did the old time telegraph operator.

After the party were all in line, armed and equipped as the law directs, they strolled out by twos around the city, piloted by Frank Warren, a residenter, who but a year or two thereafter took sick and was laid in his grave. A kinder hearted boy never lived in the world than Frank, and many a friend wept tears of genuine grief when he was laid away to rest.

The party visited many places of note about the city, putting in an hour or two with the cue, and about five o'clock P. M., having been entertained in a lordly style, they retraced their steps to the hotel, where, as had been previously arranged, the winding up of the day's entertainment was to take place.

There was nothing too good within the walls of the old G— for this party of brass pounders. The proprietors of this hotel, as in fact the proprietors of all other first class hotels, were largely the recipients of favors from operators at this time, and now, when an opportunity offered, these proprietors intended to cancel the debt so far as possible, and most nobly did they accomplish it. In one of the smaller dining rooms of the house a dinner was spread which would have done honor to the imperial cook of her highness. To describe it and mete out justice would be next to impossible. Change after change, vegetables, savory meats, fowls wild, fowls tame, fish, etc., etc.; and then came the wines; from the sparkling Heidsieck to the oily old Otard, none were left out of the bill.

The most fastidious were waited upon to their taste. It was not until about an hour after the introduction of the wine, and when toast after toast had been drank and responded to, that the full capacity of the party for fun could be estimated. Songs were sung in every key, the most of which ended up with "We won't go Home till Morning, till Daylight doth Appear," in full chorus.

Stories were told, jests were exchanged, telegraphic experiences were related, and loud bursts of laughter were frequent and prolonged. One of the rural brethren had been seeking for some time to gain the ears of the party, and, finally succeeding, related the following experience: Boys, you know I'm the operator at R—, and we do piles of biz there, I tell ye. Why, my receipts have been as high as *five* dollars in one day when the *wire* was up and working all right. About a month ago Jim R— came down to R. to visit us for a day or two and have a good time. Jim, you know, has a pretty high opinion of himself, and thinks that what he don't know about telegraphing ain't worth much. Well, Jim he comes down, and was fooling round the office, and between us we set to to hatch up some sort of devilment. First Jim he'd propose some trick and it would be talked over and abandoned; then I'd suggest something, but we couldn't exactly agree on anything, until, finally, a bright idea struck Jim, and says he "I have it uow, old boss. Do you know of a real green Irishman that's only been over a week or so, who left his family in New York or some other seaport till he could arrange for them to join him?" Now it so happened that I did know just such a man, and I said "Yes, I do, exactly." Tim O'Leary had been over just about a month, and was then employed by an uncle of mine about the stables, and about as green a specimen as I ever set eyes on. "How big is he?" says Jim. "Well, he's pretty brawny," says I, "and full of muscle." This caused Jim to falter for a moment, but he soon rallied and renewed the conspiracy with energy. "Have you a stove zinc?" he asked. "Yes, here it is;" and I drew forth the article from the wood box where I had stored it for the summer. "That's it;" and he went with his jackknife, cut across the centre on both sides, bent it over his knee and broke it in two before I could stop him. "Now," says he "you have a main battery, Grove cups?" "Yes." "Pretty strong, eh? filled up this morning, eh? Good! How many jurs?" "25." "That'll do, uow give me some fine wire; that's it," as I produced a portion of an old relay coil. Jim placed the two pieces of zinc on the floor about two feet from the gate leading inside the counter to the operating room, leaving a space of about a quarter of

an inch between them, and connecting each with the battery with the small wire so they could not be seen, then he got some sawdust and litter and scattered it around and over the zinc plates, to make them look as though they had always been there; and after testing them with his fingers to see if the connection was O.K., he announced all in readiness. I began to have a faint idea of what he was driving at. "Now," says Jim, "you know a green Irishman is the most superstitious mortal on the face of the green earth, and we can make him do just what we want him to if we work it right; so you go to him, keep a straight face and tell him that there must be some important news for him at the office, as the instrument has been calling Tim O'Leary at a great rate, and saying that Tim's darlint wishes to speak to him. Give him a hint that it's very extraordinary, and almost like a manifestation from the other world. Ask him if Mrs. O'Leary was in good health when he left her." Well, off I starts, found Tim, and after telling him what was wanted, and how oddly the telegraph machine worked, and going through with my instructions as well as I could, Tim became very much excited, and was very eager to return with me in hot haste. "Och, and sure," says he, "my darlint Biddy is in trouble, bad luck to the likes o' me for laving the creatur."

As soon as we reached the office, Jim with a professional air, commenced to interrogate, "Is your name Tim O'Leary?" "An sure it is that same sur, bad luck to me." "Sh!" says Jim, "don't talk so loud man, do you know you may soon be in the presence of death, p'raps you are already, and the spirit of your wife be even now calling to you over the wire. Sh! there it is again, Tim O'Leary, Tim O'Leary!" says Jim, as the instrument commenced to work just then. Tim, who was standing outside of the counter, opened his mouth wide, turned as white as a sheet and gasped for breath, "Och, murthur" (in a whisper), "what'll become o' me? och, och, o-h-o-n-c!" and Tim sobbed violently. "Hist" says Jim (whispering), "you must be very careful and not make any noise, or you may scare her away, and perhaps this will be the last chance you will ever have of conversing with your wife. You will have to come inside; but you must take your shoes and stockings off, those brogans would make too much noise altogether." Tim immediately obeyed, and I do believe if Jim had required him in addition to this to get down on all fours and crawl under the gate, he would have done it meekly. Jim went outside leaving the gate open, and when Tim had disrobed his feet, took hold of his arm, and with a very mysterious air told him in a whisper that if he had ever abused his wife, that now was his time to confess it. "When the spirits get possession of our wires there is no telling what they will do, and if you have ever beaten Biddy or misused her, she may do something. You must be very quiet and meek, and perhaps nothing will happen." Upon this Jim led him towards the gate, being very careful to keep well behind him. Tim stepped along with fear and trembling, when, reaching the zinc plates, he put one foot upon one, and by a skillful manoeuvre by Jim, the other foot came squarely down upon the other, but it didn't stay there you can bet; in about a second there was about four feet of air between that zinc plate and Tim's soles, for he sprang up like a rubber ball, all in a heap, with a yelp that would have done honor to the lungs of a Comanche. "Och, murthur!" When he came down he came astride the crack in the zincs again, and again he went up. This he did four or five times, each time with the unearthly cry, in frightened accents, "och, murthur! och, murthur!" Finally he came down with both feet on one plate, but just as soon as he found that he wouldn't have to go up again, he made up his mind to go off, and accordingly made a rush for the gate and outer door, through which he darted like an arrow, hatless and shoe and stockingless. Having on knee breeches, when his stockings were removed his legs were bare to the knees. We rushed to the front windows, and in about a minute, Tim emerged from the stairway below, struck out into the middle of the street, and streaked it as though the old boy was after him. Dogs, boys, men and women in large numbers were soon in hot pursuit, and a livelier race never was witnessed.

Tim, wild with fear, made far reaching bounds, Keeping ahead of all but the hounds,

Jim and I just rolled on the floor, and our sides fairly ached from laughter. He took the first train for home, and I have never seen Tim nearer than two blocks of the office since.

Immediately following the relation of this story, for full five minutes there was a general burst of laughter, and a general scene of uproar and confusion occurred, during which a loud call was made for a speech from Matt, the then acknowledged champion of the key.

Familiarly speaking, Matt was "a trump!" He was more than that, he was two trumps. Twenty-two summers had sufficed to mature in him a tall, manly form, whose every movement was grace. Good looking, intelligent, and possessing a suave manner, accompanied by an easy dignity, he was a great favorite among his associates. This being an extraordinary

occasion, Matt, as well as many of his companions, had allowed his better judgment to be overcome by special and oft repeated invitations to "tip the glass with me," which will account for the disconnected nature of his speech somewhat. After his name had been called several times, Matt slowly arose from his seat, and, making a dignified bow, spoke as follows:

My Brothers—Upon this very auspicious occasion it is proper (hie) that we *deliberate* upon (hie), upon, yes, gen-lmen, I repeat, upon such a glorious 'casion as the present, wheu, as you are probly 'ware (hie), we're zembled on this 'casion to—to—yes, zertinly we are—to show to our constituents (hie) that the 'lectric telegraph is a power behind the pole—(hie) no, dem it, a power, a power behind the th-throne (applause). Yez, zur, gen-lmen, a power behind the throne (first gesture). Gen-lmen, the 'lectric telegraph. We'll (hie) stretch'r from pole to pole; from the Pazifto to the 'lantiocean, and the lightnings shall flash (hie) from the storm beat cliffs of Maine over the snow capped pinacles of the r-r-Rocky Mountains (hie); and we'll find'er a ground wire on the sandy sh-shores of the billions (hie)—no, dem it, no, the billowy Pazifto (great applause). I repeat, Mr. Chairman, we'r-r in r-r-rinfancy (hie); yez, zur, ov course we are. (Here a tumbler was passed to Matt containing a colored liquid, which, having quaffed, apparently to his entire satisfaction, he resumed): Gen'lmen, we are met upon this glorious 'casion for the purpose of celebrating the first anniversary of our nash—no, dem it—our-r-r; yez, zur, ov course, gen-lmen, and why may we not elasp hands upon this 'stordinary (hie) 'casion, and, by our living 'zample, show to the world that the 'lectric telegraph, yez, zur, the 'lectric telegraph (hie) is the most noble work of man? (Tremendous applause and eries of "Go in, Matt; you're a brick.") Yez, zur (Matt's gestures at this stage were becoming very energetic, several goblets having been swept from the table by his vigorous arms), gen-lmen of the ju—, no, dem it, no, gen-lmen, I'm deeply 'mpressed with the glory of this 'casion. Yez, zur, Mr. Chairman (hie), in the not distant future I behold the mouth of eternity (hie) upon which is 'mblazoned in letters of gold the magic words "Morse Magnetic Telegraph." (Deafening applause.) Hoorah! three cheers for (hie) "lectric telegraph!" Matt raised his right arm to its extreme height, then brought it down with tremendous force towards his left lower extremities, his foot slipped, and he rolled under the table, where the cheer after cheer of his companions gradually became less and less distinct to his ears, until at last the thunderings of a twenty-four pounder would have been powerless to awake him.

This very prophetic speech elicited the wildest applause, which continued for some minutes. Although delivered in a broken, stammering manner, and thought to be the outburst of liquid enthusiasm and the extravagance of a heated brain, who can say that the eye of that mind did not clearly see the future of the telegraph and the glory of its attainments? Those remarkable utterances of prophecy have been remarkably fulfilled.

Matt's peaceful slumbers were undisturbed for a time, but soon the number of the wakeful members of the party began to diminish, and the "old heads," constituting themselves a health committee, vigorously applied such remedies as were at hand for the restoration of the fallen braves. The vinegar cruets were resorted to, and soon the acidulous nature of the remedy prevailed to bring them to a partial recognition of things temporal; but such a dishevelled, ghostly set of men were never seen before. Matt, after much persuasion, opened his eyes, looked wildly about him, and ejaculated "Yez, zur, the bar-strangled-spinner and the (hie) 'lectric telegraph shall wave, shall wave—," This created a general laugh, and Matt soon came to understand the true state of affairs, and expressed a strong desire to go to bed. This the doctors peremptorily refused. After the patients had been washed, brushed, combed and administered a dose "to cure the bite" they were themselves again.

The trains which were to take them to their homes were now almost due, and the party repaired to the office to settle the bill. They found no bill to settle, however; the genial host waived their pocketbooks back into their pockets with hospitable grace, and, after expressing a hope that they had enjoyed themselves, invited them to come again. After many hearty shakes and good byes at the depot the party were soon homeward bound.

It is a fact worthy of record that several of the party on the eastward train got it into their heads that they were going west, and could not be convinced otherwise.

The quotations in London of the shares of the Anglo-American Telegraph Company are reported at 57½ for 100 paid, and of the Direct United States Cable Company at 11½ on 20 paid. The reduction of rates which took place May 1 of 50 per cent., and the pending competition with the United States Direct Cable, have affected unfavorably the price of Anglo-American shares.

Correspondence.

We do not hold ourselves responsible for the opinions of our Correspondents. Our columns are open to free discussions on all Telegraphic subjects, without distinction of person or opinion.

No notice will be taken of anonymous communications.

Complimentary and Appropriate Presentation to Mr. Geo. C. York.

CHICAGO, ILL., June 2.

TO THE EDITOR OF THE TELEGRAPHER.

THE following correspondence was occasioned by and accompanied the presentation of ten volumes of Chamber's Encyclopedia (Library Edition, bound in half calf), to Mr. Geo. C. York, formerly Asst. Manager of the Western Union operating force in this city:

"CHICAGO ILL., May 31, 1875.

MR. GEORGE C. YORK:

Accompanying is a set of books which we, your many friends in Chicago office, beg you to accept as a slight testimonial of the high regard, esteem and respect in which we hold you. The gift is prompted by nothing save feeling of the truest friendship. We have known you years; our associations with you in an official position have universally been intimate and pleasant ones; our 'connections' close, and those which will ever be looked back upon with feelings of the most unfeigned pleasure. We have always found you kind, thoughtful and considerate; a kind friend to those whom you honored with your friendship, thoughtful in your watchful care over the best interests of the company, and considerate in your dealings with those occupying positions under you, ever ready and willing to speak a kind word to him or her who needed it, and to give the best advice to those who sought it; a gentleman in every sense of the term; one whom we cannot meet in social circles or hold converse with, without the knowledge of the fact that we are the better for having met and spoken.

It is, therefore, our desire to attest our good will in some substantial form; these books, themselves, have but little intrinsic worth, yet they bespeak a friendship that gold could never purchase. Accept the gift; and with it the best wishes, the lasting good will, and the entire friendship of each and every member of the several operating forces of the Western Union Chicago office."

"CHICAGO, ILL., June 1st, 1875.

TO THE OPERATORS.

My Friends—I am in receipt of your gift and accompanying letter. As to the former I will say that I commend the modesty which leads you to refer to it as of slight intrinsic value, but be assured of my appreciation of its invaluable quality and appropriateness, as a gift of intelligent affection. As to the latter, I find it difficult to express the well nigh unspeakable pleasure which comes to me through its munificent sentiment. To be held in the hearts and contemplations of my friends, in the condition you so amiably set forth, is surely a rich indemnity for all experience that has been painful, and all labors that have been arduous.

Your act and words to me at this time most happily exhibit the high degree of success with which we have severally conserved the elements which create and perpetuated the friendly ties of life. Although I have been unfortunate in the progress of business, we regard the result as the arbitrement of fortunes which inevitably control us, but to which we are able to rise superior upon the strength of the sympathies that exist between us. Your choice selection I shall preserve with care and read with delight, and thereby ever be reminded of you and of the kindly motive that produced it.

I would that I were able to make individual reciprocation with something more tangible than words; but, failing in that, I greet you responsively with the thanks of my heart, wishing for you the prosperities of life and the virtues which adorn it. GEO. C. YORK."

To the ladies of the Chicago office belongs the honor of originating the appropriate and laudable presentation indicated by the foregoing correspondence. The sensible manner in which the presentation was made calls for the greatest commendation, and we think we can lay claim to originality in this respect.

Unlike many presentations of a similar character, where the donors go in a body to the residence of the recipient and partake of enough good things to deplete the larder and purse of the fortunate individual to an extent which very nearly approaches the cost of the present, to say nothing of the embarrassment occasioned, especially to the party intended to be honored, the books were sent on the evening of the 31st ult., by a messenger, to Mr. York's residence, unostentatiously, and merely accompanied by the presentation letter,

which was the production of Mr. John W. Strang, of the St. Louis duplex.

The matter had been conducted so quietly that Mr. York was taken completely by surprise. The works are very valuable, costing nearly \$60. OCCASIONAL.

The Automatic vs. The Morse.

WASHINGTON, D. C., May 29.

TO THE EDITOR OF THE TELEGRAPHER.

IN THE TELEGRAPHER of May 8, under the heading of Morse vs. Automatic, John Sterling gives us a few facts which I think must be based on hearsay or opinion. With your permission I would like to state some actual facts.

In the first place, John Sterling says the Automatic system would not be applicable on way wires. For his information I will state that the Automatic Co., before it went over to the A. & P. Co., worked the Automatic system on one circuit from two offices in New York, one in Trenton, two in Philadelphia, two in Baltimore, and one in Washington, making eight business offices. There were also eight way test offices always in circuit and expected to answer at first call. What could a circuit with sixteen offices be called if not a way wire? Press or any other matter can be sent from any station and copy taken by all other stations in circuit at the same time by Automatic as well as by Morse.

Again, he says most of the Automatic Company's business was done by Morse. It frequently occurred that a day's business would number from 900 to 1,000 messages average for a week, besides 4,000 to 5,000 words of press, between 8 o'clock A. M. and 6 o'clock P. M. The tariff on the Automatic line was 25 cents for 20 words and 1 cent for additional words, and our customers were liberal, so that messages averaged over 40 words each, counting date, address and signature. Presuming that we had had 40 words per minute men, and that every minute could be utilized, which of course could not be where business was being exchanged between eight different offices, the messages would not have been transmitted until midnight, and the press for an afternoon paper would have been ready for delivery about 2 o'clock the next morning; but the Automatic Co. did not do most of their business by fast Morse, and so delivered messages and press promptly, and closed their offices altogether for the night at 9 o'clock P. M.

In another place he says no woman could work a perforator. We had a lady who for the space of ten months perforated from 125 to 200 of our long messages a day, equal to 225 ordinary messages at least on a busy day. She is still perforating, as are also two other ladies who learned when the Automatic Co. first started; and I wouldn't be surprised if either of them could perforate more words in an hour than he can send on a short circuit by Morse.

He also says he does not believe that 500 words can be sent and legibly recorded in a minute. On the 12th of December, 1873, there were sent from Washington to New York over a circuit of 281 miles 12,000 words in 22½ minutes, including delays and stops; or not including stops, the actual time of transmission was 18 minutes, as timed by the Postmaster General and several gentlemen who witnessed the operation in Washington. This gives an average speed of 666 words per minute. The writing was very clear and distinctly recorded at New York, and in proof of it, if John Sterling will send me his address through the Editor of THE TELEGRAPHER, I will send him a piece of the strip which was preserved by Postmaster James of New York City, who with several other gentlemen witnessed its reception there. What was done then can be done any day, and he might have seen it done long ago if he would have taken the trouble to go into an Automatic office.

I do not believe that a strip has passed over the Washington and New York circuit within the last three months at so slow a rate as 250 words per minute, which he says is "a higher average than is warranted by its achievement thus far."

He further says that in order to send 500 words per minute it must be able to record legibly 250 signals per second, which he does not believe is possible. I think he is a great ways out of the way in his calculation of 6 letters to a word and 5 2-9 dots to a letter. I have taken the trouble to count words, letters, dots and dashes lately, and from six different items of press containing 357 words, and 15 messages containing 200 words, no initials or technical names, I get the following aggregate: 557 words, 2,639 letters, 1,472 dashes, 4,717 dots. This, being the composition of 21 different persons, I think might be taken for an average. There was no item that averaged 5 letters to a word, the general average being 4.73. The letters average 0.56 of a dash, and 1.79 dots, each. It must be remembered that the letter E is probably used a hundred times where X is used once, and T is used as many times where Q is used once, and that L, I, O, A, M and N, which contain only two dots or dashes, are used frequently, while J, G, K and other long letters are comparatively used but seldom, so that in the ordinary construction of words,

as generally used, the average is less than three dots and dashes to each letter.

The length of a dash should and does on our perforator equal the length of two dots; T is the length of an I; and M takes the same space as H. On the basis of my calculation 500 words at 4½ would contain 2,377 letters, 1,331 dashes, 4,242 dots; and counting a dash equal to two dots, we have 6,863 dots instead of 15,000, as by his calculation, or 115 instead of 250 per second.

I have sent 498 words in 19 seconds, over 1,500 words per minute, or more than 350 dots per second, over 50 miles of wire, and it has been beautifully recorded; and I do not doubt that it can be done on a circuit of 250 miles.

One point more and I will close. When John Sterling makes calculations based on the average speed of transmission, I do not think it is fair in him to take the high average of 40 words per minute for the Morse, and then take the comparatively very fair average of 500 words for the Automatic and reduce it 50 per cent., and then for the sake of round numbers take off ten words more, which he actually does, making the speed 240 words instead of 500.

The Morse vs. The Automatic.

BOSTON, MASS., May 31st.

TO THE EDITOR OF THE TELEGRAPHER:

IN reply to Mr. Craig, I wish to say that my calculations, so far as the speed attainable by the Automatic system was concerned, were based wholly on hearsay, but the average I gave for copyists and punchers must stand, for it is based upon no partisan theory, but upon solid facts. I have it from those in a position to know as much on the subject, and perhaps more practically, than Mr. C., that 30 words per minute is a fair average, and that 40 to 45 words is as high as has been attained. From a little experience in operating one of them, I do not doubt that such is the fact, and I think I should prefer receiving or sending by Morse for 3 hours, at 40 words, to working a punching machine at 30 words the same length of time. Perhaps Mr. C. has a punching machine which will do the work he claims for it; certainly those now in use by the A. & P. will not perform one third of it.

His estimate on the "Type writers" is more modest, but exceeds probability. There is one in use in this city, on which I am informed 50 words per minute have been written. No doubt an expert could write 65 or 70 words—about the same number as the maximum that has been obtained on the combination printer.

I admit that the figures given on the Morse side were too large. While it is possible for a man to send or receive 2,000 words per hour, for two or three hours, as is frequently done on the lines of the W. U. Co., yet 20,000 words per day of 10 hours would be well nigh impossible, and would be likely to break down any one who might try it for any length of time. Still there was nothing absurd in the statement made; while the fallacy of the claim of 135 words per minute for the punching machines needs no word of mine to make it apparent to any one who has seen them in operation.

Really it would seem as though if the friends of the Automatic are able to demonstrate its superiority as well practically as theoretically, there must be capitalists who could be convinced and persuaded into putting "money in it," for the development and extension of the system. Yet strange to say, the company which was formed for that purpose, after several years' struggle, during which it barely maintained its existence, was forced to assimilate with a stronger and wealthier corporation. That company (the A. & P.) acquired the Automatic system as a part of its bargain, and with a great flourish of trumpets, announced that it had the "boss thing" in telegraph machinery. The rates were to be reduced, and there was to be a lively time generally. Well, the rates were reduced several months ago to between 5 principal points five cents or so. Yet the "monopoly" still does nineteen twentieths of the business between those points.

On the 14 W. U. wires between New York and Boston, probably 60,000 to 100,000 words are exchanged per day. Mr. Craig tells us the Automatic system is capable of doing all this on one wire, in from 2 to 4 hours.

The "stupidity" of the W. U. management, in failing to see the beauties of that system and adopt it, has been the burden of the plaint uttered for several years by those interested in the Automatic system. Mr. Craig has time and again advanced against the impenetrable wall of indifference which surrounds the W. U. stronghold with his crushing array of unreliable figures. Mr. Little has told them the story of the discovery of "points" on electricity, by attentive study of an old mill race—points which resulted in the "overflow rheostat dam," and when they wouldn't listen he has slung science, jawbreaking science, at them; then ponderous satire, but without effect. Finally, he has addressed himself to the readers of this paper, who can't escape, and pours into their ears the story of a genius which is not appreciated, and an intellect going

to seed, consoling himself by the reflection that he was *once* listened to, and by our betters too; ay! by a committee of the House of Commons, &c. After all these attempts to enlighten the W. U. management, Mr. C. says now that the W. U. never had a chance to get the Automatic system, never could have got it, and never will, because its parents nourished and brought it up expressly to fight the monopoly—a sort of young Sampson dedicated to the "opposition." However those timid Morseites, who saw their "occupation gone" in their minds eye, may take courage now. The Automatic is entirely out of reach of such base considerations as filthy lucre. 'Tis dedicated to a high and noble destiny. Who says America is not worthy to rank with classic Greece or Rome in the sublime self-sacrifice of her citizens? I always supposed the motive of those labored arguments and experiments for the benefit of W. U. officials, was a desire to sell out to the best possible advantage.

Mr. Craig's tender solicitude for the dear public, in the matter of "Cheap Telegraphing," is not at all singular. If he and his friends of the Automatic can only persuade that public that this system is all they claim it to be, they might get their wheel turned by which to grind that little hatchet. Apparently the A. & P. hasn't turned it very much to their advantage. If the W. U. would only take hold and turn awhile, what a glorious chance it would be for the Automatic people!

Mr. C.'s idea in regard to "Express Messages" is a good one, but would prove very difficult in execution. If introduced, it should be impartially and uniformly throughout the country, which would be well nigh impracticable as business is done now. The half rate system was a long step in that direction, and no doubt further advances will be made towards that end at no distant day.

J. S.

Proper Credit Accorded an Inventor.

NEW YORK, June 7.

TO THE EDITOR OF THE TELEGRAPHER.

THERE is a statement in the article describing the Commercial News Department of the Gold and Stock Telegraph Co. in THE TELEGRAPHER of March 29, which, though very flattering to myself, hardly does justice to another gentleman. I allude to Mr. G. M. Phelps, who has, perhaps, done more to perfect printing telegraphs than any man living.

The instruments in question (financial) were originally invented and put in operation by Mr. Phelps as two wire machines. Some experiments I made satisfied me that, with an alteration in the running gear, the instrument would work as well on one wire. This proved to be the case, and the change was made in all of the instruments.

The improvement was found, on subsequent investigation, to be covered by a patent granted to Pope & Edison some years before.

HENRY VAN HOVENBERG.

More Attempts to Burn the Museum.—Personal.

ALBANY, N. Y., June 8.

TO THE EDITOR OF THE TELEGRAPHER.

THERE seems to be a settled determination on the part of some unknown person to complete the destruction of the Museum Buildings. Not content with the disastrous result of last spring's attempt, two more efforts have recently been made to accomplish this object. On Saturday evening, May 29, about six o'clock, some of the workmen on coming down from the roof discovered a fire burning briskly in a pile of Georgia pine lumber on the first floor, in the room formerly occupied by E. Everson, Banker. This they extinguished without calling upon the fire department. On Tuesday evening of the following week a similar attempt to fire the building, in nearly the same place, was frustrated by the "Protectives." Clothes saturated with kerosene were found in both instances under the lumber, proving beyond all question that the fires were both the work of an incendiary.

A young man named George Sinclair, employed in the Marble Pillar Restaurant, which is located in the basement of the building, is now under arrest, circumstances pointing very strongly toward him as the guilty party. His examination was commenced Saturday afternoon before Justice Clute. Three or four witnesses were examined, but no positive proof of the guilt of the accused was adduced. The examination will be continued this week.

The boys do not appear so anxious to see the old corner wiped out as they did a few months ago. There seems, at present, to be a reasonable probability that we shall be able to occupy the new quarters some time in July. May "Old Prob." do his best for us this time. Legislative business being over, we are having a little "let up," which is being made the most of in anticipation of the summer rush which will soon be upon us.

"Senator" Steward, the capital—no, that's not it, I mean the Capitol Operator—has resumed his usual

place in the main office, and is now engaged in making life miserable to the luckless "Hubbites" who chance to make their appearance on 30 East. Mr. Chas. E. Arnold has taken unto himself wings and flown away to pastures green, where the gentle zephyrs, etc., etc.—the fact is we were out in the country once, and the impression has not yet entirely faded from our mind—in other words, Mr. A. has resumed his old position at Fort William Henry Hotel, Lake George, for the season. Mr. Chas. H. Davis, the Artist, of Worcester, Mass., commences a starring engagement on the quad, June 15, for two weeks only; terms 100 per cent. of the receipts and a benefit. ("O. R." gives the benefit.) Foreman Thompson recently received a lot of poles which Captain Mackintosh facetiously termed "clothes-line props;" they are sixty-five feet long, two feet four inches thick at the butt, and are to be used in changing wires at the cable house in East Albany, and also in running them into the new office. DOUBLE-SIX.

Personals.—A Bull.

CHICAGO, ILL., May 29.

TO THE EDITOR OF THE TELEGRAPHER.

AMONG the recent changes in the Western Union force here are the following: Frank M. Crittenton, of the regular night force; and "Eddie" Dennis, of the all night force, have been assigned to duty on the day force.

Mr. "Sam" Bracken, of the St. Paul wire nights, has been transferred to the vacancy on the all night force, caused by Mr. Dennis's promotion to the day force. It is not often at this late day that you hear regrets on a line when an operator who has worked it a long time is transferred, but such was the case in regard to Mr. Bracken's assignment to the all night force. He was very popular with the operators on that line.

Mr. "Al" Baker, an old timer, formerly of Chicago, but more recently of San Francisco Western Union office, has accepted a regular position on the night force in this office.

The recent additions to the substitute "gang" are "Gus" Carroll, formerly of Stock Yards (Ill.) office, but recently Des Moines, Iowa, night report operator; "Jake" Tolman, of Omaha Western Union office, and Harry Garner, one of the unfortunates of the "gobbled up" Pacific and Atlantic Co. of this city, recently of Renova, Pa., P. & E. R. R. office.

As a specimen of bad reading of copy, the following "Trkkliva," Ill., for "Trskliva," Ill., "takes down" every pin and calls for a "set up" on the other alley.

WESTERN UNION.

Extension of the A. & P. Wires to Milwaukee.—The Great Western Telegraph Co.

MILWAUKIE, WIS., May 15.

TO THE EDITOR OF THE TELEGRAPHER.

OTHERS have done it, why should not I?—that is contribute my mite to help in the good cause the telegraph(er) fraternity. It would be hard indeed to scrape up much that would be of general interest to the readers of THE TELEGRAPHER, after "Western Union" and "Occasional" have sent in their first pick, but I may be able to communicate some items that they have omitted.

The Atlantic and Pacific Telegraph Co. are progressing finely with the extension of their wires to this city from Chicago, and expect to have them in operation here by the 1st of July.

Supt. Knapp, of the Great Western Telegraph, is doing a rushing business in Chicago now, between Milwaukee and Chicago, one day recently showing 110 messages per hour.

Recently a 9 pound *souder* was added to the family circle of Mr. E. W. Farnham, the efficient operator on 'Change at Milwaukee, for the Great Western Co. Good luck to him!

Where is "Nihil Nameless" quietly reposing now? Should "John Sterling" die under the recent blow, we would wish to see his obituary headed "Automatic."

If this is acceptable, you may hear from me again.

PANT A. LOON.

An Electric Fish.

As a gentleman, fishing near Penzance, England, gaffed a large fish, he was seized with a numbness in his arms, accompanied with an indescribable and painful sensation, which was really an electric shock. His servant man, who accompanied him, suffered in the same manner, he having assisted in securing the torpedo. The electrical apparatus in this fish was found, on examination, to consist of small membranous tubes, which occupy the space between the head, the pectoral fins and the branchue. They are disposed like a honey-comb and divided by horizontal partitions into small cells, which are filled with a mucous substance, the whole arranged like a galvanic pile.

THE TELEGRAPHER

DEVOTED TO THE INTERESTS
OF THE
TELEGRAPHIC FRATERNITY.

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38 VESEY ST., New York.

PREMIUMS FOR SUBSCRIPTIONS.

1,000 NEW SUBSCRIBERS WANTED.

It is desired to add 1,000 new names to the present Subscription List of THE TELEGRAPHER during the next two months. To accomplish this it is only necessary for the friends of the paper to engage energetically in presenting its claims to the consideration of the Telegraphers generally throughout the country.

To encourage such efforts it has been decided to offer the following

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NEW YORK.

Improvements Proposed and Feasible in the System of Transacting Telegraph Business.

THE minds of telegraphers and telegraphic managers have been so much occupied with improvements suggested in the machinery and apparatus required for telegraphing, especially in this country, that but little attention, comparatively, has been bestowed upon improvements which are possible and feasible in the system of doing the business, which is scarcely of less importance. The contest has been earnest and energetic over the relative merits and demerits, efficiency and lack of efficiency of MORSE, Automatic, duplex and quadruplex, the views of the several parties on these points being no doubt influenced to a considerable degree by the ownership or supposed ownership of the patents to the alleged improvements respectively. This contest will no doubt continue for some time to come, and the final decision of the matters involved, if ever made satisfactorily, can only be so after prolonged trial and encounter in actual use of the several systems.

While by no means disposed to underrate the importance of this discussion and the systems involved in it, and as our readers are aware having decided, and we think well founded opinions of our own in regard to them, yet it may be profitable for a time to take up other branches of the great telegraphic problem and consider them.

It is not to be denied that the popular demand is for cheaper telegraphic facilities than the public now has. The only thing which has in the past given Government telegraph projects in this country the little popular support which they have received was the idea industriously and persistently put forth by their advocates that under Government ownership and management the rates for telegraph service would be materially reduced. The discussion of these projects has pretty effectually disposed of this fallacy, and we think the people generally have become convinced that under Government management the actual cost of the telegraph would be largely increased, and that a material reduction of rates, while it might benefit a few who have occasion to use the telegraph largely, yet would create a deficiency in receipts which must be made up by taxation of the whole.

It is true that within the last few years the rates for telegraphic service have been largely reduced. This reduction has been fully as great, if not more so, as the actual situation of telegraph companies would warrant. We do not see how these rates, under existing circumstances, can be further very much reduced, without entailing actual loss.

The question thus arises how is this popular demand to be met, with fair compensation and justice to telegraph owners? It has been suggested by one of our correspondents that a division of the business offered for transmission with different rates of charges therefor would be an important step in this direction. It is undoubtedly true that nine tenths of the messages offered for transmission if delivered at any time in from six to twelve hours would answer their purpose just as well as though delivered within a few minutes. On the other hand some of the messages are valueless unless transmitted and delivered immediately. It has been proposed therefore, to establish a class of "express" messages, which shall be guaranteed precedence and quick delivery, an extra price being charged for such service; a second class of messages which do not require especial despatch, to be sent at the convenience of the lines, but within a specified time, at say about the present rates, and a third class, to which even less importance is attached, to be sent at a considerable reduction from present rates.

It is true that plausible objections may be and have been urged against such an arrangement, but is it not worth while for telegraph managers to seriously consider and carefully investigate the practicability of such a division of the business? It has been partially effected already in the half rate night messages, and although the public were some time in realizing the advantages of that arrangement, yet it has now come to be generally understood and appreciated.

If telegraph wires were continually occupied in the transmission of despatches, no doubt even lower rates than are now exacted would be profitable, but how few wires, comparatively, are thus continuously occupied. We cannot see any insuperable obstacle to the introduction of this system, and believe that something like it will eventually be adopted by our telegraph managers.

It has been urged in opposition to such a system, that the laws of this State, and probably of most of the States, require messages to be transmitted in the order in which they are received. This argument is just as good against the half rate night messages, as to which, so far as we know, it has never been raised. It is not in either case a valid objection, for both would be a special contract between the telegraph company and its customers, and therefore not within the scope of the law in regard to telegraphic service.

Undoubtedly there are obstacles to be overcome in the successful introduction of this, as of any other change in existing methods of doing business; but they are not, in our opinion, of a formidable character; and we should like to see an agreement among telegraph managers to make a thorough trial of it, and are confident that it would result in an increase of business and of revenue, and would, when understood, be satisfactory to telegraph customers. If once properly and systematically tried, we do not believe that either party would be willing to abandon it and return to the present system.

The Vacation Season.

THE summer season has been fairly inaugurated at last, and although as yet we have had but little uncomfortably warm weather, yet we may expect soon to be sweltering under a torrid atmosphere, and reminding each other of the remarkably heated condition of the thermometer. The next two or three months is universally regarded as the vacation season, and, in common with other people, telegraphers desire to be released, for a brief period at least, from the toil and confinement to which they are subjected during the rest of the year.

This is a very natural and commendable wish, for "all work and no play" is by no means calculated to inspire energy or conduce to enjoyment and health. In the earlier days of the telegraph it used to be considered that a telegraph employé who had labored faithfully was entitled to this temporary release from duty, and relief operators were employed by the company to take their places in turn. Since the telegraph business has grown to its present proportions this custom has been discontinued, and, while leaves of absence are generally granted when asked for, a substitute is required to be provided by the recipient of such a favor. The reason assigned for this by telegraph managers is that now the business is so extensive, and so many persons are employed, that it is too great a tax upon the companies to dispense gratuitously with their services. There is plausibility in this argument, and yet we are inclined to believe that the companies would not, in the end, be losers even if the old custom were continued. The employés, as a general rule, would appreciate such an evidence of regard for their comfort and welfare on the part of their employers, and we have no doubt but that most of them would do enough more and better work to compensate for their temporary release from their exacting duties and labors.

We have before urged this consideration upon the managers of telegraph companies, but have not succeeded in convincing them of its validity, or securing the general adoption of the policy advocated. We fear that we shall be no more successful at this time, though, for the sake of the telegraph employés, of the country we heartily wish that we might be.

However, as during the summer months telegraph business is likely to be dull, and during the present summer even more so than usual, arrangements may be made, which, without taxing the companies, or even seriously incommoding the employés, will enable many of them to enjoy a vacation. In offices where

several operators are employed, they can arrange to do each other's share of the labor in turn, and thus be enabled to enjoy themselves, without pecuniary sacrifice, which many cannot well afford. To such an arrangement on the part of its employes, by which the business is properly attended to and provided for, we presume no telegraph company or superintendent would object.

The vacation question always comes up prominently at this season of the year, and for the time being interests the fraternity more than duplex, quadruplex, automatic, or other practical questions. We do not desire to create any discontent on the part of telegraph employes, and have not written for that purpose. They cannot claim a vacation as a matter of *right*, for the company is entitled to all the service for which it pays, and if it is not regarded as a matter of policy to grant such a favor, it only remains for the employes to make the best possible arrangement for their own comfort and convenience, compatible with their duty to their employers.

Completion of the United States Direct Cable.

ON Wednesday afternoon, the 9th inst., the report of the completion of the laying of the United States Direct Cable was received. As yet no congratulatory messages have passed over the line, it being desired first to thoroughly test the cable. It will not probably be open for public use for a week or two yet. The cable company have leased from the Franklin Company two wires from Rye Beach, New Hampshire, to New York, which are run into the office of the company at No. 16 Broad street in this city. The rate of charges for messages has not yet been announced, but will be in a few days.

It is now about thirteen months since the Faraday left the Thames to lay the New Hampshire and Nova Scotia section of the cable. On the 20th of August last the shore end of the main cable was laid from the steamship *Dacia* in Ballenskelley's Bay, Ireland, and on the 2d of September the Faraday effected the splice between the shore end and the deep sea cable, and commenced paying out towards Newfoundland.

After many vexatious and costly delays the cable has at last been completed, and in a few days the competition between the Anglo-American and Direct Cable Companies, which has been so long and unexpectedly delayed, will be inaugurated.

Don't Forget "The Telegrapher."

WE hope that the friends of the *THE TELEGRAPHER* (and every telegraph employe should be a friend to the paper devoted to the interests of the telegraphic fraternity) will not cease their efforts during the summer to bring the paper to the attention of those who are not now subscribers. The summer is a dull season for newspapers as well as for other business, but this should induce extra exertions on the part of those who appreciate the importance of maintaining an independent telegraph publication to maintain and increase its subscription list. We offer very liberal commissions and premiums for subscriptions, and no labor or effort is spared to make *THE TELEGRAPHER* an interesting as well as valuable paper.

We are aware that the times are hard, but the price of subscription is so small that it would appear as if every telegrapher ought to be able to afford it. Will not our friends bear this in mind, and encourage the publisher by their successful efforts to prove that his labors are practically appreciated?

Printing Telegraph Instruments Duplexed.

ANOTHER important step has been successfully taken in duplex telegraphy. The Combination Printing Telegraph Instruments used to a limited extent by the Western Union Company have been successfully adapted to duplex operation. Two of these instruments, specially arranged for working on the duplex system by Mr. G. M. PHELPS, are now in operation sending and receiving simultaneously on one wire, and the speed at which they are

worked is represented as something remarkable. Mr. GERRETT SMITH has been engaged for some time past in making the necessary arrangements of circuits, etc., to accomplish this, and it is a complete success. The ease and rapidity with which these new instruments work, and the advantages which they possess will be likely to lead to a more extensive use of them by the Western Union Company. No doubt they can be adapted to quadruplex operation also, and with four improved combination printers working on one wire, the amount of business which can be transmitted will be likely to astonish not only outsiders, but a large proportion of even experienced telegraphers.

It would be another instance of the changes which time brings about, if the printers with their old time recommendation, "Prompt, Accurate and Reliable," should once more become a leading and favorite instrument for commercial telegraphic purposes.

Consolidation of Insulated Wire Works.

We learn from Mr. EUGENE F. PHILLIPS, the well and favorably known manufacturer of office and insulated wires, cables, etc., of Providence, R. I., whose advertisements will be found on the title page of *THE TELEGRAPHER*, that he has purchased the business and machinery for the manufacture of wire of Messrs. FRANK S. MEAD & Co., of that city, and will consolidate the two establishments under his personal ownership and management. This gives Mr. PHILLIPS the advantage of the very superior machines used by MEAD & Co. heretofore, for manufacturing insulated magnet wires, of every size and description required. Some specimens of the wires manufactured by these machines shown to us are of a very superior quality and beauty, the insulating covering being very evenly and beautifully wound upon them by these machines. Only the best quality of material is used by Mr. PHILLIPS making his wires, and the excellent quality of his goods fully warrants the remarkable success which he has achieved in this specialty. His extensive manufactory is fully equipped with the best and latest improved machinery, experienced and careful workmen, and orders are promptly filled at reasonable prices.

Mr. PHILLIPS also manufactures a very superior article of patent flexible gaslight tubing, which, we are informed, is meeting with deserved success, it being the best article of the kind made in this or any other country.

Send us Telegraphic News.

WE have repeatedly requested telegraphers throughout the country and the British Canadian Dominions to forward us matters relating to telegraphs and telegraphers that may come to their notice, for publication in *THE TELEGRAPHER*. Many do this and to such we return our sincere thanks. We desire to make this paper a complete record of all telegraphic matters of interest, and to do this we must rely to a certain extent upon the friendly cooperation of the fraternity. All items of news, information in regard to new lines built or projected, extension of old lines, new offices opened, personals, etc., are of interest, and are fully appreciated by us, and by our readers. We have no doubt but that many of our readers who have not hitherto done so, could aid us materially in this matter, and we take this occasion to renew our request for their cooperation.

The Sixth Cincinnati Industrial Exposition.

THE magnitude and success which have attended the Industrial Expositions held at Cincinnati, Ohio, annually for the past five years have caused them to be regarded as one of the notable events of the year.

The prospectus and announcement for the SIXTH Exposition has been issued, and it is designed to make the one for the present year even more extensive and complete than those which have preceded it. The building in which it will be held was specially erected for these exhibitions, and presents an available space of 338,000

square feet, or nearly eight acres under roof. Within this building there will be an acre of machinery in motion, and ample provision made for fully and satisfactorily testing competing machines.

The premium list is very full and comprises gold, silver and bronze medals, and high money premiums in gold.

The Exposition is managed by a Board of Fifteen Commissioners, appointed by the Board of Trade, the Chamber of Commerce and Ohio Mechanics' Institute.

The halls and grounds will be open for the reception of articles from and after Monday, August 2. The Exposition will be open to the public on Wednesday, September 8, and will continue open until Saturday, October 9.

Applications for space must be made to the Secretary, Mr. FRANK MILLWARD, who will furnish all necessary blanks and information.

Coming Home.

Mr. WM. ORTON, President of the Western Union Telegraph Co., sailed from Liverpool on Wednesday, the 2d inst., on the steamer *Celtic*, for New York, and will probably arrive by to-morrow (Sunday). His absence has been prolonged somewhat beyond the time originally intended. It is understood that Mr. ORTON returns home with improved health and renewed energy to resume the arduous duties of his position.

Personals.

Lieut. THEO. SMITH, has at his own request been relieved as Sup't of U. S. Military Telegraph, Arizona Line, at San Diego, Cal., and will rejoin his Regiment, the Fifteenth Infantry, now stationed in New Mexico.

Mr. S. S. McCULLOUGH, has accepted a position with the W. U. Telg. Co. at Fort Scott, Kansas.

Mr. JAMES O'TOOLE, of St. Louis, Mo., W. U. office, has resigned, and leaves for San Francisco, Cal., on the 15th inst.

Mr. CHAS. T. DAY, of the St. Louis, Mo., W. U. office, is visiting Brooklyn, N. Y., and it is said that CHARLES will duplex before returning to the West.

Mr. E. A. KEENE, of St. Louis, Mo., is visiting at Titusville, Pa.

Mr. HENRY C. MAHONEY, has returned to St. Louis, Mo., and is looking splendidly after his vacation. MACK tips the scales somewhere in the neighborhood of 200 pounds now.

Mr. CLARK, Train Despatcher of the Cairo and St. Louis R. R., has moved his office from East St. Louis to the general office in St. Louis.

Mr. B. SMITH, of Hamilton, Canada, reversing Horace Greeley's advice to young men, has "gone east," to work in the Dom. Tel. Co.'s office in Montreal. He is a good operator, and what is somewhat rarer among "lightning transmitters," is a thoroughly good boy into the bargain. He never quotes scripture irreverently over the wires, and never makes such cruelly discouraging remarks to aspiring "plumes" as some impatient "rushers" do.

Mr. FRANK REVELL, of Dundas, Canada, has decided that following telegraphy is not the fastest way in the world of becoming a millionaire, and so has given it up. Mr. N. MILLER, of Stayner, has accepted Dundas office, in his place.

The Stayner vacancy is to be filled by Mr. GEO. SOMERS, who has been acting as message boy in Barrie office. He is a smart young fellow, and can "frite gerse" after the most approved style.

Mr. A. MUIR, has been put in charge of the Woodstock, Canada, Dom. Telg. office, vacated by Mr. W. TATTEN. He boasts of having the *sweetest* little office on the line. It is in a confectionery store.

Mr. GEO. NOBLE, of St. Catharines, has accepted a position with the Dominion Tel. Co., in Hamilton, Canada.

Mr. F. BOISSEAU has been transferred from Montreal to Ottawa, Canada, D. T. Co.

Mr. FRANK MERRILL has resigned the position of night manager of the Milwaukee, Wis., Western Union office to engage in the practice of law.

Mr. W. N. PASSMORE has resigned his position with the Western Union Co. at Milwaukee, Wis., to take a situation in a bank.

Mr. E. W. FARNHAM, formerly of the Great Western

Telegraph, at Milwaukee, Wis., has accepted the position of night manager of the Western Union office, same city, vice Mr. FRANK MERRILL, resigned.

Mr. R. J. NICOD, is taking night report in the Milwaukee, Wis., Western Union office, in place of Mr. PASSMORE, resigned.

Mr. JERRY O'CONNELL, still holds to his position in the Northwestern Co's. Milwaukee, Wis., office.

The Telegraph.

The Western Union Dividend.

THE regular quarterly meeting of the Directors of the Western Union Telegraph Company was held at the Executive Office on Wednesday, June 9th. The earnings for the year ending the 30th inst. partly estimated, were reported at \$9,581,000, and net earnings at \$3,154,000, which, after payment of interest, would leave \$2,725,000, or over 8 per cent. on the capital stock. A dividend of 2 per cent. for the quarter ending the 30th inst. was declared, payable July 15th. The transfer books will be closed June 19th.

Annual Parade of Employes of the American District Telegraph Company.

THE annual parade and inspection of the employes of the American District Telegraph Co. will take place on the morning of July 5th. The line will be reviewed by the officers of the company, and the inspection and exhibition drill will take place in the City Hall Park. About 400 messengers and 50 patrolmen, together with a juvenile band, will take part in the parade. Each employe will report in full uniform, picadilly collar and white gloves.

The messengers are drilled daily in the various offices of the company, all the drilling being under the supervision of Drill Inspector J. F. Cowan, who was appointed by the Superintendent to have general charge of all the arrangements. The Board of Juvenile Officers for the coming year will be appointed just previous to the parade.

Messenger No. 12, at present day sergeant of the 10th District, is prominently named for the colonelcy.

It is generally thought that the 37th and 10th Districts will carry off the prize for superiority of drill, as they seem to excel even militia organizations.

The 28th District will probably, as usual, excel in equipment.

Telegraphic and Electrical Brevities.

ALL the North River telegraph cables of the Atlantic and Pacific Telegraph Co. which formerly crossed the river at the foot of Nineteenth street have been removed to the foot of Seventeenth street. The Atlantic and Pacific, and the Marine Sandy Hook lines have now 19 cabled wires crossing at this point.

The Southern and Atlantic Telegraph Co. have opened an additional office for the accommodation of their business and customers at No. 6 Broad street, New York.

The Atlantic and Pacific Telegraph Co. have rented the office formerly occupied by the Great Western Telegraph Co., at Milwaukee, Wis., and expect to have their new line from Chicago completed and occupy it for business by the first of July.

How Government Telegraph Works.

WE have already noticed that the Government Telegraph in England ran behind \$500,000 the past year. Sir Stafford Northcote, Chancellor of the Exchequer, in his "hudget speech," holds the following very striking language in regard to the revenue and expenditure:

"With regard to the telegraphs, I am sorry to say there is a falling off, and that falling off is of a character which illustrates the difficulties of that undertaking. Undoubtedly the telegraph service has not yet been brought into a remunerative condition. We are not as yet paying our way; we are contributing very little toward the interest on the debt incurred for the purchase, and we can only hope that through the exertions which are being made to improve the service, and to bring it into a more economical position, we shall, by and by, set that matter right. The difficulties under which we have to administer a service of that kind—a service which interests everybody, and which leads to demands being made in all directions—are very great indeed. I know very well that honorable men are continually pressed by their constituents to bring forward complaints that for years telegraphic communication is not afforded to this, that or the other portion of the kingdom, and they are very reluctant indeed to accept the answer that the Government cannot afford to give it. There is a feeling that the Government ought to be able to afford to give it,

and we cannot give those sort of answers which private companies could and, I suppose, did give in such cases. This is a point worthy of consideration, not so much in regard to the telegraph service itself, in which we are now fairly embarked, and of which we must make the best we can, as in reference to suggestions of acquisitions of other forms of property, and the conduct of other kinds of business, in which I hope the House will never be led to embark without very carefully weighing the result of this remarkable experiment." (Cheers.)

It will be observed that the telegraph as yet does not pay its running expenses, while the interest of the investment is permanently in arrears. The cost of the purchase was \$50,000,000, the interest upon which, even at the low rate of 3½, is \$1,725,000 a year, toward which, says Sir Stafford, "we are contributing very little"—probably nothing at all, as they will naturally first endeavor to meet running expenses. The Chancellor of the Exchequer briefly hints at the difficulties under which the Government labors, with local interests clamoring in every direction to be satisfied. These difficulties, serious as they may be in the small, compact and thickly settled territory of Great Britain, where the influences of patronage are much less malign, and public jobbery is much less prevalent than with us in America, would open a bottomless abyss of expenditure, official incompetence and corruption. The tone of the speech indicates that, if the subject were to come up *de novo*, Parliament would not, from its present experience, embark in Government telegraphy, and the cheers with which the Commons greeted his sentiments show that he correctly represented their feelings.—*Springfield Republican*.

The Telegraph in Egypt.

IN the later years of the life of Mahomet Ali he caused a semaphoric telegraph to be established for communication between Alexandria and Cairo. There were seventeen stations intermediate between these terminal points, and signaled from one to another with so much rapidity that messages from Cairo were received at Alexandria in forty minutes, and the chronicler takes pains to add: "Those from Alexandria were received at Cairo in the same interval of time." This mode of telegraphic communication of course yielded to the electric telegraph, by which Cairo is now connected not only with Alexandria, but with the most remote parts of Egypt, there being more than four thousand miles length of line, and double that extent of wire. The whole is operated by the Morse instruments. The submarine telegraphs in the Mediterranean on the one side and in the Red Sea and Indian Ocean on the other, of course complete the telegraphic communication with every part of the world. Despatches between Cairo and Washington are, in fact, exchanged within twenty-four hours, including all delays in transmission and the necessary pause for the preparation of answers.

Miscellanea.

ACTION OF THE ELECTRIC CURRENT ON FUSED METALS.—The behavior of amalgams and melted alloys, when traversed by the galvanic current, was studied a few years ago by M. Gerardin, who, however, did not make quantitative measurements. We find from *Archives des Sciences* that M. Obach has lately gone into the matter more fully, and arrived at somewhat different results. His conclusions are:

1. The passage of the galvanic current does not produce any electrolysis, either in amalgams or in alloys.
 2. After having been traversed by a current, amalgam decomposes equally water at both poles exactly as before.
 3. The action of the current does not at all modify the hardness or the malleability of the alloy lead-tin, nor the state of fluidity of the alloy potassium-sodium.
- It does not produce in the composition of the alloy, in the neighborhood of the electrode, any change exceeding the limits of possible error in the analysis.

Quotations of Telegraph Stocks at N. Y. Stock Exchange,

Showing Lowest and Highest Prices each day during week.

June.	WESTERN UNION.		ATL. AND PAC.		AMER. DIST.		GOLD AND STOCK.	
	Bid.	Asked.	Bid.	Asked.	Bid.	Asked.	Bid.	Asked.
3	73½	75	23	24	..	30	..	75
4	74½	75½	23½	24	..	..	..	..
5	75½	76½	23	24	..	..	..	..
7	74½	76½	23	..	..	..	..	..
8	74½	75½	23½	24	..	..	..	..
9	74½	76	24½	..	..	30	..	70

New Patents.

OFFICIAL COPIES of any U. S. Patent issued since July 1st, 1871, including drawings, specifications and claims in full, sent free to any address for 25 cents each. Address F. L. POPE, P. O. Box 5503, New York City.

For the week ended May 18th, 1875, and bearing that date.

163,310.—FIRE ALARM TELEGRAPH CIRCUITS.—John N. Game-well, Hackensack, N. J. Filed March 30, 1875.

No two contiguous boxes on same circuit, thus avoiding, in great measure, danger of interference, and insuring good alarm circuit in every neighborhood.

The combination and arrangement, in a fire alarm telegraph, of a series of signal stations and electric circuits, as herein described, whereby each signal station throughout the series is in a different circuit from that or those located nearest or adjacent to it, as specified and shown.

163,318.—GALVANIC BATTERIES.—Vincent E. Keegan, Boston, Mass. Filed Feb. 4, 1875.

Claims that a purely electro-chemical action is secured by the form of battery covered by first claim, and that the wire coil "prevents the occlusion of hydrogen gas and the metallic salts within the walls of the porous cell" surrounded by it.

1. The arrangement of a porous cell, a, placed within another porous cell, b, which shall allow of a space between them to constitute a vessel, and each cell to contain an acid or a salt, which shall be electrically or chemically different in each cell, to act electively with each other and to the negative metal of the battery, in the manner substantially as described.
2. In combination with the porous cell, b, a coil of wire *m m' m''*, through which the electric current circulates, said wire surrounding the porous cell, and consisting of a continuation of the wire leading from the zinc pole of the battery.

163,549.—TRAIN TELEGRAPHS.—A. N. Towne, San Francisco, Cal. Filed Dec. 28, 1874.

The insulated cylinder or circuit breaker is designed for use with an elastic conducting cord extending from end to end of the train.

1. A signal apparatus for railway trains, consisting of two complete electric circuits connecting with the opposite poles of a differential magnet, one of which circuit passes through the entire length of the train, so that when the train circuit is ruptured the remaining circuit will cause the armature of the magnet to vibrate back and forth and ring a bell, substantially as above described.
2. The insulated cylinder or circuit breaker, s, with its screw *x*, in combination with the spindle *t*, with its short barrel *u* and surrounding spring *v*, said barrel *u* having the projecting spring rod *v*, substantially as and for the purpose above described.

REISSUE.

6,434.—TELEGRAPHIC PRINTING APPARATUS.—Theodore M. Foote and Chas. A. Randall, Brooklyn, E. D., N. Y., assignors, by mesne assignments, to the Gold and Stock Telegraph Company, New York City. Patent No. 105,060, dated July 6, 1870. Filed Apr. 24, 1875.

1. A type wheel rigidly secured to its shaft, and controlled by an escapement and step by step motion, in combination with a unison stop that is disconnected by the printing mechanism, substantially as described.
2. The combination, with a printing telegraph instrument, of a unison that arrests the movement of the type wheel shaft, an electro-magnet, to throw the unison out of action, and one main line circuit, substantially as specified.
3. In a printing telegraph, the unison mechanism brought into action by the type wheel or its shaft, to arrest the movement of such type wheel substantially as specified.
4. In a printing telegraph instrument, a type wheel and its shaft rigidly secured together, in combination with an escapement for moving or controlling the type wheel, a unison mechanism for adjusting or setting the type wheel, and an electro magnet for effecting the printing, all automatically controlled from the sending station through one main circuit.
5. In a printing telegraph instrument, a type wheel, in combination with a unison that operates to stop both the type wheel and the motor that carries the same when the unison is effected, substantially as specified.
6. A compound helix, consisting of three pairs of electro-magnets, C¹ C² C³ C⁴, having a switch bar, F, passing through the core of the middle pair C² C³, in combination with the relay magnet, type wheel and printing magnets, and circuit connections, arranged and operating substantially as set forth.
7. The double pallet *c*, oscillating between the teeth of the ratchet wheels *e* *f*, that face each other upon the type wheel shaft *a*, in combination with the magnets B B', substantially as and for the purpose described.
8. The oscillating anchor *y*, and pins *w* *x*, in combination with type wheel shaft, and with the printing lever, or any part connected to the same, substantially as and for the purposes set forth.
9. A paper feeding mechanism, composed of one elastic roller, and a second roller or an oscillating foot, and operated from the printing lever of the telegraphic printing apparatus, as herein described.

LECLANCHE BATTERIES.

IMPORTANT NOTICE.



After JANUARY 1st, 1875, we will allow TWENTY CENTS for each used-up Porous Cell of this Battery that is returned to us free of charge, in good order. A change is made in the discount to the trade. A list will be furnished on application to

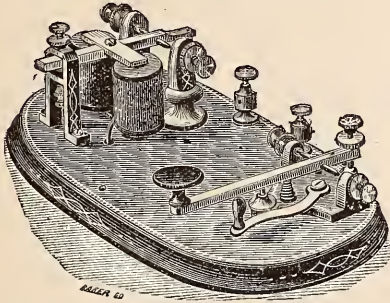
THE LECLANCHE BATTERY COMPANY,
No. 40 WEST EIGHTEENTH STREET,
or to
L. G. TILLOTSON & CO.,
8 Dey street, Sole Agents.

WESTERN ELECTRIC MAN'FG CO.
220 Kinzie Street,
CHICAGO, ILL.

CELEBRATED

PRIVATE LINE OUTFIT.

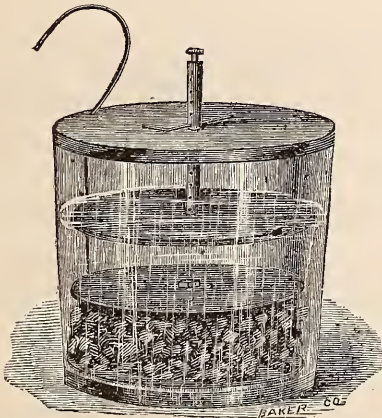
THE BEST IN THE WORLD.



PRIVATE LINE INSTRUMENT.

This instrument is mounted on an iron base and finely finished.

It gives a clear, loud sound. It is made to work on a line from a few feet to ten miles in length.



BLISS RESERVOIR BATTERY.

This battery took the first premium and a silver medal for force, constancy and economy at the Cincinnati Exposition.

With each "Private Line Outfit" is furnished one Private Line Instrument, one Cup Reservoir Battery, the necessary Chemicals, Wire for connections and a Manual.

PRICES.

Private Line Outfit, complete.....	\$10 00
Instrument only.....	8 00
Bliss Reservoir Battery, per cell.....	2 00

DISCOUNT.

A discount of twenty per cent. will be allowed when remittance accompanies the order. Remit by express, registered letter, postal order or draft.

In ordering state length of line, so that the resistance of instruments may be proportioned accordingly.

SEND FOR CIRCULAR.

Liberal terms to Agents.

WESTERN ELECTRIC M'FG CO.,
CHICAGO, ILL.

GEORGE H. BLISS & CO.,
220 Kinzie Street, Chicago, Ill.
CINCINNATI, O.,
Elm St., cor. 5th.
Manufacturers and Dealers in

TELEGRAPH INSTRUMENTS AND SUPPLIES.

RELAYS—COMBINATION SETS; BOX and POCKET RELAYS.
PONY and REPEATING SOUNDERS.

KEYS, various styles, including the SCHNEIDER KEY,
wire connections above the table.

REGISTERS, with SPRINGS or WEIGHT.

OUT OUTS, many varieties, including a new style of PEG CUT
OUT, with an adjustable LIGHTNING ARRESTER, just out.

REPEATERS—HASKIN'S AUTOMATIC, and others,

SWITCH BOARDS—REPEATING, BATTERY and GROUND SWITCHES
and LIGHTNING ARRESTERS.

ANDER'S GALVANIC and MAGNETO-ELECTRIC PRINTERS; also
SELDEN PRINTER.

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ALARMS, and WATCHMAN DETECTORS.

ELECTRIC RAILWAY SIGNALS and ALARMS, ELECTRIC GAS LIGHT-
ING APPARATUS.

MEDICAL INSTRUMENTS and APPARATUS on hand and made
to order. Second hand Instruments for sale cheap,
and repairing done at short notice.

BATTERIES in great variety, including the latest inventions;
also a full assortment of battery material.

WIRES—MOORE & SON'S and PHILLIPS' MAGNET and OFFICE
WIRES, GUTTA PERCHA and KERITE WIRES, BEST GALVANIZED
LINE WIRES; SUBMARINE, SUBTERRANEAN and
HOUSE CABLES.

INSULATORS—BROOKS, SCREW GLASS and KENOSHA CARBON.
BRACKETS, PINS and SPIKES, TELEGRAPH POLES,
LINE BUILDERS and REPAIRERS' TOOLS.

TELEGRAPH STATIONERY—REGISTER, MESSAGE and MANI-
FOLD PAPERS, CARBON SHEETS, STEEL and AGATE STYLUSES,
ORTON'S PENCIL HOLDER, SAFETY MESSAGE HOOK and
AWL CLIP, STANDARD TELEGRAPH BOOKS, &c.

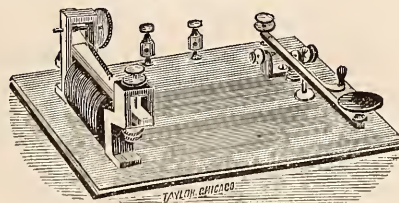
PRICE LISTS FURNISHED FREE ON APPLICATION.

Our TELEGRAPH INSTRUMENTS and ELECTRICAL APPARATUS are
elegantly finished and mounted on highly polished rosewood,
mahogany and walnut bases.

THE AMATEUR'S TELEGRAPH APPARATUS,

Comprising
SOUNDER, KEY, CUP OF BATTERY,
CHEMICALS, WIRE AND
MANUAL.

Several Thousands of these Instruments already sold. They
give good satisfaction.



PRICES.

Amateur Outfit, complete, No. 1, - - - - -	\$7 50
" " " 2, - - - - -	6 50
" Sounder and Key, No. 1, - - - - -	6 50
" " " 2, - - - - -	5 50
Battery, per Cell, - - - - -	45

DISCOUNT.

Twenty per cent. discount will be allowed when remitted for
in advance.

GEO. H. BLISS & CO.,
220 Kinzie St., Chicago, Ill.

20 PER CENT. REDUCTION IN THE
PRICE OF
TELEGRAPH INSTRUMENTS!

SEE WHAT IT MEANS.

On First-class Morse Sets for Railway and Commer-
cial Lines:

- No. 1 Relays, of standard size and resistance (120 to 150 ohms), on rosewood bases, fine finish, polished rubber covered coils, wound either with our patent glazed or with best silk covered pure copper wire, having soldered connections and firm nut fastenings throughout, and latest improved extension adjustments. Regular price, \$16, reduced to - - - \$12 80
- No. 1 Relay, same make throughout, but of higher resistance, 160 to 600 ohms. Price, \$18, reduced to - - - \$14 40
- No. 1 Relay, ditto, low resistance, 60 to 100 ohms. Price, \$15, reduced to - - - \$12 00
- No. 1 Sounders—"Railroad" or Bunnell's "New Giant" Sounders, with all the latest patented improvements in both. The best forms of Morse sounders ever invented. Beautifully finished. Mounted upon rosewood bases. Price, \$7 50, reduced to - - - \$6 00
- No. 1 Keys, Caton pattern, curved levers. Price, \$6 50 reduced to - - - \$5 20
- No. 2 Keys, W. U. pattern, curved or straight levers. Price, \$5 50, reduced to - - - \$4 40
- No. 1 Premium Register, \$45, reduced to - - - \$36 00
- " " Spring Register, \$47 50, reduced to - - - \$38 00
- " 2 Register. Price, \$38, reduced to - - - \$31 40

Box Relays, Combination Sets, Pocket Relays, Switches, Cut Outs, Lightning Arresters, etc., furnished at the same rate, viz., 20 PER CENT. REDUCTION from regular prices. See catalogue.

SINGLE SETS, OR PARTS OF SETS, WILL BE SENT BY EXPRESS AT THESE PRICES TO ANY PART OF THE U. S., ON RECEIPT OF MONEY ORDER OR DRAFT FOR THE AMOUNT OF THE BILL.

Superintendents and others about to purchase first class equipment for offices will readily see by a comparison with other price lists the advantages here offered to those who send their orders to us.

No. 2 SETS.

LEARNERS' APPARATUS, SHORT LINE INSTRUMENTS, Etc.

- No. 2 Relays, 150 to 175 ohms resistance. Price, \$15, reduced to - - - \$12 00
- No. 2 Relays, 50 to 100 ohms resistance. Price, \$11, reduced to - - - \$8 80
- Pony Relays, complete and pretty little instrument for short lines, city wires, etc., \$7 50, reduced to - - - \$6 00
- No. 2 Pony Sounders, \$6 50, reduced to - - - \$5 20
- No. 3 Pony Sounders, \$5 50, reduced to - - - \$4 40
- No. 1 Main Line Sounders for lines from 1 to 6 miles in length. Price, \$8, reduced to - - - \$6 40
- No. 2 Ditto, \$7, reduced to - - - \$5 60
- No. 3 Keys, curved levers, Caton style, same as No. 1, but smaller. Price, \$5, reduced to - - - \$4 00
- No. 4 Keys. Price, \$4, reduced to - - - \$3 20
- AMATEURS' KEY, \$3 50, REDUCED TO - - - \$2 50
- EXCELSIOR AMATEUR INSTRUMENTS, \$6 50, REDUCED TO - - - \$5 20
- BUNNELL'S LEARNERS' INSTRUMENTS, PERFECTED, \$6 50, REDUCED TO - - - \$5 20

At the above figures all grades of Telegraph Instruments may be obtained from L. G. TILLOTSON & CO. for less money than will buy as good materials at any other manufactory in America.

Orders, correspondence and inquiries will receive prompt attention. Make your memoranda of amounts for what you want from the above price list, and enclose the sum to us by postal order or draft along with your order for goods.

L. G. TILLOTSON & CO.,

8 Dey street, New York,

64 SOUTH FOURTH STREET, PHILADELPHIA.

AMERICAN FIRE ALARM AND POLICE TELEGRAPH.

GAMEWELL & CO., Proprietors,
62 BROADWAY, NEW YORK.

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General Agent and Superintendent.

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San Francisco, Cal.,

Special Agents for California, Oregon and Nevada.

THIS SYSTEM OF

FIRE ALARM & POLICE TELEGRAPH

WITH A CENTRAL OFFICE,

OR

UPON THE AUTOMATIC PLAN,

is now in operation in the following Cities, to which references
made for evidence of its great

SUPERIORITY, VALUE

AND

UNIFORM RELIABILITY.

Albany, N. Y.,
Alleghany, Pa.,
Boston, Mass.,
Bridgeport, Conn.,
Buffalo, N. Y.,
Baltimore, Md.,
Chicago, Ill.,
Cincinnati, Ohio,
Columbus, Ohio,
Cambridge, Mass.,
Charlestown, Mass.,
Covington, Ky.,
Detroit, Mich.,
Dayton, Ohio,
Elizabeth, N. J.,
Fall River, Mass.,
Fitchburg, Mass.,
Hartford, Conn.,
Indianapolis, Ind.,
Jersey City, N. J.,
Louisville, Ky.,
Lowell, Mass.,
Lawrence, Mass.,
Lynn, Mass.,
Mobile, Ala.,
Montreal, Canada,
Milwaukee, Wis.,

New York City,
New Orleans, La.,
New Bedford, Mass.,
New Haven, Conn.,
Newark, N. J.,
Omaha, Neb.,
Philadelphia, Pa.,
Pittsburg, Pa.,
Portland, Maine,
Peoria, Ill.,
Providence, R. I.,
Quebec, L. C.,
Rochester, N. Y.,
Richmond, Va.,
St. Louis, Mo.,
St. John, N. B.,
Springfield, Mass.,
San Francisco, Cal.,
Savannah, Ga.,
Syracuse, N. Y.,
Troy, N. Y.,
Taunton, Mass.,
Toledo, Ohio,
Toronto, Canada,
Washington, D. C.,
Worcester, Mass.

The Distinctive Features of these Systems of

Fire Alarm and Police Telegraphs

ARE,

First—The Automatic Repeater, through which the apparatus may be distributed in a combination of circuits, and the entire system successfully worked, without the constant personal attention of either operators or watchmen.

Second—The Automatic Signal Boxes.

Third—The Electro-Mechanical Bell Strikers, adapted to produce the full tone of the largest church or tower bells.

Fourth—The Electro-Mechanical Gong Striker, for hose and engine houses, by means of which the location of the fire is instantaneously communicated to the members of each fire company.

These Features combined form the

Only PERFECT, COMPLETE and RELIABLE System

OF

FIRE ALARM TELEGRAPH

IN THE WORLD.

It is a sufficient vindication of the claims which are made by the Proprietors of these systems of

FIRE ALARM AND POLICE TELEGRAPHS,

that they have sustained the test of more than twenty years of practical use, and that the efforts which have been repeatedly made to supplant them by other inventions have

COMPLETELY FAILED;

the few instances in which municipalities have been induced to adopt other systems having demonstrated their insufficiency and unreliability, and resulted in their abandonment, and substitution therefor of the

AMERICAN FIRE ALARM TELEGRAPH.

Messrs. GAMEWELL & CO. are the owners of the original FARMER & CHANNING PATENTS, one of the most important of which has just been extended for seven years, and during the past seventeen years have spared no expense or effort to secure improvements, and the Systems are now covered by

MORE THAN TWENTY PATENTS.

The most important improvement which the Proprietors have adopted and introduced is the

AUTOMATIC SYSTEM.

the introduction and operation of which involves so little expense, compared to the benefit which it confers, that even small communities can profitably adopt and maintain it.

The American System of

FIRE ALARM AND POLICE TELEGRAPHS

has met with the universal approbation and commendation of the

People, Municipal Authorities,

AND THE

PRESS

throughout the UNITED STATES and CANADA.

NO EFFORT, TROUBLE OR EXPENSE

is spared by the Proprietors to obtain and secure ANY POSSIBLE IMPROVEMENT which shall increase the

EFFICIENCY,
RELIABILITY and
ECONOMY

of the system. They intend that, as far as possible, it shall be

ABSOLUTELY PERFECT!

The amount of property which has been saved from destruction, and the number of lives which have been preserved through the general adoption of this system, throughout the UNITED STATES and the DOMINION OF CANADA,

CANNOT EASILY BE ESTIMATED,

but that, in every community where it has been introduced for any considerable length of time, they have been enormous, THREE CAN BE NO QUESTION.

The cooperation of TELEGRAPHERS in securing its introduction into their localities is cordially invited, and their efforts will be duly appreciated and compensated.

Any information desired in regard to the above system will be cheerfully and promptly furnished upon application at the office.

A pamphlet, setting forth more fully its advantages and superiority, has been printed, and will be supplied to Municipal Authorities and others interested in Fire Alarm and Police Telegraphy, upon application as above.

CHARLES T. CHESTER,
104 Centre Street,
NEW YORK,

TELEGRAPH ENGINEER,

AND MANUFACTURER OF

INSTRUMENTS,

BATTERIES,

AND EVERY DESCRIPTION OF

TELEGRAPH SUPPLIES.

BUNNELL'S PATENT REPEATER.

These instruments are now made in two different styles, a \$120 and \$135 a set, consisting of two Relays, two Sounders, two Keys and Governor.

JONES' LOCK SWITCH-BOARD,

a most compact and reliable Switch, forming a clean spring-locked connection between any number of wires, occupying for each different connection only one square inch of space, and though made of the largest size, not subject to the warp and contraction of wood-work.

EXCLUSIVE AGENTS OF

A. G. DAY'S

KERITE,

OR

COMPOUND RUBBER COVERED WIRE

SUBTERRANEAN & AERIAL WIRES,

OF THE

HIGHEST INSULATION.

We are now prepared to furnish, after an experience of three years, an Insulated Wire which can be buried in the earth or exposed to rain and sun, or to the vapor of acids, without injury. Professor SILLIMAN, who has exposed it to the most destructive agencies, finds that it remains uninjured in an atmosphere of ozone, which would destroy gutta-percha in a few hours. It exceeds glass or any other known substance as a non-conductor.

We have made special arrangements to furnish this article for office purposes at a reduced rate.

ALSO, TO FURNISH

IRON CLAD CABLES

of the usual size, with KERITE COVER, believing that it will exceed, in insulation for submarine purposes, ANYTHING HITHERTO MANUFACTURED.

We shall be happy to furnish estimates for any amount and size of cable, which will be found to compete with any other construction, both in quality and price.

We manufacture the Genuine ELECTROPOION BATTERY, with Patent Platina Connection, introduced by us eight years since; also, THE ALPHABETICAL OR DIAL TELEGRAPH, now extensively used in this and other cities for private lines being easily and quickly learned by any one.

We offer for sale, among other novelties, a SOUNDER that will work practically with a single DANIELL cell, a BATTERY that does not require to be taken down but once a year, and the very best MAIN LINE SOUNDERS made.

Our CATALOGUE, embracing a large amount of new matter and description, is now ready for distribution.

THE TELEGRAPHER

A JOURNAL OF
ELECTRICAL PROGRESS.

J. N. ASHLEY, PUBLISHER.

SATURDAY, JUNE 19, 1875.

VOL. XI. WHOLE No. 466.

[Written for THE TELEGRAPHER.]

"Nihil's Requiem."

"Shut the door, good John! fatigued I said,
Tie up the knocker. Say I'm sick—I'm dead!"

I.

"WE'VE shed our tears o'er Nihil's grave,"
We've sighed and "blowed" our nose,
We've wiped our eyes—been comforted,
And changed the "mould" for rose.
We've laid our mourning weeds aside,
We've taken heart again,
Convinced that "Nihil's" painful loss
Is our eternal gain.

II.

His mortal foes may now repose
In quiet dreamless sleep,
The tongue that once so wisely wagged
Will ne'er hereafter "cheep."
Canadian women well may boast
They've laid a Yankee low,
Whose puritanic pilgrim blood
Made him their deadly foe.

III.

He did not, like Montgomery brave,
Fall fighting at Quebec,
His weapon bore a longer range—
Assured him safer neck.
Far southward of the border line
He marshalled his array,
His mighty sword a nightster pen,
Waged hot the wordy fray.

IV.

But fate at last the mortal blast
Thrust through his manly side;
And "Nihil," sore beset by ices,
Alone and friendless died.
His spirit rises—life's fever o'er—
His ashes quiet sleep.
No more will women move his soul,
Nor sorrow o'er him sweep.

V.

And now comes "Sterling," barbarous man,
And o'er his lowly grave
Performs his savage Indian dance,
And mocks the fallen brave.
He deals in lofty arguments
Such as the wise oft choose.
Calls "Nihil's" class obscure and mean,
His intellect obtuse.

VI.

Defends his own weak article
As "satire" smooth and soft;
Quotes Latin, French, from phrases old
In Worcester's upper loft.
Calls in a lady to his aid,
Who tells him all her mind;
And join in stabbing "Nihil's" ghost
Now floating in the wind.

VII.

He'll find, if I mistake not, soon,
Like him of old renown,
That though he sternly o'ud it fly,
Still "Nihil" "will not down."
Ah! Sterling is a wondrous man,
With most surprising mind.
But pity 'tis his giant brain
Were not somewhat confined.

VIII.

If thus he overtasks his mind,
He may not long survive.
"Such powerful efforts soon will kill"
The oldest man alive.
Economize your strength;
Just think, if you should die,
Where could the Western Union find
A man could soar so high?

IX.

The system of telegraphy
Morse left as his bequest,
Depends for life, indeed it does,
On "Sterling" taking rest.
Think what they would lose, dear John,
Should you "go up the flume?"
Then spare yourself and us, my boy—
Don't get in such a fume.

X.

Guid send you long may work the key,
And long may wield the pen,
Long may you live to fight for Morse,
And bless your fellow men.
May Western Union mortgage bonds
Line well your pocketbook;
And happiness, to ripe old age,
Stay by your chimney neuk.

ICHABOD CRANE.

Original Articles.

"Duffer" De C——.

It is a very good and comfortable thing to have a good opinion of one's own abilities; but there is sometimes danger of carrying this virtue to excess, and being laughed at in consequence. This was the case with Dufferin De C——, otherwise known as "Duffer." His family were at one time quite wealthy and aristocratic; but long before "Duffer" was old enough to smoke his first cigar (though he *did* learn that manly accomplishment quite early in life), they were in what is generally described as reduced circumstances. Had our hero been naturally smart the family influence might have procured him a situation in a law office, or he might even have had the chance of making his fortune as a bank clerk on a munificent salary of say two hundred a year; but as he always showed a woful lack of smartness in everything except "putting on airs" and "blowing," his folks decided that the best thing they could do would be to let him adorn the telegraphic profession, shrewdly thinking that "brass pounding" required but a minimum amount of brains. To his intense disgust he was obliged to begin his brilliant career as a common message boy. It took about six months' steady hammering to initiate him into the mysteries of dots and dashes; but after he had once mastered his letters he showed a surprising aptitude for "slamming in slack," as he called giving impertinence to other operators on the line. As he could not take one word of what was said in reply he remained in blissful ignorance of the sarcastic answers to his playful sallies. After he had been about eight months in the office, and had accomplished the extraordinary feat of receiving an office message (on the register) he modestly expressed the opinion that he "knew most all there was to learn about the biz;" and a few weeks after that he began to throw out dark hints to the effect that if the company knew what was good for their own interests they would make him Superintendent without further delay.

The very day his year of message running expired he sent the following business-like message to the Superintendent: "I am a good sound operator. I want a situation." The Superintendent happened to be in the operating room when this message arrived, and so sat down to the key and called up the office. "Duffer" answered, and Superintendent said, "How long have you been at the business? Are you good at copying press reports?"

"Is it to me you are sending?" innocently inquired "Duffer," when he closed his key.

"Well, yes," replied the Superintendent.

Not knowing who it was at the key, and thinking it a fine opportunity to display his telegraphic lore, "Duffer" coolly retorted, "Repeat it, then. Take the other foot to it and try write Morse."

"In reply to your application the Superintendent thinks you had better practice a year or two longer before describing yourself as a sound operator and asking for a situation. In the meantime it would be as well for you to indulge in a little less impertinence, and let the paper run when you answer a call," was gently wafted o'er the wire to his expectant ears, or eyes, rather, for he took it on paper.

So "Duffer" was obliged to hide his light under a bushel for another long year, though not without several efforts on his part to get a chance to shine in an office of his own.

At last his perseverance was rewarded. One bright summer day the Superintendent sent him a message, saying, "You can go and take charge of D—— office. Start to-morrow." "Duffer" thought that immense," and in the luiness of his heart borrowed ten cents and treated the office boy to a pint of peanuts, and spent the remainder of the day entertaining him with glowing accounts of how he would "salt" the plugs on that line, and astonish the natives generally.

Before he had been many days in his new office he gave the rest on the line to understand that he was an uncommonly last operator, and must be treated with the respect due to "sushers." "But pride must have a fall," and it was not long before his was taken down most cruelly. It happened in this wise: A man in S—— wanted to know the price of wheat in "Duffer's" vicinity, and sent the following message:

"From S——

To Operator, D——.

What is wheat worth there?

JOHN ANDERSON."

He did not quite catch the address, but thought it sounded like "O. Prater," and as the message was sent quite slowly he could not bear the thoughts of endangering his reputation by breaking, so he addressed the envelope "O. Prater, Esq.," and handed it to the message boy to deliver. The boy scanned it curiously and remarked that he had never heard of that man, "Go and hunt him," was the laconic reply.

So he went and hunted, but hunted in vain. In about a couple of hours he returned and piteously de-

clared he had "hunted all over and couldn't find him nowhere."

Any ordinary operator would have felt discouraged under the circumstances, but "Duffer" was not an ordinary operator, so did not feel discouraged.

"Oh you did not half look," said he, "Go and try again."

The boy tried again, but after a long and weary search returned in despair, and announced in the words of the immortal Sairy Gamp—"I don't believe there's no sich a person!"

"Oh, pshaw! You're no good! when you've handled as many messages as I have, guess you'll be a little sharper at it. Very likely it belongs to one of the men out at Clark's mill. Just keep an eye on the office and I'll deliver it myself. It's only three miles out."

Off he went to Clark's mill, but could not find any one there answering to the romantic cognomen of Prater. He sadly wended his way back to the office and sent a savage message to S——'s office saying, "Give better address message to Prater signed Anderson. Been chasing all over country after him and can't find."

Fancy his feelings when the answer came back, "You'd best go drown yourself in an empty beer barrel! Message signed Anderson is to yourself. It is Operator not O. Prater."

A malicious fellow artist in G——'s office who had had several "breezes" with "Duffer" happened to overhear the affair, and made it his business to rise and explain the joke to every one on the line who had missed it. It proved poor "Duffer's" death blow. He was never able to regain his lost prestige. Every time he tried to assert his dignity some heartless fellow would extinguish him by slowly drawing out "Prater." This preyed upon his haughty spirit and destroyed his appetite, and he tried to drown his sorrows in "tanglefoot."

Then his ideas of *meum et tuum* became badly mixed. Inspired by a laudable desire to increase the Co.'s receipts and turn an honest penny on his own account at the same time, he took to playing billiards with the Co.'s money. But fortune obstinately refused to smile upon his little game, and he lost every cent the company had in the office. At the end of the month he was obliged to send in his statement without any funds. Being unable to explain matters to the satisfaction of the secretary, he was politely requested to remit at once, and send in his resignation at the same time. As he had neither cash nor credit he could not remit, but he knew they would not wait long for his resignation, so one dark night he "silently stole away" and has never been heard of since.

Thus ended the telegraphic career of one who might have been an ornament to the profession and a credit to the fraternity at large had he not allowed his conceit to run away with his common sense. "Sushers" take warning!

Guelph, Ontario, June 9th.

A July Storm.

By J. S.

ONE of the grandest displays of electrical phenomena I ever witnessed, occurred on a July day in 1866, while the writer had charge of the telegraph office at a small village in central Massachusetts.

The weather had been extremely hot and sultry for several weeks, without the relief of even a passing shower to lay the dust or purify the atmosphere. The day on which the storm occurred was preceded by a very sultry night, and morning dawned upon a temperature of about 80°, which, as the burning rays of the sun poured more and more vertically down upon the dry and parching earth, rose to 102° at noonday. At about 3 o'clock a mass of clouds like a black wall, were seen coming up the eastern horizon, and soon afterwards a similar embankment of dark, threatening clouds appeared in the west. The two storm clouds slowly advanced toward each other, and soon the preliminary flashes between them occurred. The pall of clouds in the west had obscured the sun, and cast a gloom over the earth below, that better enabled us to witness the play of the lightnings. The battle was opened by a vivid flash followed by a rolling detonation, and a few pattering drops warned the pedestrian to seek shelter. The store in which my office was located, was in a large two story building, the most prominent in that part of the village, and as the rain began to fall in torrents, passers by gradually dropped in, until there were perhaps twenty persons of both sexes in the store. As the storm increased in fury, and flash followed flash with blinding vividness, accompanied by thunder—sometimes sharp and crashing like the clashing of millions of cymbals; again rolling over the vaulted heaven, with a sound as of a heavy train passing at full speed over a bridge, but far more loud and reverberating; again with the sullen boom and roar that one might have heard at Petersburg or Waterloo—the little company drew closer together, and each

made a pitiful attempt to smile, and to speak unconcernedly of the storm, while the pallid faces and trembling forms of the women, and solemn visage of the men, revealed the terror they sought to conceal. An unusually vivid flash and startling peal filled the hearts of the company with dismay—the lightning had shattered a noble elm within a dozen rods of the store! Another bolt of dazzling brilliancy fell upon a building a short distance up the street, and children came shrieking out of the house and ran to the store crying that their father was killed by the lightning. While the excitement and terror thus created were at their height, the Heavens were illumined by a sheet of flame, surpassing all that had preceded it in vividness, which was accompanied by a deafening peal of thunder, a jarring crash that made the building tremble, and a report, loud as that of a musket, at the rear of the store where the telegraph instrument was located. Every one supposed for a moment that our building had been struck by the lightning. Such terror as was depicted on the faces of the assembled company at that moment it has never been my lot to witness again. There were no shrieks, no cries nor sobs. Every faculty seemed frozen by fear. A woman sank fainting to the floor, and a strong man fell upon his knees in a posture of prayer. It was some moments before the company realized that it was a false alarm, and regained something of their composure. The man rose to his feet looking as though he thought he had been guilty of a very cowardly action. The woman soon recovered consciousness, and the storm having meanwhile spent its force, the company was ready to laugh at the fright they had experienced. It was learned that the father of the children had been only stunned, and that no serious casualties had occurred.

The telegraph relay was found melted and useless. The striking of a telegraph pole a short distance away had caused its explosion, and the accompanying crash and report which had so worked upon the fear of those present.

Never have I witnessed a more impressive instance of the realization by human beings of their insignificance before the mighty forces of Nature; of the utter nothingness of man in comparison with those forces, which are themselves but the minor, and insignificant agents of Nature for the regulation of one of the smallest of the countless millions of orbs which spangle the midnight firmament, and compose God's universe!

Correspondence.

We do not hold ourselves responsible for the opinions of our Correspondents. Our columns are open to free discussions on all Telegraphic subjects, without distinction of person or opinion.

No notice will be taken of anonymous communications.

Good Counsel to Telegraphers.—How to get Subscribers for the Telegrapher.—A Cautious Scotchman, etc.

TORONTO, CANADA June 4th.

TO THE EDITOR OF THE TELEGRAPHER.

I WAS greatly pleased with "Agitator's" sensible and interesting article in last week's paper, on the merits of THE TELEGRAPHER, and can heartily endorse all he says in its favor. Subscribing for THE TELEGRAPHER is the most profitable and satisfactory investment any intelligent operator can make, and no one who is ambitious of rising in the profession can afford to dispense with it. Although its circulation is certainly very large, it ought to be a great deal larger, and by a very little extra trouble on the part of those who take it the number of subscribers might easily be doubled. "Agitator's" advice to those who plead poverty as an excuse for not subscribing is very good; for it would be an advantage to them, in more ways than one, to be put on a shorter allowance of cigars and lager; but the trouble is those whom his suggestion is intended to benefit are not likely to see it, as they do not take the paper. Allow me to propose an amendment on his motion: *Let every operator who takes the paper persuade one more operator to do likewise.* Any operator who has not influence enough to get at least one person to subscribe, does not count for much. It is the easiest thing in the world to do if one only goes the right way about it, just send a specimen copy, dilate a little on the advantages to be derived from subscribing, ask him to send in two dollars, and the thing is done—though of course some of them do need asking more than once, but that's nothing. As I have secured upwards of a hundred subscribers this spring simply by asking them to take it, I think I may safely claim to be "good" authority on the subject.

It is splendid fun getting up a club; if people only knew how much fun was to be derived from it, "club raising" would soon be as much the rage as spelling matches were a short time ago.

The majority of those to whom I wrote and sent

specimen copies said in reply that they had never heard of the paper before, but liked it very much, and would be glad to subscribe. Some of them, however, were not so sensible, but required such a fearful amount of persuading before they would venture their money in the concern that the game seemed scarcely worth the ammunition it took to bring it down—it took a couple or three letters and a specimen copy to convince some of them that it would be a paying investment—to say nothing of unlimited quantities of eloquence (?) over the wire as to the merits of the paper, and the advantages to be derived from reading it. There was one canny Scotchman, especially, who seemed bent on thoroughly investigating the matter before committing his little all. In reply to the first letter I wrote him he requested a sample of the paper, which I sent him. Then he wrote a letter of inquiry about the general moral tone of the paper, and the scientific knowledge and religious opinions of its editor, with a few searching questions as to his domestic affairs gracefully sandwiched in between. I answered to the best of my poor ability, and politely regretted that I was unable to tell him whether the editor was a happy benedict or a crusty old bachelor. In reply he sent a telegram announcing that the letter was satisfactory, and he was pleased with the paper and would subscribe for it; but before he carried out that good resolution he was seized with a fit of caution or distrust, and sent another message, saying he was afraid that was a picked copy I sent him, and not a fair specimen of the paper, but considerably above the average; and in order to insure himself against being victimized, he directed me to forward another paper of date chosen by himself. The one he hit upon happened to be an excellent number—far better than the one first sent him, and it brought him to his senses nicely. He sent in his subscription next day, with a meek apology for being so suspicious, and gave me permission to hold him up as a warning to all who seemed inclined to doubt the excellence of the paper. I know he will be delighted with this honorable mention.

A few of the operators in this office kindly undertook to assist me by "puffing" the paper on every possible occasion, but some of them displayed more zeal than discretion in their peculiar way of doing it. For instance, the operator at S— after receiving my invitation to subscribe, asked the operator in charge of that line here to tell him confidentially what kind of a paper that really was I had been praising so highly—if it really had any fun in it. Operator here rashly replied that it was a "glorious old paper," full of fun—as a tip-top comic paper *Grip* couldn't begin to compare with it—was simply nowhere in comparison—had to hide its diminished head and beat an inglorious retreat wherever THE TELEGRAPHER put in an appearance." S— operator was greatly impressed by his enthusiastic account of it, and sent me a message asking for a specimen copy and promising to subscribe if I approved of it. Operator here forgot to tell me what kind of a character he had given the paper, so I was not aware it was amusement the S— man expected, and innocently sent him the only copy I had left, which happened to be about the driest TELEGRAPHER that has ever appeared. Next day I received from him the following message: "TELEGRAPHER received and jokes diligently searched for. No doubt it is a fearfully funny paper, but unfortunately I am not adjusted to see the points of its jokes. As a comic paper I prefer *Grip* after all." He did not subscribe.

Another poverty stricken artist said that as soon as he could earn enough at telegraphing to pay his board bill he would try and borrow the needful to subscribe, but in the meantime would rather take his dinner!

I can't begin to tell you how comical some of the letters were, have already taken up more than a fair share of the paper; but if some of your readers, both ladies and gentlemen, would try to "relieve the monotony of existence" by getting up a club, I can assure you they would find it highly amusing, and profitable also.

The Telegraph Business of Chicago.—Personals.—Lightning on a Rampage and Lightning Rods at a Discount.

CHICAGO, ILL., June 7.

TO THE EDITOR OF THE TELEGRAPHER:

NOTWITHSTANDING the time for the dull season is approaching rapidly, there appear to be no signs of a "let up" in this part of the telegraph world.

The A. & P. seem to be working their wires to their full capacity. The Great Western are doing more business than they did a month or two ago. I have been kindly furnished with some figures from the W. U. office. On the 24th ult., the Board of Trade office alone took in over 2,300 messages.

On the 29th ult., up to 10 o'clock, P.M., the business between here and Milwaukee, and here and New York alone, aggregated over 2,300 messages; and on the 3d

inst., between here and New York, there were 1,533 messages transmitted.

Mr. C. S. Jones, Supt. of Illinois Central Telegraph Lines, has gone with his wife and daughter to board at the Lawndale Hotel, in the beautiful little suburb of Lawndale, six miles from the business centre of the city, on the C. B. & Q. R. R., intending to remain during the summer. This makes the third telegraph addition to the population of Lawndale—Mr. Martin A. Ford, an old operator (now in other business), and W. C. Long, of the W. U. office, being also residents of that place.

Miss Florence Glasson, of the W. U. office here, has been severely affected by the death of her mother, a very estimable Christian lady, which occurred on the 25th ult.

During the past week lightning storms have been abundant. The foolish policy of seeking shelter under trees at such times has been verified again; on the 3d instant a flock of a dozen sheep which had taken shelter under a tree near Schoolcraft, Mich., were instantly killed by a flash of lightning coming down the tree, and a man passing near them badly stunned.

A barn near Shirley, Ill., was struck on the 4th inst., and two men badly injured and a horse killed.

A woollen mill at Beaver Dam, Wis., was struck the same day, and one of the employes severely injured.

The superior (!) quality of the style of lightning rods now in use was tested the same day in one of our neighboring suburbs, very much to the disgust of the owner of the building. The lightning running down the rod left it for an open window to find the water pipe inside to get to the earth, showing how good (!) an earth plate the rod had. The house of a telegrapher standing ten feet away, without any rod at all on it, was not touched, nor were the inmates even stunned. Fortunately the family belonging to the house protected (!) by the lightning rod were absent, or instead of a few dollars damage there might have been a funeral.

Some of our operators out this way are getting too high toned to put Dutch words and names down as they are spelled, as, for instance, the translating of Joseph "Schütz" into Joseph "& Calib."

OCCASIONAL.

A Telegrapher's Trip to Northern Pennsylvania.

SOLOMON'S GAP, PA., June.

TO THE EDITOR OF THE TELEGRAPHER.

I WILL endeavor to write a brief, and I hope not entirely uninteresting narration of a recent flying trip to the mountains of Northern Pennsylvania, a section of the State which undoubtedly produces more operators than any other State in the Union.

With an operator's usual baggage, a "lean satchel and bumbrel," I left New York by the early train on Wednesday morning, and by ten o'clock we had placed many miles between us and the sultry city. As we sped by the green fields and through the small villages, where the people were out of doors, seemingly on the same mission, to breathe the pure country air, I almost regretted ever having entered the telegraphic service, to be confined in an office for long hours every day.

At Dover, N. J., I met my old friend, Mr. George Raymond, formerly of Spragueville, Pa. George is a first class man, and one who always has a pleasant countenance and word for every one. At Washington, Mr. Wm. L. Hoff, the gentlemanly and efficient operator of the Morris & Essex Railroad, and also the manager of the W. Union office, was found. "N" is looking well and happy, notwithstanding his having been married but a short time since.

Leaving Washington far in the distance, we crossed the Delaware River, and were on Pennsylvania soil. After crossing the Delaware the scenery became more grand and beautiful. Following the west bank of the Delaware for miles, we came in sight of the famous Water Gap. Here the river flows between two high and almost perpendicular mountains, presenting one of the finest views in the State. At this place I met the agent, an old acquaintance, Mr. H. Staples, who has been agent and operator for the railroad company for years. A Western Union office is soon to be established at the Water Gap House, for the accommodation of visitors during the summer. I understand Mr. Strawbecker, of Scranton, is to take charge of the office there. I also found the veteran telegraph repairman, Mr. R. Blair, who was engaged gathering the monthly reports from the various offices along the line to Scranton; at Scranton, the first I had the pleasure of seeing, was Mr. Samuel Kellum, the courteous chief operator of the L. & W. R. R.; Sam is looking hale and hearty, and continues to despatch trains with the same old regularity. At the Western Union office I met the genial superintendent of telegraph, Mr. R. O'Brien, whom I found busily engaged, although not too much so to extend a hand of welcome and friendship.

The Scrantonians pride themselves in having as nice and cosy an office as can be found outside of Philadelphia and Pittsburgh, in which I fully concur. The

office is handsomely finished and everything arranged in perfect order. A large repeating business is done at this office in addition to the large local business. I had the pleasure of meeting Messrs. Thomas, Strawbecker, O'Brien and Smith; understand Mr. Smith contemplates studying medicine, and is about to "step down and out" of the telegraph service. He has my best wishes for every success in his new departure, and I expect when I return again to find an M. D. attached to his cognomen, suspended in some fashionable part of the city. I had but an hour at Scranton, and exceedingly regretted not having time to call on Messrs. White, Murphy and other Scrantonians.

At 3.15 I stepped into the cars of the Central Railroad of N. J., en route to Wilkesbarre. As this was a freight and accommodation train I had anticipated a slow trip. At a small place called Spring Brook the train came to a stop. We were delayed half an hour in switching cars, and improved the opportunity by a chat with Brit Bogert at "W.'s" office, after which I had an interview with a few dusky miners as to the probability of resumption of work in the mines, and after discussing the Beecher-Tilton scandal our talking properties became nearly exhausted, and, somewhat parched, I entered the train to partake of a refreshing drink of—ice water. The bell rang and we once more made a move. At "Miner's" Station, a small town of two houses and a blacksmith shop, I met our old friend, Jim Boggs. Any one who has ever had occasion to travel on the Skowhegan Railway, in Maine, has undoubtedly met Jim. When I last met him he was running as a conductor of the "Skowhegan express," to which he had graduated from the telegraphic ranks. Boggs was then sporting a diamond pin, gold watch and chain, and would have been taken for the Vice-President of the road or some ex-Senator. Noticing his somewhat seedy appearance, I ventured to ask the cause. Jim, after hesitating a moment, replied in his usual dry manner: "Well, you see, Ben, I'm farming it now," and he pointed in the direction of the road to a dilapidated looking wagon, drawn by oxen, as if to prove his assertion. The conductor shouted, "All aboard," and we bade the ex-conductor adieu. Wishing success to his farming interests, and that the grasshopper plague would not visit "Miner's," we were soon out of sight.

At Wilkesbarre I found Mr. Brit Bogart, of the Central road. His general appearance had been changed considerably since I last saw him by the addition of a mustache rivaling that of Montagu, which it is understood is very captivating among the Wyoming belles. At the Western Union office, on Market street, I met Manager Lieb and Messrs. Dameson, Johnson and Graff. They are looking so robust that I imagine the pure mountain air agrees with them, or that "Regal" is a very wholesome beverage. Bidding our Wilkesbarrean friends adieu, I left for Ashley. During our short stay at Ashley I made the acquaintance of the Messrs. Babcock and Kennedy, of the Central Railroad office, both gentlemen of the first class, to whom I was greatly indebted for the many kind favors shown, but as we learned the crusaders had visited Ashley we did not venture to propose a glass of—cider. The following morning, incited by curiosity and the earnest solicitation of a friend, I decided to make a tour of the "Planes," four miles in length, by which coal is hoisted up the mountain sides, on the same principle as the famous Switch-back, near Mauch Chunk. The road passes through dense forests. At some points one becomes giddy as he looks over the side of the cars into the valleys hundreds of feet below. If one desires romantic scenery it may be found here. A telegraph wire is constructed from the foot of the plane to the engine room above, the trains being signalled by telegraph, the engineers doing their own telegraphing. After leaving the cars I ascended the "Penob" mountain at the "Point," as it is termed, i. e., the highest pinnacle, 2,500 feet above the Susquehanna river. We could distinctly see twenty miles distant without the aid of a glass. When leaving the valley it was quite warm, but here it was decidedly chilly, and an overcoat would have been both comfortable and acceptable. After visiting the telegraph office at this place, where I saw Mr. Bennett and Mr. Tobin, the day and night operators, I returned to my temporary residence, the next day to leave by the first train for home, greatly pleased with the trip. BEN BREESE.

Too Much Atmospheric.—Personals.—Western Union Pun-nish.

CHICAGO, ILL., June 5.

TO THE EDITOR OF THE TELEGRAPHER.

THE lightning played sad havoc during the last three or four days. A great many of the duplex relays in this office were burned, the charge being so very heavy that the lightning arresters did not present sufficient attraction to induce the "fiery and untamed steed" to take the shortest cut to the earth, but he preferred to go on the farthest way round, because it was too much trouble to get off, or because he did not want to.

"Fatty" Stewart, of Buffalo, has been added to our list of subs.

"Fred" McMillen, of the Gold and Stock Room, having gone on a visit to New York, his place has been taken by "Charley" Burch, who held the position previous to "Fred's" appointment. "Sam" Bracken, who has just returned from the funeral of his uncle at Niles, Mich., has relinquished the all night trick and taken his old position among us on the St. Paul wire nights; Mr. "Jim" Fish taking the all night position, and Mr. Cushing (who has been working St. Paul during "Sam's" absence) taking Mr. Fish's place on the Pittsburg "string." We work two duplex to New York nearly every night now. Mr. "Al" Baker "forks" the Detroit duplex regularly now nights. "Fred" Goodrich has the Galesburg and Quincy, and "Eddie" Dorval "frites gerse," on the Burlington and Keokuk line.

I understand "Billy" Manners and "Johnny" Kemp, have changed wires days, the former taking the Davenport, Des Moines and Rook Island wire, the latter the first New York. "Jack" Desmond is on regular nights now. Quite a new departure is noticeable—Asst. Manager Jones gracing the night force by his presence among them very often, a thing not noticeable by the Asst. Manager under the old regime. Nice toilet soap has taken the place of Babbitt's patent itchgivingskiintakingoff stuff, and the boys have bought a house for it. That luxury in a wash room, a clean towel, is always on hand (of some cheek boy). The work of wainscoting (wherever there is any chance for bare walls to be marked up outside of the operating room) still goes on. We have the cleanest, best lighted office you ever sot eyes on. "Jimmie" Conlon has taken a 12 o'clock trick on the Metropolitan nights since "Q" (Lethgow) took "Qn" office. This don't seem like the same office we worked in three months ago; everything works like the wheels of a new wagon or an old one fresh greased. The boys all "springer" round cheerfully "kelly"-ectin (collecting) very rarely in knots to discuss the probability of having to strike (another boarding house). They seem to know if they stand "plum" up to their duty the "sholes" of adversity (noon hour) will not trouble them, no "leary" eyed insinuating looks are feared, and trifling midemeanors are "congdon"(ed) if not "repeated" and "the winter of discontent (of the day force) is (still) made most glorious by this son of York" (the old gentleman's son George).

I ain't often taken in this way and I am perfectly harmless. WESTERN UNION.

The Whereabouts of Some of the old Pacific and Atlantic Operators.—Personals.—Severely Injured.—Struck by Lightning.

CHICAGO, ILL., May 31.

TO THE EDITOR OF THE TELEGRAPHER.

MEETING a friend a few days ago, and making some inquiries of old Pacific and Atlantic men, I ascertained the following: Mr. Hodges and Mr. "Ed" Savercool operators and repairmen at Kokomo, Ind., and Logansport, Ind., respectively, are working for the A. & P. at Cincinnati, Ohio.

Mr. George Getches is repairing for the Vandalia Road at Terra Haute, Ind. If "Geo." attends to repairing as well as he did to those old three-cornered repeaters at Anderson, Ind., his employers will have no reason to complain.

Mr. Geo. E. McReynolds, who accepted the position of operator and repairer for the P. & A. at Kokomo, Ind., when Mr. Hodges resigned, is now working for the Indianapolis, Peru and Chicago Railroad at Bunker Hill, Ind., as agent and repairer. Mr. John C. Hanchett, formerly chief operator for the P. & A. at St. Louis, Mo., is now in the mercantile business. When last heard from he was at Marine, Madison Co., Ill.

Mr. "Charlie" Fortier, of the Chicago W. U. office, has been obliged to resign his position on the day force, on account of the confinement being so injurious to his health that his physician expressed fears that he would never fully recover, if he continued to confine himself so closely to business. "Charlie" has been troubled lately with erysipelas, and several attacks of dizziness caused by a rush of blood to the head. He has taken the A. & P. "Ex" office (vacated by Mr. Minor C. Gross, who went to Philadelphia with the W. U. Co.) for the present.

"Charley" Baltzell, a messenger boy in the W. U. office at Mason City, Ill., 12 years of age, received severe injuries Thursday morning. While endeavoring to get off a hand car in motion he fell, and the wheels passed over his left foot, nearly severing the toes from it. If not fatally injured he will at least be crippled for life, as amputation will no doubt be deemed necessary.

Considerable damage by lightning is being recorded this spring. At Lincoln, Neb., on Tuesday last, Hon. W. H. Burger, a former member of the Legislature of that State, was struck dead while corraling stock on

his farm at Red Willow, Webster Co. On Wednesday afternoon a German farmer, driving out of Sidney, Ill., on the Toledo, Wabash and Western Railroad, had his team killed and was himself rendered insensible for some time. OCCASIONAL.

Telegraphic Matters in Chicago.—Excellent Appointments.

CHICAGO, ILL., June 9.

TO THE EDITOR OF THE TELEGRAPHER.

THERE have been no startling developments in telegraphic circles here since the changes recently consummated in the management of the two main telegraph offices in this city, the Western Union and the Atlantic and Pacific. Mr. Maynard, the new W. U. Manager, is fast gaining friends by his quiet and unassuming manner, as well as his impartial treatment of his large force of operators. Though a strict disciplinarian, he appreciates the difficulties of certain circumstances, and is always willing to make due allowance therefor. This is doubtless owing to his long practical experience as an operator, and certainly speaks well for any man elevated to the dignity lately conferred on him.

Mr. A. G. Stolbrand, the new manager of the Atlantic and Pacific office here received his appointment on May first, and it was but a just and merited tribute to his long and faithful connection with the opposition lines. Though comparatively young in the profession, he is old in practical experience, and with the requisite facilities at his control, will no doubt manage the A. and P. offices in this city to the entire satisfaction of his superior officers. He is universally liked wherever he goes, and has held important positions of trust in various sections of the United States. His return among us, after nearly eight years' absence, was welcomed heartily by the congratulations and hand shakings of his hosts of friends.

The latter company are successfully working the "Automatic" system to Omaha, Detroit, Cincinnati, Buffalo and Cleveland, having been placed in successful operation at all these and several other points by Mr. Stolbrand, on his way west from New York, excepting at Omaha, which point was equipped by Mr. D. E. Sweet, chief operator of the A. & P. office, Chicago.

THE TELEGRAPHER is eagerly looked for by all the boys here and read with great interest. The subscription list will doubtless be materially increased here shortly. TRIX.

Hot and Cold.—Births.—Personals.—Damages from Lightning.

CHICAGO, ILL., June 12.

TO THE EDITOR OF THE TELEGRAPHER.

THIS changeable climate is enough to give any ordinary man the horrors. Yesterday was so hot that windows and doors were a nuisance, and the night even so warm that it was almost impossible to sleep soundly. This morning and all day to-day it was so cold that, besides keeping doors and windows closed, an overcoat would have been very comfortable.

Our friend, O. W. Hamilton, of the Western Union day force, was made the happy father (on the 6th inst.) of a fine daughter—this being the first "cherub" and weighing eight pounds. Of course Olin is as proud "as a darkey with a new shirt."

Mr. McKelvey, extra operator for the Illinois Central R. R., has gone to Matteson, Ill., on that road; while Mrs. Powers (the lady who handles the keys so gracefully at that point) takes a vacation of three weeks among her friends in Detroit, Mich.

Did you ever hear of the E. C. Tiptz Windmill Co.? Neither did the delivery clerk of one of our neighboring towns, but he had no trouble in finding the Eclipse Windmill Co. Oh! Chicago, Chicago, how are the mighty fallen, and what's the matter with Hannah?

Frank E. Knapp, a well known lightning rod peddler, of Geneva, Ashtabla Co., Ohio, was mysteriously murdered, while partially intoxicated, on the night of the 4th inst., at Kalamazoo, Mich., and left in the barn of the American House.

The following casualties by lightning in this section of the country are recorded in recent issues of our daily papers. Near Tallula, Ill., on the 4th inst., a young man named Frank Gumm, while ploughing, was instantly killed and had his team of mules killed also, while a companion near by was severely injured.

At Shelbina, Mo., on the same day, during a heavy storm, a young man named Stevens, at work in a field about two miles from the town, was struck and with his team, immediately killed.

On the 5th inst., near Lucayne, Kansas, while Morris Will (a farmer residing near that place) was going home, accompanied by his hired man, in his two horse wagon, he and his team were struck and instantly killed, while the hired man was laid out insensible.

OCCASIONAL.

THE TELEGRAPHER

DEVOTED TO THE INTERESTS
OF THE
TELEGRAPHIC FRATERNITY.

SATURDAY, JUNE 19, 1875.

THE TELEGRAPHER:
PUBLISHED EVERY SATURDAY at 38 VESEY ST.
ELEVENTH VOLUME.

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NEW YORK.

Competition in Telegraphy.

COMPETITION is said to be the life of trade, and it is certain that competition not unfrequently makes things lively if not profitable. The railroads have recently been indulging in a very active and bitter competition, which proved anything but profitable, and which, added to other unfavorable conditions of traffic, have brought some of them to bankruptcy, while it has seriously damaged the stronger companies. Wiser counsels are understood to have prevailed at last, and a compromise has been brought about, which, if honestly adhered to and carried out, will prove beneficial to railroad interests.

Competition in telegraphy is demanded by the public, and exists to a considerable extent in this country. In European countries telegraphic competition is impossible, as the lines are owned and the business controlled by their respective governments. Fair and reasonable competition is beneficial to the public, and to telegraph employes; and, so long as the lines are under private management and ownership, will undoubtedly always exist to a greater or less extent. It is of great importance to telegraphic employes that the business shall not be monopolized, either by a mammoth telegraph company or by the government. If it should, they would necessarily be less independent and their interests not as well maintained as while they have a choice of employers.

It does not by any means follow that, in advocating telegraphic competition, we favor a cut-throat policy, which shall destroy the productive value of telegraphic investments. There is room enough for two or more telegraph companies in this country, and with proper and economical management they can be made remunerative. We consider that a good deal of money is wasted in carrying on the telegraph business, which, if saved, would add to the value of telegraphic investments. Red tape is sometimes a good thing, but too much of it is apt to be expensive as well as obstructive. The Western Union Company is popularly supposed to be afflicted with too much red tape. We do not assert that it is so, but if it is, it should be abolished with as little delay as possible. A proper system of business, accounts, etc., is indispensable to the successful transaction of so extensive a business, but if so much red tape is used as to save or secure ten cents at the expense of a dollar's outlay, it seems to be evident that the sooner it is dispensed with the more profitable it will be for the stockholders, and the more advantageous to the employes. What is needed is a simple and comprehensive system of business and accounts, which shall, at as little expense as possible, secure to the company, its patrons and employes, that which belongs to them respectively.

The Anglo-American Telegraph Co. is about to experience competition, from which it has heretofore been exempt. Having so long had a monopoly of Atlantic telegraphing, naturally the prospects of competition, even with a single cable, is not looked upon kindly by the managers and stockholders. It cannot be avoided, however, and we presume that they will get used to it in time. To add to the misfortune, in consequence of the business depression in this country and abroad, the business, notwithstanding the reduction of tolls which took effect May 1st, is limited, and insufficient to occupy even the cables of the old company. It is not therefore a pleasant prospect to be called upon to share this business with a rival company. The effect of the reduced business and the pending competition has been to reduce the market price of shares of the Anglo-American Co. very materially, and naturally disquiets some of the holders. We think they are good property yet, however, and would not object to owning a few thousand of them. It is rather singular that the shares of the Direct United States Cable Co., with but one cable and that just completed and not yet open to business, sell at about the same percentage as the Anglo-American. It shows a confidence in the prospective business of the new cable which must be very gratifying to the managers. Whether the new company pro-

poses to go below the present tariff is not yet known, but we should hardly suppose it would do so, at least for the present.

One great difficulty, and it is by no means confined to telegraph companies in this country, in producing favorable financial results, is the disproportion between the actual value and investment and the nominal capital of the companies. Both the Western Union and its principal competitor, the Atlantic and Pacific Company, have nominal capitals greatly in excess of the actual value of the property. To earn respectable dividends on these is very difficult, and besides creates an impression with the public that it is unduly taxed for telegraphic service in order that dividends may be earned. We do not know that this can now be remedied, but it is unfortunate that the practice of watering stocks has been carried to such an extent. It hampers and embarrasses the companies in raising necessary capital for extensions and new enterprises, which must necessarily be required. It is to be hoped that in the future, should new companies be required to take up the business, this error at least will be avoided. It is evident that a company whose capital should represent the actual investment, and something near the real value of its property, would have a decided advantage in any competition with other less fortunately situated competitors.

The Telegraph Thirty Years Ago and To-day.

ON Monday last we received a call from Mr. HENRY O'RIELLY, whose prominent connection with the introduction of the electric telegraph in this country is historical. Thirty years ago, the 13th inst., the contract between Mr. O'RIELLY and Prof. MORSE and his associates for the construction of telegraph lines and introduction of the then new MORSE telegraph system was signed. All the parties who were then interested in the telegraphic invention and enterprise, except Mr. O'RIELLY and Mr. F. O. J. SMITH, have, we believe, passed away, and neither of these gentlemen is now prominently interested in the telegraph business.

How different was the status of the telegraph then and now! Then it was struggling for existence, its value and practicability unappreciated, those engaged in its introduction popularly regarded as wild enthusiasts, and the capital required to extend the initial line, which had been constructed under an appropriation, obtained with the utmost difficulty from Congress, of forty thousand dollars, between Washington and Baltimore to this city, secured only by the most strenuous efforts, and mainly by Mr. O'RIELLY himself. Now the telegraph has become one of the greatest institutions of the world, and penetrates through every section of the country; millions of capital, and probably 30,000 persons are employed in its administration and service in the United States and Canada.

The struggling infant of thirty years ago has become the sturdy giant of the present, and is destined to even greater development in the future. Those who, amid doubt, discouragement, and against obstacles which seemed well nigh insurmountable, achieved the successes which securely laid the foundation of the telegraphs of the present, should be gratefully remembered and honored by the people who enjoy the inestimable benefit and advantage of their labor and enterprise.

New Music.

WE have received "The Melville Polka-Mazourka," the composition of Mr. JOHN H. MILLIKIN, of the Western Union Telegraph, Boston, Mass., office. Mr. MILLIKIN's ability as a musical composer as well as telegrapher has been very fully demonstrated heretofore, and this last production of his musical genius is calculated to add to his already creditable reputation as a composer. It is pronounced by our musical critic to be an exceedingly pretty and attractive composition. It is not so commonplace and trashy as such pieces are apt to be, and deserves to meet the success and appreciation which it will doubtless receive.

It is published by Messrs. GEO. W. RICHARDSON & Co., of Boston.

Manual of Telegraphy and Catalogue of Private Line Instruments.

WE have received from the Western Electric Manufacturing Co. a very useful little work, entitled *Manual of Telegraphy and Catalogue of Private Line Instruments*. It contains a condensed telegraphic manual, prepared by Mr. GEO. H. BLISS, for the use of amateurs and learners, and instructions for the construction of private telegraph lines, connecting instruments, etc., which have been carefully prepared, and contain information of great value and importance to those for whom it is designed. Appended to the manual is a catalogue of the printers and other instruments manufactured for private, railroad, and commercial lines, with a brief but comprehensive description of each.

The Manual will be forwarded on application to the company, at No. 220 Kinzie street, Chicago, Ill.

The New Washington, D. C., Fire Alarm Telegraph Contract.

The Commissioners to whom, by Act of Congress, the government of the District of Columbia is entrusted, have awarded the contract for rebuilding the Fire Alarm Telegraph of the District to Messrs. GAMEWELL & Co., who will proceed at once to put up a first class system. The Fire Alarm Telegraph now in use in the District is old, dilapidated, and not such as is required. The system to be introduced will combine all the improvements which have been made in the American Fire Alarm Telegraph system since the one about to be superseded was constructed.

Personals.

AMONG the recent arrivals of telegraphers at San Francisco, Cal., are Messrs. JOHN H. POWERS, of Chicago, Ill., B. S. SHELDON, of Chattanooga, Tenn., and H. H. SMITH, of Virginia, Nevada.

Mr. E. ERNEST STREETER is assistant operator, Santa Barbara, Cal., Western Union office.

Don. Y. P. VILLEGAS is manager of the San Juan South, Cal., Western Union office.

Mr. G. E. WARD is manager for the San Joaquin and King's River Canal Telegraph Company, at Firebourn's, and Mr. JAS. J. EDDY, manager same company at Canal Headquarters, Cal.

Mr. N. F. HARRISON has accepted a position as assistant operator, Gilroy, Cal., Western Union office.

The Telegraph.

The Direct United States Cable.

THE completion of the Direct United States Cable, which was announced in the last number of THE TELEGRAPHER, after so many misadventures and delays, has attracted general attention and congratulation. The entire cable from Rye Beach, N. H., to Ireland, is in good working order, and messages on business of the company are constantly passing over it. No time for opening it to public service has yet been announced. Under the contract for laying the cable, the contractors have thirty days after the cable was finally completed to test it before handing it over to the company. Until the contractors are ready to transfer the cable to the Direct United States Cable Company it will not be opened to the public, and until it is ready for public service the rate of tolls to be adopted will not be made known.

The following condensed history of the actual laying and attempts to lay the cable will be of interest for future reference:

On the 16th of May, 1874, the steamship Faraday left the Thames for the United States to lay the New Hampshire and Nova Scotia section of the cable. Owing to foggy weather the laying of this part was not completed until the 15th of July. The Faraday then proceeded to Nova Scotia for the purpose of submerging the main cable to a point on the coast of Newfoundland. On the 26th of July the cable had been laid from Nova Scotia to this point and was buoyed in Conception Bay. The Faraday then returned to England to take on board the remaining portion of the cable. On the 20th of August the Dacia landed the Irish shore end of the main cable in Balinskelligs Bay, Ireland, and on the 2d of September the Faraday effected the splice between the shore end and the deep sea cable, and commenced paying out toward New-

foundland. On the 4th of September, a fault having been discovered, the cable was hauled back, but parted during the operation. The cable was recovered, however, on the 6th, and the laying was proceeded with until the 10th, when the cable again broke while being taken back for a fault. After many unsuccessful attempts at grappling, owing to the tempestuous weather, the ships returned to Queenstown harbor on the 2d of October for the purpose of refitting and taking in coal and supplies, and proceeded again to sea on the 23d of the same month. On the 2d of November the cable was picked up and spliced, and paying out was resumed toward Newfoundland. The laying was continued until the 8th of November, when another fault was observed, and the cable was cut and attempted to be buoyed. This, however, owing to the heavy sea, failed; and as the weather showed no signs of moderating the ships made for Harbor Grace, N. F. After a short delay they proceeded again to the grappling ground, where they arrived on the 16th of November. On the 24th, after the cable had twice been lifted and again abandoned on account of the severity of the weather, the cable was brought up and eight miles of it taken back. The fault was found to be in these eight miles. Bad weather, however, still prevailing, the cable had to be buoyed, and on being taken up again on the 25th it parted while being raised to the surface.

After several attempts to recover the cable, which were frustrated by the severity of the weather, the ships, running short of coal, put into St. John's, N. F., on the 7th of December, and left again on the 15th. The Faraday now took up the Newfoundland end of the Nova Scotia and Newfoundland section, made a splice, and, after laying the shore end and intermediate sections toward Ireland, again proceeded to grapple for the other end on the 19th of December. The weather, however, became so violent that after the ships had kept to their work until the 9th of January, 1875, they were obliged to return to England for repairs and new stores. About two months ago the Faraday returned and completed the task which had been beset with so many cares and difficulties."

By the laying of this cable we have now five cables connecting the North American Continent with Europe, as follows:

Years.	Length.
1866—Ireland to Newfoundland.....	1,896
1869—Brest to Duxbury, Mass., via St. Pierre.....	3,330
1873—Valentia to Newfoundland.....	1,900
1874—Valentia to Newfoundland.....	1,900
1875—Direct cable.....	3,060

The new cable is laid from Ireland to Nova Scotia and thence to Rye Beach, New Hampshire.

Rumors of arrangements and amalgamations of the new cable company with the Anglo-American and Western Union Companies have been industriously circulated, and doubtless, to some extent, credited, but there is no foundation for them. The articles of Association of the Direct Cable Company provide that no amalgamation or arrangement for division of business or profits with any existing companies or lines of Atlantic telegraph shall ever be entered into. These articles have as binding an effect as an act of parliament, and can only be altered or abrogated by act of Parliament. This would not of course preclude an agreement as to the rate of tolls to be charged for the transmission of business, but no such agreement has been entered into, and the competition between the two companies promises to be a genuine one.

The New Easton and Amboy Railroad Telegraph Line.

THE Easton and Amboy Telegraph was completed at noon on Saturday, the 12th inst. This line runs along the Easton and Amboy R. R. (an extension of the Lehigh Valley R. R.) 60 miles in length, and was constructed by Mr. Homer A. Clute, the Supt. of Telegraph of the latter company.

The line is run on the south side of the road the entire distance from Perth Amboy to Easton without crossing the R. Rs., which indicates good engineering on the part of Supt. Clute. The line is run through the Musconetcong Tunnel, which is a mile in length, by a plan devised by Mr. Clute, viz., wooden arms or fixtures are placed in perpendicular form, 150 feet apart, at the highest point along the side of the tunnel, and held by two bolts put into the rocks by means of drilled holes, six inches in depth.

Brooks' patent insulators, which are exclusively used on the line, are screwed to these arms, to accommodate from one to six wires. The wires through the tunnel are painted with a heavy coat of paint to keep them from becoming rusty and also to maintain their conductivity. The wire used on this line is the best brand of charcoal iron, and its size No. 11, American gauge. The line will, during the present season, be extended to the company's office in New York, also to Mauch Chunk, from Easton, a distance of forty-six miles.

Mr. Clute has now over 500 miles of line under his charge, which are managed second to none in this country; and his success and the splendid working of the different circuits are due to his great energy and close personal attention.

Return of and Presentation to President Orton.

ON Sunday last President Orton, of the Western Union Telegraph Company, accompanied by his two daughters, arrived home from England by the steamer Celtic, from Liverpool. Mr. Orton has been much benefited by his trip, and returns to duty with improved health and vigor.

The directors and officers of the Western Union Company had prepared a surprise for their President, who found, upon arrival at his country residence at Irvington, N. Y., a magnificent dinner service of 13 pieces of solid silver, from the Gorham Manufacturing Company, bearing on each the family monogram, presented by them to Mr. and Mrs. Orton. It was designed to have presented this service on the 23d of May, the silver wedding day, or twenty-fifth anniversary of the marriage of Mr. and Mrs. Orton, but the absence of Mr. Orton prevented. A kind and appreciative letter by acting President Cornell, on behalf of the gentlemen by whom the presentation was made, accompanied the gift. The kindness of his official associates is naturally highly appreciated by Mr. Orton.

Foreign Telegraphic Notes.

THE Anglo-American Company directors have passed a resolution that on and after June 2 the estimated gross receipts of the company for the previous day be posted daily at the company's office, 23 Throgmorton st., E. C. London.

The total number of messages forwarded from postal telegraph stations in the United Kingdom during the week ended May 22, 1875, was 386,733, an increase of 21,321, on the corresponding week last year.

The Post-office Submarine Telegraph stores at Lowestoft, England, were destroyed by fire on the eve of the Derby. The flames spread with great rapidity, and the building—which was 300 feet in length—was destroyed, together with a quantity of paraffin, paints and other oils, and a number of rockets. The total damage caused by the fire is estimated at £18,000, including a quantity of submarine cable. The contents, to the extent of £14,000, were insured in the Sun office.

The manufacture of the new cable for the Western Union Telegraph Company, from Punta Rassa to Key West, is being carried on at the India Rubber Company's works, at Silvertown.

The cable to connect Chorrillos, the watering place of Lima, with Caldera, in Chili, has had a commencement. After its completion messages can be transmitted from Peru to Valparaiso and over the Andes to Buenos Ayers, thence to Bahia and thence to Lisbon.

In the process of telegraphing the Morse paper is used in a narrow strip, about three eighths of an inch wide, and is of a greenish tint, so as to be less trying to the sight of the operator than ordinary white paper. It is usually wound on spindles about 4½ ft. long and 8 inches in diameter, and afterwards cut into rolls of the width required for the instrument, viz., about three eighths of an inch. Of these spindles, each containing upwards of thirty miles of paper, no fewer than 350 per month, or upwards of 4,000 per annum, are consumed in the postal telegraph service throughout the country; so that the total annual consumption of the narrow strip must exceed 130,000 miles. Nearly 7,000 miles of Wheatstone paper are used in the postal system in the course of a year; and this is obtained by cutting up into coils upwards of 300 spindles of much the same dimensions as those of the Morse paper. A mile of Morse paper cut into the narrow strip required for the instrument only weighs 2 lb. 3 oz., while a mile of Wheatstone paper is nearly 1½ lbs. heavier. In a large office like that at St. Martin's-le-Grand many miles of these tape-like records must be constantly on hand, and if they could only be placed side by side with the corresponding message sorted away in the vaults underneath they might tell a curious tale. At the end of every three months some tons of both are carted off to the mysterious "mill" of her Majesty's Stationery office, whence no official form or document was ever known to return—in its original shape, at all events. "Pulp" is the condition to which all such matters are reduced.

The traffic receipts of the Western and Brazilian Telegraph Company, for the four weeks ending May 28th, were £10,510.

The new cable about to be laid between Australia and New Zealand, in connection with the Eastern Extension Telegraph Company's system, will receive special guarantees as to rates from the New Zealand Government. The contract for the new cable will be under-

taken by the Telegraph Construction and Maintenance Company.

The average time occupied in the transmission of telegrams between Madrid and England, "via Santander," during May was three hours twenty-six minutes, including transmission over Spanish land lines.

An official memorandum from the Great Northern Telegraph Company states that, according to information received from Foochow, an agreement was entered into and signed on the 21st May, between the Chinese Government, represented by the Imperial Commissioner Shen Panchen, Viceroy and General in the Province of Fookien, charged with full powers by Tsung-li-Yamem, Minister for Foreign Affairs in Pekin, and the Great Northern Telegraph Company, to the following effect: "The Chinese Government pays the company full compensation for the damage done to the Foochow-Amoy line in January last. The company to erect a line of telegraphs between Foochow and Amoy for account and risk of the Chinese Government. Inland telegraph stations to be established in Amoy, Foochow, and the two intermediate towns, Hinghua and Chuenchan. The working of the line to be undertaken by the company for account of the Chinese Government."

The traffic receipts of the Eastern Extension Telegraph Company for the month of May shows a decrease of £1,106.

The cable steamship Hooper has arrived in the Mill-wall Docks, after an expedition of five months in laying the cables of the Central American, West India and Panama, and Cuba Submarine Telegraph Companies.

Telegraphic Electric Brevities.

A BATTERY man, who has tried the experiment, says that to keep the jars of a sulphate of copper battery clean, coat the inner surface of the jar for about an inch at the top with common white paint. This, he says, will entirely prevent the sulphate of zinc from accumulating on the outside of the jar.

The American District Telegraph Co., of San Francisco, Cal., have opened an office at 417 California street, but are not yet in complete working order. The district system is to be worked under an arrangement, and in connection with the Western Union Telegraph Co., as in New York and other cities east of the Rocky Mountains.

The transfer books of the Western Union Telegraph Company will be closed until the 16th of July.

The Legislature of Rhode Island at its present session has revived the charter of the Narragansett Cable Co., with a proviso that a cable connecting Rhode Island with some European country shall be laid and in operation by the year 1880, in order to preserve the charter.

The Fifth International Telegraph Conference.

THE Fifth International Telegraph Conference assembled at St. Petersburg, Russia, on the 2d instant. Representatives from all foreign countries and foreign telegraphic administrations are present, the British Postal Telegraph Department being represented by Mr. H. C. Fischer, the Controller of the Central Telegraph Station in London, and Mr. Allan E. Chambre, the Surveyor of the Private Wire Branch of the department. Col. Robinson with Major Bateman represent the Indian Telegraph department; Sir James Anderson and Mr. Lewis Wells (formerly of the Electric and International Telegraph Company) the Eastern Telegraph Company; Sir James Carnichael and Mr. S. M. Clare, the Submarine Company; Mr. Andrews the Indo European Company, and Mr. H. G. Erichsen, the Great Northern Company.

The principal business of the conference will be the codification of regulations arrived at on previous meetings, so as to secure some uniformity in the treatment of international messages. An important proposition, having for its object the reduction of the minimum number of words in foreign European messages from 20 to 10, and a corresponding reduction of the tariff for such messages, will be brought forward; and the attention of the conference will be asked to a somewhat similar proposition with regard to extra European messages. The sittings of the conference will, it is anticipated, extend over a period of six weeks.

Pecuniary Results of the Reduction of Atlantic Telegraph Tolls.

THE reduction from 4s. to 2s. per word for messages transmitted over the Anglo-American Company's cables, which went into effect on the 1st of May last, would naturally affect unfavorably for a time the receipts of the company. Exaggerated reports of the losses the company would and did sustain in consequence were circulated for the purpose of depressing the price of the stock, and did seriously affect the

market value of the shares. As, previous to the second instant, no authentic statements of the receipts were made, there was no means of contradicting authoritatively these reports. Realizing the damaging effects of such reports, the directors, although they have heretofore opposed it, decided to make public each day the amount of the gross receipts of the previous day.

The figures show that, although, as was expected, there has been a considerable reduction in the gross receipts, yet the actual reduction is not by any means as large as has been stated. The general depression of business in this country, as was before known, has affected the business of the company. The returns now published show that the daily average from the 1st of January to the 30th of April, 1875, were £1,782, as compared with £1,976 in the corresponding period of 1874. Under the same tariff a decrease of £194 per day is thus shown. From the 1st to the 31st of May, 1874, with a tariff of 4s., the daily average receipts were £1,813; for the same period of 1875, with the rates reduced one half, the average receipts were £1,095, or a decrease of £718 per day.

The estimated receipts for the 1st of June were £1,240, as compared with £1,095 for the daily average of the month of May. The receipts for the 2d of June were £1,400; for the 3d, £1,340, the decline being about 30 per cent., a decided improvement being shown over the month of May.

The Telegraphers' Mutual Benefit Association.

RECEIPT OF ASSESSMENTS.

NEW YORK, June 10, 1875.

ASSESSMENT NO. 76.

- 4, 5, 8, 16, 28, 53, 56, 64, 74, 76, 77, 86, 88, 90, 95, 103, 121, 122, 131, 143, 146, 157, 181, 183, 208, 211, 217, 235, 269, 276, 277, 280, 289, 301, 349, 351, 383, 385, 414, 464, 467, 509, 510, 532, 536, 546, 549, 553, 555, 564, 576, 587, 597, 615, 626, 667, 703, 740, 808, 812, 830, 858, 859, 873, 886, 915, 916, 917, 922, 923, 977, 1013, 1024, 1038, 1039, 1074, 1076, 1126, 1127, 1154, 1173, 1178, 1182, 1199, 1252, 1260, 1266, 1298, 1300, 1306, 1333, 1345, 1357, 1368, 1394, 1409, 1490, 1503, 1508, 1517, 1518, 1522, 1527, 1560, 1562, 1568, 1571, 1579, 1632, 1735, 1815, 1862, 1894, 1900, 1901, 1906, 1944, 1950, 1951, 1954, 1957, 1964, 1970, 1986, 2019, 2030, 2036, 2049, 2057, 2066, 2082, 2097, 2133, 2135, 2138, 2154, 2162, 2164, 2197, 2202, 2228, 2229, 2240, 2241, 2259, 2279, 2281, 2282, 2283, 2287, 2288, 2305, 2310, 2322, 2337, 2343, 2345, 2352, 2371, 2386, 2389, 2395, 2400, 2427, 2428, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441.

ASSESSMENT NO. 75.

- 13, 19, 26, 31, 39, 51, 52, 70, 75, 80, 82, 84, 97, 99, 101, 112, 120, 129, 154, 156, 158, 160, 164, 171, 185, 186, 187, 189, 190, 191, 193, 197, 198, 206, 227, 228, 230, 240, 248, 252, 274, 278, 279, 281, 282, 283, 285, 316, 323, 334, 341, 342, 344, 350, 356, 357, 360, 361, 362, 364, 366, 882, 411, 412, 426, 441, 456, 478, 482, 484, 511, 512, 516, 533, 556, 557, 573, 575, 584, 590, 600, 617, 618, 622, 642, 646, 648, 652, 662, 663, 664, 665, 667, 669, 678, 680, 695, 697, 701, 705, 710, 712, 722, 723, 724, 728, 730, 733, 780, 781, 783, 786, 790, 791, 800, 801, 802, 809, 813, 820, 821, 823, 836, 838, 848, 876, 897, 904, 905, 906, 927, 929, 931, 939, 944, 949, 954, 957, 959, 963, 964, 979, 980, 992, 1000, 1002, 1011, 1014, 1016, 1030, 1031, 1033, 1034, 1041, 1046, 1050, 1057, 1058, 1063, 1069, 1071, 1080, 1100, 1101, 1105, 1106, 1107, 1108, 1109, 1110, 1112, 1113, 1115, 1117, 1119, 1120, 1122, 1123, 1125, 1131, 1139, 1141, 1152, 1155, 1156, 1157, 1159, 1160, 1162, 1185, 1190, 1191, 1210, 1211, 1217, 1234, 1241, 1248, 1255, 1256, 1268, 1269, 1274, 1281, 1283, 1284, 1285, 1286, 1288, 1290, 1307, 1309, 1311, 1312, 1313, 1314, 1315, 1317, 1318, 1319, 1320, 1321, 1322, 1339, 1340, 1342, 1344, 1346, 1348, 1349, 1350, 1351, 1352, 1366, 1372, 1398, 1400, 1405, 1406, 1412, 1415, 1417, 1421, 1427, 1428, 1430, 1432, 1433, 1437, 1438, 1457, 1458, 1465, 1469, 1471, 1474, 1476, 1481, 1482, 1483, 1497, 1500, 1501, 1513, 1515, 1528, 1529, 1530, 1537, 1542, 1546, 1556, 1557, 1558, 1570, 1573, 1576, 1580, 1586, 1596, 1597, 1600, 1605, 1607, 1608, 1613, 1616, 1620, 1634, 1639, 1644, 1649, 1652, 1653, 1657, 1666, 1667, 1670, 1673, 1676, 1696, 1700, 1701, 1704, 1714, 1732, 1733, 1737, 1746, 1747, 1750, 1751, 1753, 1754, 1755, 1756, 1757, 1758, 1759, 1760, 1765, 1766, 1767, 1769, 1771, 1785, 1788, 1789, 1795, 1796, 1797, 1804, 1813, 1818, 1823, 1824, 1828, 1830, 1837, 1838, 1857, 1858, 1859, 1860, 1863, 1864, 1874, 1877, 1889, 1895, 1903, 1907, 1934, 1945, 1946, 1947, 1953, 1958, 1968, 1972, 1978, 1982, 1987, 1992, 1993, 1996, 1997, 1999, 2000, 2001, 2007, 2010, 2012, 2023, 2029, 2033, 2035, 2040, 2050, 2053, 2074, 2075, 2084, 2085, 2092, 2108, 2123, 2125, 2136, 2137, 2142, 2145, 2151, 2156, 2157, 2169, 2171, 2187, 2192, 2200, 2220, 2225, 2226, 2227, 2230, 2231, 2236, 2237.

- 2242, 2245, 2246, 2253, 2258, 2267, 2268, 2269, 2271, 2284, 2286, 2291, 2292, 2293, 2299, 2300, 2303, 2304, 2307, 2324, 2325, 2326, 2327, 2340, 2344, 2357, 2360, 2361, 2366, 2368, 2369, 2373, 1384, 2385, 2390, 2398, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2401, 2411, 2417, 2418, 2419, 2421.

ASSESSMENT 74.

- 27, 148, 232, 237, 238, 242, 246, 258, 271, 451, 453, 455, 457, 804, 934, 1153, 1603, 1655, 1690, 1691, 1715, 1716, 1731, 1786, 1835, 1941, 1974, 1975, 1976, 2037, 2177, 2320, 2328, 2332, 2353, 2396, 2397.

Members of the Association who look to THE TELEGRAPHER for receipt of assessments paid, will please take notice that an acknowledgment of the receipt of one assessment should be taken as a receipt for all previous assessments.

Quotations of Telegraph Stocks at N. Y. Stock Exchange.

Showing Lowest and Highest Prices each day during week.

Table with columns: June, WESTERN UNION, ATL. AND PAC., AMER. DIST., GOLD AND STOCK. Rows 10-16 showing bid and asked prices.

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OFFICIAL COPIES of any U. S. Patent issued since July 1st, 1871, including drawings, specifications and claims in full, sent free to any address for 25 cents each. Address F. L. POPE, P. O. Box 5503, New York City.

For the week ended May 25th, 1875, and bearing that date.

163,753.—ELECTRICAL CIRCUIT CLOSER.—L. L. Duerden, Brooklyn, N. Y. Filed May 8, 1875.

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3. A telegraph key, in which the contact points are curtained in a chamber hermetically sealed, or practically so, to the atmosphere, substantially as set forth.

DESIGNS.

8,342.—TELEGRAPH KEY.—Charles W. Lewis, Chicago, Ill., assignor to the Western Electric Manufacturing Company, same place. Application filed April 12, 1875. Term of patent 14 years.

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| 4. Galvanic Batteries. | 11. Lightning and Lightning Conductors. |
| 5. Measurement. | 12. Electro-Magnetism. |
| 6. Conductivity and Resistance. | 13. Dictionary of Terms. |
| 7. Current. | |

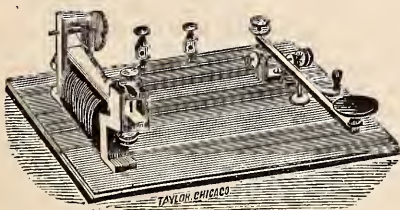
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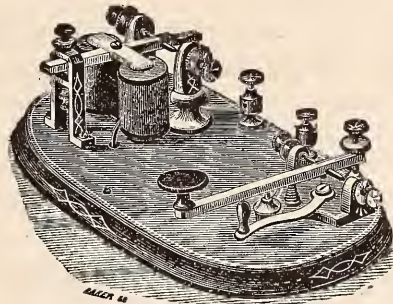
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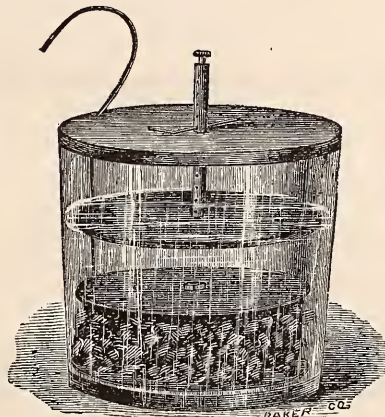
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is spared by the Proprietors to obtain and secure ANY POSSIBLE IMPROVEMENT which shall increase the

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The amount of property which has been saved from destruction, and the number of lives which have been preserved through the general adoption of this system, throughout the UNITED STATES and the DOMINION of CANADA,

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THE TELEGRAPHER

A JOURNAL OF
ELECTRICAL PROGRESS.

J. N. ASHLEY, PUBLISHER.

SATURDAY, JUNE 26, 1875.

VOL. XI. WHOLE No. 467.

[Written for THE TELEGRAPHER.]

Filibuster the Mighty.

BY TOM QUAD.

If you ask me whence this poem,
Whence this parodic preparation,
Whence this wild attempt at satire,
With its telegraphic flavor,
With its slaps at "sushing" humbugs,
With its scorn of pluggish follies?
I should answer—I should tell you,
By old Massachusetts Harbor,
In the chummy land of breezes,
In the land of crooked places,
In the land of filibuster,
I observed it—I remarked it.
From a telegraphic college
Came a youth of loud appearance,
With diploma sealed and inky,
Which announced him as a mighty
Slinger of the subtle juices.
First he went to that department
Where they check the dirty half rates,
And there he penned a noble "gssage"
To Mr. Brown, in old Manhattan,
Saying, "I am an operator of eblity,
Have you for me got any bus. is?"
He was nonplussed at the answer,
And worse for all that have to work him,
Down he settled in that city—
City of the crooked places,
There, among a hundred like him,
To seek for glory and poor whiskey.
Chief of plugs, this youth became there
Chief of huge abecedarians;
And the sun each night descending,
Found him pluggy as at morning,
And the sun each morn arising,
Found him worse than in the evening;
One by one he lost the virtues—
Lost the few and scanty virtues—
Virtues of whose solid substance
He had once possessed the shadow.
In his penmanship, for instance,
He could once write somewhat different
"A" and "O" and "N" and "R,"
With some degree of plainness,
But now, alas! his copy
Was but a vulgar ink blotch,
Which a spider, dipped in fluid,
Would have come to try and rival
On the second eastern press wire
Sat this youthful filibuster,
Sat this noble plug, the mighty,
With his head upon his bosom,
With his eyes half closed in pleasure,
Sighing to himself half gently,
As he slid the subtle juices
To New York and way with calmness,
Thus he pondered in his headpiece—
He who, in semblance of his maker,
Had a head upon his shoulders—
Upon his rounded farmer shoulders,
Where his brains might do duty,
If he had possessed the tissue,
But which were empty as a battery,
Empty as a worn out battery,
Which has been salted all to piece
"I will loose my scaled jerking,
Turn the dogs of war upon them,
Make them smell their holes in sorrow,
Make the break sheet grow in blackness,
Till it rivals carbon paper."
Then he start-d all his muscles,
Loosened all his forearm muscles,
Sent each dot faster than the others,
Sent each dash shorter, quicker,
Sent his spaces smaller, smaller,
"Till they lessened into nothing,
"Till his letters were but spatters,
"Till the relays could not answer
To the waverings of the circuit.
Suddenly there came a breaking,
Some one opening quick and sudden,
With polane but heartfelt utterance,
Saying, "you can't send; you run together,
Stick and jerk, and flirt and flutter;
Get relief and spare our feelings."
Now this youthful filibuster—
One among the great fiascos
In the land of salt and freshness,
Did not relish pointed sayings,
Or doubtful personalities,
So he winked his glistening optic,
In his nose he placed his finger,
Braced his feet against the table,
As he loudly shouted, "blast it!
Come my friends and see me salt 'em,
Come ye plugs and bow before me,
See me warp the second press men."
Then he blew upon his muscle,
Screwed the key down to short stroke,
And said, with dite vehemence,
"Dash it, dash it, will you tell me
Where to 'four,' you bloody heathens,
Where to start my dexter mains?"

Oh, you plug, go hire a temple,
Where you can air your sticky chinning."
Quoth a man from old Manhattan
Writing with such dreadful firmness
That the plugs fell from the switches,
And the very tables trembled.
"Get you hence," says bold Nu Haben,
"Take your hand from off the key there,
Let it fall upon the ploughshare,
Let it rake in weeds and cowslips,
As it did six months before,"
"You have busted all the windows,
Split the cross-arms very badly,
And my relay's gone to thunder,
With the lever bended double,"
Shouted Hafford in dismay.
"Give me but a ragged cheese knife,
With which to chop your head off,
And in joy I'll always revel,"
Added Woo-ter in the chorus.
Springfold didn't tumble, but requested
Time to make some few repairs,
Which he's told us since by letter
Were of a serious nature.
Providence alone kept his key closed
Out of a weak desire for glory,
Relying on the breaks of others,
Upon the forced breaks of others,
To save his hard earned reputation,
Earned by various unknown openings,
Which were always east of Hibtown,
City of the crooked places.
Thus the youthful filibuster,
He the mighty, awful rusher,
Got a most ignoble take down
At the hands of injured press men,
On the second eastern press wire.
Then up from the table rose he;
From the worn out table rose he,
Turned and waved his hand at parting,
Swore a sickening oath of vengeance,
Then straightway he left the country,
Left the land of the fiascos,
Left the land of filibuster,
Plunged into the teapot harbor
And was lost and gone forever,
Gone to Hades no doubt forever.
Now to sushers and all salters
Let this direful case of trouble
Prove a most befitting lesson.
Take ye heed and save the pie ces;
Never serve a key to short stroke,
Never blow upon your muscle,
It will only make you trouble,
It will only start the calamity.
Better send at nine a minute,
And be sure that they will get it,
Than be shot from any country,
Shot in haste from any country,
To the land of the Hereafter.

Original Articles.

Synopsis of a Paper "On Lightning Rods," Read by Mr. I. N. Miller before the American Electrical Society.

BY OCCASIONAL.

SOME time ago I promised your readers a synopsis of the paper "On Lightning Rods," read before the American Electrical Society at Chicago, by Mr. I. N. Miller.

In fulfilling my promise I shall endeavor to present that part of the paper only which contains points not heretofore discussed in THE TELEGRAPHER. I wish that I could, in justice to the paper, ask to have the whole document printed, but its length renders this unadvisable, and as the readers of THE TELEGRAPHER cannot have the entire article, I have endeavored to present to them the most salient, interesting and valuable points.

It is probable that hereafter I shall not be able to furnish THE TELEGRAPHER copies of the valuable papers which are constantly being read at the meetings of the American Electrical Society, as the Executive Committee have decided to print the most valuable and important papers in pamphlet form for circulation; and as it might detract from the circulation of such documents, and prove injurious to the interests of the Society, to furnish them for publication in the widely circulated telegraph journals—THE TELEGRAPHER and *Journal of the Telegraph*—they will probably in future reserve the right of publication.

In his interesting and instructive paper "On Lightning Rods," Mr. Miller first calls attention to the fact that although more than a century has passed since Benjamin Franklin first introduced lightning rods, only "the mechanical part has been studied and improved, and that the protection to buildings by the rod of to-day is no better than that of the first rod introduced, and that the fault does not lie in the rod proper, but in its connection with the earth." That instead of being a protection the rods, as now connected to the ground, are an absolute injury, "involving a discharge without being able to conduct it into the earth."

Mr. Miller lays the blame in a great measure to the purchasers of lightning rods, as he states, if the vender should attempt to place a few feet more copper in the ground, so as to make a more perfect earth connection the purchaser would at once surmise that he was be-

ing swindled, and probably refuse to pay for the extra copper.

Referring to the scientific principles involved, Mr. Miller affirms as true, "that a greater quantity of electricity can be collected from the atmosphere upon a fine point than a blunt one," and that "a cluster of fine points might act as an inducement for electricity to pass to the earth, that with a blunt point would not do so;" but, he says, "no matter whether the rod ends in a fine or blunt point, electricity always selects the route of lowest resistance," and that if a rod is used which is a better conductor than the building itself * * * it will conduct the greater part of the discharge regardless of the kind of points employed." If this is the case (which there is no reason to doubt), I should think rods with blunt points (which should possess the conducting qualities Mr. Miller claims they ought) would be the best, unless, as he asserts, "blunt points might be fused more than sharp ones." This objection could be met by the adoption of Mr. Miller's suggestions in regard to proper earth connections, as in this case he claims that a blunt pointed rod "would not be fused off until it was no higher than the building while the present generation exists."

Without a proper earth connection the glass insulators used are more of an injury than a benefit to the building, especially if it contain gas in water pipes.

After quoting Sir William S. Harris and Professor Henry M. Noad on the subject, Mr. Miller calls attention to what should be taken into consideration, in the construction of a lightning rod, such as its peculiar construction; its position with regard to surrounding objects; the metal used; the character of the soil upon which it rests, etc. That to protect properly a building containing gas and water pipes they should be connected to the rod where they enter the earth.

He thinks the theory "that electricity passes over the surface of bodies only, and the conductivity depends solely upon the surface," is erroneous, and that although "a hollow body will contain as great a static charge as a solid one of equal size, for electricity in a dynamic state, or in motion, the case is a different one; the conductivity being in proportion to the mass or weight and not to the surface." Mr. Miller therefore deprecates the use for lightning rods of strips of copper rolled up and joined together, instead of using a solid rod. He also claims that much of the copper which enters into the construction of lightning rods is of so poor a quality that its conductivity is far below that of iron, and that none but the purest Lake Superior copper should be used in their construction.

He very clearly explains the difference between electricity of high and of a low tension; and says, in regard to the difference of opinion as to whether a joint should be riveted or soldered, if the joints are made in such a manner as to prevent the different sections from separating it is all that is required; and that the important point in the construction of lightning rods, and the one which in practice has been so much neglected, is that of proper earth connection. He also claims that if a joint between a copper and an iron rod be properly made "there will be no greater resistance to the passage of the current at the joint than through any other portion of the copper rod."

Where gas and water pipes can be connected to the lightning rod it is much better to use them than the ordinary earth plates, as otherwise the "copper rod would have to be connected to a metallic plate buried in moist earth, and having a surface area of 1,000,000-000 square inches, or a plate over 2,500 feet square, to form as perfect a connection as if connected to such pipes. Mr. Miller also asserts that our chimneys are better conductors than the rods as usually constructed with their insufficient and defective earth connections; and that although lightning will readily leap across short spaces of air to pass from one end of a rod to the earth, it would necessarily have to leap several feet in every direction in order to reach a sufficient quantity of earth through which to diffuse itself with the same facility as through the copper rod. To insure a good earth connection every available, piece of metal in the vicinity that has any connection with the ground should be connected to the rods, and that if wells or ponds of water are available the rods should reach them.

Mr. Miller deprecates the practice of coiling up a ribbon of copper for an earth connection, as in this manner less than half of its surface comes in contact with the soil, but if put down without coiling both sides come in contact with the earth; and the important object—getting as much metal in contact with the soil as possible—would be accomplished. He proposes a decided improvement in earth connections, that "holes be bored into the earth, say ten feet deep and ten inches in diameter, and the rods packed therein with coke; and when rods are connected to gas pipes the connections should be made outside of the metre, as a heavy charge has been known to melt the lead pipes used in making connections with metres.

Mr. Miller closes his very able paper by expressing the opinion that "the subject is worthy of careful consideration by those interested."

Chicago, Ill., June 15.

Bastie's New Process of Tempering Glass, and its Application to Telegraphy.

Prof. T. EGGLESTON, of the School of Mines in this city, has made a long and systematic series of experimental investigations into M. Bastie's new process of tempering glass. He found that ordinary window glass, after having been subjected to the process, would resist the shock of a two ounce steel cylinder dropped from a height of fifteen feet, and a pound cylinder from a height of seven feet, while an ordinary pane would resist only 30 inches fall of a two ounce ball. It can be heated to any temperature without breaking. A curious feature of glass thus treated is, that it can be thrown to almost any distance without fracture, but if it does break, it flies literally to atoms. Prof. Eggleston read a paper a few days since before the Institute of Mining Engineers, in which he gave the above and many other interesting particulars in regard to this new discovery.

It appears that glass of any form or quality may be treated successfully, and that its properties as a non-conductor of heat are enormously increased. This would render it probable that its insulating properties are increased also, these two qualities being apparently proportional to each other in most if not all-known substances.

The prospective value and importance of this discovery to telegraphic interests can scarcely be over-estimated. Glass is very extensively used in telegraphy, mainly for line insulators and battery jars, and the loss by breakage in these two items alone, to a company like the Western Union, amounts to a very large sum of money annually. By the aid of this new discovery the average insulation of the wires may be vastly improved, for not only will cracked and broken insulators become a rarity, but the form of the insulators themselves may be greatly modified with advantage. One great difficulty has hitherto been, that the disposition of material best adapted to secure good insulation—that of a hollow cylinder of great length and small diameter—is most unfavorable in respect to mechanical strength, and for this reason we have hitherto been obliged to make a compromise in form, which materially reduces the electrical resistance of the insulator during rain. The new process of tempering the glass will afford great possibilities of improvement in this respect. There are also many minor applications of this substance that will suggest themselves from time to time—for instance, as a substitute for hard rubber in the manufacture of electrical and telegraphic apparatus. Further developments of the capabilities of this extraordinary discovery will be awaited with great interest.—*Journal of the Telegraph.*

Correspondence.

We do not hold ourselves responsible for the opinions of our Correspondents. Our columns are open to free discussions on all Telegraphic subjects, without distinction of person or opinion.

No notice will be taken of anonymous communications.

St. Louis Railroad Connections Completed.—Correction.—Married and Contemplating Matrimony.—Personal Items.

ST. LOUIS, Mo., June 15.

TO THE EDITOR OF THE TELEGRAPHER.

It is a matter of congratulation that at last we have a Union depot situated in the heart of the city, and the difficulties attendant upon passenger travel in and out of St. Louis have been completely encompassed. The stranger coming to St. Louis is landed at once in the heart of the city, without the long, tedious drive in a crowded omnibus as heretofore. The depot on this side is situated on the corner of 11th and Poplar streets; while the one in East St. Louis is situated at the eastern approach of the great steel bridge, the wonder of the world. Trains pass over the bridge, thence through the tunnel along Washington avenue to 8th, thence to Poplar street. The two depots are placed in communication with each other by a telegraph line running through the tunnel. Mr. H. C. Mahoney is manager of the telegraph department on this side, and is assisted by Mr. Samuel Cassidy, while the eastern office is ably managed by Gillie Manchester.

In a former issue of THE TELEGRAPHER it was erroneously stated that Mr. D. S. Ryan had been appointed night chief. It should have read "assistant." Mr. John H. Topf is night chief, and I am happy to say he is a good one, and is universally liked by all of the operators. He has served his time at the key and knows how to treat the boys white, and at the same time do his duty to the company.

Our genial friend, Mr. Chas. T. Day, was united to one of New York's fairest daughters in Brooklyn on

the 8th inst. Charley has secured a handsome as well as a good and noble companion, and all his friends join in wishing them long life, prosperity and happiness—

"Blest time of joy and bliss complete
With hours the sweetest of the sweet,
When two hearts tender seeming prove
As one beneath the bonds of love.

"Earth's path must lead through fairest bowers,
Beneath the feet springs brightest flowers,
And radiant skies arch the world o'er,
More grand and golden than before.

"Thus onward through the rolling years
Two hearts as one share bliss and fears;
Untiring breathe life's holiest tune,
Nor spend, till death, the honeymoon."

Mr. Wm. W. Cummings, our worthy and estimable chief, leaves to-morrow for Toledo, Ohio, where he goes for a vacation, and to indulge in fishing and boat riding. We all wish him a pleasant time and safe return. Mr. A. E. Van Tyne fills the position of chief during Mr. Cummings' absence. Van is a great favorite with all the boys, and has the ability to discharge the arduous duties devolving upon him in a creditable manner. It is rumored that Mr. John L. Cassidy is soon to take unto himself a mate. Thos. P. Wheeler, Esq., says he wouldn't marry, but that photograph which he carries in his left pocket speaks volumes to the contrary, and its a little strange that he don't like to manipulate any but the Chicago wire (Vy.)

Mr. Jas. C. DeLong, who came here to take "Press," has been suffering severely from an affection of the lungs, and is working the Cairo circuit days, while Mr. W. T. Loper still takes night "Press," much to the gratification of the printers, as the telegraph editors say it's a shame to put a pencil on his copy, so perfect is it.

"Nihil's" Ghost Speaks from his Untimely Grave.—A Wandering Spook Retorts on his Assailants.

CINCINNATI, O., June 10.

TO THE EDITOR OF THE TELEGRAPHER.

THE affairs of men are often absurd to themselves. How much more so then to one who, having shuffled off his mortal coil, and clad himself in sable habiliments, has "gone down into the cold and silent tomb." Which is "of no consequence."

While I was in the flesh, I suffered the slings and arrows of outrageous ignorance and misrepresentation, and, as mortals are apt to do, I sometimes retorted by casting back mud for mud, and filth for filth. Now, that I am no longer subjected to the gallings of the body, I can look without emotion on what would then have chafed me sorely. But lest any earth covered mortal should think that such spirits as I know nought of what passes below, permit me through the proper medium to make known the fact that we are permitted yet a while to wander among our old familiar haunts, with the friends and amidst the scenes we loved, "While in the body pent."

Does one ask,

"Who killed Cock Robin?"

I answer, he died a natural death, but that there is one man who thinks that he beat out my brains with a Sterling literary cudgel. (?) Having settled that point, return we to our mutton! I am permitted all unseem to hover over my old fellows of the office and watch their movements and compare them with what they did whilst I was among them; I see their faults and foibles as only amusing follies, transmitted largely from their parents and ground into them by the circumstances in which they have been placed; what was often irritating then is only funny now. And I, a disembodied shade, am often forced to laugh till my transparent sides almost split, and my unsubstantial ears are almost rent with the silent roar of my own guffaws! Did you think sprites do not laugh? you are mistaken, so far as the class to which I belong is concerned, I have laughed harder and oftener as a ghost than I did as "Nihil." You will remember, perhaps (I do, for ghosts do not forget), that I passed during my brief, unhappy life as "the melancholy Dane." Up here in the ethereal regions I have become quite merry. And it is as entertaining pastime as I could wish to enter as I do sometimes, in my character as an essence, into the mind of some poor flesh burdened old friend, and see the clashing of the cogs of his brain, as they try in vain to revolve in the grinding out of some tough job of composition for the press. Imagine, if you can, my passing into the mental mill of my respected friend "John Sterling," and watching everything come to a dead stand for want of a new idea to grind, or the ability to manage an old one. Ah! how well I knew what spring to touch (John has told you how I could, as a mortal, introduce the "Reverberating Thunders" and "Lurid Lightnings," until "Milton" and "Homor" passed out for refreshments), how easily I could have stretched out my immaterial hand

and opened the floodgates of wisdom and language. But shades have other occupations than helping overwrought mortals to write prosy articles. Imagine me sitting beside him, an invisible presence—looking over his shoulder at words that would not come, and seeing them on the paper, where to him all was blank. But to nudge him would have been folly of which a ghost would never have been guilty, for my phantom elbow would have passed clear through his gross stomach without having disturbed the contents by even so much as a ripple on the gastric sea. Poor man! I can smile, but I cannot put ideas and arguments where they are not. Imagine, also, my feelings (for ghosts feel) as I stood behind him (Sterling the Wise), and peering through the portals of his head (which are behind) while he wrote that last wonderful article in reply to a dead man. Think what a seething, bubbling, roaring mass of red hot thought must have been before my impalpable eyes as I looked and beheld the cesspool from which issued the reference to "Nihil's" sisters and the Empress Maria Louise. Ah! "the hog loves his wallowing in the mire." And then I beheld him, as it were, imprisoned under a towering *Cra (i) g*, surrounded and threatened by an ever advancing sea—of arguments on automatic telegraphy—lashed into fury by his Canitic order to retire, and as he vainly and desperately strove to free himself from his perilous situation, the *Cra (i) g*, fell upon him with an awful crash—"fifteen hundred words per minute between Washington and New York"—and "Sterling" was no more than an unpleasant memory.

"Oh, why should the spirit of mortal be proud?" Then I visited in my freedom the cave in which lives one of your correspondents, who occasionally has a lucid interval, and saw the tools with which his brain mill is supplied. I need not mention the fact that flatery is the one in which his main dependence is placed. I was often glad, while living, that he only wrote occasional contributions, and for your sake and your readers, I am doubly glad now. To me, a spook, it was amusing to see the two men sitting solitary and gloomily apart, until the breath had passed out of my body, and then rushing eagerly like hungry vultures, fanning each other affectionately with their fragrant wings while they devoured the flesh. They have violated the law which governs the denizens of earth. They have made a dead body the bond of their union. Let them look to it that mortification do not ensue to themselves.

To "Jo," I have only to say that whatever of glory in battle or victory may belong to my foe, she may claim undivided. She was the gallant foe—she is the generous victor. This is a privilege that bodies do not often enjoy, and I try to be as thankful as a wraith can be for it. Not many of the perverse "spirits" of these degenerate days, are allowed to appear in print over their own signatures. This I enjoy by virtue only of the newly discovered Transfusion Practice. Having transferred my thoughts into the mind of a faithful medium (not Katie King), I am enabled to send you this in visible characters.

I cannot close without a word of advice to my sonneteer, "Ichabod Crane." He is evidently a young man, and no doubt sincere in his intentions; but up where I am sentimental verses over graves do not take well. We have no tombstones to engrave them on, and if we had, we could only bring them to the notice of other spooks by carrying the gravestones to them, which would be rather a heavy load for disembodied spirits, to say nothing of the slim chances of their being recognized by their owners, on account of their epitaphs. Besides all this, they make one feel uncomfortable.

I hope they will let my poor ashes rest now. Let them think that—

"The 'Nihil' who wandered in search of his bread
Has faded away like the grass that ye tread."

Give us a short repose. Let us have a little "hard rest."

NHIL NAMELESS,

W. S.

(Which means Wandering Spook.)

The Weather.—Telegraph Business in Chicago, etc.

CHICAGO, ILL., June 14.

TO THE EDITOR OF THE TELEGRAPHER.

VERY little has transpired within the past month worthy of note. That everlasting topic, the weather, of course, must be commented upon.

We have had quite pleasant weather, "generally speaking." Gentlemen visiting this city for a short period, say 12 to 24 hours, should first furnish themselves with the following necessities: Heavy overcoat, spring overcoat, linen suit, umbrella, rubbers, summer hat, a palm leaf fan, and many other articles to dress himself to suit the weather, which is liable to change in an hour. We have sunshine one hour and the next thunder and lightning, "making things pleasant all around."

The receipts of the W. U. office in this city for the month of May were \$1,973,81 larger than for the month of April.

The following is the increase for May over April:
 Number of messages..... 16,359
 " word " special..... 18,568
 Total number through messages sent and received in May..... 137,131

Mr. A. H. Hamilton, of the Chicago Western Union day force, was last Sunday, June 6th, presented with a fine daughter weighing nine pounds. Ham. came around Wednesday morning smiling, with his best suit on.

Charlie Birch is with us again. Charlie takes his old job in the gold room. He is the only man that can handle that business. Mr. E. O. Waite, Manager of Clinton, Iowa, has resigned, and Mr. J. D. Mills, Manager of Clinton, Iowa, Railroad Office, has been appointed his successor.

Mary's little lamb must have been annoying Benson at Dubuque, Iowa, when he received "Texas, Dale, Harry, Son & Co., for Teasdale, Harrison & Co."

Ben, who would be the son's father in first mentioned address? "I gin it up." QUAD.

Dominion Telegraph Extension.—A Juvenile Superintendent.—Personals and Bulls.

TORONTO, CANADA, June 15.

TO THE EDITOR OF THE TELEGRAPHER:

Mr. C. B. McQUARRIE, inspector for the Dominion Telegraph Co., who has been down in the Lower Provinces since the first of April, making arrangements for the new line to be built there, returned to Toronto last week, and reports favorably of the proposed route. The Dominion Company will begin building as soon as the contract between them and the Direct U. S. Cable Company is signed (which is daily expected), and two hundred miles of poles are now being got out for the purpose. They will only build from Tor Bay to Halifax and St. John this season, but early next season they will run up a line from Quebec and St. John, and thus have a direct line to the cable. It is quite probable, also, that they will have a direct wire from Montreal to New York before many weeks, via Swanton and St. Johnsbury. It will, of course, be a great advantage to the Co. to be able to handle cable business.

The grand event of the week is the arrival of a "son and heir" in Supt. Neilson's family. Neilson, junior, is said to be a remarkably fine little fellow.

Miss H. McCarty, of Aurora, has taken charge of the Stouffville office. As she is a good operator, and a very amiable and attractive young lady, her office will, no doubt, do a good business.

To be in the fashion, our staff perpetrate a few "bulls" occasionally. For instance, a message for Cazinovia, Madison Co., N. Y., was copied "Cazin via Madison Co., N. Y."

Operator at O—— wanted better address to message to "Stole," signed same. When advised to make it "Steele," he had no difficulty in finding the man.

In another message, a first class operator copied it "expenzon," instead of "expense on." The party to whom it was addressed said he did not understand that kind of Greek, and wanted it repeated. Moral:—Count your check.

C. H. Hosmer, Esq., Supt. Eastern Division, visited this office last week.

We have been enjoying beautiful weather here for the last few weeks—fine and dry, but comfortably cool. It is just the kind of weather to make telegraphers' hearts rejoice, though the farmers, who live in blissful ignorance of bad insulation and escapes, would prefer a little more rain.

DOT.

"Nihil" and "Jo."—A Sharp Rebuke of "John Sterling."—The Morse and Automatic Systems.

CINCINNATI, O., June 3.

TO THE EDITOR OF THE TELEGRAPHER.

I WAS amused on receiving the last copy of THE TELEGRAPHER to see the sympathy manifested by sensitive "Jo" over poor "Nihil's" sad fate. She seems, woman-like, to be repentant just as soon as it is evident that the damage she has done is irreparable. While the poor, misunderstood, abused man was with us she rejoiced in her power to "skelp and skad" him just to make him squeal. He died "game" though, and in so doing, I am satisfied, pleased her much better than he could have done in any other way. The ladies admire heroes, and I prophesy now, that should his ghost ever "revisit the glimpses of the moon" she will be the first to welcome it. Altogether, she did the neatest thing she has yet accomplished in that last brief paragraph. I am also of the opinion that

N—— is not dead, nor even sleeping, and that of all his literary antagonists he entertains the highest opinion of "Jo."

I think "Sterling" rather overdid himself in his last article. His gratuitous offering of his lady friend's remarks concerning the cause of "N's" fears, was complimentary neither to that lady's delicacy nor "Sterling's" good sense. I question much if she said anything like it, and if she did she certainly betrayed a heart as familiar with the sinful emotions of the bad man as she claimed "Nihil's" to be.

I do not design in this to revive a controversy buried, it is to be hoped, in "Nihil's" grave, but simply to express my extreme disgust at such indelicacy of expression.

I happen to know "Nihil," and I know that he is in heart and feeling a man, one whose arm and voice have ever been as ready in a lady's defence as his pen has been ready with good logic and earnest warning. I would advise "Sterling" if ever hereafter another such controversy should spring up in THE TELEGRAPHER or any other journal, to keep out of the ranks of combatants until he has learned something of the rules of civilized warfare. The slang and jeers of a "man of the world" may very readily pass for the expressions of a dark experience, but they will scarcely assume the weight or force of argument. I beg "Jo" to reconsider her "vote of thanks." Bestow your sympathy rather over "Nihil's" grave. A dead foe is better than an unworthy friend alive.

I have taken much interest in the occasional articles bearing upon Automatic telegraphy, and hope I may be pardoned if I presume to offer a few thoughts on that topic. I shall not attempt to argue, my knowledge of the practical working of the Automatic system is too limited for that, but there are a few plain facts which are the common property of us all, and these will sometimes bear very frequent repetition. First, the Morse system has been new for a long time in operation. It is in the nature of things that an improvement over it should be made, just as in it improvements have been made. Second, nothing great has ever yet been invented but that afterward something better came up and crowded it out. It is time that the improvement be made in telegraphy. The business of the commercial world demands it. Demand always creates supply. Third, the W. U. is a monopoly whose chief capital is Morse. Monopolies invariably tend toward their own destruction; sometimes through their own corruption, sometimes through the corruption they breed elsewhere, but more frequently through the counteraction they produce in public feeling and private enterprise. Monopolies are oppressions. Oppressions incite resistance. Sometimes this manifests itself in open riot—sometimes in the invention of new apparatus and new and cheaper methods. Fourth, Nature tends from the abstract to the concrete, from the elemental to complex, from the simple to the compound, from the unit to the sum, from the atom to the molecule. Morse is an element, a simple, a unit. From it must grow the complex, complete (measurably at least). And I might close with the advice of the Jewish Rabbi concerning the doctrine of the early Nazarenes: "If this doctrine be of men it will come to naught." If the Automatic system is of no value then it will die of itself, but if it possess merit, then will it live, and "not die." If it be a fraud and doomed to speedy "Nihil-ation" why so much lead spent in killing it? If it be a "hit" then the less outcry the better, else will those who are the "active" ones come off as did "Auld Nick" when he sheared the sow—have "plenty of noise and mighty little wool."

I said I should not argue. I have not done so. Certainly no one can say, however, that there is not some sanity in these thoughts which to me are facts. I believe many a W. U. employé feels as I do, and could express himself better, were his bread and butter not wrapped up in his silence. I speak without the fear of that gigantic monopoly, the W. U., before my eyes. No sword is suspended over my head by a thread in the hands of that Company.

I shake hands cordially with Craig. He is a man of "my style," and I say as did the Emir of old, "Let there be peace between me and thee." Long may he flourish—his pen: and long may THE TELEGRAPHER open its independent columns to him and others of his sense and judgment. UNO HOO.

A Dominion Telegraph Office Destroyed.—Enterprise under Difficulties.

TORONTO, CANADA, June 19.

TO THE EDITOR OF THE TELEGRAPHER.

ON the morning of the 18th inst. the office of the Dominion Telegraph Co., in Barrie, was totally destroyed by fire. The fire broke out about 2.30 A. M., a few doors from the office, and spread so rapidly that the operator, Mr. J. L. Kerr, had barely time to disconnect the instruments, and get them, with the books,

etc., out, before the office caught fire. The whole back part of the building was in flames, when he suddenly remembered that he had forgotten the switch board. Anxious to do the best he could for the Company, he rushed into the burning building, and with the aid of a jack knife, succeeded in detaching it from the wall and got out just in time to save himself a singing, and drenching from the hose. Twenty-three buildings on the north side of Dunlop street and six brick stores on the south side were destroyed. Three telegraph poles belonging to the Dominion Co. and three belonging to the Montreal Co. were also consumed; the wires in some places being melted with the heat. As soon as the fire subsided sufficiently to allow him to climb the poles, Mr. Kerr cut the wires, and securing the corner of a butcher's shop for a temporary office, run the wires into it. He then made a rustic table of two pork barrels and a barn door and announced himself ready for business at 8.45 A. M. There was a heavy rush of business all day, which he dispatched in his usual first class style. The Montreal Co.'s wires were burned from three poles, but their office was not much damaged. They got the line built up again and were able to resume business at about 8 P. M. Mr. Kerr deserves great credit for the promptitude and enterprise he displayed on this occasion.

Mr. Fred Robertson, of Port Hope, has taken charge of the Dom. Telg. Co.'s office at Uxbridge, and Mr. G. W. Deuch has accepted the office at Markham. DOB.

Scraps.—An Incident.

TO THE EDITOR OF THE TELEGRAPHER.

THE correspondence columns of our paper are one of its interesting features—a little monotonous sometimes perhaps, when subjects are scarce or when Little's automatic seeks new glory, or seeks to prolong what it may have already found—but taken on the whole, the space given to correspondents is filled with interesting matter which is of itself worth the subscription price of the paper. Many, doubtless, preserve the paper whole and file it. Those who have conveniences to do so have an advantage which I have not. Still when I stumble upon a good thing, which I occasionally do, I do not let it pass, but clip it and paste it with my collection of gems and good things in my scrap book. Those who haven't one, take my advice and start one at once. In mine I find very many things which are as fresh to-day as when put away. Looking them over, I find a fair sprinkling from these columns, among which are some "Humors of the telegraph," personals, character sketches, reminiscences etc. Prominent among the collection is an article by "No Sig." entitled "Idiosyncrasies of Telegraph Operators," which struck me as picturing a phase of a telegraphic life as accurately, and, as a picture, being as recognizable as anything in literature could be.

In our office we have our "heavy man," our "light man," our "fast man," and our "medium," which is doing well for our extent of office. The heavy man was the victim the other evening to an unfortunate combination of circumstances, which has caused some mirth among the rest of us and might elicit a smile from others. His name is not Brown, but that is what I will call him for convenience sake.

We have (or had—he is gone, thank Providence) an artist up the line who is not in a fair way to rival the best kind of men. Indeed, it would require a great deal of improvement for him to rival a very poor man. It was he that Brown got hold of the other evening with about six words of easy matter addressed, probably, to the agent. Having sufficiently raised him, Brown paused, looked back over his shoulder at the Division operator and said he would bet him the cigars that F. D. would not break him on that. The other answered with cool complacency, and without looking up, that he would bet him, and Brown started it carefully. He was going to have a dead certainty of it and in steering from the danger he cleared it too widely and shoaled upon the other coast, for as he was approaching s——i——g the man, F. D., ventured to say what he had never at any time said before and in all human probability never will again—he commanded Brown in tones which were at once dulcet and ominous to "g a faster."

The chief virtue of this happening is its nearness to home. O. H. KAY.

Miscellaneous.

THE STREAM MAGNET.—M. Donato Tommasi state that, if a current of steam at a pressure of 5 to 6 at mospheres is passed through a copper tube of 0.08 to 0.12 inch in diameter, and coiled spirally around an iron cylinder, the latter is magnetized so effectually that an iron needle, placed at the distance of some inch or two from the steam magnet, is strongly attracted, and remains magnetic as long as the steam is allowed to pass through the copper tube.

THE TELEGRAPHER

DEVOTED TO THE INTERESTS
OF THE
TELEGRAPHIC FRATERNITY.

SATURDAY, JUNE 26, 1875.

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ELEVENTH VOLUME.

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It is desired to add 1,000 new names to the present Subscription List of THE TELEGRAPHER during the next two months. To accomplish this it is only necessary for the friends of the paper to engage energetically in presenting its claims to the consideration of the Telegraphers generally throughout the country.

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NEW YORK.

The Centennial Celebration and the Telegraph.

THE Centennial Celebration of the Declaration of Independence of the United States, which is to be held in Philadelphia in 1876, is now assured to be a great success. The exhibition buildings are now being erected and will cover several acres of ground. It is proposed to hold, on this occasion, a grand exposition, which shall display the progress which the country has made in industrial pursuits, and in the adaptation of new facilities and conveniences to the use and service of the public. This exhibition, commencing on the Fourth of July, will continue for some months, and will attract to it thousands of people, not only from all parts of our own continent but from the whole civilized world.

It is to be hoped that this opportunity will not be allowed to pass without a thorough and creditable representation of the telegraphic systems of the country, which shall demonstrate to the world the wonderful progress which has been made in the development of electrical science and the telegraphic art. It is eminently proper and desirable that such an exhibition should be made, and that it shall not be partial and incomplete.

It is a well known fact that most of the important developments and adaptations of the telegraph to popular service and use have been made in this country, and that it is more generally and universally used here than in any other part of the world. Electricity and the telegraph have been subordinated to public service here, as they have not been anywhere else, and telegraphic inventions have been stimulated and encouraged here as they have been nowhere else. The character and genius of the American people lead them to seek for and encourage the development of facilities for domestic and business purposes, and consequently inventors have here put forth their best and most practical efforts. We do not mean to disparage the labors and genius which in other countries have been devoted to this special department, but it is well known that it has been found extremely slow and difficult to introduce elsewhere the telegraphic inventions which here have met with almost immediate recognition and acceptance. Aside from the ordinary commercial telegraphs but little has been done abroad toward utilizing this great element. The system of instantaneous reporting of the quotations of the stock exchanges and markets to brokers, merchants, etc., which here has grown into an enormous business, is almost unknown in Europe. The system of electrical fire alarms and electrical protection of premises and localities against the spread of conflagrations, are unknown abroad. The larger cities, especially, in this country are covered with private telegraph lines, so-called, which, except in England, are elsewhere but seldom employed. The American system of electrical railway signaling is far in advance of that in use in any other country. The American automatic telegraph system; the printing telegraph; the duplex and quadruplex telegraph apparatus, are either American inventions or have been developed and made practical in this country. The only printing telegraph used to any extent in other countries, the Hughes, is the invention of an American. And so we might go on specifying, but the above is enough to prove the truth of our assertion. It would then be a disgrace to the telegraphic genius and interests of this country if our great Centennial Exhibition should come and go without such a telegraphic display as shall manifest to the world our superiority in telegraphic matters.

In order that this display shall be national in its character, it is essential that the proposed exhibition should not be a mere advertising demonstration on the part of manufacturers and dealers in telegraphic and electrical apparatus; the managers of the telegraph companies should cooperate in making it in every respect a national exposition. Every system of telegraph and every adaptation of electricity to public service should be shown in actual and continuous operation.

Action should be taken in this matter at an early day, and sufficient space secured in which to make a

suitable display. We have no doubt but that the managers of the Centennial, who are making every exertion to insure its being successful and creditable in every department, will afford every facility and assistance in their power if a movement is inaugurated for such a telegraphic exposition as we have suggested. It will require organized and energetic action, however, and it should be commenced soon. If there ever can be an occasion when it would seem advisable that the competition and jealousy which are inseparable from free telegraphy should be set aside, and all parties heartily cooperate in effecting a desirable result, this is one. And not only the managers of telegraph companies and enterprises should cooperate, but the manufacturers and dealers in electrical and telegraphic apparatus should aid in the good work. We presume that some of the leading parties in this line will have exhibitions of their own, but these should all be combined in one department in such a manner as to make them parts of a general exhibition.

We have thus hastily jotted down a few suggestions on this important subject, in the hope that they may attract attention and lead to definite, united and effective action. Although it is yet a year before the Centennial Exhibition takes place, it is time that some steps should be taken preparatory to it, if it is desired to make such a demonstration and display as we have briefly indicated. If this be done now, no doubt all who propose to participate might be induced to unite their efforts, and the result of such united action would be beneficial as well as creditable to all concerned. Who will take the initiative?

We understand that it is proposed by the managers of the Centennial Exhibition to appoint an electrician who shall have the supervision and direction of the electrical and telegraphic department. It is of the first importance that great care shall be exercised, in making this appointment, to secure the services of a suitable and properly qualified person, as upon this will depend very much the success of this department, and the credit which will result to the electrical and telegraphic interests of the country.

We have learned that a party whose qualifications and acquirements as an electrician and telegrapher are not of an order which will be likely to prove either satisfactory or beneficial, is making great effort to secure this position. While we have no personal unfriendly feeling to the gentleman referred to, we should very much regret his appointment on his own account, as well as on that of the great interests at stake.

It will be unnecessary for the managers of the Centennial Exhibition to go outside of Philadelphia for the proper person for that position; Mr. DAVID BROOKS, as an electrician and practical telegrapher, is eminently fitted to fill the position of electrician to the Centennial Exhibition with credit to himself and country, and advantage to the exhibitors in that department. He has had experience with similar exhibitions abroad, having been one of the United States Commissioners to the Vienna Exposition, and, besides, enjoys an extensive personal acquaintance with the electricians and telegraphic engineers of Europe. We make this suggestion without consultation with Mr. Brooks, but hope that he may be induced to accept the appointment, confident that none better could be made.

The Volume Half Completed.

THE current number of THE TELEGRAPHER completes the first half of Volume XI and of the year; the volumes now commencing and ending with the calendar year. While newspapers as well as other interests necessarily feel the influence of the long continued business prostration, yet we have the satisfaction of announcing to our friends and readers that, despite all the adverse influences which it has had to encounter, THE TELEGRAPHER has been fairly supported. It has of course required constant care and labor to maintain the paper as a successful publication but it has been done, and we have no doubt but that

it will continue to be so maintained. It has become one of the indispensable telegraphic institutions of the country, and we are constantly in receipt of the most flattering commendations from those who are best qualified to judge of its value and importance.

THE TELEGRAPHER has a corps of correspondents and contributors to its columns of which we may well be proud. In this respect it has never before been so favored as at the present time, and we are constantly receiving accessions to our assistants in this department.

We are about making some new business arrangements, which will enable us to devote more time and attention to the conduct of the paper than heretofore, and we hope to be enabled to make the paper even more interesting and valuable in the future than it has been in the past.

It is desirable that the circulation of the paper should be increased, and although we are aware that the summer season is not a favorable one for increasing the number of subscribers, we hope that those who regard it as desirable that this paper should be efficiently supported will favor us by exerting their influence to add to the number of its patrons and readers.

We gladly avail ourselves of this opportunity to return our sincere thanks to the many friends who have, by efforts to increase its circulation and by contributions to its columns, aided us in maintaining an independent telegraphic journal, and confidently solicit a continuance of their favors.

We have no special promises to make—the paper as it has been heretofore is the best guaranty of what it will continue to be, and we can only renew our assurance that, as in the past, no feasible effort will be spared to make it a creditable representative of the telegraphic fraternity and telegraphic interests.

The National Board of Trade and the Postal Telegraph Schemes.

THE National Board of Trade, which is composed of delegates from the local Boards of Trade throughout the country, was recently in session at Philadelphia. The Committee on Resolutions among others reported a resolution endorsing the postal telegraph scheme. After considerable debate this resolution was indefinitely postponed, thus substantially recording the opinion of the principal merchants of this country, whose interests are intimately connected with the proper administration of the telegraph, against Government ownership and management of the telegraphic facilities of the country.

The advocates of a postal or Government telegraph for this country, never a very numerous or influential body, have steadily decreased in number and influence under the discussion of the subject, in and out of Congress, which has taken place during the last few years, and whatever may have been heretofore the motives which have actuated those who so persistently pressed the motion, its reintroduction in Congress may fairly, and would be regarded as merely an attempt to subject telegraph companies to useless and unnecessary expense and trouble in defending their interests.

Personals.

Mr. J. H. BURROWS has been appointed to a position in the W. U. office at Houston, Texas.

Mr. CHAS. NEWTON, Houston, Texas, W. U., has resigned, and accepted a position with the same company at St. Louis, Mo.

Mr. A. G. TAYLOR, of Galveston, Texas, W. U. office, has resigned and leaves there July 1st for his home in New York State. This said he has serious intentions of soon becoming a Benedict.

Mr. EDWARD L. PARMELEE, of St. Louis W. U. office, is acting as assistant day chief during Mr. W. W. CUMMINGS' absence.

Mr. H. C. MAHONEY has resigned his position in the Western Union office, to accept the managership of the Union Depot office at St. Louis, Mo.

Mr. SAMUEL CASSIDY, of the St. Louis, Mo., W. U. office, has resigned, to accept a position as assistant to Mr. H. C. MAHONEY in the Union Depot office.

Mr. DAVID CAMPBELL, of St. Louis, Mo., has gone to Jefferson, Texas, where he expects to "sub" for Mr. PILLOW for a month or two.

Mr. CHAS. T. DAY has been transferred from the night to the day force, St. Louis, Mo., W. U. office.

Mr. L. N. BOONE, of Hannibal, Mo., has been appointed to a position in the St. Louis, Mo., W. U. main office.

Mr. E. W. FARNHAM has resigned the position of night manager of the Western Union, Milwaukee, Wis., Western Union office, to take charge of the Chicago and Milwaukee Division of the Great Western Telegraph Company.

Gold and Stock Telegraph Company.

THE Directors of the Gold and Stock Telegraph Company have declared a dividend of three per cent., payable on and after August 2d. It is understood that this company is now in a prosperous financial condition, and it is hoped that dividends may be hereafter regularly earned and declared.

A New Telegraph Company.

A MILWAUKEE, Wis., correspondent of THE TELEGRAPHER writes that on the 11th inst. much surprise was occasioned by the appearance of a new telegraph counter on 'Change in that city, the blanks headed "Board of Trade Telegraph Co., for Board of Trade business exclusively between Chicago and Milwaukee. Allan C. Knapp, lessee and manager." He further states that this is believed to be a blind, and that it is a Western Union operation to run out the Great Western Co.

Telegraphic Consolidation.

Mr. PLATT BURR, of Idaho, superintendent of the Nevada and Northern Telegraph Company, the only telegraph company in Idaho whose lines extend from Winnemucca, Nevada, to the mining districts of Idaho, has been in this city for some days, and has just completed a working contract between his company and the Atlantic and Pacific Telegraph Company, whose lines connect at Winnemucca. Mr. Burr has also purchased and shipped several hundred miles of wire, with which his lines are to be extended to Portland, Oregon, this summer. The territory thus reached by this line is regarded as one of considerable importance. The Western Union Company, whose lines extend from San Francisco to Portland, via the coast, has hitherto enjoyed a monopoly of the telegraph business at Oregon and Washington Territory; but the successful issue of this new enterprise will afford the Atlantic and Pacific Telegraph Company an opportunity of getting a large share of this very profitable business, while it opens up telegraphic communication to the people of Idaho and Eastern Oregon.

The American District Telegraph in New Orleans.

THE American District Telegraph system is being introduced in New Orleans, La., under favorable auspices. The company has been organized under the laws of Louisiana, and are now engaged in constructing their lines and fitting up their offices, and announce that they will be prepared to commence business on the first of September next.

Mr. W. H. Bofinger is the manager, and Mr. J. C. Berban, supt. The executive office of the company is at No. 128 Gravier street.

A New North River Cable Laid.

A NEW seven wire cable has been laid this week for the Gold and Stock Telegraph Company across the North River. This cable has been laid directly across the river from the foot of Cortlandt street to Jersey City, in the track of the Ferry of the Pennsylvania Railroad. Heretofore the cables across the North River have been laid at Fourteenth street and from there as high up the river as Seventy-ninth street. This has been done because it was deemed impracticable to maintain cables so low down as Cortlandt street, on account of the large number of vessels anchoring in that locality. The laying the cables so high up the river has been a cause of great expense and difficulty to the telegraph companies, as it necessitated the construction and maintenance of from ten to twenty miles of extra land line to make the necessary connections.

It has been decided by the Gold and Stock Co. to make the experiment of maintaining a cable at the Cortlandt Street Ferry crossing, and if it should prove successful, most of the North River cables of that company and of the Western Union will eventually be removed to the lower section of the river. The saving which will result, if the experiment is successful, will be important, and warrants its being made.

It is understood that the Gold and Stock Co. have already made contracts for private lines in Jersey City, which will occupy several of the wires in the new cable, and they will undoubtedly all be taken up in a short time.

Automatic Complications.

MR. GEORGE LITTLE, inventor of the American Automatic Telegraph, advertises his United States Automatic Patents (37 in number) for sale. He claims that the Automatic Telegraph Company, having failed to fulfil its contract agreements with him, has forfeited any right it has had heretofore to ownership or control of said patents, and that, under the terms of his said contract, the ownership of the patents has reverted to him.

The Great Northern Telegraph Company.

THE annual meeting of the Great Northern Telegraph Company took place at Copenhagen on the 28th of April. During the past year no extensions of the European cables have been made; efforts have been confined to thoroughly consolidating the undertaking, and otherwise utilizing the resources at the company's disposal. Two cables had been broken, one of which (France and Denmark) had only recently been repaired. All cables are now in a most satisfactory state. The Danish Government lines had been improved and rebuilt. Sir Wm. Thomson's recorder was the instrument now employed on all lines between England, Denmark and Russia, and the speed had thereby been considerably increased. The European traffic statistics show an increase of 27 per cent. on the work of 1873, viz:

	Francs.
1874.—722,386 Messages, valued.....	2,332,568
1873.—536,206 " "	1,840,496

Increase..... 492,072

A school for theoretical and practical education had been established at Tabor, near Copenhagen, and a pension fund for the staff of the company started. It now counted 150 members, who contribute three per cent. of their salaries, and the company a like amount.

Interruptions to the China and Japan cables had been few compared to the previous year. The land lines were in good condition, and extensions in China were being cultivated. The increase of traffic over this section of the company's system, as compared with 1873, equalled 38 per cent. The dividend for the year was fixed at 7 per cent.

Electricity and the Arctic Expedition.

It appears, says *The Telegraphic Journal*, of London, that in the Arctic expedition "electricity" will not be forgotten, for experiments are to be made with regard to the electrical state of the atmosphere. Sir Wm. Thomson supplies his well known "electrometer," and other instruments will be used. Spectroscopes are provided for observation of the aurora; and the employment of batteries for obtaining comparison spectra being out of the question, a Gramme machine has been provided to produce the necessary current of electricity.

Experiments with a Multiplex Automatic Apparatus.

THE *Independence Belge*, of April 16th, states that a telegraphic apparatus presented by Mr. W. C. Barney, an American, for multiplex automatic transmission, was tried on the telegraphic lines of Belgium from the 14th to the 25th of March last.

An engineer of the government telegraph department of Belgium in an official report gives the following statement of two experiments made with this apparatus:

"The 16th of March at half past five P. M. I transmitted communications simultaneously from Brussels to Anvers (Bourse) and to Liege. M. Barney, who was at Anvers, informed me that he received well; an agent of M. Barney, who was at Liege, telegraphed me that the communication was received there also, but in feeble characters.

"The 18th of March the trial was repeated. I was at Anvers (Bourse) on this occasion with M. Barney. The son of the latter transmitted from Brussels. We received at Anvers a legible despatch, and Liege announced to us that he also received well. These two

attempts did not continue a long time. The speed was from 300 to 400 words per minute."

This second experiment has been even more satisfactory than the first.

The Belgian official expressed the wish that he had had an official of the technical service at each of the three apparatus, that the efficiency of the system of Mr. Barney might be definitely determined upon.

It is to be hoped, says the *Independence Belge*, that these experiments may be continued, for the apparatus which has so far given good results appears to contain the solution of a telegraphic problem of incontestable importance.

Revision of Rates for Government Messages.

It is stated that Postmaster General Jewell will in a few days invite representatives of the principal Telegraph Companies to meet him in Washington for consultation, with a view to a rearrangement of the telegraph rates charged the Government. The Government now pays one cent per word, including address and signature, for each circuit of 250 miles.

A Noted Telegrapher in Trouble.

FIVE men recently attempted unsuccessfully to rob the office of the Texas Express Company at Willis Station, Texas, on the International and Great Western Railroad. Four of them were captured, among them Charles Ellsworth, John Morgan's telegraph operator during the war.

Telegraphic Apparatus in the Sixth Cincinnati Industrial Exposition.

THE managers of the Sixth Cincinnati Industrial Exposition have very sensibly placed telegraphic apparatus and supplies in a class (department K, class No. 60,) by themselves. In this class the following premiums are offered: For the best system for simultaneous transmission of two or more messages over same line (in operation); best system for Automatic Telegraphy (in operation); best system for Fire Alarm Telegraph (in operation), each a gold medal.

For best system for Private Line Telegraph (in operation); best system transmission of musical sounds by electricity; best system Automatic Fire Alarm Telegraph (in operation); best system telegraphic railway signals; best system for adaptation of the telegraph to domestic use; best fire alarm signal box; best display of instruments and supplies; best instruments for quotations, each a silver medal.

Best galvanometer; best telegraph battery; best electric light; best electric hotel annunciator; best box relay, key attached; best pocket relay magnet; best Morse register; best single cut-out; best switch for from four to twenty wires, each a bronze medal.

Best telegraph set, (key, sounder and relay); best electric magnetic motor; best magnetic watchman's clock; best printing instrument for private lines; best dial instrument for private lines, each a silver medal.

Best coil wire; best sample office and magnet wire; best submarine cable; best air cable; best amateur instrument; best insulator; best electric gas lighting apparatus; best burglar alarm; best electric clock, each a bronze medal.

The Exposition will be open for the reception of articles from Monday, August 2d, to Tuesday evening, September 7th. Open to the public from Wednesday, Sept. 8th, to Saturday, Oct. 9th.

A Missing Telegraph Operator.

GEORGE WOODWORTH TOWNSEND mysteriously disappeared from Terre Haute, Indiana, on the 24th of January, 1874, since which time all trace of him has been lost. He was an operator and railway clerk; had worked for the L. S. and M. S. R. R.; had filled the position of train despatcher on the Flint and Pere Marquette R. R., and at the time of his disappearance was station agent of the E. T. H. and C. R. R. at Clinton, Indiana. No cause is known to exist why he should secrete himself.

His description is as follows: About 25 years of age; 5 feet 7 to 8 inches high; slender, but probably has matured; bluish gray eyes; fair complexion; regular features; straight nose; slightly projecting teeth, with space between the upper front teeth.

Any information of his whereabouts or fate will be gratefully received by his widowed mother, Mrs. Lucy S. Townsend, Sturgis, St. Joseph Co., Mich., or Lonergan & Thiel, St. Louis, Mo.

What Telegraph Wires are For.

AN interesting incident occurred last Wednesday on the visit of the Indians to the White House. A year ago, when a telegraph wire was erected at the Cheyenne

River Agency, the home of Lone Horn, he objected strenuously to it as a mysterious innovation on the red man's rights. The agent explained to him the use of the wire, and when the telegraph apparatus came took him to see it in operation, and told him whenever the little key clicked the sound ran along the wire till it reached the great father's ear. This incident and the explanation passed out of the recollection of the agent, but in the memory of the savage it was written down as one of the great wonders of his experience, and when he went to the White House the other day he traced the wires along the streets and insisted on seeing whether or not the agent had deceived him when he said they ran into the great father's ear.—*Washington Correspondence Chicago Inter-Ocean.*

What the Telegraph Did for Adam.

OF all the freaks of the telegraph, this is one of the most laughable: A young man, when about to start for his new parish, was unexpectedly delayed by the inability of his Presbytery to ordain him. In order to explain his non-arrival at the appointed time, he sent the following telegram to the deacons of the church: "Presbytery lacked a quorum to ordain." In the course of its journey the message got strangely metamorphosed, and it reached the astonished deacons in this shape: "Presbytery tacked a worm on to Adam." The sober church officers were sorely discomposed and mystified, but, after grave consultation, concluded that it was the minister's facetious way of announcing that he had been married, and accordingly provided lodgings for two instead of one.—*Scotch Paper.*

Scene on No. 2 West.

"Ra" in "H. S" to "J." in "N. J." (who having "taken in" a few numbers of *The Operator*, fondly imagines himself to be a full fledged electrician)—"Is on to 3?"

J.—"Dunno."
Ra.—"Try me on No. 3."
J. does so and reports.
"Line dead open. Reverse your local and it will come O. K."

J. is surprised to find that his brilliant remedy does not have the desired effect, and "Ra" begins to cultivate (and express) a profound contempt for "J.'s" scientific knowledge.

A country, M. D., coming to Indianapolis, Ind., was confronted with a telegram received from him to disprove an assertion of his. Said he, "That's not the one I sent. Its not my handwriting, besides, I wrote it with a lead pencil."

Quotations of Telegraph Stocks at N. Y. Stock Exchange,

Table with columns: June, WESTERN UNION, ATL. AND PAC., AMER. DIST., GOLD AND STOCK. Sub-headers: Bid., Asked., Bid., Asked. Rows 17-23 with price data.

New Patents.

OFFICIAL COPIES of any U. S. Patent issued since July 1st, 1871, including drawings, specifications and claims in full, sent free to any address for 25 cents each. Address F. L. POPE, P. O. Box 5503, New York City.

For the week ended June 1st, 1875, and bearing that date.] 163,915.—STATIONS FOR SUBMARINE TELEGRAPHS.—Robert F. Bradley, Moffetsville, S. C. [Filed Mar. 29, 1875.]

In ocean telegraphy, a station for placing intermediate points in communication with the land termini, constructed of a hollow sectional column which is supported on a universally jointed base-plate, and anchored, by stay-chains or cables, to bottom stay-plates secured by stakes, for carrying the branch cable from the main cable to the surface, substantially as and for the purpose set forth.

163,923.—DUPLEX TELEGRAPHS.—M. Gally, Rochester, N. Y. [Filed Feb. 9, 1875.]

1. The combination, with the main line, of a branch containing both the receiving instrument and a magnetic key or switch for connecting main line with battery, or for breaking its direct connection with ground, substantially as specified. 2. The combination, with circuit D, having a magnetic switch therein, of circuit A A', the one being open while the other is closed, and vice versa.

3. The combination, with the main line, of sub-line A' and switch f, for cutting out the main battery when not in use for transmitting, substantially as specified. 4. A receiving magnet, provided with ordinary electro-magnet or magnets, and an additional magnet or magnets, all acting upon the same armature-lever for equalizing its stroke under different conditions of currents, substantially as specified. 5. A compound electro-magnet, consisting of a number of cores and helices, a part of which are stationary, the armature being adjusted to them by means of a spring, the others being in themselves adjustable, to be moved to or from the armature, substantially as specified. 6. An armature having magnetic extremes and non-magnetic centre, the extremes to be affected by electro-magnets as a polarized armature, and the centre as a common armature, substantially as specified. 7. The combination, with the main line passing through one or more of the magnets of the receiver, of the compensating circuit passing through the same magnet or magnets, and also through another magnet or magnets not affected by the main line current, but all acting upon the same armature lever, substantially as specified. 8. The combination, with a main line and its battery, of one or more circuits, each having a section of union with the main line, and an independent battery maintaining intact its own circuit current, the magnetic or neutral condition of each section of union changing with any change of the direction of the main current, substantially as specified. 9. The method of reducing the resistance of a wire or helix to a given current, by passing through it, in whole or in part, the current of another circuit or circuits.

163,924.—ELECTRIC MOTORS.—Charles J. B. Gaume, Williamsburgh, N. Y. [Filed May 1, 1875.]

The frame or box armature E, made with four, more or less, plain or concaved sides, having half-round or square enlargements formed upon their outer or inner surfaces, substantially as herein shown and described.

164,031.—ELECTRIC SIGNALING AND RECORDING APPARATUS.—William J. Phillips, Philadelphia, Pa. [Filed April 28, 1875.]

Arranged so that a watchman may send in a signal to central office, announcing his visit to any post, and at the same time register by suitable devices the time of the visit upon a dial in the box, all in an ordinary district alarm system.

1. The combination, with an electric signaling or alarm mechanism, of a recording mechanism, for registering at the transmitting station the time of transmittal of a signal therefrom, substantially as set forth. 2. The double-faced signal-box, provided with the signaling mechanism and the clockwork register, substantially as set forth.

3. The combination, with the circuit breaking wheel and motor train thereof, of a pencil or other marking point of a registering mechanism and suitable connecting devices, substantially as set forth. 4. A double-faced signal-box, provided with the flanges R S and bolts U, substantially as and for the purposes set forth.

5. In the registering mechanism, the pencil-arm M, composed of the rigid parts m m', united by a spring slip or piece, n, substantially as and for the purposes set forth. 6. The combination, with the arm M, provided with projection e, of the standard Q, provided with beveled upper edge or end, substantially as and for the purposes set forth.

REISSUE.

6,476.—CIRCUITS AND CIRCUIT-CLOSERS FOR RAILWAY SIGNALING APPARATUS.—H. W. Spang, Reading, Pa. Patent No. 142,131, dated Aug. 26, 1873. [Filed Nov. 10, 1873.]

1. The combination, in a circuit closer, breaker, or changer, operated by a suitable pressure device, of an insulating foundation, having metallic conducting pieces arranged thereon, and a metallic roller or rollers for electrically connecting the same, substantially as set forth. 2. The metallic plates or rails O O' O² or O³ O⁴ O⁵, or O⁶ O⁷ O⁸ O⁹, in combination with the insulating-plate N, guide rod P, sleeve Q, roller head R roller or rollers R', as and for the purpose set forth.

3. The combination of curved spring or yielding pressure bar E, detached lever C, and a circuit-closer having an insulated foundation with metallic roller or rollers, for electrically connecting the same for closing an electric railway signal circuit, as set forth. 4. The combination of electro-magnets T¹ T² T³, armature lever U, armatures U¹ U², and springs V² V³, one or both, substantially as described.

5. The combination of the two lines of rails a a' of insulated section A of railway track, electro or relay magnet T² T³, controlling a secondary circuit and electric railway signal apparatus, and connected with said lines of rails at one end of said section of track, and a circuit closer, and breaker, and battery, located beyond the opposite end of said section of track, and connected with said lines of rails thereof at said opposite end, as and for the purpose set forth.

6. The combination of electro-magnet T¹ T², battery Y, and circuit closer and breaker B with electro-magnet T² T³, connected with lines of rails a a' of insulated section A of railway track at one end thereof, and battery Y' and circuit closer and breaker B', located beyond and connected with said lines of rails at the opposite end thereof, as and for the purpose set forth.

7. The combination of an insulated section of railway track, the respective lines of rails of which are in continuous metallic connection, an electro-magnet having its terminals connected respectively to opposite lines of rails of said section at one end thereof, a galvanic battery having one of its poles connected to one line of rails of said section at the opposite end thereof, and its other pole connected with a circuit closer, which is electrically connected with the other line of rails at said opposite end of the section, substantially as and for the purpose set forth.

Married.

MASON—WILSON.—At Moberly, Mo., June 8th, 1875, Mr. JOHN Q. MASON, Manager Western Union Telegraph Company, to Miss VIRGINIA M. WILSON, of Moberly.

"Married! it is not so; thou hast misspoke, misheard, It cannot be; thou dost but say 'tis so!" Our heartiest congratulations, JOHN.

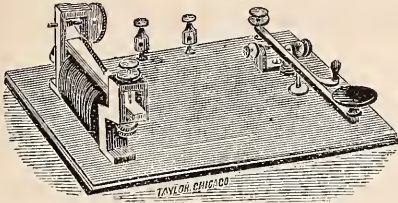
Born.

BROWNSON.—To the wife of H. L. BROWNSON, Train Dispatcher K. P. R., at Ellis, Kansas, a son, June 18th, 1875.

THE AMATEUR'S TELEGRAPH APPARATUS,

Comprising
SOUNDER, KEY, CUP OF BATTERY,
CHEMICALS, WIRE AND
MANUAL.

Several Thousands of these Instruments already sold. They give good satisfaction.



PRICES.

Amateur Outfit, complete, No. 1, - - - - -	\$7 50
" " " 2, - - - - -	6 50
" Sounder and Key, No. 1, - - - - -	6 50
" " " " 2, - - - - -	5 50
Battery, per Cell, - - - - -	45

DISCOUNT.

Twenty per cent. discount will be allowed when remitted for in advance.

GEO. H. BLISS & CO.,

220 Kinzie St., Chicago, Ill.

GEO. H. BLISS & CO.,

220 Kinzie Street,

CHICAGO, ILL.

Telegraph instruments and supplies in great variety, of the latest patterns and highest finish.

Prices always as low as the lowest.

The usual twenty per cent. discount is still allowed on instruments of our manufacture when remittance accompanies order.

Manual and price list free.

GEO. H. BLISS & CO.

PRETTIEST THING OUT!



All Colors of the Rainbow!

THE HOLMES
ELEGANT GELATIN
OR GLASS,

BRISTOL, MARBLED, SNOW FLAKE & ENAMELED
Visiting Cards.
SAMPLES FREE.
S. HOLMES & BRO. ST. CLAIR, PA



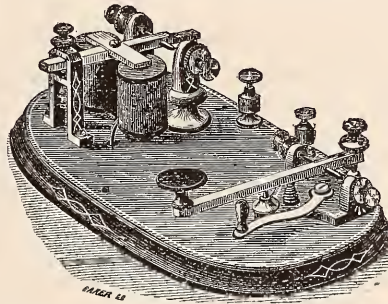
WESTERN ELECTRIC MAN'G CO.

220 Kinzie Street,
CHICAGO, ILL.

CELEBRATED

PRIVATE LINE OUTFIT.

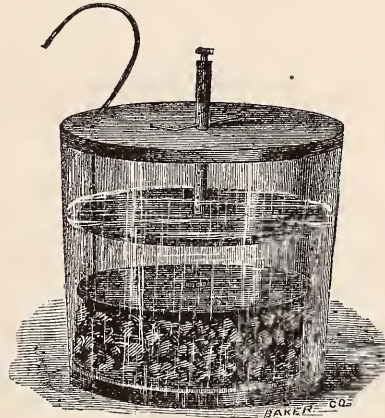
THE BEST IN THE WORLD.



PRIVATE LINE INSTRUMENT.

This instrument is mounted on an iron base and finely finished.

It gives a clear, loud sound. It is made to work on a line from a few feet to ten miles in length.



BLISS RESERVOIR BATTERY.

This battery took the first premium and a silver medal for force, constancy and economy at the Cincinnati Exposition.

With each "Private Line Outfit" is furnished one Private Line Instrument, one Cup Reservoir Battery, the necessary Chemicals, Wire for connections and a Manual.

PRICES.

Private Line Outfit, complete.....	\$10 00
Instrument only.....	8 00
Bliss Reservoir Battery, per cell.....	2 00

DISCOUNT.

A discount of twenty per cent. will be allowed when remittance accompanies the order. Remit by express, registered letter, postal order or draft.

In ordering state length of line, so that the resistance of instruments may be proportioned accordingly.

SEND FOR CIRCULAR.

Liberal terms to Agents.

WESTERN ELECTRIC M'F'G CO.,

CHICAGO, ILL.

20 PER CENT. REDUCTION IN THE PRICE OF TELEGRAPH INSTRUMENTS!

SEE WHAT IT MEANS.

On First-class Morse Sets for Railway and Commercial Lines:

- No. 1 Relays, of standard size and resistance (120 to 150 ohms), on rosewood bases, fine finish, polished rubber covered coils, wound either with our patent glazed or with best silk covered pure copper wire, having soldered connections and firm nut fastenings throughout, and latest improved extension adjustments. Regular price, \$16, reduced to - - - - \$12 80
- No. 1 Relay, same make throughout, but of higher resistance, 160 to 600 ohms. Price, \$18, reduced to - - - - \$14 40
- No. 1 Relay, ditto, low resistance, 60 to 100 ohms. Price, \$15, reduced to - - - - \$12 00
- No. 1 Sounders—"Railroad" or Bunnell's "New Giant" Sounders, with all the latest patented improvements in both. The best forms of Morse sounders ever invented. Beautifully finished. Mounted upon rosewood bases. Price, \$7 50, reduced to - - - - \$6 00
- No. 1 Keys, Catou pattern, curved levers. Price, \$6 50 reduced to - - - - \$5 20
- No. 2 Keys, W. U. pattern, curved or straight levers. Price, \$5 50, reduced to - - - - \$4 40
- No. 1 Premium Register, \$45, reduced to - - - - \$36 00
- " " Spring Register, \$47 50, reduced to - - - - \$38 00
- " 2 Register. Price, \$38, reduced to - - - - \$31 40

Box Relays, Combination Sets, Pocket Relays, Switches, Cut Outs, Lightning Arresters, etc., furnished at the same rate, viz., 20 PER CENT. REDUCTION from regular prices. See catalogue.

SINGLE SETS, OR PARTS OF SETS, WILL BE SENT BY EXPRESS AT THESE PRICES TO ANY PART OF THE U. S., ON RECEIPT OF MONEY ORDER OR DRAFT FOR THE AMOUNT OF THE BILL.

Superintendents and others about to purchase first class equipment for offices will readily see by a comparison with other price lists the advantages here offered to those who send their orders to us.

No. 2 SETS.

LEARNERS' APPARATUS, SHORT LINE INSTRUMENTS, Etc.

- No. 2 Relays, 150 to 175 ohms resistance. Price, \$15, reduced to - - - - \$12 00
- No. 2, Relays, 50 to 100 ohms resistance. Price, \$11, reduced to - - - - \$8 80
- Pony Relays, complete and pretty little instrument for short lines, city wires, etc., \$7 50, reduced to - - - - \$6 00
- No. 2 Pony Sounders, \$6 50, reduced to - - - - \$5 20
- No. 3 Pony Sounders, \$5 50, reduced to - - - - \$4 40
- No. 1 Main Line Sounders for lines from 1 to 6 miles in length. Price, \$8, reduced to - - - - \$6 40
- No. 2 Ditto, \$7, reduced to - - - - \$5 60
- No. 3 Keys, curved levers, Catou style, same as No. 1, but smaller. Price, \$5, reduced to - - - - \$4 00
- No. 4 Keys. Price, \$4, reduced to - - - - \$3 20
- AMATEURS' KEY, \$3 50, REDUCED TO - - - - \$2 50
- EXCELSIOR AMATEUR INSTRUMENTS, \$6 50, REDUCED TO - - - - \$5 20
- BUNNELL'S LEARNERS' INSTRUMENTS, PERFECTED, \$6 50, REDUCED TO - - - - \$5 20

At the above figures all grades of Telegraph Instruments may be obtained from L. G. TILLOTSON & CO. for less money than will buy as good materials at any other manufactory in America.

Orders, correspondence and inquiries will receive prompt attention. Make your memoranda of amounts for what you want from the above price list, and enclose the sum to us by postal order or draft along with your order for goods.

L. G. TILLOTSON & CO.,

8 Dey street, New York,

64 SOUTH FOURTH STREET, PHILADELPHIA.

AMERICAN FIRE ALARM AND POLICE TELEGRAPH.

GAMEWELL & CO., Proprietors,
62 BROADWAY, NEW YORK.

J. W. STOVER,

General Agent and Superintendent.

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ELECTRICAL CONSTRUCTION AND MAINTENANCE CO.,
San Francisco, Cal.,

Special Agents for California, Oregon and Nevada.

THIS SYSTEM OF

FIRE ALARM & POLICE TELEGRAPH

WITH A CENTRAL OFFICE,

OR

UPON THE AUTOMATIC PLAN,

is now in operation in the following Cities, to which reference is
made for evidence of its great

SUPERIORITY, VALUE

AND

UNIFORM RELIABILITY.

Albany, N. Y.,
Alleghany, Pa.,
Boston, Mass.,
Bridgeport, Conn.,
Buffalo, N. Y.,
Baltimore, Md.,
Chicago, Ill.,
Cincinnati, Ohio,
Columbus, Ohio,
Cambridge, Mass.,
Charlestown, Mass.,
Covington, Ky.,
Detroit, Mich.,
Dayton, Ohio,
Elizabeth, N. J.,
Fall River, Mass.,
Fitchburg, Mass.,
Hartford, Conn.,
Indianapolis, Ind.,
Jersey City, N. J.,
Louisville, Ky.,
Lowell, Mass.,
Lawrence, Mass.,
Lynn, Mass.,
Mobile, Ala.,
Montreal, Canada,
Milwaukee, Wis.,

New York City,
New Orleans, La.,
New Bedford, Mass.,
New Haven, Conn.,
Newark, N. J.,
Omaha, Neb.,
Philadelphia, Pa.,
Pittsburg, Pa.,
Portland, Maine,
Peoria, Ill.,
Providence, R. I.,
Quebec, L. C.,
Rochester, N. Y.,
Richmond, Va.,
St. Louis, Mo.,
St. John, N. B.,
Springfield, Mass.,
San Francisco, Cal.,
Savannah, Ga.,
Syracuse, N. Y.,
Troy, N. Y.,
Taunton, Mass.,
Toledo, Ohio,
Toronto, Canada,
Washington, D. C.,
Worcester, Mass.

The Distinctive Features of these Systems of

Fire Alarm and Police Telegraphs

ARE,

First—The **Automatic Repeater**, through which the apparatus may be distributed in a combination of circuits, and the entire system successfully worked, without the constant personal attention of either operators or watchmen.

Second—The **Automatic Signal Boxes**.

Third—The **Electro-Mechanical Bell Strikers**, adapted to produce the full tone of the largest church or tower bells.

Fourth—The **Electro-Mechanical Gong Striker**, for hose and engine houses, by means of which the location of the fire is instantaneously communicated to the members of each fire company.

These Features combined form the

Only **PERFECT, COMPLETE and RELIABLE** System

OF

FIRE ALARM TELEGRAPH

IN THE WORLD.

It is a sufficient vindication of the claims which are made by the Proprietors of these systems of

FIRE ALARM AND POLICE TELEGRAPHS,

that they have sustained the test of more than twenty years of practical use, and that the efforts which have been repeatedly made to supplant them by other inventions have

COMPLETELY FAILED;

the few instances in which municipalities have been induced to adopt other systems having demonstrated their insufficiency and unreliability, and resulted in their abandonment, and substitution thereof of the

AMERICAN FIRE ALARM TELEGRAPH.

Messrs. GAMEWELL & CO. are the owners of the original *FARMER & CHANNING PATENTS*, one of the most important of which has just been extended for seven years, and during the past seventeen years have spared no expense or effort to secure improvements, and the Systems are now covered by

MORE THAN TWENTY PATENTS.

The most important improvement which the Proprietors have adopted and introduced is the

AUTOMATIC SYSTEM.

the introduction and operation of which involves so little expense, compared to the benefit which it confers, that even small communities can profitably adopt and maintain it.

The American System of

FIRE ALARM AND POLICE TELEGRAPHS

has met with the universal approbation and commendation of the

People, Municipal Authorities,

AND THE

PRESS

throughout the UNITED STATES and CANADA.

NO EFFORT, TROUBLE OR EXPENSE

is spared by the Proprietors to obtain and secure ANY POSSIBLE IMPROVEMENT which shall increase the

EFFICIENCY, RELIABILITY and ECONOMY

of the system. They intend that, as far as possible, it shall be

ABSOLUTELY PERFECT!

The amount of property which has been saved from destruction, and the number of lives which have been preserved through the general adoption of this system, throughout the UNITED STATES and the DOMINION of CANADA,

CANNOT EASILY BE ESTIMATED,

but that, in every community where it has been introduced for any considerable length of time, they have been enormous, **THREE CAN BE NO QUESTION.**

The cooperation of TELEGRAPHERS in securing its introduction into their localities is cordially invited, and their efforts will be duly appreciated and compensated.

Any information desired in regard to the above system will be cheerfully and promptly furnished upon application at the office.

A pamphlet, setting forth more fully its advantages and superiority, has been printed, and will be supplied to Municipal Authorities and others interested in Fire Alarm and Police Telegraphy, upon application as above.

CHARLES T. CHESTER,
104 Centre Street,
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TELEGRAPH ENGINEER,

AND MANUFACTURER OF

INSTRUMENTS,

BATTERIES,

AND EVERY DESCRIPTION OF

TELEGRAPH SUPPLIES.

BUNNELL'S PATENT REPEATER.

These instruments are now made in two different styles, at \$120 and \$135 a set, consisting of two Relays, two Sounders, two Keys and Governor.

JONES' LOCK SWITCH-BOARD,

a most compact and reliable Switch, forming a clean spring-locked connection between any number of wires, occupying for each different connection only one square inch of space, and though made of the largest size, not subject to the warp and contraction of wood-work.

EXCLUSIVE AGENTS OF

A. G. DAY'S

KERITE,

OR

COMPOUND RUBBER COVERED WIRE

SUBTERRANEAN & AERIAL WIRES,

OF THE

HIGHEST INSULATION.

We are now prepared to furnish, after an experience of three years, an Insulated Wire which can be buried in the earth or exposed to rain and sun, or to the vapor of acids, without injury. Professor SILLIMAN, who has exposed it to the most destructive agencies, finds that it remains uninjured in an atmosphere of ozone, which would destroy gutta-percha in a few hours. It exceeds glass or any other known substance as a non-conductor. We have made special arrangements to furnish this article for office purposes at a reduced rate.

ALSO, TO FURNISH

IRON CLAD CABLES

of the usual size, with KERITE COVER, believing that it will exceed, in insulation for submarine purposes, ANYTHING HITHERTO MANUFACTURED.

We shall be happy to furnish estimates for any amount and size of cable, which will be found to compete with any other construction, both in quality and price.

We manufacture the Genuine ELECTROPOION BATTERY, with Patent Platina Connection, introduced by us eight years since; also, THE ALPHABETICAL OR DIAL TELEGRAPH, now extensively used in this and other cities for private lines being easily and quickly learned by any one.

We offer for sale, among other novelties, a SOUNDER that will work practically with a single DANIELL cell, a BATTERY that does not require to be taken down but once a year, and the very best MAIN LINE SOUNDERS made.

Our CATALOGUE, embracing a large amount of new matter and description, is now ready for distribution.

THE TELEGRAPHER

A JOURNAL OF
ELECTRICAL PROGRESS.

J. N. ASHLEY, - - - - - PUBLISHER.

SATURDAY, JULY 3, 1875.

VOL. XI. WHOLE No. 468.

The Late Man's Lament.

TEN o'clock has come and gone
And still I linger here,
Patiently awaiting for
Webster to appear.

Of course he will not come
"Till the town is still and dead,
And every other honest man
Lies snoozing in his bed.

I wonder what he'll find
Be idle that wrestling match?
Its wonderful the items
His active brain does hatch.

"V. C." wants to go home;
Says, "tell h m cut it short."
Ble-s me if it's pl asant,
This wait'g for "report."

"Madame Rumor" and "The Coroner"
His never failing source
Of items for the rural press,
And we get stuck, of course.

His footstep on the stairs,
With his number thirteen shoes;
Sweetest music to my ear,
For it drives away the blues.

He's coming with the "figures;"
This is long enough I think;
I'll stop it for the present
And go and take a drink.

H.

San Francisco, Cal., May 8, 1875.

Original Articles.

Fifteen Years' Telegraphic Progress.

BY A DOWN EASTER.

WHEN we take a retrospective view of the progress of telegraphy during the last fifteen years, in its scientific and practical aspects, even those of us who are most familiar with the facts can hardly fail to be greatly surprised at the actual advances that have been made in almost every particular.

In 1859—it is difficult to realize that sixteen years have elapsed since then—the writer was employed as an operator in one of the principal offices in the interior of New England, and has ever since been more or less intimately connected with telegraphic interests. At that time four distinct systems of telegraphy were in use in that section of the country. Telegraphy had become quite familiar to the public and had fairly entered upon the era of development and extension which has brought it to its present position as one of the leading and most important interests of the country, the world, and the age. As it is not intended to make this a review of general telegraphic progress, but merely of the section of the country included in the New England States, its scope will be somewhat restricted. To review telegraphic progress and development throughout this country and the world would require more labor and space than can well be spared at the present time. Within that time submarine or ocean telegraphy has been practically originated and developed, and been extended until even the most distant and widely separated countries and places have been telegraphically connected, and the old and new world bound together by electric cords, which are gradually making the whole world, in effect, but one community.

But to return to New England and its systems of telegraphy. The telegraphic business was transacted by the American Telegraph Company, which did perhaps the largest share of the business between New York and Boston, employing the House and Combination Printing Telegraph instruments exclusively upon their lines. The "House Wire," running on the turnpike via New Haven, Middletown, Hartford, Springfield and Providence, was divided into two sections (everything being re-written at Springfield), and was kept working almost constantly day and night at a high rate of speed. The Associated Press reports were mainly transmitted over the House circuits, amounting frequently from 15,000 to 20,000 words per day, and this, with the commercial business transmitted over it, would be considered very great service even at

this day. The best operators to be had were employed, and necessarily so, when the condition of the wires used is taken into the account. Salaries, however, were much less than is now paid to first class operators, but this was "before the war." All business between Boston, Albany and the West by this line was also repeated at Springfield.

The New York and New England Union Company, which had before this time absorbed the lines of the New York and Boston Bain Company, had five wires between New York and Boston on which the Morse system was worked (principally by means of Palmer and Hall's antiquated and boxed up registers and humpbacked keys), and was the competitor of the American Company. Receiving by sound was at that time not generally practiced, although at rare intervals some office would be equipped with an old fashioned "sounder." These, I recollect, used to sound precisely like a village blacksmith's shop in the distance. Receiving by sound was at this time usually regarded by telegraph managers and superintendents as rather a hazardous matter, and operators were generally required to let their paper run, even if they had become, as many of them had, quite expert in reading telegraphic signals by ear. As for the registers above spoken of, they were only to be compared with old Dr. Beecher's meeting-house bell, which he used to say sounded like a fur cap with a sheep's tail for a clapper!

The competition between the "House" and "Union" lines, as they were generally termed, was quite active and bitter, and scant courtesy was shown to each by either, though most of the operators and employes were usually on very good terms personally, but personal relations were not allowed to interfere with their devotion to the interests of the companies they served. In that day, when the telegraph business was, compared to what it is now, of limited amount, and the lines were divided up among numerous companies, each of whom covered but a relatively small extent of territory, more direct personal interest was felt in the prosperity and success of their respective companies by the employes than is the case now, when the business is conducted by mammoth corporations, when receipts and expenditures amount up into the millions, and whose employes are numbered by thousands. At that time faithful employes were granted vacations, relief operators and clerks provided, etc., which have since, perhaps necessarily, become obsolete. The employes of the "Woodpecker" (Morse), "Dye Tub" (Bain), and the "Coffee Mill" (House) lines were loud and earnest in advocating and defending their favorite systems, and not always scrupulous in decrying the merits of competing lines and systems. But, business aside, they were usually hail fellows well met out of business hours, and ready to join each other either in religious, or I regret to say, not unfrequently in less commendable pursuits.

Northward, through Vermont and New Hampshire, ran the "old reliable" Bain line, or "Dye Tub" telegraph, as Jack Selden used to call it in contradistinction to the "Woodpecker" telegraph of the Union line. I believe that this line continued to run the Bain system for nine years after it had been abandoned on all other lines, to be ultimately revived only in the automatic telegraph system. The "dye tub" offices were equipped with horizontal turn table registers and old fashioned sand batteries; and it never seemed to make much difference to them if their line was on the ground for a mile or two, and a heavy rain prevailing.

Occasionally a long continued northeaster would come up and stop all communication between New York and Boston for hours, and the way business was delayed and the patrons of the lines humbugged was something which would not be submitted to at the present time. As the telegraphic poet of those days (the fraternity has never lacked the poetic or rhyming element in its ranks) had it:

Little that indulgent public
Knows how they are skinned alive;
We know better how 'tis managed—
"Package by express at five!"

Science, as applied to telegraphic construction, had not made very material progress in the days of which this is written. The lines were of ungalvanized and very rusty wire, and nobody suspected what unnumbered "obms" were snugly packed away in the complicated snarls that amateur line repairers were wont to construct under the impression that they were making a "splice." Then anybody who could twist two ends of a wire together was considered a fully competent line repairer, and operators took turns with office boys, battery men, volunteers and office frequenters of small occupation in driving out to repair lines when the wires were down.

The office fixtures and apparatus now so familiar to the telegraphic fraternity, and considered indispensable to a proper working of the wires, were then almost unknown. Switch-boards and lightning arresters were but just beginning to be talked about, and were

generally considered by the telegraph superintendents and managers who had heard of them as new fangled and useless notions. The use of switch-boards on the New England lines seems to have started in Boston, which was then the headquarters for scientific telegraphy for the United States. Mr. George F. Milliken, who was in 1860 promoted to the managership of the Boston office of the then American company, in which he has been continued by the American and Western Union administrations to the present time, and to all appearances is destined to live and die as the occupant of that honorable and important position, was a great hand at getting up switch-boards, repeaters, etc., and many of his ideas, such as the spring and wedge arrangement for connecting instruments to the line, are now used everywhere. He was also the first telegrapher in this country who ever made use of a galvanometer for regularly testing lines. He had a tangent galvanometer in use in the Boston office for this purpose even at that day, which was really the beginning of the era of civilization in American telegraphy.

In 1859 the American and Union lines were consolidated. Consolidations had not then become so familiar to the telegraphic mind as since, and this was one of the most important which had then taken place. It naturally made much uneasiness and conjecture among the employes, and, as a consequence of it, more changes took place than had been experienced on New England lines for many a day. The employes of the Morse or "Union" line, were for a time much chagrined that they could not take the leading position in the consolidated company, and for some time after the offices were brought together under one management there was much rivalry as to which (the Morse or Printing circuits) should do the most and best of the business. This, however, gradually died out, and ere long each was willing the other should do the work and receive the honor therefor—what there was of it. For reasons which it is not necessary to consider here, but which it should be said had nothing to do with the "speed, accuracy and reliability" of the printing telegraph instruments, the number used was gradually reduced, only two through wires being equipped with them at the present time.

Within the three or four years succeeding the consolidation of the American and Union lines, a number of new wires were put up over routes hitherto unoccupied, and many ladies were placed in charge of the minor, and occasionally one or two made their appearance in the larger offices. This innovation caused a good deal of excitement and angry discussion for a time, which seems quite laughable now, in view of the severe "going over" experienced by that defunct, but uneasy in his ghostly ceremonies, correspondent of THE TELEGRAPHER, "Nihil Nameless," received for his comparatively mild and gentlemanly heresies on that question. It soon became evident to impartial observers that, whether for good or otherwise, the female element in telegraphy had "come to stay," and it must be conceded that the dreadful effects which many of the masculines so fearfully anticipated have not been realized. The telegraphic field is large, and constantly being extended, so that the number of sisters who have thus far devoted themselves to telegraphic pursuits have not, so far as I can perceive, very seriously crowded the brothers similarly employed.

New and greatly improved patterns of Morse instruments began to appear on American lines about these days, from the establishment of Mr. G. M. Phelps, then located at Troy, N. Y., before that time principally known as the manufacturer of House printing telegraph instruments, and as the inventor or arranger of what is known as the combination printer, combining the House and Hughes inventions in what was practically a new instrument. The keys from Mr. Phelps' shop had straight levers, while the registers and sounders were of a style that will be readily recognized from the description of a witty young lady in one of the Connecticut offices, who called the registers "mud turtles," and the sounders "flat irons."

Between 1862 and 1864 the Grove batteries, which had been used for main wires from the very beginning of telegraphy in this country, and had been generally regarded as the only battery adapted to such use, were replaced by the carbon bi-chromate battery, and the Lefferts plug insulators took the place of the almost infinite varieties that had hitherto prevailed. During the time that General Lefferts occupied the position of engineer and general manager of the consolidated American company, the character of the lines, the arrangement of offices and the general conduct of the business was systemized and vastly improved, and the lines between Boston and Washington were, all things considered, superior to any in the country.

Another consolidation in 1866 threw the whole system into the hands of the Western Union Company, and a new set of officials came into power, whose fixed principle of procedure seemed to be to upset everything that had been done by the American Company's employes. The Grove battery was again restored to favor, and instead of working the lines by separate batteries, a reform which General Lefferts had

finally brought about, everything was crowded upon one battery in each large office. The resistance of the relays was cut down about two thirds, the division electrician, whose scientific and practical attainments were of a singular and wonderful character, being possessed with the brilliant idea of doing all the telegraphing by "quantity" instead of "intensity" electricity, as heretofore. His theory was, as near as it could be understood, that there are two kinds of electricity, "quantity" and "intensity," and that his predecessors had ignorantly used the latter instead of the former to work the lines, an error which it was his mission to demonstrate and correct. This spasm of science run mad did not last long, however, as might have been foretold, but the experiments and changes made were a source of great tribulation and mental disquietude to the office managers and district superintendents who were ordered to carry them out, and whose experience and ability were loftily and quietly ignored.

The introduction of the gravity battery, and of the duplex and quadruplex instruments is so recent that it is hardly worth while to occupy time or space in recapitulating their history. But it is not a little curious to look back even a very few years and note the changes that have taken place in the "way things are done." While all change is not necessarily improvement, as is evident from the instance above referred to, yet it is undeniable that there has been very great improvement in working telegraph wire and in conducting telegraph business in the last fifteen years. This has been to a great extent necessitated by the increase and development of the business, and whatever improvement has already been effected, it is probably safe to assert that the *ultima thule* has not as yet been reached. There is still less of science applied to the construction and operation of lines and instruments than there should be. Probably the cost of doing the business could be materially reduced—and the reliability of wires and apparatus considerably increased—by the better and more general application of scientific principles, as well as practical experience thereto. The class known in Europe as electrical and telegraphic engineers, is not recognized in this country, but that there should be encouragement extended to electricians to perfect themselves in the science as applied to telegraphy is unquestionable. Many of the telegraph managers and even practical telegraphers are given to regard somewhat incredulously the suggestion that science can be a saving element in telegraphic cost, but without science but little real progress or improvement is possible. In the earlier telegraphic days of which I have endeavored to treat briefly and locally, there are yet many who were then engaged in telegraphic pursuits, some of whom are yet in the service, that will bear witness to the crude and usually erroneous guessing upon which the construction, equipment and operation of telegraph lines and apparatus were conducted. The wonder is not that we were then unable to accomplish more, but that we really did accomplish so much. It is safe to say that any telegraph company whose business should be thus managed at the present time would speedily become bankrupt. Marked and essential as has been the improvements already effected, much more yet remains to be done, and the necessity for the services of intelligent, educated and experienced electricians and telegraphers, is not likely to cease, at least during the present century.

Telegraphic Signals.—How Trains are Run through Bergen Tunnel.

It is claimed by the managers of the Erie Railroad that the system of signals in use at their tunnel through Bergen Hill is the safest and best that is in use at the present day for the running of trains through a tunnel. A visit to the east end of this tunnel, and an examination of the machinery and its workings, will at once show the spectator that all the care possible is taken to prevent accidents of any sort. The electric signals by which this plan of running trains is carried out, are connected by insulated wire or covered wire running over the hill, thus making the connection between the two signal houses which are at each end of the tunnel. In each of these houses is an electrical signal machine, which is so arranged that when the key is closed at one end of the tunnel, the bell strikes four times at the other end, and by this the signal man knows that a train has just passed out at the other end all right, and that he can let in another. It is a rule that two trains shall not be let into the tunnel at one time on the same track, and that on the rear of each train must be a red light, and the signal man, whose duty it is to send back the signal "All right!" must see that the train had such lights on the rear of the car when it passed by the signal house. In a busy time the two roads that use this tunnel, the Erie and the D., L. and W., often run as many as 300 trains through in a day, and it is often the case that two trains bound west come up to the mouth of the tunnel, or the place where they are all

obliged to stop before going in, at nearly the same time, and the train that stops first has the right of way in the tunnel, the other not being allowed to start in until the one preceding it has been signalled back as having passed through all right. Should a train be gone over fifteen minutes without being signalled back as all right, the waiting train will be sent in with a note to the signalman at the other end to send back two signals when the last train passes him, and he is also cautioned to look out and to proceed in a cautious manner. It takes on an average about six minutes for a train of ordinary length to go through. Should any accident happen to a train in the tunnel it is the duty of the conductor to send a man back with torpedoes and a lantern to signal trains of danger ahead. Should two trains be let into the tunnel with an interval of fifteen minutes, and no signal of their safe arrival be sent back to the end from which they started, no more trains would be let in until a man had walked through the tunnel and back, and seen that no obstruction was in the way. So that if a train should break in two in the middle while in the tunnel there would be no accident, if all hands did their duty. The way in which trains are signalled from the houses during the day, is by a large wooden circle, which is on the top of the signal house, it standing with the white side visible when a train is in the tunnel, and the red one when "all's well." In the night a red and white light is used in its place. It takes twenty cups of an ordinary battery to keep the thing in working order, and Mr Conklin, the superintendent of the tunnel, who has held his present position for the last six years, is always there during the day time, and it is mainly through his exertions that the present system of signals used here is so perfectly managed. The tunnel has two tracks through it, and the same rules apply to the one track as well as the other, as there is no rule prohibiting the running of the two trains through on different tracks at the same time, but trains must always take the right hand track in going through. The signalman knows by the number of strokes of the bell just what has transpired at the other end, and he signals the engineer accordingly.—*The Evening Journal, (Jersey City, N. J.)*

The Electric Light for Light-Houses.

THE report of Major Elliott, of the engineer corps who was sent to Europe by the Government last year to procure information respecting the light-house systems of England, France and other countries, contains much interesting information in regard to the application of the electric light for that purpose. There are several such lights now in use both in France and England. The most powerful which has been yet constructed is at Souter Point, between Sunderland and the Tyne. The lens is 39.38 inches in diameter, surrounded by eight panels of vertical condensing prisms, which in their revolution give flashes at intervals of one minute. The apparatus covers the sea horizon or 180°, the light being visible for twenty miles.

Two electric lights are situated on the South Foreland, three miles from Dover. These are 1,000 feet apart—one being 372 and the other 275 feet above sea level. The electric current is generated by means of large magneto-electric machines, two being provided for each light, though one only is used, except in very thick weather. These are driven by a steam engine, and all parts of the machinery, including boilers, are kept in duplicate. Each machine is composed of 96 helices, mounted upon 6 gun metal wheels, each having 16 helices. "Between" wheels are placed the magnets, 8 in each division, 40 of which are composed of 6 layers or leaves riveted together, and 16 with only 3 leaves or layers. The magnets are stationary, the helices being made to revolve at the rate of 400 revolutions per hour. The actual power required to work one machine is 6 indicated horse power. Coke is used for fuel, and about 56 pounds are consumed during the night.

Each of the 6 plate magnets will lift a weight of 108 pounds, and each 3 plate magnet will lift 54 pounds, so that the attractive power of one machine equals 5,184 pounds, the total weight of all the magnets in one machine being 2,088 pounds. The machines are connected with the lamps by means of underground cables. Each lamp contains two pieces of carbon about ten inches long by three eighths of an inch square. They are made from coke dust and are consumed at the rate of 34 inches per night for each light at a cost of one penny per inch, exclusive of waste and breakage. They are moved toward each other by means of automatic apparatus, and the only danger of irregularity of the lights arises from the presence of foreign matter in the carbons. This, however, is instantly corrected. Here the rear light is utilized by means of totally reflecting prisms to reinforce the front light, which, like that at Souter Point, is required over a range of 180° only. Both lights are fixed, the lenticular apparatus being of the usual description, and made by Chance Brothers & Co., of Birmingham. The power of each

beam is estimated as equal to 180,000 candles, and Major Elliott states that when he observed them from Dover, a distance of three miles, they threw a very distinct shadow from objects on the pier. The annual cost of a single light of this description in England is about £800—say \$4,000, which is double that of a first order single oil light station, while the light produced is between six and seven times that of the most powerful lens with the 4 wick Douglas oil burner.

At the time of Mr. Elliott's visit there were in England the two fixed electric lights at South Foreland, the revolving light at Souter Point, and a fixed light at Dungeness; in France two fixed lights at La Héve and a revolving light at Grisez; in Egypt a revolving light at Port Said; and in Russia a fixed light at Odessa. These were all the electric lights then in use, but we believe more have been decided upon, if not introduced in Great Britain, and more are contemplated in France. No other nations had adopted them.

M. Quinette de Rochemont, Engineer des Points et Chaussées, has written an interesting account of the French light at La Héve. The light-houses there were lighted for the first time in 1774. At that time wood fires were used. In 1810 lamps were introduced, with reflectors. In 1845 the reflectors were replaced by dioptric apparatus; and electricity was substituted for oil tentatively in 1863 and definitely in 1865.

The plan now in operation at La Héve is very similar to that at South Foreland. There are 6 plate magnets of a power of 145 to 155 pounds, and some 3 plate magnets with a power of 75 pounds. The carbon points are manufactured from graphite, the residue contained in gas retorts. They are ten inches long, and from one third to one half of an inch thick. The optical apparatus is about one foot in diameter, and it sends the light tangentially to the surface of the sea. Many accidents, however, have occurred at La Héve. In one instance the lights were extinguished for the space of an hour, and much trouble has been experienced with the machinery, which is now placed in a more satisfactory condition. Of the cost of this light we have no data later than 1869, but it appears that the average of that and the four years previous was \$3 215.34, the total number of hours of illumination averaging 4,135 annually. The machines are started ten minutes before the time of illumination, so that the currents may be well established, and its light is exhibited fifteen minutes after sunset and extinguished fifteen minutes before sunrise. Double lights are produced whenever the fog is so dense that the keepers cannot see the beacon lights on the north pier of Havre, and this occurs during about eighty hours every year.

The disadvantages attending a general use of electricity are due chiefly to the large amount of space required for the steam engines and the magneto-electric machinery, for storing coal, coke, etc., and for collecting and preserving the water for the engines. The repairs needed require also special workmen, not usually found in the vicinity of light-houses. Consequently, the electric light can at present be made available only in certain localities. It would be disadvantageous in light-houses at sea, or that are not easily accessible, or those which are distant from centres of population. But where there is plenty of space, and where cities are within easy reach, their substitution for other lights is strongly approved by mariners.

Electrical Arrangement of the New Palace Hotel at San Francisco, Cal.

EVERYTHING is done in California on a mammoth scale. A new hotel is in progress of construction at San Francisco called the Palace Hotel, which, from the description, seems to be a veritable palace. It is the largest hotel in the world, and will contain 1,200 rooms, and everything about it is to be on a similar magnificent scale. The following description of electrical arrangements will be of interest to the readers of THE TELEGRAPHER:

There will be one electrical annunciator on each floor, containing from 120 to 160 numbers each, with its special service in constant attendance. Each room is provided with a push button, communicating with the office, also with an automatic thermostatic fire alarm, which, by a slight increase in the temperature of the room, rings the bell continuously in the office, and at the same time announces the room from which the alarm proceeds. There will be about 160 electrical clocks throughout the building, all governed by one regulator in the office. There are already about 120 miles of copper insulated wire running through the building from the different rooms to the main office. There will be seven annunciators in all the building, besides one small one in each elevator. Each floor has a tube receptacle for letters for the post-office. There is a pneumatic dispatch tube, by which messages and parcels can be instantaneously sent to any point on the different floors. The watchman's tell-tale indicator in the office faithfully reports the intervals of the watchman upon his regular rounds both day and night, and in other respects indicates the method and manner of his attendance to duty.

The Galvanic Battery.

In regard to the economical application of electricity, no subject is so important as the relative merits of different forms of batteries. For illuminating purposes and lecture demonstrations we have hitherto had to rely upon the Bunsen or Grove battery; but, during the siege of Paris, a form of bichromate of potash battery, known as the Chutaux battery, was frequently employed to yield the electric light used on the ramparts. Count Moncel gives a full account of the different forms of the Chutaux battery, and furnishes some interesting data for the comparison of the Chutaux and Bunsen battery when giving the electric light. The following results were obtained from the two batteries, each being composed of 48 cells, and each working for two hours:

BUNSEN'S BATTERY.			
Light equal to			Surface of zinc employed.
At beginning.	End.	Mean.	
109	66	87.5	318.61 square inches.
Carcel lamps.			

CHUTAUX BATTERY.			
Light equal to			Surface of zinc employed.
At beginning.	End.	Mean.	
132	63	97.5	92.88 square inches.
Carcel lamps.			

In working each of these batteries for half an hour successively, the following results were found:

	BUNSEN.		CHUTAUX.	
	Light equal to	Carcel lamps.	Light equal to	Carcel lamps.
1st period of half an hour....	109	66	132	63
2d period of half an hour....	Beginning 134	128	Beginning 134	128
	End 137	100	End 137	100
3d period of half an hour....	Beginning 106	80	Beginning 106	80
	End 97	51	End 97	51
4th period of half an hour....	End 66	63	End 66	63

According to these figures, the bichromate of potash battery flags much quicker than the nitric acid battery, a fact which evidently depends on the polarization of its plates, to which it is always liable. It is, however, more economical.

One rather important advantage of these batteries is that they can be kept in a closed place without giving out any odor or unhealthy emanation; besides this, the liquid evaporates slowly. The author had also been able to verify the statement that, after a battery had been charged for more than a year, and then left alone, it had hardly lost anything of its power. The relative consumption of zinc and acid and the comparative cost of working of the whole battery are not given; but so far as the foregoing data are concerned, the Chutaux evidently promises extremely well. So says the *Telegraphic Journal*. For lecture purposes an electric light is rarely wanted for more than half an hour, the great desideratum being a rapid means of charging and discharging the battery. In this respect nothing could be better than the Chutaux; being a single fluid battery, the plates can be raised and lowered easily and rapidly. One of the characteristics of this bichromate battery is the constant percolation of fresh solution through the battery; by this means a good deal of the bad effect of polarization is got rid of. Here is the composition of the solution of his batteries, recommended by M. Chutaux: Water, 1,500 grains; bichromate of potash, 100 grains; bisulphate of mercury, 50 grains; sulphuric acid, 200 grains. The electromotive force of such a cell is at first more than twice that of a Daniell cell, but in duration it cannot, of course, be favorably compared.

The cost of working the Chutaux, Count du Moncel finds to be about 35 cents, which he states is less than that of a Daniell cell, the advantage being that in the Chutaux an electro-motive force of nearly double is obtained, and an internal resistance less than half that of the Daniell, besides other obvious advantages noticeable in the working of the two forms. A battery of 24 Chutaux cells, according to our author, can furnish a rarely brilliant electric light at a cost of about 15 cents per hour.

Correspondence.

We do not hold ourselves responsible for the opinions of our Correspondents. Our columns are open to free discussions on all Telegraphic subjects, without distinction of person or opinion.

No notice will be taken of anonymous communications.

What a Telegrapher Saw on a Railroad Trip.

TO THE EDITOR OF THE TELEGRAPHER.

WITH your permission I shall endeavor at this time to give the readers of THE TELEGRAPHER a short sketch of what I saw from the window of a westward bound passenger train on a trip from northern Ohio to one of our northwestern cities. I boarded the train and fortunately found an unoccupied seat. Before starting I had the pleasure of administering to the wants of an

elderly lady (who had secured a seat directly opposite me) by getting her silver cup filled with "hot tea," for which she kindly thanked me. Wonder if she was aware of rogues and their slippery ways when she entrusted me with that silver cup? She at once began lurching on fried cakes and cold viands, with the tea for a "washer," which no doubt assisted (?) the digestion of the fried cakes. Directly in front of me sat a lady and her little daughter. The latter, "traveling fashion," was almost constantly mincing some fruit or nuts, for which the newsboy, having a good assortment, was well patronized. The car was comfortably filled, and about one half of the passengers ticketed through. A seat in the front part of the car was occupied by a tall, slim gentleman, in a stiffly ironed duster. From his actions he seemed "stiff" in every respect. The seat back of me was occupied by a gentleman on his way to San Francisco, in whom I found a pleasant travelling companion. The train steamed out with fair prospects, but before proceeding very far the weather became quite threatening in appearance. On passing along through the suburbs of the city we started from the houses were left behind in quick succession—the fences looking like one blurred streak or mass.

The smaller villages were passed, leaving nothing but a current of air mixed with dust and smoke to mark our course. Our route was through a level country and in places quite thickly settled, but frequently could be seen "new grounds," with burning stumps, and the farmer with his team hauling together large logs, busily engaged in making his place look civilized. The farm buildings were mostly frame, but occasionally could be seen the more substantial brick dwellings, and frequently the old and original log mansions. Nothing, however, presented a richer or more beautiful appearance than the neat frame dwellings painted white, with their green window shutters. Very many farms had nothing but sheds for barns and stables. All along could be seen the industrious farmer cultivating the soil and preparing for the spring crops. Frequently could be seen men, women, boys and girls planting corn, while the smaller members, with the favorite feline or canine, were in adjacent fence corners making music by twisting the tail of the former or pinching the ears of the latter.

At almost every town along the route crowds of villagers were to be seen, some expecting a dear friend from a distance, while some were saying their last good-bye to those whom they would probably not meet again for years. Others, again, are found on hand at the arrival of every train, prompted by a spirit of idle curiosity. Such persons seldom have any calling. Their business, therefore, never detains them from their usual vocation of leaning against the depot buildings and fences to gaze. Here can be seen people of all classes, both in nature and disposition—the proud and naughty townsman and his less pretentious neighbor, the countryman. What a wide contrast in their appearance—the former with his airiness, and the latter with his faded attire and long weather-beaten locks. The latter the possessor of the real stamina of life, having money in his pocket, the former with all his possessions on his back.

Towards evening the storm which threatened us soon after starting burst upon us with all its fury, and it continued showery the balance of the journey. Frequently the sturdy farmer could be seen standing behind a large tree or shelter from the falling torrents (his team hitched to the fence near by) little thinking of the dangers connected with the bad practice of thus exposing himself to the elements with which we telegraphers deal daily without harm. In one field two wagons were standing with the horses unhitched and tied to the body of the wagon, while the drivers and their canine friend sheltered themselves by lying underneath. A passing glimpse into the houses would present the occupants engaged in various household duties, or grouped about the doors or windows waving their handkerchiefs or hats to the occupants of the passing train. In one house an aged lady (looking through her glasses) sat in an old fashioned spit-bottomed rocking chair, busily knitting—quite a contrast to the other youthful members of the family.

A couple of lassies on a country road with packages in their arms, who doubtless had been to the village store, attracted considerable attention by their fresh complexion and rosy cheeks. Two fishermen, with a small string of fish, seemed contented with their piscatorial excursion, as whistling they journeyed through the rain homeward. At one farm house a couple of girls were chasing two little calves into a corner of the lot. What their intent was will probably always remain a mystery—they might have been trying to get a "corner" on veal. Be that as it may, the performance was very amusing to the passengers.

A hasty glance into the telegraph offices at the different stations along the route revealed a neat and comfortable appearance—most of them being perfect models of neatness, with the latest improvements and conveniences for the transaction of business. Some of the manipulators of the key were "triting gerse" with a persistency worthy of better results, while others were

apparently (Micawber fashion) "waiting for something to turn up." Some with company were entertaining them—conversing freely and laughing heartily. Occasionally an "artist" with a telegram could be seen out in the crowd of passengers elbowing his way in search of the consignee. Others, again, were leaning or balanced in the window, looking at the crowd of people at the train.

As the train neared its destination (as is usually the case) a more social and friendly feeling manifested itself among the passengers, all wondering how it could be possible they did not get acquainted sooner—they would inquire of each other as to their destination, route, time, etc., required before reaching it. This would lead to the knowledge of some distant friend or acquaintance that one or the other knew or had heard of. In this way quite a friendly conversation sprang up and the remainder of the tedious journey passed off quite pleasantly; the willingness to render each other assistance being manifested by every look and action. What a lesson we can learn from every day occurrences if we will only be content to take the positions of scholars instead of always wanting to be teachers.

W—R.

The Bunker Hill Centennial.—Telegraphic Display.—Personals.

BOSTON, MASS., June 29.

TO THE EDITOR OF THE TELEGRAPHER.

THE staid equanimity of conservative Boston has been disturbed by the Bunker Hill Centennial.

The grand old city fairly outdid herself both in the excellent manner in which the celebration was carried out and in the enthusiastic greeting given by her citizens to the Southern soldiers as they marched through her thoroughfares.

The great feature of the day was the procession, ten miles in length, and taking four hours to pass a given point. The buildings on the route were profusely decorated with bunting, presenting a gala appearance. Noteworthy historical sites, such as the old State House, in front of which the first American blood was shed by the British soldiery in 1770; Faneuil Hall and the old South Church bore placards, reciting the revolutionary history pertaining to each.

The telegraphic business for several days before the 17th was very heavy; messages came pouring in from all parts of the country, asking for rooms and windows from which to view the pageant. A special line of telegraph was built by the God and Stock Telegraph Company along the line of the procession, and twelve stations were established at different points on the route, the Chief Marshal governing and directing its movements by wire.

Through the commendable efforts of Mr. C. F. Wood, superintendent, ably seconded by Mr. J. H. Miliken, who had entire charge of the arrangements, the Western Union Telegraph Company made a very creditable display in the trades division of the procession. In a carriage, tastefully and appropriately decorated, were placed a combination printer instrument, operated by the veteran, C. B. ("Bull") Noyes, and Morse instruments, manipulated by Mr. C. D. Stanford and J. H. Miliken. The printer distributed specimens of his work in the shape of mottoes, etc., which were eagerly sought for by the spectators as mementoes of the Centennial.

In the evening, the illumination of public buildings and the display of calcium lights from Bunker Hill monument, the dome of the State House and other elevated points, concluded a truly successful celebration.

Mr. W. J. Parrott has been appointed manager of the Western Union office in the Post-office, vice Mr. Edgar S. Lodge, resigned. The latter gentleman, I understand, intends to take the medical course at Harvard, with a view to making medicine his profession. Mr. C. S. McCoy has been promoted to the position on the N. Y. duplex (nights) made vacant by Mr. Matt. Davius' resignation, and Mr. J. Walton has taken Mr. McCoy's former "split brick." More anon.

CENTURION.

The Baltimore and Ohio Railroad Telegraph.

TO THE EDITOR OF THE TELEGRAPHER.

COL. ROBT. STEWART, Superintendent Baltimore and Ohio Telegraph department, has recently appointed Mr. J. C. Hankinson, Div. Opr. C. O. C. and N., Lake Erie and Straitsville Divisions, with headquarters at Newark, Ohio. The Baltimore and Ohio Company have, perhaps, the poorest telegraph lines in Ohio, and Col. Stewart is just the man to bring them out, if allowed to spend a little money, which is exceedingly doubtful; since the disastrous war which has raged between that company and the Penna R. R. economy is already noticed, a few hundreds of bad joints have been taken out, and a number of offices re-run, and in time we may expect to see the Baltimore and Ohio lines equal their rival (the Pan Handle), which, under O. H. Booth, are second to none in this country.

SELDON.

THE TELEGRAPHER

DEVOTED TO THE INTERESTS
OF THE
TELEGRAPHIC FRATERNITY.

SATURDAY, JULY 3, 1875.

THE TELEGRAPHER:
PUBLISHED EVERY SATURDAY at 38 VESEY ST.
ELEVENTH VOLUME.

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Telegraphic Management, Business and Profits.

THE natural and inevitable tendency of the telegraph business is to concentration in a few companies which shall cover large sections of territory and be subject to consolidated central management. We do not mean by this that the business should be, or will be, in a consolidated monopoly. The history of telegraphic consolidations or attempted consolidations and monopolies clearly demonstrates the futility of any such designs or attempts. Telegraphic competition is not only desirable but inevitable; and, as we have often stated, no protracted telegraphic monopoly in this country is possible, so long as the telegraphs are private or corporate enterprises, and are not owned and operated as a part of the Government administration, protected from competition by legal enactments. We have seen the best arranged, and apparently about to be successful plans to make the telegraph business a monopoly, frustrated just as they seemed likely about to be realized. Undoubtedly, if all existing telegraphic organizations were practically consolidated into one gigantic corporation to-morrow the means would be speedily provided for the construction of competing lines. The genius and instincts of the American people are opposed to monopolies, and there are parties enough interested in the construction and operation of competing lines to give direction and efficiency to this sentiment, however unpromising such enterprises may appear, and with whatever ability and regard to public accommodation such a monopoly might be managed.

The Western Union Telegraph Co. is frequently referred to as the "great monopoly," but this can hardly be regarded as anything more than a misnomer when it is remembered that it finds competition more or less efficient and vigorous on all its principal routes. There is in fact and never has been for any length of time such a thing as a telegraphic monopoly, and we have no fears that there will be very soon. Mr. JAY GOULD may entertain the designs which many ascribe to him of eventually consolidating the Atlantic and Pacific and the Western Union Companies, when he is enabled to obtain the control of such a consolidated company, but even if successful in this, telegraphic monopoly would not be by any means permanently established.

The popular mind is given to crediting Mr. GOULD with all sorts of magnificent and difficult of realization schemes and plans, many of which, probably, he has never really entertained. When it became known that

he had taken an active interest in the Atlantic and Pacific Telegraph Company it was at once surmised that he intended eventually to capture the Western Union also, and establish a consolidated telegraphic monopoly which should exceed anything ever before known. This surmise soon came to be accepted as an assured fact by many who have since regarded every fluctuation in the quotations of Western Union shares as directly due to his manipulation. We are not in Mr. GOULD'S confidence and do not profess to know what his plans in connection with telegraphic matters may be, but have no doubt he is and has been greatly entertained by the confident assertions which are constantly put forth by parties no better informed than ourselves, as to his plans, purposes and operations. Although, as before stated, we are not in Mr. GOULD'S confidence, we will hazard the assertion that his real purpose in telegraphy, as in other enterprises in which he engages, is to make money, and, probably, he has already been quite successful in this. We do not suppose that it makes any material difference to him whether he makes money out of the Atlantic and Pacific or the Western Union, and very likely he finds profit in both, as the fluctuations in the market price of the shares of either afford abundant opportunity for a bold speculator with ample capital at command to buy and sell to advantage. It is to be regretted that telegraph property has become the football of street speculation, but it cannot now be helped, and we do not look for any change in this respect.

We have, however, been led away from the subject of which we intended to treat. That there is a large margin for improvement in telegraphic management, and that such improvement would be to the advantage of the business and increase its profits we think most of those who are familiar with the subject will agree with us. It is no doubt a fact that in this country it costs the telegraph companies generally too much to do the business. The machinery employed is too complicated and expensive for the results attained. It is an advantage that a telegraph company should cover a large extent of territory, or in fact the whole country, and such a company ought to be able to do the business at a relatively less per centage of cost than if it was divided up among a number of comparatively small companies of limited territory and restricted operations. We have before referred to the example of the Montreal and Dominion Telegraph Companies of Canada, and of the Northwestern Telegraph Company. These companies, with comparatively restricted territories and by no means of a favorable telegraphic character, by careful and economical management, show much better relative pecuniary results than the leading telegraph organizations of the United States. We do not propose at this time to enter into an elaborate discussion of the different systems of management, having done so quite fully on a previous occasion, but only refer to them to illustrate our position.

It appears to us that what is most urgently required for the interest of telegraph property generally in this country is a simplification of the system of administration; a determined cutting off of all superfluous attachments, or those which do not prove remunerative for the amount expended on them, and a reduction of all expenditures of an extraneous character to the lowest possible amount consistent with efficient administration. We do not in this connection refer to the salaries of operators and other subordinate employes. These are already, in most instances, as low as they can well be made, but there are plenty of directions in which reductions could be made which would not prove at all disadvantageous, but otherwise.

If the principal telegraphs of the country were the individual property of Mr. A. T. STEWART, Mr. VANDERBILT or other of our leading and successful business men and millionaires, does any one doubt that they would be more economically managed or that the pecuniary results would be more satisfactory? It is one great defect of leading corporate enterprises in this country that the proprietorship is continually changing

from day to day, and that a majority of the stock passes from one to another who pay but little attention to the management of the property, and who look to the fluctuations in the market price of the shares for their profit, rather than to the legitimate results of the business.

The reader, who is merely an employe on a salary of one or the other of the telegraphic corporations of the country, may ask what interest he or she has in this subject, which many consider as concerning only the capitalists or speculators who hold or deal in telegraph stock? To such we would say, you are most directly interested in the subject. Your compensation and position depend largely upon the wise or unwise, economical or wasteful administration of the telegraphic business. If the business is unremunerative, you are obliged, whether you realize the fact or no, to contribute largely to make up the deficiency. A successful and profitable enterprise can and will necessarily employ the better class of talent and remunerate it more satisfactorily. If telegraph business is depressed permanently, the employes must suffer. It is thus directly for their interest that the telegraphs should be wisely and economically administered. Individually they cannot perhaps do much to correct the evils to which we have referred, but collectively their efforts in that direction will prove of much value. Let each manager, operator and clerk in his or her respective sphere seek to realize economy and efficiency in telegraphic business, and the aggregate result will be very marked, and the influence of such example would perhaps extend further than might generally be supposed.

We are aware that the relative cost of doing telegraph business is much greater now than when each company had one or two offices only in even the large cities, and the public brought the business to those offices, than at the present time, when, with greatly reduced charges for telegraphic service, it has become necessary to maintain a large number of offices in all parts of a town or city for this purpose. This additional expense is, however, offset by a largely increased volume of business. Undoubtedly the telegraphs at the present day labor under many disadvantages, but none which should in seasons of ordinary business prosperity with such management as we have been trying to advocate, prevent their being equitably remunerative not only to those employed in the service, but also to those who invest their money in such beneficial enterprises.

The Duplexed Telegraph Printers.

THE experiment of working the Combination Printing Telegraph apparatus, duplex, between this city and Boston has proved to be a complete success, and will probably result in the extensive use of printers on the Western Union lines. The quadruplex arrangement of circuits is used, although only two circuits are worked by the printers, the other side, which, with the Morse instruments, is used for operating circuits, being utilized for breaking the sending circuit when required. By this arrangement neither circuit interferes with, or interrupts the other, as is the case with the quadruplex Morse.

The operators are delighted with the new arrangement, and say they can work faster and more easily than with the old arrangement or single circuits. In one day recently, one thousand messages were transmitted over a single wire between this city and Boston, employing four operators only, and doing as much business as could have been accomplished by quadruplex Morse circuits and eight Morse operators, on the same wire in the same time.

This improvement is likely to open up a new and successful future for printing telegraph instruments, which had been somewhat out of favor of late years, and have heretofore been used only to a limited extent. The advantages of the printing telegraph are obvious, and as the recent improvements appear to have obviated most of the objections which have been urged against these instruments, we confidently look for their being used

more extensively than ever before. With the improvements which have been made upon them, they can be adapted to work very long circuits, longer even, it is believed, than the Morse. These improvements and adaptations to duplex working have been made by Mr. G. M. PHELPS, the Supt. of the Western Union Co.'s manufactory in this city, and by Mr. GERRIT SMITH, the able and intelligent assistant to the electrician of the company, Mr. PRESCOTT, and they deserve great credit for the genius and ability displayed.

In consequence of the small number of printers in use of late years, the printing telegraph operators have become reduced to just about the number required to work the few instruments lately used between this city, Boston and Washington. Any increased demand could not readily be supplied, and as such a demand must come very soon, it would be well for the Western Union Company to select a sufficient number of intelligent young men, and have them instructed in operating the printers. It takes longer to make a good printing operator than it does Morse, and there is no danger, even if this should be commenced at once, that they will be ready before their services are required.

The duplex printers are likely to prove the most serious competitors that the Automatic system has yet had to encounter. Messages can be transmitted in this way so rapidly, and when transmitted, being ready for delivery without copying or transcribing, the advantage is manifest. "Prompt, accurate and reliable," is the motto of the printing telegraph, and we believe that it is fully deserved.

The Rates for Government Telegraphing.

A FEW days since Postmaster General JEWELL, to whom, under the Act of Congress on the subject, is given the power to fix the rates for government telegraph messages transmitted on the lines of companies who have accepted the provisions of the National Telegraph Act of 1866, notified the Presidents of the Western Union, Atlantic and Pacific, and Southern and Atlantic Telegraph Companies of his desire to confer with them in regard to a readjustment of the present charges on such messages.

The former Postmaster General, Mr. CRESSWELL, had fixed the rate two or three years ago at one cent per word over each circuit of 250 miles or less, at which rate government messages have since been and are now transmitted.

Accordingly, on Tuesday last President ORTON, of the Western Union, President BLOSSOM, of the Southern and Atlantic, and Mr. DUFF, representing the Atlantic and Pacific Companies, met the Postmaster General at Washington for this purpose. A long discussion ensued, the representatives of the telegraph interests arguing against any reduction from the present rates. The Postmaster General finally informed them that he would not now decide the matter, but would notify them that it was probable he would reduce the rates one quarter of a cent on each word, making it three fourths of a cent, instead of one cent, as at present.

Mr. ORTON gave notice that his company would not consent to the reduction, which he considered it was unreasonable that they should be required to accept.

On account of the illness of Gen'l ECKERT, the President of the Atlantic and Pacific Telegraph Company, he was unable to be present, but sent a letter to the Postmaster General saying that his company was satisfied with the present rates.

It has caused some surprise to telegraphic interests that Mr. JEWELL, who was formerly a practical telegrapher, and therefore familiar with telegraphic matters, should propose a further reduction on the extremely low rates for government telegraphing fixed by his predecessor, who was not regarded as predisposed to accord the telegraph companies any compensation to which they were not, to put it mildly, at least fully entitled.

We are informed that the average of the prices now paid by private customers and the government respect-

ively are from fifty to eighty per cent. in favor of the latter. There does not appear to be to those who are familiar with telegraphic matters any good reason for this reduction, further than a desire to make a reduction in the expenditures for telegraphic service by the Government.

We would suggest to the Postmaster General that if it is desired to reduce the aggregate expense of such service, it can be accomplished as effectually and with more justice to the telegraph companies, by instructions to government officials to use the telegraph less freely, and to condense their messages into as few words as will answer the purpose of such messages, as private patrons of the telegraph do, and as they themselves would do if they paid for the messages out of their own pockets. We have no doubt but that in this way the aggregate expense of telegraphic service to the Government might be reduced even more than twenty-five per cent., and the wires freed for business, to the companies of a more profitable character.

The Direct United States Cable.

THE new Direct United States Cable, has not yet been opened for public business, nor, in fact, has it been turned over to the company by Messrs. SIEMENS BROS., the contractors, by whom it was laid. Much surprise has been caused to the public by the delay, and unfavorable reports have been circulated in regard to the actual condition of the cable.

We are now at liberty to state the facts in regard to it, which we have not been hitherto. When the cable was finally laid some weeks ago signals were passed over it freely, no difficulty being experienced in working it. Tests, however, showed a fault in the long section of the cable between Newfoundland and Ireland, of no immediate importance, but still necessary for the contractors to remedy before the cable could be delivered to the company in accordance with the contract, in order to entitle them to payment of the balance due them. By the terms of the contract the contractors had the right to retain possession of the cable for thirty days after it was laid.

The Faraday is now engaged in raising the cable and repairing the fault. On Monday last the cable was raised and cut, and signals communicated from the ship. The exact location of the fault has been determined, and the cable officials expect, before this paper is issued, that the difficulty will be remedied and the cable ready for delivery to the company, after which it will be regularly opened for public use.

Retirement from Business of F. L. Pope & Co.

AS WILL be seen from an announcement made in our advertising columns, the firm of F. L. POPE & Co. have disposed of their stock of telegraph apparatus, etc., and business, to the enterprising and popular house of L. G. TILLOTSON & Co., and will hereafter discontinue the business, in which, to a limited extent, they have been engaged for the past three or four years. In so doing, they have been actuated by various considerations, not the least of which is the fact that both of the members of the firm are engaged in other occupations, with which their late business materially interfered. There is moreover a tendency toward the concentration of this business in fewer hands, as it requires from year to year a larger capital, in order to be carried on advantageously and profitably. Hereafter the specialties, including the metallic, or lead battery, which has proved very successful, in which this firm were interested, will be manufactured and dealt in by Messrs. TILLOTSON & Co.

Messrs. TILLOTSON & Co. have also within a few weeks purchased the railway supply business of Messrs. VOSE, DINSMORE & Co., who were perhaps, next to themselves, the largest house in that line in this country. These transactions are the natural result of the stringency of the times, arising from the late financial panic, and may be accepted as an indication of the general tendency in almost every branch of trade.

This change will not in any way affect the Electric Railway Signal enterprise, which has been developed by Mr. POPE and his partner, with others, and which is destined eventually to prove a great success. The system of electric railway signals presented by the Electric Railroad Signal Co., is by far the most complete and reliable one that has been thus far introduced.

The enterprise and popularity of Messrs. TILLOTSON & Co. are too well known, and too generally appreciated, to need any special commendation from us. The customers of F. L. POPE & Co. will, we are confident, have no reason to regret the change which has been made, and will be sure of receiving just and liberal treatment from L. G. TILLOTSON & Co., who are cordially recommended to their favorable consideration and patronage.

As has been very generally known, the publisher of THE TELEGRAPHER was the partner of Mr. POPE in his late enterprise. In retiring from that business he will be enabled to devote more time and attention to the interests of the paper, which will hereafter be the main object with him, and he proposes now to make an effort to effectually advance the interests of the paper—the only really independent telegraphic publication in the country. The success of THE TELEGRAPHER under his management, even in conjunction with other interests which have occupied a large share of his time and attention, has been most satisfactory. That this success will be even more marked under the new condition of things, we have no doubt.

We now confidently appeal to the telegraphic fraternity generally to cooperate with us, and by united efforts to make THE TELEGRAPHER such a success in telegraphic journalism as shall reflect credit upon all concerned in telegraphy in this country and the Dominion of Canada.

A New Western Union Loan.

WE recently recorded the failure of a loan offered by the Western Union Telegraph Company for four millions of dollars, to provide the means for retiring bonds of the company which fall due in November next. The original loan was termed a gold loan, the principal and interest being payable in gold. This was offered at 97½ per cent., but only a small amount was subscribed for.

A new proposition is now made by the company for a currency loan of the same amount. This is offered at 95 per cent., and seems to find very ready acceptance from capitalists and investors, nearly half of it having been subscribed within a day or two after its being put upon the market, and no doubt is entertained that it will all be promptly taken.

The stock of the company has recently materially advanced, and is actively dealt in at the Stock Board.

The Western Union Co. have a splendid property and business, and, with ordinarily judicious management, there should be no question of its continuing to pay good dividends even upon its very large capital.

Read, Consider and Act.

WE would call attention to the prospectus of THE TELEGRAPHER, and to the liberal offer of premiums to those who may interest themselves in increasing its circulation, which will be found in its advertising pages. We have determined to make a vigorous effort to secure a largely increased circulation for this paper, and ask every telegrapher who believes that its maintenance and liberal support is of value and importance to the fraternity to aid us in this effort. We will furnish the best paper that our ability and means will permit, and in return expect that those who believe that we are rendering good service will aid us by contributions to its columns, and by efforts to add to the number of its readers. The approbation of those for whom we labor is highly gratifying to us, especially when manifested in a practical manner.

Don't put off your share of the work to the fall, or a more convenient season, but do all you can now; and

when once you have shown your faith by your works do not become weary in well doing.

Our subscription list has been increasing of late, which at this season of the year is highly encouraging, and shows that the enemies of the paper and the prophets of evil are not correct in their antagonistic assertions and predictions.

Our ambition is to make the best and most useful and readable telegraphic publication in the world, and to have it more generally and heartily supported by those whom it benefits than any other similar publication. All of this can be realized with the assistance and coöperation of the telegraphers generally. Shall we have it?

The Western Electric Manufacturing Company, of Chicago, Ill.

THE Western Electric Manufacturing Company of Chicago has become, under its present able management, one of the leading manufacturing establishments of that enterprising city. Their extensive manufactory, at No. 220 Kinzie street, is equipped with all the necessary machinery for turning out work of a superior quality and excellence. They are prepared at short notice to equip telegraph lines of any extent with apparatus, batteries, etc., and everything required at reasonable prices.

This company also make a specialty of the manufacture of office and magnet wires of every description.

Phillips' Office Wires.

THOSE who may desire to examine some excellent specimens of insulated office wires may be gratified by the inspection of such wires manufactured by Mr. EUGENE F. PHILLIPS, of Providence, R. I., run in the office of the American District Telegraph Co. at No. 407 Broadway, in this city. These wires are beautifully run, and are excellent specimens of Mr. PHILLIPS' manufacture, and are a credit to his workmanship. Those who are interested in such matters are invited to call and see them.

Personals.

Mr. CHARLES C. WHITNEY, formerly chief clerk of Supt. Wallick, of the Western Union Telegraph Company at Indianapolis, Ind., and more recently Assistant Secretary of the Franklin Life Insurance Company, of that city, has accepted the appointment of Chief of the Redemption Bureau, under United States Treasurer NEW. Mr. WHITNEY left for Washington July 1st, to enter upon the discharge of the duties of his office.

Supt. GEO. T. WILLIAMS, Supt. Western Union Telegraph Company, has appointed Mr. "SARGE" PEABODY as his chief clerk, *vice* MR. CHAS. S. LAMB, who goes to the Pacific Coast with his brother, Supt. FRANK LAMB, of the same company.

Mr. J. J. GALIVEN, of Calvert, Texas, has been appointed to a position on the Western Union day force at St. Louis, Mo.

Mr. J. W. DICKENS, of Macon, Mo., has been appointed night operator at Hannibal Depot, Mo.

Mr. JNO. F. STANSFER, of Columbus, Ind., has accepted a position on the day force in the St. Louis, Mo., Western Union office.

Mr. D. A. WILLIAMS, of the St. Louis, Mo., Western Union office, has been appointed manager of the Sedalia, Mo., city office, same company, *vice* G. A. SINGER, resigned.

Mr. JOHN McNEVIN is the day Press man at St. Louis, Mo., Western Union office, *vice* Mr. JAMES O'TOOLE, resigned.

Mr. CHARLES T. DAVIS, late receiving clerk at Kansas, Mo., Western Union office, has been appointed to a position as operator in that office. This is an increase of force.

Any person knowing the present address of Messrs. PAIGE and QUIGLEY, who were employed as telegraph operators at the Chilton House, Ontario, Canada, in 1872-'3, respectively, is requested to advise Mr. C. BREHLER, manager of the Atlantic and Pacific telegraph offices, Lockport, N. Y., of the same.

The Telegraph.

The Atlantic and Pacific Telegraph Co.

THE Atlantic and Pacific Telegraph Co. are pushing their new lines through as rapidly as possible, and expect in a few days to have their line between Chicago and Milwaukee in operation.

The executive offices of the company have been removed from the front to the rear offices of the first floor of 198 Broadway, which are better adapted to the purpose, and also relieves the officials from the annoyance caused by the noise of Broadway. The new offices have been very neatly and comfortably fitted up for their present occupancy.

President ECKERT, whose partial recovery from his severillness was noticed some weeks since, experienced a relapse which was more severe than the original attack, and which has prevented hitherto the resumption of his official duties. He is now convalescent, however, and expects to be able to attend to business again in a few days.

During his illness Mr. A. B. Chandler has attended to the President's duties as well as his own, which has imposed upon him very arduous labor, but which he has met with his characteristic energy, industry and ability.

A Violent Storm.—Its Effect on Telegraph Lines.

ON Tuesday night last a violent thunder storm came up which lasted several hours, and caused considerable damage to telegraph lines south of this city. Nearly all the wires between New York and Washington were interrupted, and so continued through the night.

The Western Union Loan.

THE entire seven per cent. currency loan of \$4,000,000 of the Western Union Telegraph Company at 95, was subscribed for on Wednesday last, and subsequently 1 per cent. was offered for the scrip or privilege. The success of this loan had a favorable influence on the stock, which advanced to 79½—an advance of 4½ per cent. on the week.

Death of a Telegraphic Manufacturer and Inventor.

MR. SAMUEL CHUBBUCK, of Utica, N. Y., died at that place on Monday last, June 28th. Mr. Chubbuck was one of the first who engaged in the manufacture of telegraph instruments, in which he was engaged until his death. He was the inventor of the pony sounder and other improvements.

Foreign Telegraphic Notes.

THE traffic receipts of the Great Northern Telegraph Company for the month of May last amounted to 366,423fr., and for the same month last year to 363,932fr. The aggregate traffic receipts from the 1st of January to the 31st May amounted to 1,602,397fr., and for the corresponding period last year to 1,629,998fr.

The Indo-European Telegraph Company notify that the average time in transit between London and India, *via* Teheran, of all outward messages to India, including the messages for Penang, Singapore, China, Japan, Java and Australia, during the week ending the 4th instant, was one hour seventeen minutes.

The construction of a new land line of telegraph between Amoy and Foochow has commenced, in virtue of the agreement lately concluded with the Chinese Government by the Great Northern Telegraph Company.

The secretary of the West India and Panama Telegraph Company (Limited) announces that information has been received of the interruption of two of the company's cables, *viz.*, between St. Thomas and St. Kitts, and between Grenada and Trinidad, in consequence of which telegraphic communication with St. Kitts, Antigua, Gaudaloupe, Dominica, Martinique, St. Lucia, St. Vincent, Barbadoes and Grenada is for the present suspended. The company's ship (screw steamer) Investigator has already left St. Thomas to effect the repairs. The repair of either of the broken cables will restore telegraphic communication with the islands cut off. The interruption of the cables named does not interfere with telegraphic communication with Jamaica, Panama, Porto Rico, St. Thomas, St. Croix, Trinidad, Demerara and Berbice.

An agreement has been entered into between the Government of New Zealand and the Eastern Extension Telegraph Co. for the extension of the company's system to that colony. The cable is to be laid by or before April 30, 1876; the colony to pay a subsidy of

£7,500 per annum, payable quarterly, during a period of ten years; the charge for the transmission of messages through the cable not to exceed 7s. 6d. per message of ten words, and 9d. for every additional word, inclusive of names and addresses; the tariff to be reduced to 5s. for every ten words, and 6d. for every additional word whenever the average number of messages during any preceding six calendar months has amounted to 200 per day, excluding Sundays, and whenever the colony shall guarantee a similar number of messages per week.

Quotations of Telegraph Stocks at N. Y. Stock Exchange,

Showing Lowest and Highest Prices each day during week.

June.	WESTERN UNION.		ATL. AND PAC.		AMER. DIST.		GOLD AND STOCK.	
	Bid.	Asked.	Bid.	Asked.	Bid.	Asked.	Bid.	Asked.
24	74½	74½	23½	23½	30	30	75	75
25	74½	74½	23½	24	30	30	75	75
26	76½	76½	23½	24	30	30	75	75
28	76½	77	23½	24½	30	30	75	75
29	76½	78½	23	23½	30	30	75	75
30	78	79½	23	23½	30	30	75	75

Born.

MORRIS.—To the wife of Mr. JOHN L. MORRIS, of the Shreveport, La., Western Union office, June 25th, a son, 13 pounds.

ANNOUNCEMENT.

We have sold to L. G. TILLOTSON & CO., of No. 8 Dey Street, New York, our stock of Telegraphic Instruments, Apparatus and Supplies, and retire from the business from this date.

We take pleasure in commending to our former customers and friends the old established, well known and popular house to whom we have transferred our business. It is unnecessary to assure those who have dealt with L. G. TILLOTSON & CO. that they may in all cases depend upon receiving just, honorable and liberal treatment from them.

With superior facilities for manufacturing, and a stock which comprises all descriptions of Telegraphic Apparatus, Equipment and Supplies, orders entrusted to them will be promptly and satisfactorily executed.

THE SPECIALTIES

which we have hitherto manufactured and dealt in:

THE EAGLE METALLIC BATTERY,

which has, *when manufactured by us*, given such excellent satisfaction, and which has proved to be a superior electro-magnetic battery for telegraphic and other purposes;

THE NONPAREIL TELEGRAPH APPARATUS,

for Learners, Amateurs and short Telegraph Lines, the pioneer instrument of that popular class; and

THE GLOBE LIGHTNING ARRESTER,

which, in some respects, is the best Lightning Arrester in use, will hereafter be manufactured and sold by TILLOTSON & CO.

We avail ourselves of this opportunity to return our sincere thanks to those who have heretofore favored us with their patronage.

This transfer will not affect the

ELECTRIC RAILROAD SIGNAL CO.,

which has always been unconnected with our other business, and will be continued as heretofore.

F. L. POPE & CO.

New York, June 30, 1875.

DISSOLUTION OF COPARTNERSHIP.

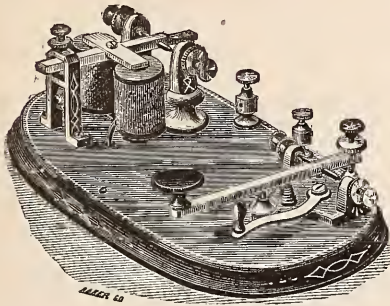
The copartnership hitherto existing under the firm name of F. L. POPE & CO. is this day dissolved by mutual consent. The business of the late firm will be settled by J. N. ASHLEY, who is authorized to use the firm name for that purpose.

F. L. POPE,
J. N. ASHLEY.

NEW YORK, July 1, 1875.

WESTERN ELECTRIC MAN'FG CO.
 220 Kinzie Street,
 CHICAGO, ILL.

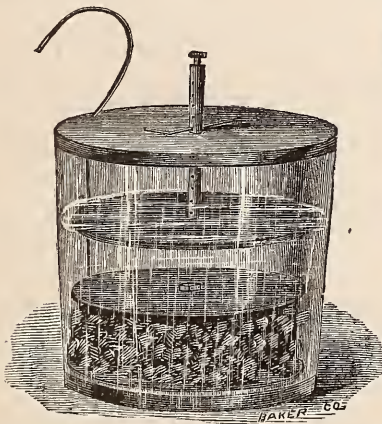
CELEBRATED
PRIVATE LINE OUTFIT.
 THE BEST IN THE WORLD.



PRIVATE LINE INSTRUMENT.

This instrument is mounted on an iron base and finely finished.

It gives a clear, loud sound. It is made to work on a line from a few feet to ten miles in length.



BLISS RESERVOIR BATTERY.

This battery took the first premium and a silver medal for force, constancy and economy at the Cincinnati Exposition.

With each "Private Line Outfit" is furnished one Private Line Instrument, one Cup Reservoir Battery, the necessary Chemicals, Wire for connections and a Manual.

PRICES.

Private Line Outfit, complete.....\$10 00
 Instrument only..... 8 00
 Bliss Reservoir Battery, per cell..... 2 00

DISCOUNT.

A discount of twenty per cent. will be allowed when remittance accompanies the order. Remit by express, registered letter, postal order or draft.

In ordering state length of line, so that the resistance of instruments may be proportioned accordingly.

SEND FOR CIRCULAR.

Liberal terms to Agents.

WESTERN ELECTRIC M'FG CO.,
 CHICAGO, ILL.

JUST OUT.

NEW AND ENLARGED EDITION OF

SMITH'S
MANUAL OF TELEGRAPHY.

CONTAINING

Complete Directions for Self-Instruction in Telegraphy,
 Instructions for Building and Operating

SHORT LINES OF TELEGRAPH,

Diagrams showing the manner of connecting wires, batteries instruments, &c.

Descriptions and cuts of all forms of telegraph instruments, batteries, &c.

Cuts, descriptions and prices of the

BEST LEARNER'S APPARATUS

AND

SHORT LINE INSTRUMENTS;

Together with full explanations of everything necessary for the

AMATEUR TELEGRAPHER

To know.

Every operator and every student of telegraphy should have one

It is the

MOST COMPLETE, PRACTICAL

And easily understood explanation of the

MORSE TELEGRAPH

AND ITS APPARATUS

EVER PUBLISHED.

PRICE.....30 CENTS.

Sent post paid upon receipt of price.

L. G. TILLOTSON & CO.,

8 DEY STREET, NEW YORK.

64 SOUTH FOURTH STREET, PHILADELPHIA.

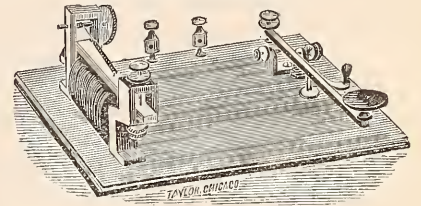
22 WEST FOURTH STREET, CINCINNATI.

THE AMATEUR'S TELEGRAPH APPARATUS,

Comprising

SOUNDER, KEY, CUP OF BATTERY,
CHEMICALS, WIRE AND
MANUAL.

Several Thousands of these Instruments already sold. They give good satisfaction.



PRICES.

Amateur Outfit, complete, No. 1, - - - - - \$7 50
 " " " 2, - - - - - 6 50
 " Sounder and Key, No. 1, - - - - - 6 50
 " " " " 2, - - - - - 5 50
 Battery, per Cell, - - - - - 45

DISCOUNT.

Twenty per cent. discount will be allowed when remitted for in advance.

GEO. H. BLISS & CO.,

220 Kinzie St., Chicago, Ill.

GEO. H. BLISS & CO.,

220 Kinzie Street,

CHICAGO, ILL.

Telegraph instruments and supplies in great variety, of the latest patterns and highest finish.

Prices always as low as the lowest.

The usual twenty per cent. discount is still allowed on instruments of our manufacture when remittance accompanies order.

Manual and price list free.

GEO. H. BLISS & CO.

PRETTIEST THING OUT!



All Colors of the Rainbow!

THE HOLMES
ELEGANT GELATIN
 OR GLASS,

BRISTOL, MARBLED, SNOW FLAKE & ENAMELED

Visiting Cards.

SAMPLES FREE.
S. HOLMES & BRO. ST. CLAIR, PA



AMERICAN FIRE ALARM AND POLICE TELEGRAPH.

GAMEWELL & CO., Proprietors,
62 BROADWAY, NEW YORK.

J. W. STOVER,
General Agent and Superintendent.

L. B. FIRMAN, Chicago, Ill.,
General Agent for the West and North-West.

TELEGRAPH SUPPLY AND MANUF'G CO., Cleveland, Ohio,
Special Agents for the Middle States.

J. R. DOWELL, Richmond, Va.,
Special Agent for Virginia and North Carolina.

J. A. BRENNER, Augusta, Ga.,
Special Agent for Georgia and South Carolina.

L. M. MONROE, New Canaan, Conn.,
Special Agent for New England.

ELECTRICAL CONSTRUCTION AND MAINTENANCE CO.,
San Francisco, Cal.,
Special Agents for California, Oregon and Nevada.

THIS SYSTEM OF
FIRE ALARM & POLICE TELEGRAPH
WITH A CENTRAL OFFICE,
OR
UPON THE AUTOMATIC PLAN,

is now in operation in the following Cities, to which reference is
made for evidence of its great

SUPERIORITY, VALUE
AND
UNIFORM RELIABILITY.

Albany, N. Y.,	New York City,
Alleghany, Pa.,	New Orleans, La.,
Boston, Mass.,	New Bedford, Mass.,
Bridgeport, Conn.,	New Haven, Conn.,
Buffalo, N. Y.,	Newark, N. J.,
Baltimore, Md.,	Omaha, Neb.,
Chicago, Ill.,	Philadelphia, Pa.,
Cincinnati, Ohio,	Pittsburg, Pa.,
Columbus, Ohio,	Portland, Maine,
Cambridge, Mass.,	Peoria, Ill.,
Charlestown, Mass.,	Providence, R. I.,
Covington, Ky.,	Quebec, L. C.,
Detroit, Mich.,	Rochester, N. Y.,
Dayton, Ohio,	Richmond, Va.,
Elizabeth, N. J.,	St. Louis, Mo.,
Fall River, Mass.,	St. John, N. B.,
Fitchburg, Mass.,	Springfield, Mass.,
Hartford, Conn.,	San Francisco, Cal.,
Indianapolis, Ind.,	Savannah, Ga.,
Jersey City, N. J.,	Syracuse, N. Y.,
Louisville, Ky.,	Troy, N. Y.,
Lowell, Mass.,	Taunton, Mass.,
Lawrence, Mass.,	Toledo, Ohio,
Lynn, Mass.,	Toronto, Canada,
Mobile, Ala.,	Washington, D. C.,
Montreal, Canada,	Worcester, Mass.,
Milwaukee, Wis.,	

The Distinctive Features of these Systems of

Fire Alarm and Police Telegraphs

ARE,

First—The Automatic Repeater, through which the apparatus may be distributed in a combination of circuits, and the entire system successfully worked, without the constant personal attention of either operators or watchmen.

Second—The Automatic Signal Boxes.

Third—The Electro-Mechanical Bell Strikers, adapted to produce the full tone of the largest church or tower bells.

Fourth—The Electro-Mechanical Gong Striker, for hose and engine houses, by means of which the location of the fire is instantaneously communicated to the members of each fire company.

These Features combined form the

Only PERFECT, COMPLETE and RELIABLE System

FIRE ALARM TELEGRAPH
IN THE WORLD.

It is a sufficient vindication of the claims which are made by the Proprietors of these systems of

FIRE ALARM AND POLICE TELEGRAPHS,

that they have sustained the test of more than twenty years of practical use, and that the efforts which have been repeatedly made to supplant them by other inventions have

COMPLETELY FAILED;

the few instances in which municipalities have been induced to adopt other systems having demonstrated their insufficiency and unreliability, and resulted in their abandonment, and substitution therefor of the

AMERICAN FIRE ALARM TELEGRAPH.

Messrs. GAMEWELL & CO. are the owners of the original *FARMER & CHANNING PATENTS*, one of the most important of which has just been extended for seven years, and during the past seventeen years have spared no expense or effort to secure improvements, and the Systems are now covered by MORE THAN TWENTY PATENTS.

The most important improvement which the Proprietors have adopted and introduced is the

AUTOMATIC SYSTEM,

the introduction and operation of which involves so little expense, compared to the benefit which it confers, that even small communities can profitably adopt and maintain it.

The American System of

FIRE ALARM AND POLICE TELEGRAPHS

has met with the universal approbation and commendation of the People, Municipal Authorities,

AND THE
PRESS

throughout the UNITED STATES and CANADA.

NO EFFORT, TROUBLE OR EXPENSE

is spared by the Proprietors to obtain and secure ANY POSSIBLE IMPROVEMENT which shall increase the

EFFICIENCY,
RELIABILITY and
ECONOMY

of the system. They intend that, as far as possible, it shall be

ABSOLUTELY PERFECT!

The amount of property which has been saved from destruction, and the number of lives which have been preserved through the general adoption of this system, throughout the UNITED STATES and the DOMINION OF CANADA,

CANNOT EASILY BE ESTIMATED,

but that, in every community where it has been introduced for any considerable length of time, they have been enormous, THERE CAN BE NO QUESTION.

The cooperation of TELEGRAPHERS in securing its introduction into their localities is cordially invited, and their efforts will be duly appreciated and compensated.

Any information desired in regard to the above system will be cheerfully and promptly furnished upon application at the office.

A pamphlet, setting forth more fully its advantages and superiority, has been printed, and will be supplied to Municipal Authorities and others interested in Fire Alarm and Police Telegraphy, upon application as above.

CHARLES T. CHESTER,
104 Centre Street,
NEW YORK,

TELEGRAPH ENGINEER,

AND MANUFACTURER OF

INSTRUMENTS,

BATTERIES,

AND EVERY DESCRIPTION OF

TELEGRAPH SUPPLIES.

BUNNELL'S PATENT REPEATER.

These instruments are now made in two different styles, at \$120 and \$135 a set, consisting of two Relays, two Sounders, two Keys and Governor.

JONES' LOCK SWITCH-BOARD,

a most compact and reliable Switch, forming a clean spring-locked connection between any number of wires, occupying for each different connection only one square inch of space, and though made of the largest size, not subject to the warp and contraction of wood-work.

EXCLUSIVE AGENTS OF

A. G. DAY'S

KERITE,

OR

COMPOUND RUBBER COVERED WIRE

SUBTERRANEAN & AERIAL WIRES,

OF THE

HIGHEST INSULATION.

We are now prepared to furnish, after an experience of three years, an Insulated Wire which can be buried in the earth or exposed to rain and sun, or to the vapor of acids, without injury. Professor SILLIMAN, who has exposed it to the most destructive agencies, finds that it remains uninjured in an atmosphere of ozone, which would destroy gutta-percha in a few hours. It exceeds glass or any other known substance as a non-conductor.

We have made special arrangements to furnish this article for office purposes at a reduced rate.

ALSO, TO FURNISH

IRON CLAD CABLES

of the usual size, with KERITE COVER, believing that it will exceed, in insulation for submarine purposes, ANYTHING HITHERTO MANUFACTURED.

We shall be happy to furnish estimates for any amount and size of cable, which will be found to compete with any other construction, both in quality and price.

We manufacture the Genuine ELECTROPOION BATTERY, with Patent Platina Connection, introduced by us eight years since; also, THE ALPHABETICAL OR DIAL TELEGRAPH, now extensively used in this and other cities for private lines being easily and quickly learned by any one.

We offer for sale, among other novelties, a SOUNDER that will work practically with a single DANIELL cell, a BATTERY that does not require to be taken down but once a year, and the very best MAIN LINE SOUNDERS made.

Our CATALOGUE, embracing a large amount of new matter and description, is now ready for distribution.

THE TELEGRAPHER

A JOURNAL OF
ELECTRICAL PROGRESS.

J. N. ASHLEY, - - - - - PUBLISHER.

SATURDAY, JULY 10, 1875.

VOL. XI. WHOLE No. 469.

[From the Providence (R. I. Journal.)]

The Real Inventor of the Electric Telegraph.

To the Editor of the Journal.

THE FIRST ELECTRIC TELEGRAPH.

I HAVE before me "An Address by Rev. Charles S. Harrower, at the Obsequies of Harrison Gray Dyar, in Rhinebeck, N. Y., Feb. 3, 1875," from which I make the following extract, the purport of which will probably be new to most of your readers, should you print it. Your correspondent will just add that he had the pleasure of a limited acquaintance with Mr. Dyar for some years before his death, and should deem him, from his unostentatious nature and studious and deep-reaching mind, to be just the man to conduct himself under the circumstances, as is related in Mr. Harrower's interesting narrative.

T.
"It was in 1826 or 1827, when he was but twenty-one years of age, that Mr. Dyar's studies in electricity culminated in carrying a wire around a certain race course on Long Island, New York, and the transmission of messages thereby. This was the first piece of electric telegraph perfected on this continent. Many experiments were made about this time by ingenious men in Europe and America, but in a most important item of detail Mr. Dyar surpassed all his peers. It occurred to him that wires could be stretched from city to city, and correspondence maintained, if an alphabet were devised. Accordingly, he set himself to work, and finally perfected that system of dots, marks and spaces which is now known as the 'Morse Alphabet.' It ought to have been called 'Dyar Alphabet.' Vast improvements were in store for this new agency in the world, the electric telegraph, but until Prof. Henry discovered how to intensify a current of electro-magnetism by using bars of soft iron, or rather say until Prof. Morse adopted the discovery in 1836, *i. e.* for ten years, I have no doubt Mr. Dyar was the pioneer of all the world in telegraphic experiments. Surely we are gathered about the coffin of one of the foremost men in his generation.

The success of the experiment on Long Island was so satisfactory that Mr. Dyar and his associates felt justified in undertaking to carry a line from New York to Philadelphia. For this arrangements were advanced, when they were strangely interrupted.

It would be a long story to tell of the desperate selfishness of the man whom they employed to assist in raising funds; how he tried to become possessed of stock in the enterprise; how, failing in one scheme, he determined to drive Mr. Dyar into some arrangement by giving him trouble of the strangest, but, unfortunately, most aggravating sort. It was about the time of the bank conspiracy trials, and this unscrupulous man obtained a writ against his employers under a charge of 'conspiracy for carrying secret information from city to city.' Mr. Charles Walker, the brother-in-law of Mr. S. F. B. Morse, was Mr. Dyar's counsel, as well as intimate friend.

After having absented himself from New York for a few months, Mr. Dyar returned and consulted with Mr. Walker, who thought that, however groundless such a charge might be, it might give his client infinite trouble to stand suit. Accordingly the enterprise was then and there abandoned; so that just at the moment when a great victory was about to be achieved by a foremost experimenter and inventor, the wicked greed of a trusted subordinate postponed for years its accomplishment, and almost entirely deprived our friend of his true need of fame. So far as known Mr. Dyar made no further discoveries in telegraphy. When, moreover, seventeen years after his success on Long Island, and fifteen years after his proposed line to Philadelphia, Mr. Dyar heard that the brother-in-law of his friend and counsellor had persuaded Congress to build the line between Washington and Baltimore, and had adopted the system of marks, dots and spaces himself had invented, he did not once ask to have his alphabet accredited to him, but praised Mr. Morse in the sincerest terms for his energy, perseverance and success, and accounted him fully entitled to his fame as one of the world's benefactors.

His attitude in this connection was characteristic, and surely it was very noble. But facts warrant me

in saying, and it is the merest justice to remind you, that had it not been for the bank conspiracy excitement, the first public line of telegraph would have been erected seventeen years earlier than it was, and not by the Congressional influence of Mr. Morse, but by the private enterprise of Mr. Dyar."

Battery Covers.

WHEN it was proposed to use oil on the surface of the cells of the gravity battery to prevent evaporation, it was thought a very simple, and effective, and economical device. No doubt it was, and is; and yet oil is an unpleasant element. To cleanly hands it is offensive. In warm weather or in a heated room it has an odor very ungrateful to the ordinary sense; and even with its use in preventing evaporation, it is usually found necessary to add water, at least monthly, as well as to clean the parts—which latter, by reason of the oil, is far from being a pleasant duty.

Mr. Geo. P. Milliken, manager of the Boston office of the Western Union Telegraph Co., writes as follows in reference to this subject:

"I have now in the battery room a few cells without oil with wooden covers—one with zinc, one tin. The metallic covers are made with a rim one inch wide, fitting the cell, but not too closely. The openings for the wires and the space round the rim are filled with paraffine and tallow. They were set up May 7th for use in local circuits, and now (June 24th), without a drop of water added to them, there is no sign of diminution, and all are clean and neat, as at first. The wooden coverings were put on May 19th, and the cells look well. These covers can be made for less than the cost of oil, and are permanent."

All experiments of this kind are valuable, and to us it appears particularly so when any improvement is suggested which tends to cleanliness and neatness as well as economy. We think it not unlikely that Mr. Milliken's experience, if confirmed by prolonged tests, may lead to a change in the present directions respecting the use of oil in batteries.—*Journal of the Telegraph.*

A Curious Magnet.

M. J. JAMIN, of the Paris Academy of Sciences, recently adverted to a singular case of magnetic power observed by Galileo, and described by him in 1607. He had met with a loadstone "of such power that, if the point of a cimeter be brought near to it, at a distance equal to the thickness of a silver piastre (about a crown piece), it can no longer be kept back; even a strong man resting the cimeter against his breast could not resist the attraction." He continues to say:

"I have discovered another admirable effect, which I had not met with in any other loadstone; the same pole will attract and repel the same piece of iron. At a distance of at least four or five fingers' breadth it will repel it. If the piece of iron be placed on a table, and the loadstone be placed near it, the iron will be driven back, and retreat so long as the loadstone is pushed toward it; but if the latter be drawn back, as the distance is four fingers' breadth, the piece of iron is attracted and follows the loadstone as it is drawn back, but it does not go nearer than one finger's breadth."

This loadstone was bought by the Grand Duke; Galileo continued his experiments with it, and it turned out that the piece of iron above referred to was magnetized steel, for mere iron was attracted at any distance by the loadstone to the amount of six pounds weight. In short, it had the property of attracting and repelling the same pole of magnetized steel. This curious loadstone is unfortunately lost.

M. Jamin, after giving this piece of history, states that he has without seeking it, found a parallel case, which has no mystery about it. A steel bar may be magnetized to saturation by a very powerful current, and the magnetic fluid will penetrate to the very core of one of his halves, which he calls *positive*. This being obtained, the same bar is exposed to an inverse current, which, very weak at the outset, gradually increases in intensity, and determines a boreal or *negative* magnetization, merely superficial at first, but going down deeper by degrees, leaving, however, positive strata further down. The outer surface is now carried off by corrosion in an acid, so that the exterior negative surface is removed and the subjacent positive strata are brought to light. A bar thus prepared will behave like Galileo's steel in the presence of a common magnet.

Figures Printed by Lightning.

PERSONS who are killed by lightning stroke are frequently found marked about the body in a peculiar manner, the lines being grouped into semblance of the trunk and branches of a tree. In case the casualty actually happens anywhere in the vicinity of a tree, the ramifications are attributed to some mysterious property of the lightning, which reproduces on the body (as

was stated in a published instance) "the fibers, leaves and branches with photographic accuracy."

Mr. C. Tomlinson, in a communication to *Nature*, states that the trees have nothing to do with the figures which are produced directly by the lightning. The same markings may be found in sheets of crown glass by passing over them the contents of a Leyden jar. The writer, however, mentions a variety of curious phenomena in which horseshoes, metallic numbers, etc., have been found reproduced on the persons of people struck in their neighborhood. Mr. C. F. Varley throws light on these last mentioned cases in giving the record of an accidental observation made during the working of a Holtz electrical machine, the poles of which were furnished with brass balls about an inch in diameter. Noticing some specks on the hall of the positive pole, Mr. Varley tried to wipe them off with a silk handkerchief, but in vain. He then examined the negative pole, and discovered a minute speck corresponding to the spots on the positive pole. This pole sometimes exhibits a glow; and if in this state three or four bits of wax, or even a drop or two of water, be placed on the negative pole, corresponding non-luminous spots appear on the positive pole. Hence, it is evident that lines of force exist between the two poles, by means of which we may telegraph through the air from the negative to the positive pole. And in explanation of the above cases, in which the lightning burn on the skin is of the same shape as the object from which the charge proceeded, all that is necessary is that the object be + to the horseshoe, brass number, etc., the discharge being a negative one.

Velocity and Duration of Lightning.

A LARGE flash of lightning, distinctly seen, often leaves upon the mind an impression that it has lasted fully a second or more, but it is proved that such is not the fact. Its velocity is at the rate of 288,000 miles per second. The utmost duration of a flash from beginning to end is estimated not to exceed the sixtieth part of a second, though retained upon the retina so much longer. This may be proved during a storm on a perfectly dark night by setting a wheel to work so rapidly that in a steady light its spokes appear to blend and become individually invisible. It being dark, and the wheel rapidly revolving as above, when a flash of lightning occurs the wheel will appear to the eye motionless, every spoke being distinctly and separately visible and still. This was first observed by Wheatstone, and is recorded by him, in conjunction with other similar experiments, as conclusive proof that the duration of the flash is excessively brief.

New Absolute Galvanometer.

AN absolute galvanometer is described by Professor Guthrie, as constructed for him by the Messrs. Elliott. Its principle depends upon the computation of the strength of the current by the measurement of the mechanical force necessary to bring to a given distance from one another two electro-magnets, which are affected by the current in such a fashion that they repel one another. The galvanic current whose force is to be measured coils around two fixed soft iron masses, rendering them magnetic, and then around two movable soft iron masses suspended by a vertical thread. Many of the laws of electro-dynamics may be readily illustrated by this instrument, and not only may different currents be compared with the greatest accuracy, but the absolute mechanical value of the current may be at once arrived at.

An Improved Hotel Annunciator.

OUR readers are familiar with the ordinary "annunciator" used in hotels to show the number of a room from which a bell has been rung. The best forms of the apparatus are worked by electrical agency, and M. Delbrayeux, in France, has just invented an improvement by which the object of the ringing is indicated. The contrivance is commended by Comte du Moncel in the *Bulletin de la Société d'Encouragement* for May. The arrangement is quite simple. Under each number of the indicator there is a board with a list of the more common requirements in hotels, and an index needle, moving up and down, stops at the proper one; at the same time a bell rings till the domestic comes and restores the needle to its starting point. In the transmitter there is a corresponding table of requirements, with an index needle, which is moved by means of a small metallic button. The person ordering has merely to push the index to the particular order he wishes to give, and by this movement he effects an interruption of the current, producing the number of emissions and interruptions necessary for the signal. Afterwards he brings the needle back to its initial position again, but this, the Count remarks, might be done automatically.

The Telegraphers' Mutual Benefit Association.

RECEIPT OF ASSESSMENTS.

NEW YORK, June 28, 1875.

ASSESSMENT No. 76.

22, 25, 29, 33, 52, 54, 58, 59, 60, 67, 72, 101, 108, 141, 142, 144, 145, 153, 172, 176, 177, 178, 179, 184, 185, 186, 187, 188, 189, 190, 191, 193, 197, 198, 201, 202, 220, 230, 247, 254, 267, 302, 323, 367, 379, 381, 391, 392, 393, 398, 416, 418, 426, 431, 438, 476, 526, 547, 552, 454, 565, 575, 586, 592, 603, 604, 605, 649, 655, 659, 671, 685, 691, 695, 697, 705, 708, 714, 729, 734, 735, 742, 750, 751, 756, 799, 820, 831, 842, 843, 855, 874, 880, 901, 912, 941, 952, 976, 998, 1001, 1005, 1023, 1040, 1047, 1054, 1071, 1081, 1085, 1088, 1090, 1143, 1147, 1155, 1156, 1157, 1159, 1160, 1162, 1177, 1185, 1196, 1200, 1308, 1225, 1226, 1227, 1233, 1273, 1276, 1282, 1304, 1325, 1364, 1365, 1385, 1390, 1391, 1400, 1402, 1403, 1404, 1407, 1410, 1417, 1426, 1440, 1448, 1484, 1498, 1505, 1524, 1531, 1554, 1555, 1556, 1557, 1569, 1570, 1582, 1593, 1594, 1613, 1615, 1620, 1623, 1626, 1630, 1635, 1644, 1656, 1670, 1681, 1684, 1687, 1688, 1695, 1707, 1709, 1710, 1713, 1721, 1723, 1724, 1729, 1745, 1773, 1775, 1790, 1791, 1798, 1799, 1809, 1810, 1811, 1812, 1839, 1840, 1841, 1847, 1852, 1869, 1903, 1907, 1917, 1919, 1922, 1924, 1926, 1938, 1942, 1945, 1946, 1965, 1972, 1985, 1987, 1991, 2015, 2021, 2025, 2027, 2029, 2041, 2044, 2045, 2069, 2072, 2083, 2089, 2103, 2113, 2114, 2118, 2141, 2142, 2151, 2159, 2172, 2175, 2180, 2181, 2183, 2184, 2185, 2191, 2196, 2200, 2201, 2204, 2205, 2206, 2212, 2214, 2216, 2221, 2234, 2236, 2243, 2248, 2250, 2263, 2273, 2090, 2295, 2296, 2297, 2298, 2299, 2306, 2313, 2314, 2316, 2317, 2319, 2330, 2331, 2333, 2334, 2335, 2336, 2341, 2342, 2344, 2349, 2351, 2358, 2367, 2373, 2379, 2381, 2385, 2287, 2388, 2390, 2391, 2392, 2393, 2394, 2396, 2403, 2412, 2413, 2417, 2418, 2419, 2421, 2424, 2431, 2432, 2433.

ASSESSMENT No. 75.

113, 566, 594, 1093, 1232, 1267, 1572, 1590, 1619, 1678, 1713, 2024, 2038, 2048, 2238, 2257, 2261, 2280, 2355, 2366, 2378, 2380.

ASSESSMENT No. 74.

883, 1207, 1609, 2128.

Members of the Association who look to THE TELEGRAPHER for receipt of assessments paid, will please take notice that an acknowledgment of the receipt of one assessment should be taken as a receipt for all previous assessments.

Correspondence.

We do not hold ourselves responsible for the opinions of our Correspondents. Our columns are open to free discussions on all telegraphic subjects, without distinction of person or opinion.

No notice will be taken of anonymous communications.

Wires Seriously Affected by Lightning.—Personals.—A Telegraphic Desperado.

ST. LOUIS, Mo., June 27.

TO THE EDITOR OF THE TELEGRAPHER.

It has rained here almost every day for the past four or five weeks, accompanied by an unusual amount of lightning, which seriously affected all of the wires at times. Our old veteran and friend, Mr. Sidney Fairchild, has been at Sedalia, Mo., the past week, acting as temporary manager. Mr. John Hayes manipulated Western "Press" during Sid's absence.

The night Western "Press" is now sent to Kansas City, Leavenworth, St. Joe, Atchison and Lincoln; Kansas City "relaying" it for Lawrence, Topeka, Denver and Fort Scott. Heretofore it was sent direct to all the above points. The new arrangement is a good one and will save much time.

Mr. James C. De Long is fast recovering from his recent indisposition and now holds down our heaviest circuits.

Mr. W. S. French works "N. O." nights, while Charley Newton takes care of the Cincinnati circuit.

The base ball game of the season is to take place on the 4th of July, between a picked nine under Mr. W. W. Cummings and Captain James S. Nelson. Nelse has been taking lessons in pitching from Bradley, of the Brown Sons, and is confident of being victor.

A despatch from Brownsville, Texas, states that five robbers boarded a train on the International Railroad on the 17th inst., near Houston, Texas, intending

to seize and throw the Express safe from the car, which was supposed to contain heavy remittances from this city to cattle men in Southern Texas. Vice-President Hays, who happened to be on board, seized the leader, a man named Brooks, and throttled him. Hays' pistol fell out of the car during the scuffle or he would have used it. There were five robbers in the attack, all wearing masks. Two of the five were captured—Brooks and one Ellsworth, a well known telegrapher. The Ellsworth referred to is supposed to be George Ellsworth who worked in this city just prior to the war. When the rebellion broke out Ellsworth joined John Morgan, the Kentucky guerilla, and was his cypher operator during the existence of the band. In 1865 he shot and killed a saloon keeper at Sharpsburg; Ky., for refusing him a drink of whiskey, and escaped from three different jails in which he was incarcerated the third time being released by the jailor's daughter who fell in love with the prisoner. Ellsworth is a member of an aristocratic Canadian family.

It is stated that the Beecher-Tilton trial has thus far brought the Western Union Telegraph Company three quarters of a million in additional newspaper tolls—"Its an ill wind."

Personals.—Fourth of July Coming.

CHICAGO, ILL., June 30.

TO THE EDITOR OF THE TELEGRAPHER.

AMONG the recent additions to the "sub" gang here are Messrs. T. O. Cord, formerly of the Am. District Telegraph Co. in this city; Goodfellow, of Buffalo; our old (and now thoroughly reformed) manager, R. C. Rankin; and Messrs. Keeler and Hamilton, all apparently "good fellows." Our friend Everham, after a whirl a few hundred miles west of here, has concluded there's "No place like Home, Sweet Home," and is again among us as a "sub." Gus Carrol is now airing himself in the would-be capital of ye State of Illinois, viz, Peoria, having gone there to relieve "Pete" Rowe. "Davy" Anderson has gone on a little pleasure excursion to Mansfield, O., with his wife and that baby, and I suppose will pass through Piqua; "Hoop'em up," Davy, night. Manager Springer disturbs the electric current on "Cx" N. Y. Duplex during "Davy's" absence. Mr. French (the veritable Samivel, my boy), the "Osixerator," who agitates the "mystic fluid" on Janesville days, has also gone to the Buckeye State to see the "Olc Fokes," and Mr. Farley, the blonde, troubles the boys with report there. Don't swear, "Py!" Just say, "Oh, Oshkosh!" for short. The Fourth of July is coming; yes! they had it here about a year ago. Some of the boys had it very bad, especially on the morning of the fifth. They didn't look or act like operators, but more like merchants, you know, taking inventory of stock purchased previously beforehand you know, and some of them didn't seem to think it was very good stock either. I suppose we'll see the accustomed notice on the bulletin board telling the day they will be on a certain number of hours (about half the day), and night men—on as usual; well some of the day men worked nights once—that's so. Just tell that Milwaukee fellow, and "Clix," and "Quad" to pitch right in, for they can't none of them get any of our glory unless it's "Occasional," and I've got him fixed, 'kase I'm

WESTERN UNION.

The Correspondents of The Telegrapher Reviewed and Commended.

TO THE EDITOR OF THE TELEGRAPHER.

THE sudden reduction in space occupied by correspondence in the columns of THE TELEGRAPHER would be sufficient evidence, if our perspiring condition daily and nightly failed to convince us that the heated term had been fully inaugurated. For several years past I have noticed that when the mercury in the thermometer gets up into the nineties, the literary zeal of your numerous corps of correspondents oozes out of their pores, and they are content to leave to you the task, in which at other seasons they so liberally assist, of filling the columns of our paper. I do not know that there is any reason for complaint on this account by anybody but yourself, for we never find a lack of excellent reading whether correspondents bear or forbear. It must be rather severe upon you, however, and I assure you that you have my heartiest sympathy, and to show that it is practical, as well as sentimental and sincere, I propose to occupy, with your permission, of course, some of this vacant space.

And in this connection I desire to compliment your correspondents who so frequently entertain and instruct us. We are all greatly indebted to "Jo" and "Dot" for their lively and interesting contributions. Although of the feminine persuasion, they deserve the highest commendation for the literary ability and taste displayed. All your readers, like Oliver Twist, persistently ask for more. There is no danger of our tiring of

reading their contributions, and we sincerely hope that they will not "weary in well doing." Even "Nihil Nameless," although slain by the sharp arrows of their wit and the force of their arguments, gallantly recognizes their sincerity and courtesy, and even from an untimely grave speaks their praises. "Nihil Nameless," although somewhat prolix, was always readable, and his courage in espousing, as he did, an unpopular, and truth compels me to say, in my opinion, an untenable side, has excited my respect and admiration. His "Wandering Spook" shows that even the portals of the tomb cannot crib and confine his genius, and that, although presumptively dead, we may yet hope to hear from him occasionally.

"John Sterling" too, is a favorite with me, although I must say that the "setting down" which he received from "Nihil" and "Uno Hoo" was rather discouraging. But he has rendered good service, and it is to be hoped that he has not been literarily placed *hors du combat* by his encounters with a Craig and his other combatants. Let us hear from "John" by all means, and may his communications (if less lengthy, which is, perhaps, desirable) be frequent in the columns of THE TELEGRAPHER.

Your correspondent, D. F. H. Craig, perhaps lacks positiveness of statement (!), but then his communications and figures never fail to interest. I regret to see that he is disposed to champion Edison, the well characterized professor of duplicity and quadruplicity. With his experience with that individual I could not have supposed that he would ever have prostituted his pen to defend him. "Interest, the white man's god, blunts the edge of his dagger" too frequently, it is true, and I must say that I am disappointed in Craig. Deep and prolonged contrition, and "works meet for repentance" can alone wipe out the stain which his advocacy of Edison and his duplicity has caused. By the way, much surprise was expressed that with your well known and intimate knowledge of Edison and his transactions, that communication should have appeared in the columns of THE TELEGRAPHER. It was a striking and forcible illustration of the principle of liberality and fair dealing which is characteristic of the paper, and did no harm.

"Occasional" and "Western Union" are always welcome as the flowers in May, and we are indebted to them for much useful and interesting information. I cannot, of course, refer individually to all your correspondents. Collectively they present a corps of which you may well be proud. From all parts of the country they greet us, and no portion of the paper is more generally and pleasurably read than the correspondence columns.

I am reminded by what I have written that prolixity is also one of my besetting sins, and that I should set your other correspondents a better example, especially when I have really so little to say.

If what I have written should be regarded as of sufficient interest to appear in THE TELEGRAPHER I shall be gratified—if otherwise, I presume there is yet room in your waste basket, and I am not easily mortified.

COME AGAIN.

Postponement of Telegraphic Excitement.—The New Cable.

TO THE EDITOR OF THE TELEGRAPHER.

IT was generally anticipated that we should have a rather exciting summer in telegraphic matters, from the demonstration which was made some months ago by the Atlantic and Pacific Telegraph Company, when it came under the control and management of Mr. Jay Gould. For some reason, however, the excitement which ensued was of brief duration, and the "great monopoly" seems to be pursuing the even tenor of its way without serious disturbance. It seems to have been another instance of "great cry and little wool."

The apparent quiet may, however, be deceptive and preliminary to some great telegraphic earthquake, destined to upset things generally. The great reduction of tariffs promised by the Atlantic and Pacific Co. under its new management appears yet to be in the vocative. As a telegrapher I have no desire to see a material reduction in telegraph rates at present, and think the Atlantic and Pacific managers have done well to reconsider their hastily announced intension of a further reduction. Until that company can earn a dividend at present rates it would seem to be folly on their part to still further reduce their income.

The quadruplex excitement seems to have died out for the present, and the Western Union Co. are undisturbed in the use of that remarkable invention. It is not probable, from all the information thus far available, that the Atlantic and Pacific Co. are likely to realize very much from becoming one of the numerous purchasers of the quadruplex patents. That much sold invention seems likely to stick in the possession of the Western Union Co.

Beyond the extension of its lines I cannot learn that the Atlantic and Pacific Co. is as yet doing much. The columns of THE TELEGRAPHER are eagerly scanned

from week to week for additional information, which we know would be there if any such was in existence. But we look in vain for it, and weekly lay down the paper with a feeling of relief that the evil day is indefinitely postponed.

The Direct United States Cable is another aggravating ignis fatuus, which is always just ready to be opened to public use, and inaugurate the long promised competition in Atlantic telegraphy, but which for some reason is never quite ready for the work. That it will eventually be a business reality there is yet some faith to believe; but it has been so often heralded, only to relapse into ominous silence, that our faith in it weakens from day to day. I see by THE TELEGRAPHER that it has actually been used for the transmission of messages on business of the Company, and so far it is gratifying to know. The contractors have evidently had hard luck in laying this cable, and will probably find it eventually anything but a profitable job, while the Direct United States Cable Co. must have been seriously damaged by the failure to complete it as expected. To the uninitiated it looks as though there had been serious mismanagement somewhere in laying this cable, which was expected to prove so great a success. That all parties interested may soon get out of their difficulty is heartily to be wished.

It may be a merciful dispensation that we are spared the threatened excitement in telegraphic matters during this hot weather, and that with energy renewed by the cooler weather of the coming fall we may be better able to endure it. Until then we should all endeavor to possess our souls with patience. The world was not made in a day, and we cannot expect great telegraphic revolutions to be speedily accomplished.

WATCH AND WAIT.

Answers to Correspondents.

G. W. M.—Zinc and spelter are the same. The quotations you refer to are for zinc in bars as spelter, and rolled zinc as zinc.

New Patents.

OFFICIAL COPIES of any U. S. Patent issued since July 1st, 1871, including drawings, specifications and claims in full, sent free to any address for 25 cents each. Address F. L. POPE, Elizabeth, N. J.

For the week ended June 8th, 1875, and bearing that date.

164,183.—CAUTERY-ELECTRODES.—Jerome Kidder, New York, N. Y. [Filed Mar. 29, 1875.]

1. In galvano cautery instruments, for excising tumors, an insulating handle, extending back of the fixed supporting ring to such length that a firm hold for the hand is produced, substantially as specified.
2. In galvano cautery instruments, the insulating handle having the loop drawing slide ring at the upper section and the fixed holding ring at the lower section, arranged in connection with the circuit opening and closing spring button, near the fixed ring, whereby the exciting action of the instrument is instantly obtained by the joint employment of the thumb and fingers, substantially in the manner and for the purpose set forth.

164,184.—VESICULAR ELECTRODES.—Jerome Kidder, New York, N. Y. [Filed Mar. 29, 1875.]

A double vesicular electrode provided with an insulating head, in which the metallic conductors are embedded flush with the surface, substantially as and for the purpose set forth.

164,185.—RESERVOIR ELECTRODES.—Jerome Kidder, New York, N. Y. [Filed Mar. 29, 1875.]

An electrode for common exterior application, provided with a reservoir for hot water, substantially as and for the purpose set forth.

164,227.—ELECTRIC RAILWAY SIGNALS.—H. W. Spang, Reading, Pa. [Filed Feb. 4, 1874.]

1. The combination of an insulated section of railway track, the respective lines of rails of which are in continuous metallic connection, a galvanic battery having its poles connected respectively to opposite lines of rails of said section at one end thereof, an electro-magnet having one terminal of its coil connected to one line of rails of said section at the opposite end thereof, and its other terminal connected with a circuit closer, which is electrically connected with the other line of rails at the same end of the section as is the first terminal, substantially as and for the purpose set forth.
2. The combination of rails R R¹ of insulated section A of railway track, battery B, wires 1 2, rails R² R³ of short insulated section of track C, wire 5, wires 3 4, electro-magnet M, and signal apparatus D or P, or both, substantially as described.
3. The combination of insulated or separated sections of single rails R R¹, short insulated sections of rails R² R³, connected rails R⁴ R⁵ R⁶, galvanic battery B, wires 1 2, galvanic battery B¹, wires 6 7, electro-magnet M, arranged to operate a signal or signals, wires 3 4, electro-magnet M², having armature lever composed of parts l l', insulated from each other, points p p¹ p² p³ wires 8, 9, 5, 10 11, resistance coil Y, wire 12, electro-magnet M¹, arranged to operate a signal or signals, wire 13, circuit closer O, and wires 14 and 15, substantially as and for the purpose set forth.
4. The combination of separated short rail section R², of section C, connected rails R⁴ R⁵, wire 7, battery B¹, wire 6, separated rail R⁶, wire 8, electro-magnet M², wire 9, lever l, points p p¹, wire 4, electro-magnet M, arranged to operate a signal or signals, wire 3, separated rail R of section of track A, wire 1, battery B, wire 2, and connected rail R¹, substantially as and for the purpose set forth.
5. The combination of electro-magnet M, arranged to operate a signal or signals, wire 13, separated rail R⁴, wire 12, resistance coil Y, wire 11, lever l, points p p¹, wire 10, separated rail R², wire 6, galvanic battery B¹, wire 7, connected rails R⁴ R⁵ R⁶, wire 15, circuit closer and breaker O, and wire 14, substantially as and for the purpose set forth.

6. Rails R R¹ of insulated section of track A, having a galvanic battery B, and electro-magnet M¹, arranged for controlling or operating a signal or signals connected therewith at one end, b, of said insulated section of track, and galvanic battery B¹, and electro-magnet M, arranged for controlling or operating a signal or signals connected therewith at the other end, a, of said insulated section of track, in combination with a circuit closer and breaker, or device for closing and breaking circuit at each end a and b of said insulated section of track A, substantially as described, and for the purpose set forth.
 7. Rails R R¹ of insulated section of track A, having galvanic battery B and electro-magnet M¹ arranged for controlling or operating a signal or signals connected therewith at one end, b, of said section of track, and galvanic battery B¹ and electro-magnet M arranged for controlling or operating a signal connected therewith at the other end, a, of said section of track, in combination with galvanic battery B² and electro-magnets M² M³ (or one electro-magnet, M², with two levers or conductors l l', as in Fig. 7), and rails R² R³ of short section of track C; also, with galvanic battery B³, electro-magnets M⁴ M⁵, or one electro-magnet M², and two lever l l', or conductors, and rails R⁴ R⁵ of section of track C, substantially as and for the purpose set forth.
 8. The combination of electro-magnet S, armature lever E, slotted at its upper end and connected by a pin with lever H, bearing toothed sector I, pinion K, shaft e₂, weighted arm N, short arm n, and disk L, substantially as described.
 9. The combination of spring O' with vibrating signal disk L, as and for the purpose set forth.
 10. The insulated switch rail R⁴, arranged to slide upon insulated plate R¹ for the purpose of being brought into line with either rail R² or R³, which are electrically connected, substantially as and for the purpose set forth.
 11. The combination of rails R⁹ R¹⁰ R¹¹ of siding or crossing section A², insulated at S² S³, rails R⁷ R⁸ R⁹ of section of track A, frog E, wires H² H, and wires 1 2 of battery B, substantially as and for the purpose set forth.
 12. Resistance coils D D', in combination with rails R R¹ of insulated section of track A (or with wires 3 5 and 1 2), substantially as and for the purpose set forth.
 13. The combination of rails R R¹ of insulated section of track A, wires 1 2, battery B, wires 3 5, electro-magnet M, wire 4, and rails R² R³ of insulated section of track C, substantially as described.
 14. Rails R R¹ of insulated section of track A, in combination with wires 1 2, battery B, wire 3, electro-magnet M, wire 4, and short insulated track section C, or other circuit closer, substantially as described.
 15. Circuit closer and breaker or changer G, actuated by switch rod f', or its equivalent, in combination rails R R², plate H, wire 5, connecting wire 9, or equivalent rail R⁶, wire 6, wire 7, insulated rail R, wire 3, electro-magnet M, wire 4, circuit-closing section of track C, or its equivalent, having metallic connection with rail R¹, substantially as and for the purpose set forth.
 16. Insulated or separated section of track A² of branch track, or siding, or crossing at grade, in combination with rails of insulated section of main track A, battery B, magnet M, and short insulated section of track C, or other circuit closer, substantially as and for the purpose set forth.
 17. Rails R R¹ of insulated section of track A, in combination with wires 1 2, battery B, wires 3 5, magnet M, wire 4, electro-magnet M¹, wires 8 7, battery B¹, wire 6, and rails R² R³ of section of track C or other circuit closer, substantially as shown and described.
- 164,228.—ELECTRIC RAILWAY SIGNALS.—H. W. Spang, Reading, Pa. [Filed Oct. 2, 1874.]
1. A polarized relay magnet, which controls a visual or audible signal, or both, a galvanic battery or batteries, and devices for controlling circuits, in combination with the rails of an insulated section of railroad track, A, so as to be operated by opposite or reverse currents, as and for the purpose set forth.
 2. Polarized relay M, battery B², signal operating magnet T, circuit changer D, battery B¹, sections of track A¹ A², and battery B, in combination with lines of rails R R¹ of section of track A, as set forth.
 3. The combination of circuit changer D, having two magnets E E', of different resistances, battery B¹, and sections of track A¹ A², as set forth.
 4. The combination of magnet M, battery B¹, wires 2 6 7, and rails R R¹ R² R³, arranged to be operated by the metallicly connected wheels of a car or train, substantially as set forth.
 5. The combination of magnet M, battery B¹, wires 2 7 8 9, and rails R R¹ R² R³, arranged to be operated by the metallicly connected wheels of a car or train, substantially as set forth.
- 164,270.—GALVANIC BATTERIES.—Howard P. Dechert, New York, N. Y. [Filed Nov. 12, 1874.]
- Interposes a secondary or local action copper pole between the poles of a sulphate of copper battery, and near the zinc pole, in order to prevent the accumulation of copper upon the zinc pole when the sulphate of copper solution rises too high.
- A secondary or local circuit pole, separate and distinct from the primary pole, applied in connection with a primary pole, substantially as and for the purpose set forth.
- For week ending June 15, 1875, and bearing that date.
- 164,406.—FIRE ALARM SIGNAL BOXES.—R. N. Tooker, Chicago, Ill. [Filed March 12, 1875.]
- Bell or gong attached to signal box, and sounded by mechanism actuated by turning the handle to unlatch the door. Designed to prevent maliciously disposed persons from turning in false alarms.
1. The combination, with a fire alarm signal box, of an alarm bell or its equivalent located at the box and sounded by a mechanism which is set in motion by the operation of the device which allows the box to be opened, substantially as specified.
 2. The combination, with the bell or gong, of the handle, the hammer l, and the intervening mechanism by which the motion of the handle is imparted to said hammer, substantially as specified.
 3. The combination, with a fire alarm box, of the handle, the shaft S, the arm U, and the curved catch m, substantially as specified.
 4. The combination, with a fire alarm box, of the arm U, the drum D, both being carried by the same shaft, the chain O, spiral spring P (which is held at its under end), catch m, upright spring P', provided with the shoulder b, and the lug g, substantially as specified, whereby the door is automatically latched.
 5. The combination, with a fire alarm signal box, of the gong K, screw f, sleeve j, and aperture n', substantially as specified.
- 164,425.—FIRE-ALARM SIGNAL BOXES.—Stephen Chester, Elizabeth, N. J. [Filed Dec. 21, 1874.]
- Weight attached to an arm of gear sector, and raised by an independent pinion gearing with the sector, and operated by a key inserted through an aperture in the door of the box. A swinging plate on inside of door, normally held from in front o keyhole by an extension of armature lever; but when circuit i

broken by transmission of signal from any box, the armatures in all the boxes fall away from their magnets, and thus allow the swinging plates to cover the keyholes. Armatures fall away to such a distance that they can only be restored by the introduction of extra battery force at central station after the signal is completed.

1. In combination with an electric signaling apparatus, a revolving pinion or gear-wheel, which is moved directly by a key or other winding device, in combination with a gear-wheel, sector, rack, or other shaped device, connected directly with the driving weight, its support or shaft connected with a spring, for the purpose of raising the weight or winding the spring, substantially as hereinbefore described.
2. In combination with any automatic electric signal apparatus a cog wheel, pinion, or equivalent device, revolving and sliding to and fro upon either a fixed or movable shaft, to be turned by means of a key or equivalent implement, the end of which engages in slots or obstacles provided therefor on the end of the said pinion, for the purpose of winding up weights or springs, substantially as hereinbefore described.
3. The combination of an independent pinion or equivalent device with a wheel, sector, or rack, and a key or equivalent implement which may pass through an orifice in a closed door, for the purpose of winding a spring or raising a weight.
4. The arrangement of ratchet wheel or equivalent device in the closed door or cover, to prevent the key from being turned except in one direction, substantially in the manner and for the purposes hereinabove set forth.
5. In combination with any inclosed rotating device to be operated by a key, the combination of a slotted movable shaft, F, spring or equivalent retaining pin e, and slotted wheel R, to render a peculiarly shaped key necessary to operate the combination, substantially in the manner and for the purposes hereinbefore described.
6. The combination of a swinging plate or equivalent device with a magnet placed within a closed box, to close and open a keyhole or orifice in said box at certain desired times, substantially in the manner and for the purposes as hereinbefore described.
7. The combination of magnet, armature bar, and any device for closing the keyhole of the signal box connected therewith, and to be moved thereby, with telegraph line having connections with more than one series of batteries, so that when the apparatus is in circuit with the lesser battery the magnet shall be competent to hold the armature against its face, and retain the movable device in one fixed position so long as the circuit remains unbroken; but if the armature bar be, by any cause, removed to its extreme reverse position, thus carrying with it the movable device to a second or third position, the magnet will not be competent to withdraw the armature bar from said reverse position until the said lesser or normal battery be temporarily augmented by the addition of extra series of battery therefor provided.

164,537.—FIRE ALARM SIGNAL BOXES.—W. E. Facer, Toronto, Canada. [Filed April, 26, 1875.]

- Transmitting key operated by the motion of notched die in one direction only. Current shunted momentarily from bell magnet on depression of winding arm. A pivoted double stop prevents the operation of winding arm a second time, until transmitting mechanism has returned to starting point. Doors of all boxes but that from which signal is sent are locked by means of a pivoted segment and a mercury balance, operated by an extension of armature lever on breaking of circuit.
1. The disk E, having its notches arranged diagonally, so as to form cams, in combination with the transmitting key F and the elbow lever G, having a pin, h, substantially as and for the purpose described.
 2. The combination, with the insulated lever K and spring L, having contact points, of the crank N, substantially as and for the purpose described.
 3. The combination, with the notched disk E, the main driving spring, and the intervening train of gear wheels, of the friction governor, consisting of a disk, a, having pivoted, segments b, springs c, and an adjusting bar, d, all contained within the frame e, substantially as and for the purpose described.
 4. The combination, with the crank N and the setting crank O, carrying a spring and a stud, i, of a pivoted double stop, P, substantially as and for the purpose described.
 5. The combination of the pivoted locking segment V and the mercury balance U with the armature of the magnets, and the stud o upon the door bolt, as and for the purpose described.
 6. The combination of the locking segment V, carrying stud X, with the spring seated lever catch W upon the inside of the outer case, and the stud Y upon its door, substantially as and for the purpose described.

164,598.—FIRE ALARM REGISTERS.—Willard W. Sawyer, Springfield, Mass., assignor to himself and Geo. M. Stebbins. [Filed Feb. 5, 1875.]

- For registering upon indicating wheels the number of the box announced by the bell in engine-houses.
1. The combination of the stop-wheel e, having prongs or projections thereon, with the push-rod d as a means of determining or changing the position of the tripping rod, substantially as described.
 2. The combination of the push-bar d, the stop-wheel e, the rack and pinion i, or equivalent connection, and the tripping-rod f, whereby the desired combination of numerals or characters is made upon two or more wheels, D, substantially as set forth.

Miscellanea.

MAGNETS FOR ELECTRO-MOTORS.—Magnets or armatures for electro-motors may be softened as follows: Heat the iron to an even dull red heat all over; and if the surface of the iron has not been faced off in a machine, lightly file it to remove the scale, and then immerse it in common soft soap, allowing it to remain therein until it is quite cold. Then reheat the magnet to an even red heat whose redness is barely perceptible, and bury it in pulverized lime, wherein it must also remain until quite cold, when the metal will be found as soft as it is possible to make it, and the blade of an ordinary penknife will cut it. At the second heating the iron will emit a light blue flame, showing the effect of the immersion in the soft soap. The conductivity of the magnet may be, by this process, very much increased.

THE TELEGRAPHER

DEVOTED TO THE INTERESTS
OF THE
TELEGRAPHIC FRATERNITY.

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THE TELEGRAPHER:

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Practical Suggestions.

THE flashing lightning, reverberating thunder and steadily falling shower, as we write, suggest ideas of green fields, verdurous woods and growing harvests, which shall afford pleasure to the heated denizens of cities, who may be so fortunate as to be enabled to enjoy them for even a brief season, and reward to the labor of the husbandman, which shall substantially enrich the country. But they also suggest other ideas less pleasant and agreeable. These are of telegraph wires, surcharged with atmospheric electricity; operators cooped up in stifling offices whose difficulties are augmented and labors prolonged and increased by this temporary display of the mighty forces of nature. To such, a thunder storm seems to be an unmitigated evil, which it certainly is not, and their principal desire, forcibly expressed, is that it may soon pass over, and with as little damage to the lines and instruments as possible.

Much damage is done every season to telegraph wires and apparatus by lightning, but this is in great part due to inadequate preparations to meet such an emergency. Every telegraph instrument and battery should be protected from damage by atmospheric electricity by proper and efficient lightning arresters. These may be readily obtained, and it is seldom that any material damage is done to such when thus protected. To omit the use of arresters on account of the expense is a "penny wise and pound foolish" policy, as has been constantly demonstrated. Wires may be also almost absolutely protected from damage by lightning by the use of suitable conductors attached to the poles, which shall carry off to the earth, whose capacity for receiving and disposing of it is practically unlimited, the surplus charge, which otherwise so often proves destructive to poles and wires. In England and on the Continent of Europe the use of such lightning conductors is very general, and it has been introduced on some lines in this country, but by no means so generally as it should be. It costs something in money and labor, it is true, but the extra cost is repaid every season in the ability to use the wires, when otherwise their use must be suspended, sometimes for hours at a time, and in the prevention of the damage which poles and wires suffer every year when not thus protected. Telegraph cables submerged in the waters are peculiarly liable to damage from lightning; and so great has been the difficulty, injury and loss experienced

from this cause, that these are seldom left without more or less protection from lightning arresters. If not so protected they are almost certain, at some time during the electrical season, to be rendered useless temporarily, if not even entirely destroyed.

In selecting lightning arresters great care should be taken that they are really what they purport to be, and not merely cheaply constructed and practically useless shams. They should have sufficient surface in the plates to receive, and a sufficiently good connection with the earth to carry off even a heavy charge of electricity. Where gas and water pipes are available, they should be connected by large conductors with them, and when these conditions are properly fulfilled there is little danger of damage from lightning.

Now that we are in the midst of the electrical season these suggestions will perhaps receive attention from those who are interested in the management and operation of telegraphic lines and apparatus, though it can hardly be considered as an evidence of carefulness on the part of those who have not already made such essential and necessary provision. In this case, however, it is better to attend to the matter late than not at all; and every telegraph superintendent and manager should see to it at once that every practicable appliance that experience and prudence suggests has been provided for the protection of the telegraphs under their charge.

The Rates for Government Telegraph Messages.

We last week gave a brief account of the conference between the representatives of the Western Union, Southern and Atlantic and Atlantic and Pacific Telegraph Companies and the Postmaster General, relative to the rates to be charged for official Government messages over the lines of such telegraph companies as have accepted the provisions of the General Telegraph Act of 1866.

In reply to the suggestion of the Postmaster General that the rates should be reduced 25 per cent. from the former rate of one cent per word in each circuit of 250 miles, Mr. ORTON made a very able argument in behalf of the telegraph companies. He showed that the advantage possessed by the Government in priority of transmission alone, would be worth commercially very greatly enhanced instead of reduced rates—at least double the ordinary tariff charges. Instead of charging more, as would be the case to the public under a similar arrangement, the companies performed the services for the Government at greatly reduced rates, besides allowing an increased number of words per message. In addition to these advantages the distances for Government messages were calculated by air lines, whether telegraph lines exist on such direct routes or not, paying accordingly, regardless of actual distance of transmission by circuitous routes to reach destination, or of frequent necessary repetitions.

In closing, Mr. ORTON stated that the Western Union Company would be willing to continue the service at the same but not at materially reduced rates.

Mr. BLOSSOM, on behalf of the Southern and Atlantic Telegraph Company, concurred in the views of Mr. ORTON, briefly showing that the business of the telegraph companies had not been generally profitable, the Western Union Company alone, of the companies represented, having been able to make any dividends after many years' business, and closed by stating that his company would prefer to be excused altogether if rates were reduced, while perfectly willing to serve the Government on the present basis.

Mr. ORTON finally suggested that the Government continue to pay the existing rates, with the understanding that in no case should it be charged for more than ten circuits of 250 miles each, or ten cents per word, regardless of actual distance.

The conference closed by the Postmaster General taking the papers for further consideration, remarking that he thought he ought either to reduce the rates to ½ cent per word, or the Government pay full commercial

rates and economize by reducing the volume of Government telegraphing, which he thought unnecessarily large.

Subsequently the Postmaster General gave a decision, in accordance with the suggestion of Mr. ORTON, retaining the former rate, with the amendment limiting the charge on any message to ten circuits or ten cents per word. This decision is generally acceptable to the telegraph companies.

The Appointment of Electrician to the Centennial Exhibition.

We are gratified to know that the suggestion of THE TELEGRAPHER in regard to the proper person to receive the appointment of Electrician to the Centennial Exhibition at Philadelphia, has been favorably received. Mr. DAVID BROOKS is just the man to do honor to the electrical and telegraphic interests of the country. As an electrician his ability is well known and generally recognized in Europe, as well as in this country. His long experience as a practical telegrapher and telegraph manager fully qualify him to arrange and supervise the telegraphic display in the best and most satisfactory manner. As a Philadelphian, as well as an American, he will feel the greatest interest in making the electrical and telegraphic department of the exhibition one of its most prominent and successful features.

No doubt among the large number who will be induced to visit the United States and its Centennial Exhibition next year, many of the leading and prominent electricians of Europe will be included, and his extensive and intimate acquaintance with these will be a very great advantage.

The prominence and success of the Electrical and Telegraphic Department of the Exhibition will depend largely upon the official who shall have it in charge. If an incompetent or inefficient person should unfortunately receive the appointment through any influence that may be brought to bear, it would be most unfortunate. Under such circumstances the managers of the telegraph companies would take little or no interest in it, and it would degenerate into a mere advertising medium for manufacturers and dealers in electrical and telegraphic apparatus and supplies.

Mr. BROOKS is willing to accept the position, and devote to the service his best efforts and talents. We understand that the propositions to appoint him meets with favor from those in whose hands final action lies, and we hope very shortly to be able to announce that it has been made. It certainly is one eminently fit and proper, and we have yet to hear the first word against it from any source.

Celebration of Independence Day.—Parade and Review of the Messengers of the American District Telegraph Company.

THE celebration of the anniversary of American Independence has come and gone, attended with the usual noisy demonstrations, military and civic parades, orations, and accidents to life and limb, arising from the reckless and careless use of explosives and firearms.

In this city the municipal parade took place at an earlier hour than usual, and passed off satisfactorily. One feature of the parade this year was novel, and attracted much attention and compliment from the municipal officials, as well as the multitude of spectators who lined the streets, and witnessed the review by the Mayor, at Union Square. We refer to the parade and review of the Messengers and Police of the American District Telegraph Company of this city, which formed a part of the municipal pageant.

In accordance with orders previously issued, the corps of messengers formed in line on Thirty-seventh, Thirty-eighth and Thirty-ninth streets and Sixth avenue, under command of Drill Inspector J. F. COWAN. The police corps formed on Sixth avenue, and were commanded by Capt. JOHN HASSARD and Roundsman J. F. O'BRIEN.

The order of formation was as follows:
Police.

Captain of Patrol, JOHN HASSARD.

Twenty Patrolmen.

Superintendent H. W. POPE.

Quartermaster J. H. HINGLE.

Prof. J. C. JOHNSTON, with the Juvenile Band of the Soldiers and Sailors' Orphan Home—twenty pieces.

J. F. COWAN,

Drill Inspector and Col. Commanding.

Lieut. Col. J. M. BALL.

Adjutant R. T. TIGHE.

MESENTERS.

First Company, Capt. WALES.

Second Company, Capt. MONTROSE.

Third Company, Capt. CONKLIN.

Fourth Company, Capt. BYRNES,

(With the colors).

Fifth Company, Capt. PETTY.

Sixth Company, Capt. DUNNING.

Seventh Company, Capt. TURRELL.

J. F. O'BRIEN, Roundsman, and twenty Patrolmen.
Municipal Police.

Each company was full, presenting sixteen files front, and the alignments were perfect, showing an extraordinary familiarity with tactics, and their perfect drill and discipline. They formed the rear of the first division of the municipal procession, and looked well in their neat uniforms, and were continuously cheered and applauded by the spectators who lined the streets through which they passed. The rain which had fallen early in the morning had made the streets slippery, and the marching was evidently difficult for the troops, but the boys had been so well drilled that they went over the whole route in good order, and were, in fact, the only part of the procession that received any applause, and it was the general remark that their marching was equal, if not superior to that of the military.

They were accompanied by the excellently drilled Juvenile Brass Band, of the Soldiers and Sailors' Orphan Home, in new and handsome uniforms, who discoursed some excellent music. Many of the boys in this band are quite expert telegraph operators—telegraphy being taught at the Home to such of the boys as show an adaptability to the business, as a branch of their regular education.

The route of the procession was down Fifth avenue to Canal street, to Broadway, and up Broadway to Union Square, where it passed in review before the Mayor, and a large concourse of people who had been attracted to see the show.

Immediately after passing in review the command countermarched, wheeled into line and performed various battalion evolutions amid the enthusiastic applause of the spectators. They were highly complimented by Mayor WICKHAM for the perfection of their drill, and the neat and handsome appearance they presented.

Each messenger, according to orders, wore a Piccadilly collar, with hair cut close and their personal appearance everywhere was favorably commented upon.

The *Tribune* and other city newspapers are exceedingly complimentary to the boys, and say that their marching and alignment were superior to that of the best regiments in the line. It has always been the ambition of the Sup't of the Company to bring the messengers up to this standard, and no labor or pains have been spared to accomplish this. This drilling of the boys is found to have an excellent effect, creating an *esprit du corps* among them not otherwise attainable, and most of them feel the greatest interest and pride in the efficiency and excellence of their organization, and in the superiority of the companies to which they respectively belong.

Messrs. COWAN, TIGHE and BALL, and the company commanders deserve praise for their labor, which have been gratuitous, and without which so favorable a result could not have been effected.

Mr. J. B. ASHURST, Sup't of the Messenger De-

partment of the Company, is entitled to much credit for his zeal and efficiency in bringing up the *personnel* of the large corps of messengers employed to its present excellent standard.

The boys are in perfect discipline, and it is intended to maintain the organization permanently.

Solid Summer Reading.

In the present dearth of exciting topics to treat upon and entertain their readers with, the newspapers are filling their columns with dissertations on and accounts of the wonderful KEELEY motor, which is to upset all previously accepted theories of motive power, revolutionize the world, do away with the use of steam, of fuel, of boilers and of engines, and with a single glass of water, and nearly without cost, propel railroad trains for hundreds of miles; and the telegraphic inventions of EDISON, the great professor of duplicity and quadruplicity. The remarkable and astounding genius of the latter had its latest exemplification in the columns of the *New York Sun*, which devoted, a few days since, two columns of its valuable space to an account of his rediscoveries and reinventions, and the wonders displayed in his headquarters at Newark, N. J. It is true that the *Sun's* elaborate account lacked the element of novelty, but it aids in making, in popular estimation, a great genius out of the professor. It fails, however, to give the public any account of his dealings with "wicked partners" whom the "guileless youth" has been taken in and *done* by, or the legal complications which their wicked machinations have caused. It would be interesting to some of these "wicked partners" if the *Sun* had added to its account a statement of the number of times and persons those inventions have been sold to and contracted for, with the futile efforts made by them to obtain interviews with the professor after he had given them the "cold shake."

There is a great deal in the professor's history for the last ten or fifteen years which would be of interest to write up, and it is to be hoped that some enterprising daily will devote time and space to developing and recording it. Without this his real greatness will fail of appreciation, except by those who have suffered pecuniarily from their confidence in and dealings with him. Let us have the whole story.

The Direct United States Cable.

NOTHING has been heard from the *Faraday* since the last number of THE TELEGRAPHER, and the Direct United States Cable is not yet in operation. The delay is very annoying to all concerned, but there seems to be no help for it. No signals have passed over the cable since it was raised and cut by the *Faraday* as has been previously stated.

Some of our daily contemporaries in this city have published a statement, which has been very widely copied, that no intelligible signals have passed over the cable. This is not correct. We are assured that for eleven days after the laying of the cable was completed a large number of messages were exchanged over the cable, between the cable officials and contractors, and that the cable worked very satisfactorily. There was shown by the tests, however, a slight fault in the long section of the cable which the contractors, Messrs. SIEMENS BROTHERS, desired to remedy before delivering the cable to the Direct United States Cable Company. This they are now attempting to do, and meantime the cable is still in the hands of the contractors and under their control, and not that of the cable company.

Characteristics of a Genius.

It is a common saying in the southern section of the country that "the longest pole knocks the persimmon." The leading telegraph companies of the country seem to have realized the force of this homely saying, and are looking for the pole which shall knock off the tele-

graphic persimmon. Our Western Union friends think that the duplex and quadruplex pole will prove the longest eventually, and that the persimmon is theirs. Our Atlantic and Pacific friends, while they are by no means indifferent to the length of the quadruplex pole in the hands of their opponents, and are, therefore, striving as vigorously as possible to deprive them of it, still believing the automatic pole to be even more lengthy and effective, and place their chief reliance for the ultimate possession of the persimmon in that. They believed that their arrangements with the late Automatic Telegraph Company had assured them a practical monopoly of the use of this pole, but now comes Mr. GEORGE LITTLE, who claims that the longest end of that pole belongs to him, and proposes to resume possession of it, the Automatic Company not having (as he claims) fulfilled its agreements with him, and his thirty-six automatic patents thus reverting to his possession and control.

The professor of duplicity and quadruplicity, most of whose numerous partners, wicked or otherwise, seek interviews with him in vain, also lays claim to both the quadruplex and automatic poles, but has so numerously conveyed his supposititious interests in them as to make it difficult to decide in whom the title, if he ever had any, now resides. We have heard it intimated that a new customer would be welcome to him, and that he is ready with additional agreements contracts and assignments for such customer whenever he may turn up. The only difficulty is to find the customer, for having already dealt with and become known to all now engaged in the business, it will be necessary to organize an entirely new company in order to supply a new purchaser, and in the present financial condition of the country this is not very easy of accomplishment. However, he has been remarkably successful in finding new victims whenever the necessity for them has arisen heretofore, so that we suppose he need not despair of their being provided in the future. If we are not misinformed he is financially in sad want of new customers at the present time, and from the announcement in his recognized organ that he has devised an apparatus for working three circuits each way on a single wire simultaneously, we are convinced that he is preparing for some new *coup de etat* which shall surpass all his former achievements. His genius will never permit him to hesitate or falter when the exigencies of his finances or the erratic characteristics of his conscience demand the development of new and startling electrical or telegraphic devices and customers. So long as the electrical works of native or European electricians and telegraphers, or the specifications of forgotten applications for patents hold out, there will be no lack of *new* inventions on the part of the Professor.

A Friendly Call.

WE were favored on Wednesday last with a call from Mr. HUGH NELSON, Supt., and Mr. C. R. HOSMER, Manager, of the Montreal office of the Dominion Telegraph Company, of Canada.

Mr. NELSON reports the Dominion Company as being in a flourishing condition, though Canada, as well as the United States, is suffering from the prevalent business depression. They come here on business of the company, and are accompanied by Mr. SWINYARD, the General Manager of the Dominion Company.

Personals.

Mr. DAVID McCARGO formerly General Supt. of the Pacific and Atlantic Telegraph Co., has been appointed General Supt. of the Alleghany Valley; the Oil Creek and Alleghany River; and of the Buffalo, Corry and Pittsburg Railroads. Mr. McCARGO, assumed the duties of the position, June 23. He has been for some time past Receiver of the Oil Creek and Alleghany Valley Railroad.

Mr. E. W. BARNES has been appointed manager of the New Orleans, La., Western Union office.

Mr. GEO. W. TRABUE has been appointed Supt. of the Second District of the Southern Division, Western Union Telegraph Co., in the place of Mr. J. B. TREE. The headquarters of the District will soon be removed to Nashville, Tenn., but will continue at Louisville, Ky., until further notice.

Mr. D. R. SAUNDERS, manager of the Long View, Texas, Western Union office, has resigned and gone to Kentucky, to engage in other business.

Mr. W. J. PETE, of Dallas, Texas, has been appointed manager of Long View, Texas, Western Union office.

Mr. CHARLES PATCH, of Memphis, Tenn., Western Union office, has resigned and accepted a position with the same Company, at San Francisco, Cal.

Mr. A. W. JONES has been appointed manager of Alama, Colorado, Western Union office.

Mr. W. T. LOPER night press operator, St. Louis, Mo., Western Union office, has resigned and gone home to Oshkosh, Wis., for a short visit, after which he will probably accept a position in the East.

Mr. THOMAS P. WHEELER succeeds Mr. LOPER on night press, at St. Louis, Mo., Western Union office.

Mr. JAMES C. DE LONG, takes the position formerly held by Mr. WHEELER, on Chicago duplex, days, St. Louis, Mo., Western Union office.

Mr. SI. WILLIAMS, formerly of the Cincinnati, O., Western Union office, has been appointed manager of the Western Union office in the Union depot, at East St. Louis, Ill., with Messrs. EDDY, NEVILLE and W. C. BRYANT as assistants.

Mr. T. J. HERBEL has resigned his position as agent on the Colorado Central Railroad, and is rusticated in Denver, Col.

Mr. CHARLES E. BOCK, has been appointed telegraph operator for the Cairo and St. Louis R. R., at East St. Louis, Ill.

Mr. G. J. FERGUSON, late of the N. M. R.R., has been appointed agent and operator at Sparta, Ill., for the Cairo and St. Louis R. R. Co.

Mr. JOHN BARTLEY, has accepted the position of telegraph operator for the Cairo and St. Louis Railway Co., at Murphysboro, Ill.

Mr. JOSH. LITCHED, of Henderson, Ky., has accepted a position as operator and extra train dispatcher of the Atchison, Topeka and Santa Fe R. R., at Topeka, Kansas.

Mr. C. C. PARSENEY, has been appointed Supt. of Telegraph Central Branch of the Union Pacific Railway, with headquarters at Atchison, Kansas.

Mr. C. P. COCHRAN, has been appointed Supt. of Telegraph of the Atchison and Nebraska R. R., at Atchison, Kansas.

Mr. HARRY H. ECKERT, of the St. Louis Western Union office, has resigned, and goes to the country for his health.

Mr. WM. MONTGOMERY, of the Lawrence, Kansas, Western Union office, has been appointed manager at Eudora, Kansas, St. L., L. & W. R. R. office.

Mr. H. H. HUNT, of the Memphis, Tenn. Western Union office, has been transferred to the New Orleans, La., office of the same company.

Mr. C. E. MORROW, of the Memphis, Tenn. Western Union office, has been transferred to the Helena, Kansas, office of the same company.

Mr. J. S. ROBERTS, has been appointed manager of the Manitou, Colorado, Western Union office.

Mr. BERT AYERS has resigned his position with the Western Union Company at New Orleans, La., and is visiting in Cincinnati, O. He will probably go to New York soon.

Mr. ED. SCHERMERHORN is working for the Colorado Central R. R. Co. at Fork-of-Creek, Colorado.

Mr. J. L. CASSIDY, of St. Louis, Mo., Western Union office, spent the "Glorious Fourth" at his house in Barry, Ill.

Mr. F. SCOTT SMITH, formerly of Albany, N. Y., Western Union office, but more recently of Saratoga, N. Y., office, has resigned his position in the latter office, and goes to Michigan to engage in the lumber business with his brother.

Mr. GEORGE WOODWARD, late of "Da" Union Depot office, at Albany, N. Y., has accepted a position in Western Union office at Albany.

Mr. A. S. HOWE, late chief operator of the Utica, N. Y., Western Union office, has resigned, to engage in other business. No successor has been appointed, Mr. G. E. ALLEN performing the duties of chief operator in connection with those of manager.

Messrs. BEARDSLEY and CHASE have resumed their old places at Saratoga Springs, N. Y., Western Union office.

Mr. F. W. GLIDDING, of Springfield, Mass., is subbing for Mr. F. ALFRED EVANS at the Albany, N. Y., Western Union office.

Mr. C. H. DAVIS has accepted a position on the night force Western Union main office, 198 Broadway, New York.

The Telegraph.

By Cable.

TELEGRAPHIC PROGRESS IN MEXICO.

CITY OF MEXICO, June 30, via HAVANA, July 7.—The telegraph line between Tampico and San Luis Potosi has been completed.

Foreign Telegraphic Notes.

THE Anglo-American Telegraph Co., announces a quarterly dividend at 1 1/2 per cent., or at the rate of 5 per cent. per annum.

The contract for submerging a telegraphic cable between Sydney (Australia) and New Zealand has been signed by the Telegraph Construction and Maintenance and Eastern Extension Telegraph Companies.

The international Telegraph Conference at St. Petersburg has passed a resolution forbidding the artificial formation of compound words. The Conference has accepted the principle of letters as a substitute for a measure of words, deciding that, within the limits of Europe, five letters shall be equivalent to a word, and on Transatlantic lines, or lines going beyond Europe, ten.

The Directors of the Eastern Telegraph Co. recommend the declaration of a final dividend of 2s. 6d. per share, making, with previous payments, a dividend for the year ending with March 31st, of 5 per cent., carrying to reserve £36,000.

The Eastern Extension Telegraph Co. has declared an interim dividend for the quarter ending March 31st, 1875, of 3s. per share, or 6 per cent. per annum, free of income tax, payable July 15th.

The Post-office has been so unfortunate as to have two of its cables broken for some time now, and on this account direct communication with the Channel Islands and the Isle of Man has been suspended. There is, however, a fair prospect of the repair of both cables being effected at no distant date. The cable ship Caroline, chartered by the Postmaster-General for the purpose, is on her way to the Channel Islands, where it is understood she will recover a portion of a disused cable, and proceed thence to repair the Isle of Man cable with the same. Meanwhile, a section of new cable will be manufactured to replace a portion of the Channel Islands line partially worn out, and it is hoped that no great length of time will elapse before the whole repairs are completed. The Post-office is somewhat awkwardly situated in regard to this particular portion of its work in having no cable ship of its own wherewith to execute the repair and renewal of cables, and its difficulties have not been lessened by the recent destruction by fire of its extensive cable stores at Lowestoft.

The West India and Panama telegraph cable between St. Thomas and St. Kitts has been repaired, and all stations on the company's system are now, therefore, in telegraphic communication with Europe.

The total number of messages forwarded from postal telegraph stations in the United Kingdom during the week ended June 12th, 1875, was 415,422, an increase on the corresponding week last year of 40,248.

The Cuba Submarine Telegraph Company have received information of the repair of the cable between Punta-Rassa and Key West, whereby telegraphic communication with Cuba, Jamaica, Panama, Porto Rico, St. Thomas, Trinidad, Demerara and Berbice has been restored. The steamship Professor Morse leaves London next week to lay a duplicate cable between the first mentioned points.

At the International Telegraph Congress at St. Petersburg, the real subjects for debate will concern almost exclusively the adoption of a fixed international tariff, with the settlement of the base on which it is to be fixed. The British proposal that the latter shall be the number of letters in a word and not the syllables, has been privately communicated to the representatives, and it is understood that it will meet general acquiescence. The idea of using the whole word as a base for the charge is rejected beforehand as obviously too much in favor of the Teutonic system of forming compound nouns by simply joining two or three in one, instead of connecting them by prepositions as in French

and other Latin tongues. Thus one of the commonest orders sent on the Continent, that for firewood, might be given by the one German word *Brennholz* or by our own similar compound, whereas the Frenchman would have to pay for three in sending for his *bois du chauffage*.

It appears from the report of the Controller and Auditor General on the capital account of the English Post-office Telegraphs, that the total cost of the Post-office Telegraph system, up to the close of the financial year 1872-73, was £9,085,458.

The traffic receipts of the Eastern Telegraph Company for the month of May amounted to £30,602, against £30,225 at the corresponding period of 1874; and of the Eastern Extension, Australasian and China Telegraph Company to £17,773, against £18,879 last year.

The traffic receipts of the Brazilian Submarine Telegraph Company for the month of May amounted to £12,080.

The number of messages passing over the Cuba Submarine Telegraph Company's lines during the month of May (including those received at the new station in Cienfuegos) was 2,481, estimated to produce £2,400 against 1,788 messages, producing £1,851, in the corresponding month of last year. The actual receipts of the three months ending March amount to £7,153, as compared with the estimated amount of £7,100.

The traffic Receipts of the Direct Spanish Telegraph Company for the month of May amounted to £1,442 9s. 2d., against £1,494 14s. 6d. in April.

The number of messages forwarded from postal telegraph stations in the United Kingdom, for the week ended May 29th, was 409,008, an increase over the corresponding week last year of 62,373; for the week ended June 5th, 415,296, an increase over the corresponding week last year of 30,017.

The Telegraph in Western Australia.

ALMOST all the towns of Western Australia are now connected by telegraphic wires. Albany, King George's Sound, is united with Perth, the capital, whence wires run to every place of importance north and south, with the exception of Geraldton. As the work of telegraphic extension is rapidly progressing, it is expected that in a short time a line will be carried to the last mentioned town. The colonial parliament has voted £15,000 for the construction of a line from Western Australia to South Australia. The charge made for the transmission of messages between any two stations in Western Australia is 1s. for the first ten words, and 6d. for each additional word.

Anglo-American Telegraph.

THE following are the traffic receipts of this company from messages at the reduced tariff of 2s. per word for the week ending on Thursday:

Friday, June 19	£1,500
Saturday, " 20	1,340
Sunday, " 21	350
Monday, " 22	1,250
Tuesday, " 23	1,460
Wednesday, " 24	1,540
Thursday, " 25	1,350

The average daily receipts in June last year, with the messages at the rate of 4s. per word, was £1,950.

Quotations of Telegraph Stocks at N. Y. Stock Exchange,

Showing Lowest and Highest Prices each day during week.

July.	WESTERN UNION.		ATL. AND PAC.		AMER. DIST.		GOLD AND STOCK.	
	Bid.	Asked.	Bid.	Asked.	Bid.	Asked.	Bid.	Asked.
1	79	80 1/2	23	23 1/2	30	30	70	70
2	79	80	22 1/2	23	30	30	70	70
3	78 1/2	79 1/2	22 1/2	23	30	30	70	70
6	79 1/2	80 1/2	22 1/2	22 1/2	30	30	70	70
7	80	81 1/2	22 1/2	23	30	30	70	70

Born.

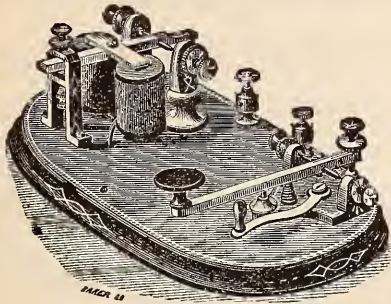
SPRAGUE.—At Kansas City, Mo., to the wife of Mr. HENRY C. SPRAGUE, Supt. of Telegraph for the Missouri River, Fort Scott and Gulf R. R., on the morning of July 1st, 1875, a son. Ten pounds.

WESTERN ELECTRIC MAN'G CO.
220 Kinzie Street,
CHICAGO, ILL.

CELEBRATED

PRIVATE LINE OUTFIT.

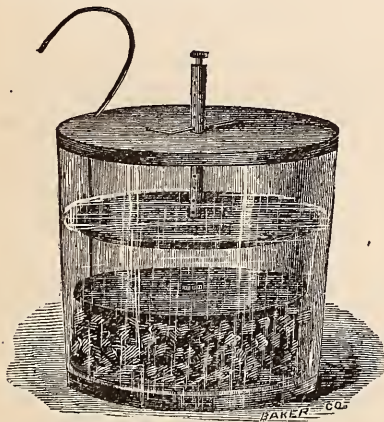
THE BEST IN THE WORLD.



PRIVATE LINE INSTRUMENT.

This instrument is mounted on an iron base and finely finished.

It gives a clear, loud sound. It is made to work on a line from a few feet to ten miles in length.



BLISS RESERVOIR BATTERY.

This battery took the first premium and a silver medal for force, constancy and economy at the Cincinnati Exposition.

With each "Private Line Outfit" is furnished one Private Line Instrument, one Cup Reservoir Battery, the necessary Chemicals, Wire for connections and a Manual.

PRICES.

Private Line Outfit, complete.....	\$10 00
Instrument only.....	8 00
Bliss Reservoir Battery, per cell.....	2 00

DISCOUNT.

A discount of twenty per cent. will be allowed when remittance accompanies the order. Remit by express, registered letter, postal order or draft.

In ordering state length of line, so that the resistance of instruments may be proportioned accordingly.

SEND FOR CIRCULAR.

Liberal terms to Agents.

WESTERN ELECTRIC M'F'G CO.,
CHICAGO, ILL.

JUST OUT.

NEW AND ENLARGED EDITION OF

SMITH'S

MANUAL OF TELEGRAPHY.

CONTAINING

Complete Directions for Self-Instruction in Telegraphy,
Instructions for Building and Operating

SHORT LINES OF TELEGRAPH,

Diagrams showing the manner of connecting wires, batteries
instruments, &c.

Descriptions and cuts of all forms of telegraph instruments,
batteries, &c.

Cuts, descriptions and prices of the

BEST LEARNER'S APPARATUS

AND

SHORT LINE INSTRUMENTS;

Together with full explanations of everything necessary for the

AMATEUR TELEGRAPHER

To know.

Every operator and every student of telegraphy should have one

It is the

MOST COMPLETE, PRACTICAL

And easily understood explanation of the

MORSE TELEGRAPH

AND ITS APPARATUS

EVER PUBLISHED.

PRICE.....30 CENTS.

Sent post paid upon receipt of price.

L. G. TILLOTSON & CO.,

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54 SOUTH FOURTH STREET, PHILADELPHIA.

22 WEST FOURTH STREET, CINCINNATI.

THE AMATEUR'S TELEGRAPH APPARATUS,

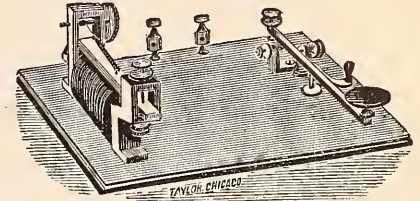
Comprising

SOUNDER, KEY, CUP OF BATTERY,

CHEMICALS, WIRE AND

MANUAL.

Several Thousands of these Instruments already sold. The
give good satisfaction.



PRICES.

Amateur Outfit, complete, No. 1, - - - -	\$7 50
" " " 2, - - - -	6 50
" Sounder and Key, No. 1, - - - -	6 50
" " " 2, - - - -	5 50
Battery, per Cell, - - - -	45

DISCOUNT.

Twenty per cent. discount will be allowed when remitted for
in advance.

GEO. H. BLISS & CO.,

220 Kinzie St., Chicago, Ill.

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220 Kinzie Street,

CHICAGO, ILL.

Telegraph instruments and supplies in great variety, of the
latest patterns and highest finish.

Prices always as low as the lowest.

The usual twenty per cent. discount is still allowed on in-
struments of our manufacture when remittance accompanies
order.

Manual and price list free.

GEO. H. BLISS & CO.

PRETTIEST THING OUT!



All Colors of the Rainbow!

THE HOLMES
ELEGANT GELATIN
OR GLASS,

Visiting Cards.

SAMPLES FREE.
S. HOLMES & BRO. ST. CLAIR, PA



A MERICAN FIRE ALARM AND
POLICE TELEGRAPH.

GAMEWELL & CO., Proprietors,
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- J. W. STOVER,
General Agent and Superintendent.
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THE TELEGRAPHER

A JOURNAL OF
ELECTRICAL PROGRESS.

J. N. ASHLEY, PUBLISHER.

SATURDAY, JULY 17, 1875.

VOL. XI.

WHOLE No. 470.

[From the New York *Nightly Moon* of July 6th, 1875.]

Original Articles.

The Occult Forces of Nature Utilized.

THE WONDERFUL INVENTIONS OF MR. T. ANANIAS EMPERICUS.

FOR a period of almost ninety years, and during nearly twenty-five hours of every day, including Sundays, the extraordinary genius of whom we are going to furnish to the readers of *The Moon* (price two cents) some slight account, has occupied himself in the practical investigation of those mysterious molecular and atomic vibrations which he has so happily termed electricity. Although the young editor up in the tall tower, with characteristic moral obliquity, assumes to be the sole mouthpiece of a certain eminent and reticent financier, yet our readers will at once realize how unfounded is this assumption when they read in the columns of today's *Moon* the facts, which, with our usual enterprise, were the first and only journal to discover and make known. A few days since we despatched our philosophical and scientific reporter, with instructions to penetrate the Wilds of Jersey, and to bring back all that was known and a good deal that was not known, and never will be, in reference to the discoveries of the extraordinary mental phenomenon of whom so much has been recently heard, and so little has been recently seen.

By diligent inquiry among the policemen and apple-women of one of the principal industrial centres of the neighboring principality, the laboratory of the great genius was discovered, and after satisfying the occupant that he was neither a minister of the gospel nor a deputy sheriff, our representative succeeded in effecting an entrance into the sacred precincts. Like all truly great men, the genius wears dirty shirts, chews tobacco and eschews whiskey. He rejoices in a stovepipe hat, which has seen better days, and No. 24 boots. Notwithstanding his advanced age, and the incredible amount of labor he has gone through, he scarcely appears to be more than thirty. In answer to a brief interrogation on the part of our representative, Mr. Empiricus, with characteristic modesty and self depreciation, proceeded to give some account of his labors, frequently illustrating his remarks with practical illustrations of the most startling description. It seems that Mr. Empiricus was first led into the train of investigation which has produced such surprising results, by observing, as long ago as 1786, that a frog's hind legs could be made to jerk about in a very curious manner by the application of strips of zinc and copper. After a series of wholly original experiments, he found that two metals might be placed in a jar filled with a blue liquid, the nature of which remains a profound secret, and connected by means of a copper wire, wound into a spring-like form over a common white pine broom-handle, and that an ordinary rod of iron, such as are found in most first class blacksmiths' shops, placed within this spring, would utterly neutralize and set at naught the old theories of gravitation, as beautifully expressed by the poet in the well known lines:

"What goes up must come down,
On your head or on the ground."

at least so far as small bits of iron are concerned; but this was as nothing to his triumphant discovery, elaborated between 1832 and 1844, that intelligence could actually be transmitted over common metallic wires at a moment's notice, and even after dark. General Tremendous Trumpeter was the only man on earth who had discrimination enough to take any stock in this discovery, or to induce his friends to put any money into it. He organized a joint stock company, called the Arctic and Antarctic Telegraph Company, and despite the feeble opposition of one Morse (who set up a pretended claim to Mr. Empiricus's great invention), aided and abetted by an obscure convocation of poverty-stricken adventurers, calling themselves the Western Union Company, he succeeded in compelling an unwilling and unbelieving world to "walk off on its ear." The principle of this invention is very abstruse, but we can perhaps render it luminous to the readers of the *The Moon* by a simple illustration. Let an ordi-

nary Cotswold or merino lamb, about two weeks old, represent the metallic conductor, say between New York and Washington, and the tail of the lamb (which for convenience sake we will suppose to be in Washington) may be looked upon as the movable portion of the "sounder," as it is technically termed, at the terminal station. The "battery," at New York, is typified by the milk producing apparatus of the maternal sheep, and when the front end of the lamb is applied thereto at New York, the tail end of the lamb at Washington will begin to vibrate with inconceivable rapidity, so that a skilled agriculturist, who could only see the rear portion of the lamb, would be able to understand, with unerring accuracy, precisely what was going on at the other end of the animal. Mr. Empiricus, while one day strolling in the field, had his attention attracted by the somewhat unusual spectacle of three distinct lambs deriving simultaneous sustenance from a single sheep, and he furthermore observed that the amplitude of the caudal vibrations was neither isochronous nor isodyamic in any one of the three juvenile muttons. To an ordinary mind there would have appeared to be nothing especially significant in this phenomenon, but in the mind of a genius like Mr. Empiricus, it was fraught with infinite possibilities, and destined to give birth to a train of discoveries, the result of which, it would not be too much to say, the ancient Nicholas himself will never live to see the end of. That immortal sheep will live in history, the peer of Galileo's chandelier and Newton's Newtown pippin. He returned to his humble abode. It was not the mellifluous caterwauling of the nocturnal tom cat, nor the spirit stirring bugle blast of the myriad voiced sereaders from the Haekensack meadows that drove sleep from his eyelids that night. Ah, no! it was something far worse than these, it was the **TRIPLIPLIX!** There are in every community a large number of impatiently inquisitive individuals, and by some of such we may be interrogated as to what this Tripliplix is. The Tripliplix, then, is a grand universal, irradiating, electrical convolvulus. Whether its pulsations are of a trichotomous or of a trydaethylous nature, is a subject upon which philosophers are not agreed. General Tremendous Trumpeter is understood to incline towards the former hypothesis, but one thing is certain, that it is destined to knock thunder out of the Western Union Company, if it can only be got away from its rightful owners. Not the least singular thing about this discovery—and we ought to have mentioned it before—is the infinite mathematical possibilities which lay concealed within it. Long before the discovery itself had ever been thought of, one half of it had been sold in Boston and two thirds in Washington. Half of it was disposed of afterwards in New York. The gifted inventor was afterwards offered 1,000 shares of Boston, Hartford and Erie stock for his entire interest, which he is understood to have accepted. There are few things in this world that will bear cutting up into eight thirds, and Mr. Empiricus's friends justly look upon this as the crowning triumph of his skill.

It must not be supposed, however, that the subject of this sketch has devoted his entire time to the discoveries we have mentioned. He has made hundreds of thousands of experiments with various chemicals. Our reporter, who dabbles a little in chemistry himself, asked him if he had ever noticed the peculiar effect produced by means of a soluble, saponaceous mixture of a fatty acid and an alkali, combined with protoxide of hydrogen, when applied to the human epidermis. Mr. Empiricus said, "No, I have never experimented with that compound at all, I have often been requested to, but on the whole I never thought it would pay."

Mr. Empiricus's laboratory is now situated in an ordinary brick building, which in its exterior architectural effect is very similar to other brick buildings. There is a commodious stone edifice on the east bank of the Hudson river, about thirty miles from New York, which has been erected and munificently endowed by the State, and which is much better adapted for the occupancy of persons engaged in some of the especial mechanical and mathematical branches than buildings of our ordinary class, and it has been thought by some that such a genius as we have attempted to describe would never feel fully satisfied until he had succeeded in establishing himself therein, but of course this is a matter with which we have nothing to do, and can afford to leave it entirely to the judgment of the parties interested.

[From the *Overland Monthly*.]

Mr. Columbus Coriander's Gorilla.

My article on the Origin of the Human Species had been months in preparation. Much of the fame which I have since secured by its publication in that widely circulated magazine, the *Interoceanic Monthly*, is due to the fact that I spent weeks in deep investigations in ethnological science, comparing results, and especially examining the points of resemblance which exist in the

brute creation and the nobler race of man. To say that I utterly overthrew the Darwinian theory, and quite demolished the tribe of pretenders who have since attempted to imitate that great apostle of error, may not be strictly in accordance with modesty, but hosts of candid friends will admit that it is strictly true. I know very well that, though my untiring labors in the cause of science are not yet thoroughly appreciated, an admiring posterity will dwell with delight on the name of Samuel Sincox as the benefactor of his race, who showed where that race had its birth, and from what primitive elements it sprang. For further particulars, see the *Interoceanic Monthly* for June, 18—.

My favorite haunt during the progress of my article was Coriander's menagerie; having resolved that this should be the masterpiece of my life, I spared neither labor nor expense upon it, and actually procured a season ticket to the menagerie, and passed many pleasant hours in watching the wild animals, studying their habits, and drawing many valuable conclusions from their points of resemblance and difference. Consequently, though the apes and monkeys had furnished me with an inexhaustible fund of amusement and interest, I was delighted beyond measure when it was announced that Coriander had secured a live gorilla for his collection of wild beasts. An agent had been despatched to Africa, and had sent home, with great secrecy, a real live specimen of this dreadful beast; and so well had all the negotiations been kept, that nobody knew of what was being done until the monster was fairly caged and on exhibition at Coriander's menagerie. I entered with zest upon a study of the creature's habits and peculiarities; and, while the idle curiosity of mere wonder mongers kept a vast crowd about the cage wherein the furious beast was confined, I calmly surveyed it from a safe distance, and made my scientific observations for the benefit of mankind. And when vulgar wonder at the strange beast had somewhat subsided, and I could get nearer the cage and watch the gorilla, I was more and more impressed with the human traits which I discovered in the extraordinary animal. His manner of reclining was, though impish, half human, and his grotesque gait, as he sprang from side to side of the narrow prison, was suggestive of his supposititious congener—man; even his terrible howl, which rent the air of the museum constantly, had a human shade of sound.

One rainy day, when the great hall of the museum was unusually vacant of visitors, I almost leaned against the cage in my eager watch of the movements of the gorilla. I fancied him roaming in his native African jungles, the terror of every living thing, or rearing, with a strange and grotesque solicitude, his young family. I wondered how much akin to human love and hate were the passions that raged beneath that hairy breast, and how much of real feeling was in the loud and anguished howl that occasionally burst from those fang-like jaws. Thus speculating I drew incautiously near the bars of the cage where the monster restlessly paced up and down, and was inexpressibly startled at feeling his hot breath on my cheek, while from his huge, hairy lips came the sound "Sam." I actually jumped with astonishment, whereupon the creature, beseechingly said, "Hush, hush, for heaven's sake do not leave me!" Mustering courage enough to ask what all this meant, the gorilla answered, "I am your old friend, Jack Gale; don't leave me."

So Coriander's famous gorilla was none other than my old friend, Jack Gale.

And this is how Jack happened to be a gorilla:

Coriander's keepers were too watchful to permit much conversation, but taking from the gorilla, for such he still was to me, the address of Jack Gale, 1233 Morusmulticaulis street, I went home to revise some of my deductions relative to the origin of the human species, founded on observations of the gorilla in a state of comparative wildness. The menagerie closed at ten o'clock in the evening, and precisely at half past ten I was at Jack's lodgings, to which I climbed up four flights of crooked and very dark stairways. The room was small and cheerless; the windows were carefully guarded by thick curtains; three or four swinging bars depended from the ceiling, for the practice of its inmate in acrobatic exercises; across the foot of the bed lay a well dressed gorilla's skin, and at a small table, and absorbing the contents of a pot of beer, sat the wearer of this discarded robe. This was the haunt of the African gorilla. He told his story in a few words:

"When you and I were used to talk with each other along the Tallapoosa and Athens wire, I never thought to meet you as a live gorilla, but here I am. After the war was over and the Government discharged so many telegraph operators, it was hard scratching for awhile; and after you and I left the Decapolis office I was well nigh broke more than once, only a few cents standing between me and beggary. But I kept a stiff upper lip and struggled up to Cincinnati, where I met with Coriander. He was out there with his menagerie and was about to come on to this city and open a big show. He is a great old villain, but he has the sweetest, nicest little daughter that was ever given to man. You

haven't seen Clara Coriander, have you! No? Well, you have not seen the loveliest and best girl in the world, then. But, as I was saying, old Coriander was preparing for a year's campaign in this city, and allotted a great deal on a real live gorilla, which had been captured in the wilds of Africa somewhere. Oh, curse that gorilla! I wish I had been dead before I ever heard of him."

And here Jack groaned. "I loved Clara Coriander. I suppose you have guessed that out already. But it was the old story; poor young man without fortune or friends; cruel parents, determined that their only daughter shall not marry a beggar; young lady inconsolable and devoted to aforesaid poor young man, but dreadfully afraid of papa, whose only child she is. Well, Coriander came on here and I followed, the old man giving me the job of writing his posters and advertisements, to keep me from starving, I suppose. The long expected *Gooroo* arrived from Zanzibar, but no gorilla was there on board for Mr. Coriander; there was a skin of that celebrated animal, the beast himself having departed this life off the island of St. Helena, in imitation of the example of another much feared person who once resided in that locality.

"Coriander was frantic. The great card of his menagerie was not to be his. His long cherished plans were a wreck; his money was spent for naught; he had no gorilla. After all, I rather liked the old wretch (Coriander I mean.) He has an absolute passion for his 'profession,' as he calls it, and was more in despair because he had no gorilla than because it was a bad financial operation, which left him without that for which he had spent so much money. He was wretched in his disappointment, and postponed indefinitely the opening of his menagerie, though my elegant advertisements were in all the papers, and our flaming posters covered the walls of the city from one end to the other. Gloom reigned in the house of Coriander.

"This was my opportunity. I was in love with Clara, and without any permanent occupation. Presenting myself before the old man, I said, 'Mr. Coriander, you want a gorilla?'

"To be sure," said he testily.

"I will furnish you with one."

"The devil you will!"

"Look here," said I, stepping back a few paces. Grasping the top of a heavy old wardrobe that stood in the room, I swung myself up, clambered along the top, sprang up and down, over chairs and tables, raced around the room with huge strides and jumps, and finally wound up my performances by rushing at the astonished Coriander, and, beating my breast, gave a terrific howl, that fairly made the old man quail as he writhed in his chair. I had not been practicing for nothing, evidently. Coriander was actually frightened.

"What does this mean?" he gasped, with some rage mingled with his perturbation.

"I am the live gorilla from the wilds of Africa," said I. "Give me my skin that arrived by the *Gooroo* from Zanzibar, and I will sear the city out of its senses when the menagerie opens, after a brief delay, on account of the difficulty of preparing for the enormous additions, which a discriminating public will be delighted to see."

"Old Coriander embraced me with tears in his eyes, declaring that I was a real genius, and was born to the show business.

"But," said I, "though I am poor and need the money which you will pay me, I have one other condition, and that is that you shall give me your daughter's hand if I succeed."

"The old man was rather taken aback at this, and flatly refused at first; and we wrangled over the matter for two or three days, but after seeing me, in the skin of the gorilla, go through many antics and performances, he reluctantly gave in, and agreed that after one year of gorilla life in his service I should have the happiness of marrying Clara. He only stipulated that I should not hereafter tell anybody of the cheat, and that not even Clara should know of it now.

"I am aware that my profession is not high art, as you call it, and on hot days it is precious uncomfortable. But what won't a fellow do under the pressure of an exchequer in distress, and enticed by the promise of the hand of the prettiest and best girl in the world? The pay is not much, but I keep soul and body together, which is more than some poor devils do in this great city. By the way, Sam, have you got five dollars about you?"

Now, if there was anything that Jack Gale specially loved, it was the state of being in debt. He was never so happy as when in debt, and when by accident, or the interference of friends, he got out of it, he was uneasy and wretched, apparently, until he got in again. The normal condition of the man was debt; so, when he asked me for a loan, I could not help laughing, and I told him that he had undoubtedly found one of the greatest privations of his gorilla life to be the difficulty of contracting new debts.

"That's a fact," said Jack; "the menagerie opens at eight o'clock in the morning; it takes me a good hour to get myself up for the day, and we don't shut up

until ten o'clock at night; so you see my professional duties are very confining, and a real, live African gorilla is not supposed to have first rate credit with the people who poke stale sandwiches and peanuts through his cage bars by day."

I promised Jack that if old Seanocks, of the *Interoceanic Monthly*, accepted my article on the Origin of the Human Species, I would divide the proceeds with him. Jack and I had shared and shared alike with our little gains too often in years gone by for me to remember which owed the other now. Besides, I told him that I had studied his habits as a gorilla and he had some claim upon the profits of an article in which his personal peculiarities figured so largely.

During the next few days I observed the characteristics of Coriander's African gorilla with new interest. He performed wonderfully well; it was difficult to realize that the hairy, ravening, agile, and grotesquely moving beast, from which every visitor shrank back aghast, was only jolly Jack Gale, serving out his hard servitude for an anticipated bride, very much after the ancient fashion of Laban's kinsman. The cunning rascal had a fashion of leaping at the bars when curious people came too near, driving them away from a narrow inspection by his hideous yells and angry mouthings. But his roars, which were really artistic in their brutal sonorosity, served us a good purpose. As I was night editor on the *Daily Highflyer*, and kept pretty close from ten until three o'clock in the morning, and Jack was caged until the hour at which I went to work, it was not easy for us to meet. So we exchanged the salutations of the day and a few scraps of news by using our old signals, learned long ago in the telegraph office. Instead of the rat-tat-tat of the little instrument so familiar to both of us, Jack, by a series of long or short howls and grunts, gave me his message, to which I replied by careless taps of my cane or hand, nobody suspecting that my casual movements meant anything, nor supposing for an instant that a sudden burst of African forest yells, which sent a fat lady nearly into hysterics, and made two small children howl with apprehension, merely meant "She with the pink bonnet is my Clara."

And it must be confessed that Clara Coriander was an exceedingly attractive young person. Blonde, slight in figure, and with one of those fair, transparent complexions that make you think of a light shining through an alabaster vase, Clara Coriander was certainly as lovely a girl as one ever lays eyes upon. Besides, she was an only daughter, and old Coriander had grown rich in the menagerie business. Jack was a lanky dog (gorilla, I should say) to gain her hand—if he ever did; but one could not help thinking, as he noted her dainty manner and delicate, somewhat *distingué* face, that she was hardly the girl to fancy a fellow who had personated a gorilla, even for her hand. I was afraid that Jack had made a mistake in thus debasing himself to the absurd passion of her cruel parent for the possession of a gorilla. Moreover, by debarring himself from her society for a greater portion of the time (Sundays only excepted), he left the field open for some more fortunate rival, who might, in the mean time, carry off the prize.

But Jack felt sure that he was all right, and by a precious bit of deception he had led Clara to believe that he was hard at work, night and day, at some legitimate calling, earning money for his future ambitious designs in life. The poor little thing believed in him, but Jack said it was very hard for him to be obliged to see his beloved flirting, right before his eyes, at the menagerie (for the girl had a taste for natural history, and was there often), with some perfumed dangler, who was in love with her pretty face and old Coriander's money. On these occasions he hated himself for his mean disguise, and found satisfaction in howling at the gay party in such dreadful fashion as sent them quaking from his cage; and then he cursed himself for having driven away his lovely angel, and was smitten with sudden remorse as he saw her rose-hued cheeks blanch at his terrific cries. At such times he could with difficulty restrain himself from shouting: "Don't be frightened, dear, it's only Jack!" But he was fortunately preserved from such an untimely exposure.

Old Seanocks was very mean, and, though he accepted my article on the Origin of the Human Species, only paid me the pitiful sum of twenty dollars for that valuable contribution to knowledge. Twenty dollars for the labor and thought of weeks! Was ever anything so absurd? And there was Jack confidently expecting at least twenty-five dollars to purchase a birthday present for Clara. Jack loved to make presents, and the deeper he got into debt the more presents did he bestow on his friends. Such another whole-souled fellow he was, to be sure.

But I pocketed the disappointment along with the money and went straightway to the menagerie. There was quite a little crowd about Jack's cage, standing at a respectful distance. In his capacity as the real African gorilla, Jack had just avenged himself on a dangerous rival by snatching off his matchless wig. This gentleman had long deceived his friends with his ambrosial locks, but Jack's quick eye had discovered

the cheat and he seized a favorable moment to make a grab for it. To his inexpressible joy it came off in his paw, and the discomfited gawling and amused Clara Coriander. The amateur gorilla was in a frenzy of delight, and tore up and down his cage, scattering Mr. Jonquil's chestnut curls with savage glee. Old Coriander afterward had to pay for the wig, of course, but he was so delighted with the stroke of showman genius displayed in its destruction that he paid the bill without a murmur. None but a wild and savage animal, of course, would "snatch a gentleman bald-headed," as the old man expressed it. I suppose some of my readers, who now recollect the occurrence, will agree with Mr. Coriander in his opinion.

After the little crowd which this amusing affair had drawn around the cage dispersed in various directions, I drew near enough to hand Jack a ten dollar note, which was his share of the proceeds of my article in the *Interoceanic Monthly*. He snatched it furtively, for the keepers were not far off, and cramming it into his ferocious jaws (lined with blood-red velvet), he howled in his usual *staccato* style, "Didn't I scalp old Jonquil, though!"

One of the keepers approaching me, said suspiciously, "Look a-here, young man, you make entirely too free with that ere beast. He's awful, he is, and some day he'll just go for you, if you ain't keerful. Why, this afternoon he just tore a gentleman's skelp clear off his head, and he was bore out in a faintin' condition. Just see the hair of him all scattered over the cage."

I humbly thanked him for the caution, and drew off asking for information as to the creature's habits. He was very communicative, and enlightened me with much valuable knowledge relative to his diet, averring that he invariably was fed before the menagerie was opened, the raw meat and live rabbits which he devoured exasperating him by their blood to that degree that it was not safe for any person but the keeper to come into his sight. The gorilla enjoyed this confidential communication and roared his approval thus: "He's the head liar of this menagerie."

Jack and I kept up a casual correspondence from day to day by means of our telegraphic signals, for I had little time to see him when off duty. Occasionally I strolled in of an evening to commiserate his fearful *ennui* and cheer him up with a friendly sign, or, when opportunity offered, to chat furtively with the man-gorilla, who swore dreadfully at the bad bargain which he had made. His confinement was growing excessively irksome, and though his constant exercise kept him in good bodily health, poor Jack lost his spirits and grew positively wretched in mind. One night, when I had managed to find time to visit him at his "den" in Morusmulticallus street, he grew quite plaintive over his unhappy condition.

"Hang it, Sam," said he, "you have no idea how mad it makes me to think that I have shut myself up in that cage for a year, and with no chance of getting out without telling Clara what I have been doing. And there she goes pottering about the menagerie, like a blessed little angel as she is, without the least idea that Jack, unhappy Jack, is glowering at her from his cursed gorilla prison, longing to say the words that would bring confusion and dismay upon all of us. And when I see some other fellow flirting around with her, and old Coriander leering over her head at me, knowing full well how aggravated I am, why, it just makes me wild."

I comforted Jack as well as I could, and bade him hope that some stroke of luck would yet deliver him from his voluntary thralldom and bring him to his love. He was hopeful that old Coriander would find the gorilla business unprofitable, and would offer to buy him off, or consent to a shorter term. He vowed one day that unless relief soon came, he would address the crowd about his cage and inform them that he was an unmitigated humbug; that he was no gorilla at all, but a distressed gentleman, John Gale by name, temporarily held in duress by that old rascal, Columbus Coriander. But he restrained himself and waited. It was well that he did.

One evening, finding an unemployed half hour at my disposal, I sauntered into the menagerie hall, and watched the poor weary beasts slowly composing themselves to their unquiet slumbers. It was nearly time to close the show for the night, and not many people were left to stroll about among the cages. Old Coriander was there with his fat wife, the lovely Clara floating about in a cloudy white dress, and followed by a train of admiring swains. The poor gorilla was stretched at full length on the floor of his cage, with his face sullenly turned to the rear partition. Passing by the poor fellow, with a little pang of regret, I stopped before a cage of apes, poor Jack's next door neighbors. No wonder that he felt blue sometimes.

Suddenly there was a rush of hurrying feet; a strange confusion pervaded the whole place, lately so quiet and still; and above the pungent odor of the menagerie I detected that of burning wood. The place was on fire, and instantly everybody ran for the exits.

The hall was filled with blinding smoke; the red tongues of flame thrust themselves eagerly through the thin partitions which separated the main exhibition hall from the lumber rooms in the rear. And the people, who rushed selfishly down the narrow stairways, fled not only from the flames but from the poor beasts, who cowered in their cages, or roared angrily as they caught the mad excitement around them. The scene was terrible; the crackling, roaring fires sweeping out into the lounge room; the wild terror of the caged animals; the shrieks and cries of flocks of suddenly liberated strange birds; and the surging clouds of smoke which rolled through the high arches overhead. Passing near the gorilla's cage I heard Jack's voice, as he yelled with stentorian lungs: "Will nobody let me out? Oh, will nobody let me out?" Quick as thought I ran behind his cage and unfastened the narrow flap that closed the opening. In another moment the African gorilla was out and across the hall, to where a blonde young lady in a white dress was being helplessly borne along by old Coriander, also encumbered by the stout mother of Miss Clara, for Jack had seen that his beloved was in mortal danger. Raising the fainting girl in his strong arms, the hairy monster rushed down the stairs, astounding the coming firemen with the sight of a ferocious gorilla carrying off a respectable young lady, whose flaxen curls lay lovingly over the dreadful shoulders of the beast, which, with ludicrous failure, endeavored to cress the pallid face of the young lady with his hairy jaws, stiff with padding and whalebone, and nicely lined with blood-red velvet.

The gorilla fled up the street, bearing his dainty burden—for, once in sight, he could not stop without exposure. Plodding travellers on the illuminated sidewalks were startled by the swift apparition of a gorilla carrying off a young lady, who was borne into dark alleys to be eaten in the obscurity of some hidden den. Casual wayfarers through back streets shrieked and ran as they beheld a flaming hairy dragon leaping with enormous strides, and carrying the corpse of a nice young person hanging over his shoulder. Good Mrs. Harris, who keeps the lodging house at No. 1283 Morusmulticaulis street, fell down in a deadly swoon at her own doorway, as she was returning from class meeting, to see the Evil One, equipped with the traditional head, horns and tail—breathing fire and sulphurous smoke, and violently deporting a beautiful young lady, who had, for love of dress and other worldly vanities, sold herself to the Old Nick. Vaulting over the prone body of the insensible Mrs. Harris, Jack eluded his few pursuers, and darted up the stairs to his own private den, where he shut and locked himself and his fair burden from the world.

The lovely Clara revived shortly, and, opening her eyes, shut them again with a great scream. She was in the den of the African gorilla. There was more fainting, and more anguish on the part of Jack, who cursed his luck and his folly together. "It's Jack; it's only Jack," he cried with real agony, as he tore off his mask, and the young lady, slowly returning to her senses, once more opened her eyes and beheld her lover, a real African gorilla from his chin downward, but possessing a very resolute yet anxious human head—very like Jack Gale's, with the scalp and grinning jaws of the defunct monster hanging behind his ears.

This was an extraordinary situation; a nice young lady in a strange garret, confronted by an erratic young man in semi-gorilla costume; his countenance flushed with excitement and exercise; his eyes wild with anxiety and alarm, and his whole manner that of a person who is in a state of utter quandary. The truth of history compels me to record the fact that Miss Clara Coriander threw up her hands and laughed as she would die. She was a sensible girl, and liked a good joke. Old Coriander's plans were laid bare to her clear vision in one moment; she saw through the whole trick, and laughed in the face of the astonished Mr. Gale.

"Oh, Jack," she said, as soon as she could recover her breath, "how could you be such a fool? Where am I? How shall I ever get home? Oh, oh, oh!" To all of which Jack could only reply by instalments. But, by secluding the young lady on the stairway, he succeeded in preparing for their return to the Coriander mansion. Through the half deserted streets the young couple went in different guise from that in which they had before astonished those who saw them flee. The gorilla delivered up the old man's daughter, and was glad to be told that the menagerie, not quite ruined, must needs be closed for a few months for repairs.

The show opened again in due season with new attractions, under the management of Coriander and Gale. But in all the lines of cages of rare beasts no African gorilla was to be found. In lieu thereof they showed a handsomely stuffed skin of the much lamented beast, which came to an untimely end in consequence of a cold caught by exposure at the great menagerie fire. Coriander's heart relented when Jack saved his daughter from the burning building, and he found his inventive genius invaluable in the show business.

I have seen the only young gorilla born on American

soil of which there is any account. It has pink cheeks and blue eyes, and is learning to answer to the name of Clara Gale.

Correspondence.

We do not hold ourselves responsible for the opinions of our Correspondents. Our columns are open to free discussions on all Telegraphic subjects, without distinction of person or opinion.

No notice will be taken of anonymous communications.

"Quadruplex" and "Automatic" Telegraphy.

TO THE EDITOR OF THE TELEGRAPHER.

SINCE the publication of my review of the "Quadruplex" controversy, in THE TELEGRAPHER of the 5th of June, the telegraphic fraternity—especially those of the Western Union persuasion—have been somewhat free in criticising, in private, that performance; and I notice in the last number of your journal that your correspondent, "Come Again," has given public expression to his astonishment that you should have opened your columns to that communication, though he is kind enough to admit, after all, that it "did no harm." I regret that your correspondent, in claiming from me "deep and prolonged contrition," and works meet for repentance," which he thinks "can alone wipe out the stain which his advocacy of Edison and his duplicity has caused," had not found it consistent with his ideas of fairness, to point out wherein that communication was not a proper one for me to write, and for you, as a chronicler of current telegraph history, to spread before your readers. It certainly was my intention to discuss, in a fair spirit of newspaper controversy, what were then and what are now very interesting questions connected with one of the most important discoveries in telegraphy during the past thirty years; and if "Come Again," or any of your other correspondents, have any exceptions to take to any of my conclusions, I shall be glad to consider the same, if fairly presented through THE TELEGRAPHER.

I do not feel called upon to defend Mr. Edison against the reflections of "Come Again," or the weekly tomahawk and scalping-knife of the Editor of THE TELEGRAPHER, but I will say, what perhaps I am better qualified to speak about than any other person, except, possibly Mr. Edison himself, and that is, he has been, like myself, since 1870, very much troubled with "wicked partners," one of whom has left his country for his country's good, and it would be a very proper thing for the telegraphic fraternity to suppress their judgment for a short time upon all undeveloped points connected with "Quadruplex" and "Automatic" telegraphy. I will simply add that the conclusions I expressed in my communication of the 5th of June, in regard to the "Quadruplex" system and its rightful owner, are unchanged, and can be maintained, if need be, with new and potent arguments; and in regard to "Automatic" telegraphy, I may say it has reached a state of existence which enables it to vindicate its own right to live, and its future course will be upward and onward in spite of its bitter and unscrupulous opponents, the "Morse" bigots, and also in spite of the public folly and fraudulent statements of one of the original inventors of the new system, who first conspired with one of Mr. Edison's late "wicked partners" to defraud his early associate and best friend, and ending in said "wicked partner's" defrauding him and others, and fleeing to Europe. It seems to me quite likely that the Philosopher of Passaic City will yet come to the conclusion that "honesty is the best policy;" and when he arrives at that happy condition, I predict that he will retire from his present somewhat expensive pastime of pouring out his personal malice through the advertising columns of the city press. D. H. C.

Telegraphing by Light.

TO THE EDITOR OF THE TELEGRAPHER.

I SEND you herewith a newspaper extract containing an account of a system of telegraphing by flashes of light, using the Morse telegraph alphabet, said to have been invented by Mr. H. C. Mance, of the East Indian Telegraph department. This seems to be attracting considerable attention in England, but it is by no means a novelty in this country, having been in use for twelve or fifteen years by the U. S. Engineer officers engaged in the survey of the great lakes. Capt. F. U. Farquhar read a paper before the Civil Engineers' club of the northwest some three or four years ago, descriptive of the process of surveying employed in this service, in which he referred to the method of triangulation employed in the following words: "After the sides of the triangles expanded to more than 28 or 30 miles the stations were often not visible from each

other. A heliotope was then used at the station looked at. But after the lines expanded to more than 60 miles the heliotope failed, and small looking-glasses (10x12 inches) equatorially mounted were used. During a bright day the reflection of the sun's rays from one of these glasses was distinctly seen for more than 100 miles. By means of cutting off the light for unequal intervals telegraphic messages were frequently exchanged over lines more than 90 miles long. The reflected light from these mirrors was thrown in the right direction by means of a screen, leaving a hole through it a very little smaller than the mirror. The centres of the mirror and of the hole in the screen were placed on the line joining the two stations, and when the edges of the hole in the screen were equally illuminated the attendant knew the reflected light was directed on the other station."

Capt. Farquhar's paper was published in the *Railroad Gazette* of this city some three years ago, if I remember rightly. It appears, therefore, that this is, after all, an American idea. I have heard frontiersmen say that the Indians on the plains use bits of looking-glass for flashing signals to each other over a distance of several miles, probably in somewhat the same manner that they communicate intelligence over long distances by signal fires, as I have often seen them do.

F. L. POPE.

Elizabeth, N. J., July 14, 1875.

The Telegraphers' Base Ball Match.—The Chicagoans Victorious.

CHICAGO, ILL., July 12.

TO THE EDITOR OF THE TELEGRAPHER.

AS PROMISED in my letter of the 10th inst., I herewith send you the result of the exciting game of base ball played yesterday (Sunday) between the Dots and Dashes, of St. Louis, and the nine from the Western Union night force of this city (generally known as "Sam Bracken's" nine), which resulted in a victory for the Chicago boys. The weather was very unfavorable, the play being stopped several times on account of the rain, the boys having to play in the mud nearly to their knees. The Chicago boys having on light suits, were as deplorable a looking set of base ballists as you ever saw. The Dots and Dashes won the toss, and went to bat first.

The following is the score:

ST. LOUIS DOTS AND DASHES.			CHICAGO.		
	R.	P. O.		R.	P. O.
Carroll, c.....	3	2	Delaney, 1 b.....	2	4
Marsh, s. s.....	3	2	Kemps, 2 b.....	2	5
Bell, 2 b.....	2	3	Scates, p.....	5	1
Cummings, 1 b.....	2	3	Bachelor, s. s.....	6	1
Nelson, p.....	3	1	Meserole, 3 b.....	4	1
Deering, l. f.....	1	4	McCutloch, r. f.....	2	5
Irwin, c. f.....	2	3	Andrews, l. f.....	2	4
Lenhardt, 3 b.....	1	4	Kerns, c. f.....	2	4
Moxon, r. f.....	1	4	Bracken, c.....	4	2
Totals.....	18	26	Totals.....	29	27

SCORE BY INNINGS:

St. Louis.....	2	0	5	0	0	0	9	1	1	—18
Chicago.....	3	1	4	6	7	0	6	2	0	—29

Left on bases—Chicago, 6; St. Louis, 2.
Double plays—Chicago, 5; St. Louis, 1.
Umpire—Deviney, of Empire Club, of St. Louis.
Scorers—E. P. Whitford, of Chicago, and R. C. Hayes, Editor Electric, St. Louis.

OCCASIONAL.

Right Men in the Right Places.

TO THE EDITOR OF THE TELEGRAPHER.

IT is always gratifying* to see the right man in the right place; and if this is true it is doubly gratifying to see right men in right places. We have in mind the Lehigh Valley R. R. Telegraph department. Supt. H. A. Clute has made two noteworthy appointments there recently which reflect to his credit. Mr. R. C. Laverty, chief operator at Mauch Chunk, Pa., has been appointed division operator of the Eastern and Amboy Extension, with headquarters at Metuchon, N. J. J. Lewis Hall, late manager of the Carbondale, Pa., W. U. office, succeeds him at Mauch Chunk.

It has been our large privilege to know each of these gentlemen personally, and we can speak highly of them both. We hope they will succeed and give the eminent satisfaction in their new positions of trust and responsibility that they have done heretofore in many others. We are confident they will. VIVIAN.

"No, I don't want none of your lightning rods," said a Kentucky farmer, last week, to a man who had stopped at his house to put up patent lightning conductors. "I ain't afraid of lightning; it's the thunder I believe's going to knock us all ondwise some day." "You don't seem to comprehend," said the pedlar; "these are silver tipped rods are lightning rods, and the gold tipped ones are thunder rods—just what you want," and he persuaded the old man into ordering up the gold tipped rods.

THE TELEGRAPHER

DEVOTED TO THE INTERESTS
OF THE
TELEGRAPHIC FRATERNITY.

SATURDAY, JULY 17, 1875.

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Communications must be addressed to

J. N. ASHLEY, Publisher,

(P. O. Box 5503.)

38 VESEY ST., New York.

A New Telegraph Company.

We should about as soon look for lightning from a clear sky as for the organization of a new telegraph company, national in its purpose, in the present general depression of business. It seems, however, that capitalists exist who believe that there is a profitable opening for such an enterprise if the reports from the Pacific Coast are correct. We are informed by despatches to the press that on Saturday last the organization of the new National Telegraph Company was perfected at San Francisco, and that its incorporators represent more capital than any equal number of men on the Pacific Coast. The nominal capital stock of the new company is \$25,000,000, in 250,000 shares, at a par value of \$100 each. Of this amount \$7,500,000 are said to have been subscribed, on which ten per cent. has already been paid. The incorporators are MICHAEL REESE, CALVIN W. KELLOGG, JAMES K. KEENE, F. D. ATHERTON, WILLIAM SHARON, WILLIAM BURLING and ALFRED A. COHEN. These parties are men of large means, and leading capitalists. U. S. Senator SHARON, of Nevada, is the President of the company.

It is stated to be the purpose of the company to commence the construction of lines at the earliest possible moment, and that they propose to extend lines all over the United States and principal points in the British Provinces. Within ninety days they promise to open a central construction office in New York. Four through wires are to be built between San Francisco and New York; and here is where the singular feature of the enterprise comes in; it is stated that tolls are to be fixed at extremely low rates, about equal to those which have been advocated in connection with a postal telegraph.

We do not know upon what the calculations of the promoters of this new scheme are based, but for us, and those who are familiar with the telegraph business, there would seem to be no possibility of paying expenses, to say nothing of profit in such rates. If the proposed lines are actually built, and such rates adopted, however wealthy the incorporators may be, personally, the company will certainly find itself bankrupt in a very brief time. It is the usual thing for new companies at the start to promise great reduction of rates, and sometimes to attempt it, but the result heretofore has certainly not been encouraging for a repetition of the operation. Telegraphing is an expensive

business, and only the General Government would feel like engaging in a business at rates which insure a large and accumulating excess of expenditures over receipts. This statement, if really authorized by the promoters, casts a shade of suspicion on the enterprise.

It is further stated in the despatches that no stock is for sale at present, the promoters proposing to show their confidence in the enterprise by building the lines before asking the public to participate in it as shareholders.

The above is really all that is known here at present about this new enterprise, but we shall, probably, before long have further information concerning it. The incorporators are certainly men of means, and if they are disposed to invest their money there is nothing to prevent their doing so. As an abstract proposition there does not appear any immediate pressing necessity for additional telegraphic facilities. Business generally is very much depressed, with no very apparent prospect of early improvement. It will, however, take some time to construct the new lines, and, perhaps, by the time they are ready for business, the business will be ready for them. Most likely there is something behind this enterprise which does not as yet appear. THE TELEGRAPHER, in the interests of telegraphers, investors and the public, can only wish this and all telegraphic enterprises abundant success.

It may be that the professor of duplicity and quadruplicity having exhausted the customers for his inventions in the east, may find the new custom for whom he is understood to be looking in this new company. The amount of capital is encouraging, for no concern with less capital can afford to carry him and his much sold inventions.

A California Correspondent of The Telegrapher Married.

AS WILL be seen from a notice in another column of this paper, our attentive and interesting Californian correspondent, CLIX (Mr. WM. E. SMITH), has recently entered into life partnership, having taken unto himself a wife. We congratulate him most heartily on his good fortune in securing for a partner a youthful and accomplished lady, who will share his joys and sorrows, and be to him truly a helpmeet.

He has also resigned his position with the Western Union company at San Francisco, and accepted the responsible situation of Manager of the Los Angeles, Cal., office of the Atlantic and Pacific Telegraph Company. His ability and experience as a telegrapher, and his popularity as a man will prove very advantageous in his position, both to himself and the company which has been so fortunate as to secure his services.

Referring to this marriage, the San Diego Union of the 23d ult. says:

"We chronicle elsewhere the marriage, on Monday, of Wm. E. Smith, Esq., formerly manager of the Western Union Telegraph office, in this city, and Miss Helen L. Bashford, daughter of Hon. Coles Bashford, Secretary of Arizona. The happy couple proceeded immediately to Los Angeles, where Mr. Smith will occupy the position of Manager in the office of the Atlantic and Pacific Telegraph Company. A large circle of friends join in wishing them every earthly happiness, with ever increasing prosperity."

A Suggestion to the Friends of The Telegrapher.

WE desire that such of the friends of THE TELEGRAPHER as are willing to cooperate with us in our effort to increase its circulation and influence would communicate with us as speedily as possible, and give us the benefit of their suggestions as to the best manner of effecting it in their respective localities. What we wish is to inaugurate a general and systematic effort to speedily increase the patronage of the paper, and in this we must largely rely upon the cooperation of those who concur in the belief that the influence of this paper is, on the whole, beneficial to the fraternity. With the general cooperation of the friends of the paper in our efforts most encouraging results are assured.

Shall we have it? If yes, will they not at once communicate with us as above requested, and inaugurate a systematic and persistent plan to make the effort a gratifying and permanent success?

Telegraphing by Light.

We print in another column a description of a system of telegraphing by flashes of light, using the Morse telegraphic alphabet, which is claimed to be the invention of an official of the East Indian Telegraph Department, also a communication from Mr. F. L. POPE on the same, demonstrating the fact that this is an American invention, and has been used here for twelve or fifteen years. In this as in most other branches of practical telegraphic advancement and improvement, the United States leads the van, and while we do not question the honesty of Mr. MANCE's belief in his being the inventor of this system, it is evidently another case of reinvention.

Cheap Telegraphic Apparatus.

THE new advertisement of Messrs. LENNERT & DECKER, of Cleveland, Ohio, will be found of interest to those who design purchasing telegraphic and electrical apparatus and instruments. It will be seen that their prices are very low, and their work is of a good quality. Those requiring anything in their line will do well to send for their circular.

Personals.

MISS M. PACKARD is the day operator, and Mr. H. B. GROVER the extra operator for the C. B. & Q. R. R. at Earl, Ill.

MR. E. W. FARRAR attends to the telegraphic interests of the C. B. & Q. R. R. and Western Union Telegraph Co. at Downer's Grove, Ill.

MR. M. F. BOGNY is working for the Western Union Co. at Racine, Wis.

MR. M. V. B. SMITH still attends to the wants of the public telegraphically at Morrison, Ill.

MR. P. D. WHITEHEAD is the operator at the local freight office of the Ill. Cent. R. R. Co., at the foot of South Water st., Chicago, Ill.

MR. FRENCH, formerly assistant agent of the Associated Press at Chicago, Ill., has been appointed agent of the Northwestern Associated Press; and Mr. VIGGS, clerk in Gen. STAGER's office, has been appointed agent of the California Associated Press at Chicago. MR. HORACE JONES, who has held both positions for a number of years past, has been relieved.

MR. ROOT, of the Chicago, Ill., Western Union night force, has returned from his eastern trip, looking very much refreshed.

MR. J. E. DOYLE may now be found at the local freight office, Chicago, Ill., of the Mich. Cent. R. R., doing the telegraphing for that road.

MR. J. MORTON FOSTER, lately of Montreal, is managing the Boston quad. on the night force at 197 Broadway, W. U.

MR. F. J. ALDRICH, of Worcester, W. U., resigned, is working in Rutland, Vt.

MR. G. B. SWIFT, formerly of the Western Union Telegraph Company, has been appointed to the management of the 10th, 15th and 16th districts of the American District Telegraph Company in this city.

MESSRS. THOMAS MCCARTHY, ASHHURST, HINMAN & WILLIAMS, of the Western Union force, at 197 Broadway, went to Saratoga on Saturday last, to help during regatta week.

MR. J. H. LARGAY, formerly of Washington, D. C., has accepted a position at 179 Broadway, W. U. office, night force.

MR. C. T. TAYLOR has been transferred from night to day work at the W. U. main office, Broadway & Dey street.

MR. F. M. HUNTINGTON, night operator at South Broad street, Newark, has been transferred to the day office of master mechanic, Meadows Shop, Penn. R. R., Meadows, N. J. (near Jersey City.)

Mr. BISHOP has resigned his position in the Southern and Atlantic Co. at Boston, Mass., and returned to the Western Union office, taking the position vacated by the resignation of Mr. J. A. KENNEDY.

Mr. WEAVER, of New Bedford, Mass., takes the place in the Boston, Mass., Western Union office made vacant by the transfer of Mr. PARROTT to the Post-office.

Mr. M. O'HERN, for some years past a clerk in the Boston, Mass., W. U. office, has accepted a position in the S. & A. Co. as operator.

Mr. R. H. LORD, an old timer, is operator in the Western Union office at Fort Wayne, Ind.

Mr. C. W. MCKAY officiates in the Warsaw, Ind., W. U. office.

Mr. ROBT. C. LAVERTY, formerly chief operator of the Lehigh Valley Railroad Company's wires at Mauch Chunk, Pa., has been transferred and appointed division operator of the New Jersey Division, with headquarters at Metuchen.

The following appointments of operators on the New Jersey Division of Lehigh Valley Railroad telegraph have been made by Supt. H. A. CLUTE:

Mr. FRANK KING day operator at Perth Amboy, N. J.

Mr. F. A. BERGER night operator at Perth Amboy, N. J.

Mr. O. H. BERGER day operator at Bound Brook, N. J.

Mr. L. M. LEVY day operator at Three Bridges, N. J.

Mr. L. K. MILLER night operator at Three Bridges, N. J.

Mr. W. E. MILLER day operator at East End Tunnel.

Mr. IRA B. TICE day operator at West End Tunnel.

Mr. G. F. GROFF night operator at West End Tunnel.

Mr. SAML. SWARTZ day operator at Easton, Pa.

Mr. WM. E. HERBST assistant operator at Easton, Pa.

Mr. FRANK CARY night operator at Easton, Pa.

Mr. THOS. H. BROWN succeeds Mr. L. K. MILLER at Coxtou, Pa., transferred to Three Bridges, N. J., Lehigh Valley R. R.

Mr. H. A. SNOW, night operator at L. & B. Junction, Lehigh Valley R. R., has resigned, to accept a position elsewhere. Mr. E. A. ACKERMAN takes his place.

Mr. JOHN NICHOLS has accepted a position as assistant operator at Bethlehem, Pa., L. V. R. R.

Mr. ROBT. C. HERBNER takes the day office at Lehighon, Pa., L. V. R. R., a position made vacant by the withdrawal of Mr. A. S. MILLER.

Mr. J. WM. LATTIG has been appointed operator at "C. H." office, Mauch Chunk, Pa., L. V. R. R.

The Telegraph.

The Duxbury Cable Broken.

THE annual break on the Duxbury and St. Pierre cable took place some time since, and the cable is still interrupted. It will be repaired as soon as the repair ship can be spared to attend to it.

A New Telegraph Cable laid to Martha's Vineyard.

ON Thursday, July 8th, a new telegraph cable was laid from Falmouth to Oak Bluff, Mass., across Martha's Vineyard Sound. The government granted the use of the revenue steam cutter Gallatin, the cable having arrived several days previous, on board the schooner Ira D. Burgess.

The weather being favorable, the vessels got under way at about half past three o'clock in the morning, and steamed over to Falmouth, where they commenced operations, and from Falmouth Heights they recrossed the Sound to the East Chop, paying out the cable, and at this point connected with the wires already erected along the beach, to the office on the Bluffs. The whole work was completed at precisely half past three in the afternoon, which was announced by the firing of guns, &c. Although twelve hours were consumed in the whole operation, the cable was actually laid the entire distance across the sound, five and a half miles, in an hour and a half. The Western Union Telegraph Co. have this enterprise in hand, and Col. Wood, their efficient superintendent, gave his personal attention to the work. A great many people were out to witness the landing of the cable, and were curious to see the "twisted wire" which is to be the medium of thought between Martha's Vineyard and the rest of the world.

Foreign Telegraphic Notes.

THE total number of messages forwarded from postal telegraph stations in the United Kingdom during the week ending June 26, 1875, was 408,411—an increase on the corresponding week last year of 17,254.

A circular issued by the directors of the Direct Spanish Telegraph Company congratulates the shareholders on the satisfactory progress of the company's business. The accounts for the half year ending 30th ultimo show profit sufficient to pay a dividend for the past half year at the rate of 5 per cent. per annum on the ordinary shares, after providing all interest on preference shares up to that date. All quarterly balances up to 1st March last have been regularly received from the Spanish and French Governments. Both the company's cables continue in excellent working order.

A telegram from Scinde, dated Thursday last, states that a bill has been introduced in the Legislative Council of India to amend the telegraph law, with the object of giving Government the power to make rules under the existing Act.

Western Union Notes.

THERE was a good deal of excitement at "197," Thursday morning, about eleven thirty, to know the result of the regatta at Saratoga, and the boys reached eagerly for the "bulletins," which were manifested and handed around every two or three minutes, announcing the progress of the race. Some bets were made, and a good deal of speculation indulged in. The result, which is known throughout the world ere this, was received with delight by the large number of Cornell's devotees.

During the past week several fine photographs of the interior of the general operating room, Western Union Building, have been on exhibition in that department. The largest is a comprehensive view of the whole interior, and the smaller ones are views of the switch alone—the same interior view reduced. They are generally liked, but the room looks deserted, the photographs having been taken on Sunday, and what operators were present excluded from the scene. They are offered for sale at prices ranging from \$1 75 to \$2 75, frames included.

The Saratoga Quad. has been working to its full capacity the past two or three days, and it has been found necessary to work the remaining additional wires to their utmost in order to handle the great rush of business.

The Anglo-American Telegraph Receipts.

We take the following from the City Article of the Standard of Thursday last, with reference to the traffic returns of the Anglo-American Telegraph Company:

"The publication of the average daily traffic returns by the Anglo-American Telegraph Company affords a good basis upon which to make a reliable approximate estimate of the receipts for the current half year, of which there are only fifteen days' returns now wanting. For the first four months of the year the receipts were, at £1,782 per day, £213,840; for May, at £1,095, per day, at £33,945; and for the 15 days of this month they have been £17,690. Estimating for the remaining 15 days of the month the same amount, the total for the half year would reach £283,165. Last year's working expenses were about £70,000; taking them at £35,000 for the current six months, a balance would remain of £248,165. An interim dividend of 1 1/2 per cent. was paid for the March quarter, so that after payment of a further dividend at the same rate for the June quarter, there would apparently remain an available balance of £73,165.

These facts leave no room for doubt that the interim dividend now shortly to be announced will be at the same rate as for the previous quarter, more especially as the receipts already shew a considerable tendency to improve under the stimulating influence of the reduced tariff. It is worthy of note that while the traffic of the first half of this month, i. e., up to Tuesday last, show, as above given, an average of £1,180 per day, or an advance of nearly 8 per cent. on the May returns of £1,095 per day, the receipts for Wednesday and Thursday last were no less than £1,590 and £1,480—these two days showing only a reduction of 21 per cent. compared with the average of June last year, notwithstanding the reduction in the charges for messages of 50 per cent.—The Railway News.

The American Fire Alarm Telegraph.

THE Committee appointed by the Commissioners of the District of Columbia to investigate and report upon the best plan for the reconstruction and extension of the Fire Alarm Telegraph in Washington and Georgetown, D. C., in their official report, say:—"For many years past your committee, as officers of the fire department, have been familiar with the practical workings of the Gamewell system of fire telegraph, and have recently seen in operation the very latest improvements in the act which this company has incorporated in their general system. Your committee has

seen pretty nearly all the devices ever used for the purpose of giving telegraphic alarms for fire, and agree unaniously in the opinion that the 'Gamewell,' in solidity of system and the excellencies of its details, far exceeds all others now in use. We find that both in system and detail it is more simple, more reliable, and in the end would prove far more economical than any other system we have investigated."

The Common Council of Philadelphia, on Friday of week before last, passed an ordinance appropriating two hundred thousand dollars for the reconstruction of the fire alarm system of that city by Messrs. Gamewell & Co.

The Great Western Telegraph Company.—Receiver's Report.

In the Circuit Court at Chicago, Ill., in the matter of Jeremiah Terwilliger et. al., vs. The Great Western Telegraph Company, Oliver H. Horton, receiver of the company, a few days since filed his report.

After referring to his former reports heretofore made, the receiver sets forth the condition of the company, and says that at the time of his appointment as receiver there was pending before the master an investigation as to the accounting between Solah Reeve and the Great Western Telegraph Company, which was at that time partially concluded—such accounting having been conducted on the part of the company by Messrs. Harding, McCoy & Pratt, as attorneys. The receiver states that he requested those gentlemen to continue and conclude such accounting before the master. The receiver asserts he is unable to report the amount of the indebtedness of the Company, for the reason that a very considerable proportion of such indebtedness is still undetermined, and stands under exceptions to a number of the reports filed by the master, although reports by the master in chancery upon many of such claims have been filed in and approved by the court, whereby a large amount of such claims have been adjudicated to be correct, and allowed. Assuming the indebtedness as reported by the master to be correct, the receiver estimates the indebtedness in round numbers as follows:

Reported by the master, exclusive of Reeve's accounting.	\$66,000
Bonds.....	23,000
Reeve accounting.....	56,000
Accrued interest, etc., estimated.....	5,000
	\$150,000

To which add amounts to be paid to Western Union Telegraph Company under contract, balance due on master's fees, attorneys and receiver's fees, etc., say.....

	20,000
Estimated total.....	\$170,000

The receiver reports that he has no money with which to pay the said indebtedness, and knows of no property or assets belonging to the Great Western Telegraph Company with which they could be paid, except the property mentioned in this report, which are the lines west of the Mississippi river. The receiver sets forth further that he has never received anything for his services, and has never been able to pay any attorney's fees; that the telegraph lines are growing old, and will, from this time henceforth, need quite extensive repairs. From his opinion, he thinks there will be no profit in operating the lines under a temporary administration, such as that of the receiver must of necessity be. In his opinion, a large amount of money will have to be expended in making extensions and advantageous connections, and perfecting and putting into complete order said lines before they can be made to pay. The creditors are clamorous in regard to their pay, and there is no prospect of raising funds to settle with them until a sale of the property shall have been made. For these and various other reasons, the receiver deems it absolutely necessary, and recommends to the court that the lines be sold by and under the order and direction of the court, and that in case of such order, it should be provided that of the proceeds of the sale a sufficient sum should be retained by the court to protect the purchaser at such sale against any valid or subsisting liens, otherwise the sale thereof might be very materially injured, to the detriment of the creditors.

The report further sets forth that the receiver has filed exceptions to eleven of the reports of the master upon claims against the company, together with exceptions filed by other parties against the master's report as to their claims—amongst them being those of the company in the matter of the accounting with Reeve, and therefore the receiver prays specific instructions from the court, directing him in what cases he shall be authorized to employ solicitors.

A New Telegraph.

A REMARKABLY ingenious and simple system of telegraphy has been invented by Mr. Henry Mance, Superintendent of the Persian Gulf Telegraph Department, which promises to greatly modify existing telegraph arrangements. It consists in sending flashes of light from one point to another by means of a small mirror

The flashes are long or short, to represent the dashes and dots of the Morse system—the dot being represented by an instantaneous flash and the line by a somewhat longer apparition of it.

By the aid of this very simple language any two persons whose mirror can carry a flash over the distance between them may converse at will for any time during which their lights serve them.

It is proposed by the managers of the Centennial to appoint an electrician who shall have the supervision and direction of the electrical department.

The Centennial Electrician.

It is proposed by the managers of the Centennial to appoint an electrician who shall have the supervision and direction of the electrical department.

We notice that THE TELEGRAPHER suggests the name of Mr. David Brooks, in which nomination we heartily concur.

A Telegraph Operator Robbed.

ABOUT ten o'clock Saturday morning, July 10th, two men entered the telegraph office at Mountain View, on the Delaware, Lackawanna and Western Railroad.

A Lightning-rod Vender Shot.

ON Friday evening Albert Hart, residing three miles from Woodbridge, N. J., shot and probably fatally wounded John Higgins, a pedlar of lightning-rods.

An Astonished Burglar.

IN the City of Elizabeth, N. J., which is within a half hour's ride of New York by the New Jersey Central and Pennsylvania railroads, reside a number of gentlemen connected with telegraphic interests in this city.

Unaware of these facts, several of these residences have been made the object of attack by midnight adventurers, who evidently do not read THE TELEGRAPHER.

Quotations of Telegraph Stocks at N. Y. Stock Exchange.

Table with columns: July, WESTERN UNION, ATL. AND PAC., AMER. DIST., GOLD AND STOCK. Rows show bid and asked prices for various dates from July 8 to 14.

New Patents.

OFFICIAL COPIES of any U. S. Patent issued since July 1st, 1871, including drawings, specifications and claims in full, sent free to any address for 25 cents each.

- 164,661.—ELECTRICAL BILLIARD REGISTERS.—Chas. H. Russell and Julius Sax, London, England, assignors to Bernhard Ahrens, same place. [Filed June 20, 1873.]
Two index fingers, one for each ball, carried on same shaft, one directly, one by a sleeve, each actuated by its own electromagnet and circuit.

164,778.—ELECTRIC RAILWAY SIGNALS.—H. W. Spang, Reading, Pa. [Filed March 24, 1874.]

- 1. The combination of a series of batteries, polarized relays, and means for making or breaking the circuits of the batteries arranged substantially as set forth, whereby any one of the relays will be operatively affected only by the current from its own designated battery, and not by the current from either of the batteries adjacent to such designated battery.
2. The combination and arrangement of polarized relay M, section of track A A, and battery B with polarized relay M', section of track A' A', and battery B', so that should current of battery B' pass over relay M a safety signal will not be given, as set forth.

Married.

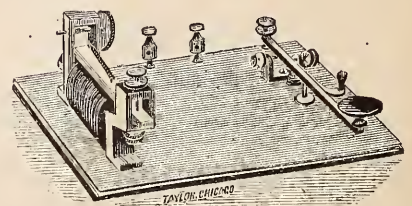
SMITH.—BASHFORD.—At San Diego, Cal., Monday, June 21st, 1875, Mr. WM. SMITH, Manager of the Los Angeles, Cal., Pacific and Atlantic Telegraph office, to Miss NELLIE E. BASHFORD, daughter of Hon. COLES BASHFORD, Secretary of Arizona Territory.

CHANDLER.—ZIMMERMAN.—In New York, on Monday, June 21, 1875, Mr. Frank Chandler, Mr. EUGENE CHANDLER, operator at East Newark, N. J., for the Pennsylvania R. R., to Miss LOUISE ZIMMERMAN, of New York City.

THE AMATEUR'S TELEGRAPH APPARATUS,

Comprising SOUNDER, KEY, CUP OF BATTERY, CHEMICALS, WIRE AND MANUAL.

Several Thousands of these Instruments already sold. They give good satisfaction.



PRICES.

Table listing prices for Amateur outfit, complete, No. 1 (\$7 50), Sounder and Key, No. 1 (6 50), and Battery, per Cell (45).

DISCOUNT.

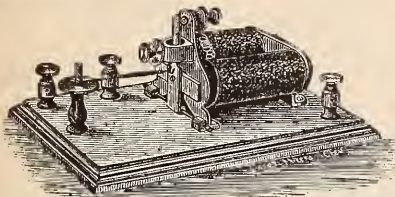
Twenty per cent. discount will be allowed when remitted for in advance.

GEO. H. BLISS & CO.,

220 Kinzie St., Chicago, Ill.

LANNERT & DECKER

will not be undersold by any firm competing in price or quality.



A reduction of 25 per cent. from our former prices on all Relays and Main Line Sounders.

	Former Price.	Red. Price.
No. 1 Relay, a superior d'ble adj. inst., and standard res., and finely finished.....	\$15 00	\$11 25
No. 2 Relay, a superior d'ble adj. inst., and standard res., and finely finished.....	14 00	10 50
Pony Relay, a superior inst. for lines of 15 miles or less.....	7 50	5 63
No. 1 Main Line Sounder, d'ble adj., finely finished, standard resistance.....	16 00	12 00
Fifteen per cent. from our former low prices on keys.		
No. 1 Key, improved standard size, heavy platinum, finely finished.....	4 00	3 40
No. 2 Key, improved standard size, heavy platinum, iron base.....	3 00	2 55
Ten per cent. discount from our former very low priced Local Sounders.		
Acme Local, No. 1, large and loud, works well with one cell local.....	5 00	4 50
Acme Local, No. 2, small size, round base, one cell local sufficient.....	4 75	4 28



ELECTRICAL BELLS

of various styles and sizes at a reduction of 25 per cent. from former prices.
 No. 1 Alarm Bell, 3 3/4 inches in diameter (see cut), works well with one cell local; single stroke or continuous ringing, as desired, changed by lever; thumb-screws with check nuts, for adjusting spring and stroke, large and hard platinum connections; binding posts for holding wires; Bell finely polished, and base extra ornamented. Former price, \$1 50; reduced price, \$3 38.
 No. 2 Alarm Bell, without binding posts, and cheaper finish, but working equally as well. Former price, \$3 50; reduced price, \$2 63.
 All other standard improved instruments proportionately as cheap. Also, Batteries, Supplies, Chemicals, &c., at lowest rates.

PRICE REDUCED!!



THE POCKET GALVANOMETER, finely finished and Nickel Plated, will be sent by mail, to any address in the United States, on receipt of one dollar (\$1 00). Canada, 10 cents extra to pay postage. Send for Circular.

Until further notice, when desired, instruments of our own make will be sent to responsible parties C. O. D., with instructions to the express agent to show instruments before receiving pay, and if not satisfactory they can be returned at our expense.

Other goods will be sent C. O. D. as usual, or on receipt of money order, registered letter, or draft on N. Y. Price List and Circular of other Instruments, Batteries, Supplies, Chemicals, &c., sent on application. All orders will receive prompt and careful attention, consigned to

LANNERT & DECKER,
 CLEVELAND Ohio.

PRETTIEST THING OUT!



All Colors of the Rainbow!

THE HOLMES ELEGANT GELATIN OR GLASS,

BRISTOL, MARBLED, SNOW FLAKE & ENAMELED
Visiting Cards.
 SAMPLES FREE.
 S. HOLMES & BRO. ST. CLAIR, PA



ORTON'S PATENT PENCIL HOLDER.

"SAVE THE PIECES."

This HOLDER is intended to save the last half or third of the pencil.

DIRECTIONS.

When the pencil becomes too short to write with comfortably, shave down the butt and screw into the Holder. The screw makes its own thread and will hold the pencil perfectly firm.

Price, 10 cents each.

Sent by mail on receipt of price.

Price per doz., 60 cents.

GEO. H. BLISS & CO., Gen'l Agents,

220 Kinzie Street, Chicago, Ill.

WESTERN ELECTRIC MAN'FG CO.

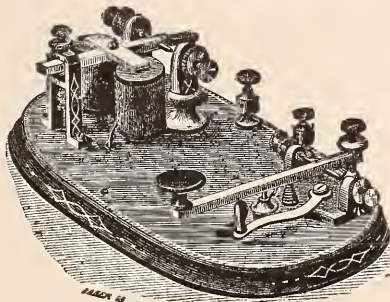
220 Kinzie Street,

CHICAGO, ILL.

CELEBRATED

PRIVATE LINE OUTFIT.

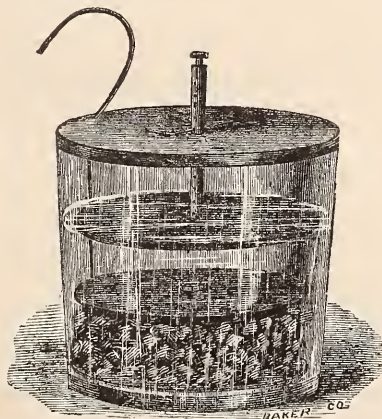
THE BEST IN THE WORLD.



PRIVATE LINE INSTRUMENT.

This instrument is mounted on an iron base and finely finished.

It gives a clear, loud sound. It is made to work on a line from a few feet to ten miles in length.



BLISS RESERVOIR BATTERY.

This battery took the first premium and a silver medal for force, constancy and economy at the Cincinnati Exposition.

With each "Private Line Outfit" is furnished one Private Line Instrument, one Cup Reservoir Battery, the necessary Chemicals, Wire for connections and a Manual.

PRICES.

Private Line Outfit, complete.....	\$10 00
Instrument only.....	8 00
Bliss Reservoir Battery, per cell.....	2 00

DISCOUNT.

A discount of twenty per cent. will be allowed when remittance accompanies the order. Remit by express, registered letter, postal order or draft.

In ordering state length of line, so that the resistance of instruments may be proportioned accordingly.

SEND FOR CIRCULAR.

Liberal terms to Agents.

WESTERN ELECTRIC M'FG CO.,

CHICAGO, ILL.

JUST OUT.

NEW AND ENLARGED EDITION OF

SMITH'S

MANUAL OF TELEGRAPHY.

CONTAINING

Complete Directions for Self-Instruction in Telegraphy, Instructions for Building and Operating

SHORT LINES OF TELEGRAPH,

Diagrams showing the manner of connecting wires, batteries instruments, &c.

Descriptions and cuts of all forms of telegraph instruments, batteries, &c.

Cuts, descriptions and prices of the

BEST LEARNER'S APPARATUS

AND

SHORT LINE INSTRUMENTS;

Together with full explanations of everything necessary for the

AMATEUR TELEGRAPHER

To know.

Every operator and every student of telegraphy should have one.

It is the

MOST COMPLETE, PRACTICAL

And easily understood explanation of the

MORSE TELEGRAPH

AND ITS APPARATUS.

EVER PUBLISHED.

PRICE.....30 CENTS.

Sent post paid upon receipt of price.

L. G. TILLOTSON & CO.,

8 DEY STREET, NEW YORK.

54 SOUTH FOURTH STREET, PHILADELPHIA.

22 WEST FOURTH STREET, CINCINNATI.

AERICAN FIRE ALARM AND
POLICE TELEGRAPH.

GAMEWELL & CO., Proprietors,
62 BROADWAY, NEW YORK.

- J. W. STOVER,
General Agent and Superintendent.
- L. B. FIRMAN, Chicago, Ill.,
General Agent for the West and North West.
- TELEGRAPH SUPPLY AND MANUF'G CO., Cleveland, Ohio,
Special Agents for the Middle States.
- J. R. DOWELL, Richmond, Va.,
Special Agent for Virginia and North Carolina.
- J. A. BRENNER, Augusta, Ga.,
Special Agent for Georgia and South Carolina.
- L. M. MONROE, New Canaan, Conn.,
Special Agent for New England.

ELECTRICAL CONSTRUCTION AND MAINTENANCE CO.,
San Francisco, Cal.,
Special Agents for California, Oregon and Nevada.

THIS SYSTEM OF
FIRE ALARM & POLICE TELEGRAPH
WITH A CENTRAL OFFICE,
OR
UPON THE AUTOMATIC PLAN,

is now in operation in the following Cities, to which references
made for evidence of its great

**SUPERIORITY, VALUE
AND
UNIFORM RELIABILITY.**

- | | |
|---------------------|----------------------|
| Albany, N. Y., | New York City, |
| Alleghany, Pa., | New Orleans, La., |
| Boston, Mass., | New Bedford, Mass., |
| Bridgeport, Conn., | New Haven, Conn., |
| Buffalo, N. Y., | Newark, N. J., |
| Baltimore, Md., | Omaha, Neb., |
| Chicago, Ill., | Philadelphia, Pa., |
| Cincinnati, Ohio, | Pittsburg, Pa., |
| Columbus, Ohio, | Portland, Maine, |
| Cambridge, Mass., | Peoria, Ill., |
| Charlestown, Mass., | Providence, R. I., |
| Covington, Ky., | Quebec, L. C., |
| Detroit, Mich., | Rochester, N. Y., |
| Dayton, Ohio, | Richmond, Va., |
| Elizabeth, N. J., | St. Louis, Mo., |
| Fall River, Mass., | St. John, N. B., |
| Fitchburg, Mass., | Springfield, Mass., |
| Hartford, Conn., | San Francisco, Cal., |
| Indianapolis, Ind., | Savannah, Ga., |
| Jersey City, N. J., | Syracuse, N. Y., |
| Louisville, Ky., | Troy, N. Y., |
| Lowell, Mass., | Taunton, Mass., |
| Lawrence, Mass., | Toledo, Ohio, |
| Lynn, Mass., | Toronto, Canada, |
| Mobile, Ala., | Washington, D. C., |
| Montreal, Canada, | Worcester, Mass., |
| Milwaukee, Wis., | |

The Distinctive Features of these Systems of

Fire Alarm and Police Telegraphs

ARE,

First—The **Automatic Repeater**, through which the apparatus may be distributed in a combination of circuits, and the entire system successfully worked, without the constant personal attention of either operators or watchmen.

Second—The **Automatic Signal Boxes**.

Third—The **Electro-Mechanical Bell Strikers**, adapted to produce the full tone of the largest church or tower bells.

Fourth—The **Electro-Mechanical Gong Striker**, for hose and engine houses, by means of which the location of the fire is instantaneously communicated to the members of each fire company.

These Features combined form the

Only **PERFECT, COMPLETE and RELIABLE** System
OF
FIRE ALARM TELEGRAPH
IN THE WORLD.

It is a sufficient vindication of the claims which are made by the Proprietors of these systems of

**FIRE ALARM
AND
POLICE TELEGRAPHS,**

that they have sustained the test of more than twenty years of practical use, and that the efforts which have been repeatedly made to supplant them by other inventions have

COMPLETELY FAILED;

the few instances in which municipalities have been induced to adopt other systems having demonstrated their insufficiency and unreliability, and resulted in their abandonment, and substitution thereof of the

AMERICAN FIRE ALARM TELEGRAPH.

Messrs. GAMEWELL & CO. are the owners of the original *FARMER & CHANNING PATENTS*, one of the most important of which has just been extended for seven years, and during the past seventeen years have spared no expense or effort to secure improvements, and the Systems are now covered by **MORE THAN TWENTY PATENTS.**

The most important improvement which the Proprietors have adopted and introduced is the

AUTOMATIC SYSTEM,

the introduction and operation of which involves so little expense, compared to the benefit which it confers, that even small communities can profitably adopt and maintain it.

The American System of

FIRE ALARM AND POLICE TELEGRAPHS

has met with the universal approbation and commendation of the

People, Municipal Authorities,

AND THE

PRESS

throughout the UNITED STATES and CANADA.

NO EFFORT, TROUBLE OR EXPENSE

is spared by the Proprietors to obtain and secure ANY POSSIBLE IMPROVEMENT which shall increase the

**EFFICIENCY,
RELIABILITY and
ECONOMY**

of the system. They intend that, as far as possible, it shall be

ABSOLUTELY PERFECT!

The amount of property which has been saved from destruction, and the number of lives which have been preserved through the general adoption of this system, throughout the UNITED STATES and the DOMINION of CANADA,

CANNOT EASILY BE ESTIMATED,

but that, in every community where it has been introduced for any considerable length of time, they have been enormous, **THREE CAN BE NO QUESTION.**

The cooperation of **TELEGRAPHERS** in securing its introduction into their localities is cordially invited, and their efforts will be duly appreciated and compensated.

Any information desired in regard to the above system will be cheerfully and promptly furnished upon application at the office.

A pamphlet, setting forth more fully its advantages and superiority, has been printed, and will be supplied to Municipal Authorities and others interested in Fire Alarm and Police Telegraphy, upon application as above.

CHARLES T. CHESTER,
104 Centre Street,
NEW YORK,

TELEGRAPH ENGINEER,

AND MANUFACTURER OF

INSTRUMENTS,

BATTERIES,

AND EVERY DESCRIPTION OF

TELEGRAPH SUPPLIES.

BUNNELL'S PATENT REPEATER.

These instruments are now made in two different styles, at \$120 and \$135 a set, consisting of two Relays, two Sounders, two Keys and Governor.

JONES' LOCK SWITCH-BOARD,

a most compact and reliable Switch, forming a clean spring-locked connection between any number of wires, occupying for each different connection only one square inch of space, and though made of the largest size, not subject to the warp and contraction of wood-work.

EXCLUSIVE AGENTS OF

A. G. DAY'S

KERITE,

OR

COMPOUND RUBBER COVERED WIRE

SUBTERRANEAN & AERIAL WIRES,

OF THE

HIGHEST INSULATION.

We are now prepared to furnish, after an experience of two years, an insulated Wire which can be buried in the earth or exposed to rain and sun, or to the vapor of acids, without injury. Professor SILLIMAN, who has exposed it to the most destructive agencies, finds that it remains uninjured in an atmosphere of ozone, which would destroy gutta-percha in a few hours. It exceeds glass or any other known substance as a non-conductor.

We have made special arrangements to furnish this article for office purposes at a reduced rate.

ALSO, TO FURNISH

IRON CLAD CABLES

of the usual size, with KERITE COVER, believing that it will exceed, in insulation for submarine purposes, ANYTHING HITHERTO MANUFACTURED.

We shall be happy to furnish estimates for any amount and size of cable, which will be found to compete with any other construction, both in quality and price.

We manufacture the Genuine ELECTROPOION BATTERY, with Patent Platina Connection, introduced by us eight years since; also, THE ALPHABETICAL OR DIAL TELEGRAPH, now extensively used in this and other cities for private lines being easily and quickly learned by any one.

We offer for sale, among other novelties, a SOUNDER that will work practically with a single DANIELL cell, a BATTERY that does not require to be taken down but once a year, and the very best MAIN LINE SOUNDER made.

Our CATALOGUE, embracing a large amount of new matter and description, is now ready for distribution.

THE TELEGRAPHER

A JOURNAL OF ELECTRICAL PROGRESS.

J. N. ASHLEY, PUBLISHER.

SATURDAY, JULY 24, 1875.

VOL. XI. WHOLE No. 471.

Original Articles.

The Centenary Insulator.—Little's Dry Zone Inverted Cup, or Umbrella Insulator, Universally Used.

By Rip Van Winkle.

It has been said that, among the impossibilities cited to convince Job of his weakness and impotence, the Almighty asks, "Canst thou send lightnings that they may go and say unto thee, here we are?" It is not to be inferred that the Almighty, in propounding this question, which at that time could not be affirmatively answered by mortals, intended to suggest an impossibility, the removal of which was not to be at a future time vouchsafed to his creatures.

Just about one century had elapsed since Watson, in 1747, erected at Shooter's Hill, Kent, England, his telegraph line of nearly two miles in length, down to 1846, when George Little came into the telegraphic field. In the interval telegraph engineers had been greatly exercised and troubled to discover a means of confining the electric current to the wires suspended in the air, which of course was and is an essential prerequisite of successful telegraphy. This problem appeared to the pioneer telegraphers and electricians almost insurmountable. They had resorted to the use of baked wood, cloth saturated with gum-lac, glass knobs and double cones of earthenware (with the wire threaded through the centre), and other devices, all of which proved insufficient and fallacious.

In 1846 Kimber, of London, a maker of moulds for glassware, was employed to make suitable moulds for the manufacture of Mr. Little's dry inverted cup zone, or umbrella insulator. This was fully described and illustrated in THE TELEGRAPHER for December 5, 1868. At the same time that the moulds were made for the manufacture of glass insulators of this pattern, the stoneware pottery at Lambeth, and the porcelain pottery at Staffordshire were also turning out the dry zone insulators in stoneware and porcelain. These came into extensive use at once, and was really the first practical step made in a hundred years towards the proper method of insulating land lines, now universal throughout the world.

By means of this valuable discovery, which solved one of the most difficult problems in practical telegraphy, it is possible to transmit signals over a circuit of five hundred miles, in weather which would, without this form of insulator, render it impossible to do so for fifty, and not unfrequently for five miles even.

It is left to the practical telegrapher what could be done in telegraphy, especially with the rapidity of transmission now indispensable, without Little's dry zone inverted cup, or umbrella form of insulator.

Success the Result of Failure.—A Telegrapher's Reverie.

By Mephisto.

I AM strolling through the woods. It is autumn, and the golden brown of approaching dissolution has tinged the dark green of the tree foliage, giving an air of maturity and ripeness to vegetable creation; the last rays of the setting sun impart a rich warmth of appearance to those trees that catch its subdued light, bringing them out in greater contrast with the somewhat sombre darkness of the background—a darkness which is yet not gloomy, but rather restful, soothing to eyes that have been exposed to the glare, and dust, and toil of the day; while the gradually increasing quietude is inexpressibly grateful to a nervous system that has been all day on the rack in the busy hive we call life. The birds are seeking their roosts, and their twittering, as it sinks by degrees into perfect silence, rather increases than breaks in upon the sense of stillness that surrounds me. The flowers are folding up their little petals, shutting up in their variegated embrace many a small insect that there seeks a fragrant couch. Now and then the distant lowing of the cows, wandering slowly homewards, and stopping to gather here and there an occasional morsel of delicious herb or grass, adds still more to the general peacefulness;

and as nature slowly sinks into its nightly repose, my thoughts and feelings, too, seem to subside into a more equable and gentle stream, and I am left at leisure to "chew the cud of sweet and bitter fancies"—to digest the mental food that my life has taken in in the years that have rolled by, and to gather from it such nourishment as shall help me to live through the years that are yet to come.

'Tis a pretty long vista I have to look back upon—a long, long road with many a turning; a road travelled often with bleeding feet and heavy heart, only a few of its more prominent landmarks catching the view here and there, and even these dim and hazy in the distance. It has been a journey with no very definite aim or object, and its result so far is failure. I have put down the figures on my mental slate, I have added them up, and they amount to nothing! absolutely nothing! Everything that I have put my hand to, everything that I have tried, has come to some lame or impotent conclusion, or has come to no conclusion at all.

When I was a babe I clamored, and roared, and struggled for my daily bread, and I do no more even now. I work, and struggle, and tussle with the world that I may eat, and drink, and be clothed, but do not even the brutes do this? If there is anything higher in life than living, then I have not reached it; if life has an end, an object to be attained, then I have not attained it, and this is rather a humiliating idea. If it is so that I should be and am not, where lies the blame? If I should have an object, an ambition—Well, I have had ambitions: it was once my ambition to wear a frock coat and pants and a stand-up collar! I have attained that ambition anyway, but what does it amount to? The coat gets seedy, the pants fringe at the bottoms, and the stand-up collar gets demoralized and refuses to stand up. What, then, becomes of that ambition? The rag picker gathers it into his satchel, and for me it is done.

Once had an ambition to have a wife. Well, in the due course of events I got one, and that ambition too was attained, but was it a success? It gave me some hours of additional hard work, it introduced me to the phenomenon called "doing chores," and it gave me not a few certain lectures. Do you call that success? I don't.

After all, what is success? Is that which we so call really success? Nine men out of ten will tell you that to succeed is to make money; others will say that success means wealth, fame, power, rank, position; but is it so? Now, I begin to think that the measure of my success has been wanting, because I have called it by a wrong name—wealth, rank, fame, power—not these, but to be HAPPY is to be successful. Now, the greatest happiness men can know is to impart happiness to others; this is at once the noblest, purest, most unselfish aim a man can have, and one not difficult of attainment.

Professor Pepper says that in making philosophical experiments a failure is really a victory, because, in trying again, we knew what errors to avoid by the lessons our failures have taught us, so that every blunder is in reality a step towards ultimate success.

And here I come to the end of my reverie, my paper, and I fear, long ago, your readers' patience, with these words of wisdom. If I have failed before, it is because I have tried to please myself. That was a mistake. Now, henceforth I will try and make others happy rather than myself, and then, I doubt not, I shall find that "success is the result of failure."

Depositing a Letter in a Fire Alarm Telegraph—Peculiar Result.

THE Cincinnati Gazette gets off the following good one: "Visitors from the country should be a little careful how they post letters in fire boxes. Henry Clark came to town a few days ago from Brown County, and spent last Sunday in the vicinity of South Camp, Washington. He wanted to post a letter, and not being very well up in city ways, took fire alarm box No. 283 for a letter box. As he approached it he could read the words 'key to be found at the saloon.' He applied to the saloon keeper, who produced the key in great haste, supposing there was a fire. Returning to the box, the Brown County man opened it and saw within what was apparently an inner door with a handle to it, and the words, 'Pull down the hook and then let go.' Thinking his letter would not be safe unless he deposited it in the innermost place, he pulled down the hook and then let go. Presently there was a commotion, and while Mr. Clark was studying out some better way of getting into the interior, two or three engines came tearing up to the place in search of the fire. The cause of the alarm was traced to the unfortunate man from Brown County, and he was arrested for turning in a false alarm. The next day he was arraigned in the police court, fined \$1 and costs, and went away a sadder and wiser man."

A new town in the California quicksilver region has been named Mercury.

The Telegraphers' Mutual Benefit Association.

RECEIPT OF ASSESSMENTS.

NEW YORK, July 10, 1875.

ASSESSMENT No. 76.

Table with 25 columns and 25 rows of names and numbers, representing assessment data for the Telegraphers' Mutual Benefit Association.

ASSESSMENT No. 75.

Table with 25 columns and 25 rows of names and numbers, representing assessment data for the Telegraphers' Mutual Benefit Association.

Members of the Association who look to THE TELEGRAPHER for receipt of assessments paid, will please take notice that an acknowledgment of the receipt of one assessment should be taken as a receipt for all previous assessments.

The Lizard Lights.

THE lights at the Lizard are now undergoing considerable alterations. New lanterns are in course of construction. The source of light in future will be the magnetic electric, on the principle invented by Professor Holmes, combining all the improvements which he has recently made. The dioptric apparatus has been specially designed and constructed for the magnetic electric light. The machines for the production of these lights will be worked by Ericsson's caloric engines in lieu of the steam engines hitherto in use, thus entirely removing all risk of explosions and the necessity of water supply. It is intended also to establish a powerful "Syren" fog signal at this station, to warn mariners, in thick weather, of their proximity to the coast. This "Syren" will be worked by the same engine. The works are being rapidly carried forward, and it is expected that the lights will be exhibited by next Christmas.

A New Swindling Dodge.

It has remained for a St. Louis artist to devise and attempt a swindling scheme which is admirable for its novelty, though it chanced to fail at the first trial, and is of no further value. The device consists in bringing two telegraphic despatches and a signature book to a wealthy man for his signature, the page of the book being so cut and underlaid with a blank check that the signing of the name twice would give the clever operator a check both endorsed and signed. The business man narrowly escaped the trap, which failed for lack of a little forethought, as the paper beneath, not being securely fastened, slipped enough to attract attention as the name was being signed the second time. This small circumstance defeated the pretty plan, and saved the discoverer a big deficit in his bank account.

Correspondence.

We do not hold ourselves responsible for the opinions of our Correspondents. Our columns are open to free discussions on all Telegraphic subjects, without distinction of person or opinion.

No notice will be taken of anonymous communications.

Excellent Telegraphic Arrangements, and Heavy Business at Saratoga.—Albany Items.
—Resignation of Sup't
A. L. Dick.

ALBANY, N. Y., July 20.

TO THE EDITOR OF THE TELEGRAPHER.

THE Western Union office at Saratoga Springs has been very materially enlarged and improved since last season, and is now one of the most thoroughly equipped and manned offices of its size in the country. The operating room has been greatly enlarged by the removal of a partition (taking in "Bogy's" back room), and is a commodious and pleasant room.

Among the additions are three "quartette" tables of the W. U. pattern, a set of differential duplex, and a set of improved quadruplex instruments; the former being used on the Albany, and the latter on the New York circuit. Branch offices have been opened at the Congress and United States, also at Moon's Lake House, on Lake Saratoga.

The force, headed by the faithful and popular manager, J. G. Owens, is as follows:

E. A. Beardsley.....	Boston.
Edward O. Chase.....	Philadelphia.
Theo. Williams.....	New York.
G. E. Hinman.....	"
C. H. Thomas.....	"
L. B. McCarthy.....	"
J. A. Ashwist, Cashier.....	"
F. H. Patrick, Delivery Clerk.....	"
D. H. Patterson, Book-keeper.....	"
Wm. H. Hill.....	"
Geo. Wheelock.....	Fall River, Mass.
F. C. Noble.....	Augusta, Me.
M. J. P. Kavanagh.....	New York.

The names of these gentlemen are well known, and are a sufficient guarantee that the work of this office is being done in a first class manner.

Tuesday and Wednesday of last week were the heavy days of the season thus far, being the occasion of the University Boat Races. These trials of muscle draw together annually an immense throng of people from all parts of the country, who are interested in the success of the various crews, and give rise to a grand rush of telegraphing for a few days. The arrangements for transmitting this business were about as near perfect as possible this year. An office was opened on the grand stand, from which the progress of the race was reported every half mile, to New York office, and from thence it was bulletined throughout the country.

The experience of Tuesday showed plainly that one wire would not accommodate the rush which was sure to come on Wednesday, that being the crowning day of the regatta. Supt. A. S. Brown, Assistant Electrician Gerritt Smith, and Supt. of Repairs Geo. Thompson were on the ground, and seeing the necessity for greater facilities for the Lake offices, lost no time in providing them. After six o'clock Tuesday evening the work was commenced, and a second wire strung from the main office to the grand stand. This wire was hitched on one side of the quad, and was worked through to New York without any difficulty, while the first was worked "single."

Wednesday evening the press despatches were very heavy, aggregating 49,640 words, the bulk of which was sent after nine o'clock, on four single wires and the quad, the whole being finished about two o'clock. The entire business during the regatta foots up 113,446 words of press matter and 4,270 messages. Great credit is due to the gentlemen in charge and to the operating force for the handsome manner in which they disposed of this mass of business.

And now, like the crowd on Thursday, after the sports were over, I will leave Saratoga and come down to Albany, where a few items are awaiting their turn.

Mr. W. Ashdown, A. & P. operator at West Albany, picked up a \$400 diamond pin the other day, and upon returning it to Mr. H. S. Rosenthal, the loser, received a double X greenback for his trouble. It is understood that "W." does not object to this picking up business.

Two masons were at work in the new battery room a few days ago; one remarked to the other, "This would make a very good drill room if those posts were not in the way" (pointing to a couple of pillars in the centre of the room). "Why, do they intend to use this for an armory?" queried his companion. "Of course; they are fitting it up for the battery," replied the first singer of bricks and mortar.

A message was received here recently addressed "J.

H. Tobrigrand, Union Hotel, Saratoga." Mr. Tobey was finally found at the Grand Union!

Mr. A. L. Dick, for several years Superintendent of the New York Central Railroad Telegraph, has resigned. No official announcement of his successor has as yet been made, though it is generally understood that Mr. W. A. Graves, of Albany, will be the man. This settles it. DOUBLE SIX.

Reflections for Correspondents of The Telegrapher.—Personals.—Erroneous Statements in regard to the Milwaukee Board of Trade Telegraph.—Bulls.—Atmospheric Electricity on the Rampage.

CHICAGO, ILL., July 10.

TO THE EDITOR OF THE TELEGRAPHER.

AN evidence of how little we are missed in this wide world was strikingly manifested during the past two weeks. You may ask what that has to do with THE TELEGRAPHER? Well, haven't I appeared with my weekly contribution weekly for years? how was it possible THE TELEGRAPHER could make its appearance without that Chicago letter? Well, well, such is life, and as long as I can't stop the publication by not writing, probably I had better keep on writing and disgust your readers to such an extent that they will one by one fail to renew their subscriptions. We must find some way to squelch you—you are becoming a power; when, by withholding our support, we can't do it, we'll have to try some other means. Such thoughts as the foregoing have no doubt often entered the minds of many of the fraternity heretofore; seeing their weekly contributions as they appeared, they seemed, no doubt, to think that there was nothing else to fill that space, and stop writing to see if such was not the case. Whether agreeably or disagreeably disappointed the result is the same—THE TELEGRAPHER still appears weekly, just as interesting as if we had never been known! Such remarks may do injustice to your correspondents, but are they not warranted by the way you are treated by them during the heated term, when, most of all, you need their assistance? I hope more of them will come to the rescue, for whether the neglect comes from causes I have set forth in ridicule, or from any other, the result is the same. As for myself, circumstances over which I had no control prevented my weekly effusions lately. When we are sick we can't write; when our days are spent in toil and our nights in anxious watching over our loved ones who are sick, we cannot write; and this is my excuse for seeming neglect. As a result of the negligence we must travel over old ground that should have been gone over when the news was fresh, but in the hope that it will still be news to a majority of your readers, I send it.

The last meeting of the American Electrical Society, which was held on the regular night, the 3d Wednesday night in June, was the most interesting, for a small meeting, that has ever been held. Mr. C. H. Summers, of the Executive Committee, presided, and Mr. C. S. Jones, secretary (as usual), was in his place.

A paper from Mr. R. J. Hewett, of Austin, Texas, on the "Improvement of the Siné Galvanometer," was presented; also one from I. N. Miller, of Chillicothe, Ohio, being a supplemental paper on "Lightning Rods." Both were placed on file for discussion at a future meeting, when a larger number should be present.

Mr. W. C. Long presented a list of names of operators in the Western Union office who favored a local society being organized similar to the one in Milwaukee (organized by General Superintendent C. H. Haskins), which should be an auxiliary to the American Electrical, and should hold weekly meetings afternoon and evening, to give the night as well as the day operators a chance to be present. The list was referred, by unanimous vote, to the Executive Committee for their action. It is signed by a majority of the oldest and best men on the Western Union day and night forces here, who are really in earnest in wishing to get a better knowledge of the business which affords them a livelihood, and which is yearly spreading even to the uttermost parts of the earth.

That the meetings of the American Electrical Society are growing in interest is shown by the part taken by the members, old and new, in the discussions. Those of the members who are obliged to be absent are losing a great deal, and those who fail to join from feelings of distrust, or for fear they would not be made welcome, should drive such thoughts from their minds, and, by joining at once, not only benefit themselves by mingling with those who once stood where they stand, but also benefit their fellows who have not had their experience and are eagerly waiting to be instructed. I have heretofore tried to impress upon the fraternity the benefits to be derived from forming local societies as auxiliaries to the American Electric, and those of them who are near enough Chicago should lose no time in joining that Association, for although the society would probably never miss them if they did not join,

still every little helps, and each one has an influence which he exerts for good or otherwise. Whether conscious or not of the fact, such is the case, and we will be held responsible for the talents with which we have been entrusted.

I notice, in a recent issue of the Bloomington, Ill., *Pantagraph*, that Mr. J. N. Coons has been appointed manager of the Great Western Telegraph Company in that city. The office has been moved into his segar, news and variety store, at 103 West Jefferson street. The *Pantagraph* adds: "Mr. C. is an experienced operator, and all business entrusted to him will be transmitted with promptness, accuracy, and at lowest rates." Those of us who know "C." know that too much is not claimed for him by this notice, when it is remembered that he was a successful telegraph manager at different points in the oil region in Pennsylvania during the times when it took fighting to get business and keep it. His estimable wife, formerly Mrs. Morris, who was known in Pittsburg, Pa., Pacific and Atlantic office as "V," and at many points through the oil regions, where she used to make the boys get down to their work when she had specials to send, also assists Mr. C., and it looks as though, with such a team in the opposition, telegraph business was going to be lively in Bloomington.

I noticed our friend "Pete" Rowe, of the W. U. office at Peoria, Ill., in town a few days ago, looking as happy as if he had not been married.

"Patsy" Tierney, of the W. U. night fore in this city, was called suddenly home to New York City by the sudden and dangerous illness of his mother. It is rumored he intends engaging with the A. and P. in New York and will not return here. "Patsy" was a universal favorite and a strictly first class operator.

I am told that one of the W. U. Chicago ladies, to make THE TELEGRAPHER more popular, uses it for a fan these hot days, and when the boys call on her at her table and remark about her nice fan, she improves the opportunity to show the beauties of the paper and tell them they should subscribe, and as they can't refuse such arguments, the result is easily conjectured. That's the kind of girls we have!

Mr. O. S. Demise attends to the interests of the W. U. Tel. Co. at the Central Hotel in this city and his extensive news stand at the same time, which, by the way, is one of the best in the city. Our friend Lithgow, "Q," still continues to coin money selling tickets and telegraphing, on the percentage system, near MeVieker's Theatre, on Madison street. Henry Jahn, although quite young, attends faithfully to the interests of the Metropolitan Co. of this city at the Metropolitan Hotel. Some of the older members of the fraternity might take pattern from this attentive young man.

The statement made by your Milwaukee correspondent that the Board of Trade Telegraph Company, recently established between this city and Milwaukee, with Mr. Allan C. Knapp as lessee and manager, was gotten up to run out the great Western Company, is without foundation in fact. Neither is the rumor circulated in the interest of other parties, that it was entirely a Western Union affair, true. As well might the story circulated at the time the A. and P. leased a wire of the W. U. Co. between here and Omaha, that the W. U. had obtained a controlling interest in the A. and P., have been credited, as this absurd one. Mr. Knapp leases his wire from the W. U., 'tis true, but outside of this it is a purely private affair, in which an old and well known telegrapher has engaged to try to make a little money honestly, and instead of being used in this manner he should be encouraged.

If your name was D. H. Elliott, how would you like to have a boy running all over town asking folks if they knew D. Elliott? Mr. Elliott don't like it, but I dare not tell who made the bull. "Space, please." I suppose if your girl was in the habit of sending you nice little messages signed Ophelia, and you should get one signed O. P. Helia, you would be skeered too, and think she had been changing her name before you was ready. Oh! it was cruel to scare the poor fellow that way. One of the metropolitan boys is responsible for all this damage.

We hope "Pant a Loon," of Milwaukee, will not omit to give us more news from that quarter, as I notice that with all the correspondents you have in Chicago they fail to give us any Milwaukee news; and how could they? Sail in, even if you have to roll up your "Pant a Loons."

During the severe storm in the vicinity on the 22d of last month, the depot telegraph office at Highland Park, Ill., was struck by lightning and burned down. Fortunately the operator, hearing the storm approaching, was warned and vacated the building before it was struck. For the past two weeks storm has succeeded storm in such quick succession that it would be impossible to chronicle the disastrous effects of all of them. The earth and the clouds above seemed to vie with each other in producing electricity of that explosive and combustible nature which is so destructive to life and property. After reading "John Sterling's" account of the storm in the east years ago, I had thought I

should like to witness such a sight, but did not think my wish would be gratified so soon. I was awakened about three o'clock in the morning a few days ago by a continual lighting up of the room, accompanied by a rushing sound like that of a large fire. On the impulse of the moment I was about to scream fire, when I thought I would investigate farther. There was no noise save a hissing noise and the continuous lighting up. I found on opening the front door the air filled with a thick damp vapor, difficult to breathe from its heaviness and density. It looked like smoke, and when the lightning flashed it seem to lick it up as fire would oil. It was certainly a grand sight—I might say awfully grand. I watched it for fifteen minutes and the thunder was not heard for nearly half an hour afterwards; and as soon as the thundering became perceptible it began to rain. There were no very loud reports as if the lightning was striking anything, but just a rumbling rolling sound, and the rushing fiery sound, as if the elements were as quietly as possibly clearing the earth of its poisonous vapors.

Mr. John L. Rhodes, living eleven miles east of Jerseyville, Ill., narrowly escaped with his life a few days ago, his barn being struck, and with his hay, grain and several head of live stock consumed. A fishing party at Broken Kettle, Iowa, were struck by lightning and a man named Knapp instantly killed, while the other four were badly injured. At Springfield, Ill., hail fell as large as hen's eggs. The residence of Mr. Williams being near his barn, his wife was seriously shocked by the same charge that struck the barn and killed a valuable horse.

A family near New Carlisle, Ill., were badly stunned, while the barn was struck, and it and the contents, valued at \$2,500, destroyed by the fire resulting from the lightning.

At Brashear, Mo., a few days ago, while three men were in a granary, filling wheat into sacks, lightning struck the barn, and one of the men, while sewing up a sack, was instantly killed—being struck on the head, neck and breast. At Mariou, Ind., during the same stormy siege, the residence of Mr. Thornburg was struck, he and his wife knocked senseless, and the building badly damaged. At Jerseyville, Ill., Mrs. John A. Cory was so badly shocked that her life is despaired of. At Prairie du Chien, Wis., a valuable horse and some stock standing twenty feet distant from a barn that was struck, was instantly killed. At Battle Creek, Mich., a school house, which a little while before had been filled with scholars, was struck and badly damaged. In the southern part of Illinois three brick houses were struck and the inmates seriously injured—especially a young lady, who was leaning against the side of the house where the charge entered. At Cincinnati the bonded warehouse of R. W. Caldwell, distiller, was struck, and burned down, entailing a loss of \$23,000. Three or four dwellings near the Gest st. bridge, and a fire engine house was also struck, without any serious damage, except knocking down a young lady who was standing in the door of one of the dwelling houses. At Logansport, Ind., a man named Warner had his clothes nearly all torn off him, and was very badly injured by being struck. At Mona, Iowa, a boy named Levison, while driving home the cows, was struck and instantly killed, while his two companions were badly stunned. At Columbus, Ohio, on the 4th inst., a church and a house near by were struck, and a man named McMullin, in the latter, also struck in the back of the head, the current passing around his body and down his right leg, burning and stunning him severely. At Fairbury, Ill., on the 3d inst., while a large number of persons were celebrating the 4th, a storm came up, driving them from the grove to the awnings of the buildings on the south of the public square. Two houses were struck and burned down and a mule killed within fifty feet of hundreds who had taken shelter there. Nearly all of the people were hurt more or less. It was commented upon as a miraculous escape. In Curran township, near Springfield, Ill., on the sixth inst., a man named Curran, while in a field attending to some cattle, was struck and instantly killed. On the 8th inst., at Hampton, Iowa, a farm house was struck, and three small children playing on the kitchen floor, aged between four and eight years, were instantly killed. It has been noticed by observing persons, who have given the matter attention, that a majority of the buildings struck and destroyed, which I have noticed above, were protected (?) by lightning rods—some of them of the latest improved patterns.

It is reported that an *arolite* fell in Springfield, Ill., a short time ago, and struck within a few inches of a lady, who was standing at her gate. It was quite warm when picked up, and measured about two inches in length. The theory has been advanced that its fall was due to electrical disturbances.

Is it not a wonder that some of these lightning rod pedlers don't get struck? It must be because men are not punished for lying.

The Burlington *Hawkeye* is responsible for the yarn "that the same flash of lightning that killed a dairyman's best cow also opened up a beautiful spring of

clear water near the house. That man don't drive around by the river now, and, of course, small fish have not been found in the milk recently." It's true, of course.

I understand a picked nine from the Western Union night force left here to-day to play the "Dots and Dashes," of St. Louis, to-morrow. Will try, if possible, and get the result of the game for your issue of the 17th.

OCCASIONAL.

The Visit of Chicago Boys to St. Louis.—The Visitors Win the Game of Base Ball.

ST. LOUIS, Mo., July 12.

TO THE EDITOR OF THE TELEGRAPHER.

THE deed has been did, and the St. Louis boys are a defeated crowd.

As arranged, the Chicago boys, eleven in number, as follows: Sam Braeken, captain; Delaney, Kemp, Scates, Batcheler, Curt Meserve, McCulloch, Andrews, Kerns, players, and Dave Anderson and Ed. Whitford (to keep them straight and urge them on to "victory") arrived at eight o'clock yesterday (Sunday) morning, and were met at the depot by Messrs. Nelson, Newton, Irwin, Day and Moxon—a self-appointed reception committee. They party proceeded to the Everett House, where they had breakfast and met another delegation of St. Louisians. After breakfast, at which Mr. Whitford is said to have distinguished himself, the party took the cars for the Grand Avenue Park. A drizzling rain was falling and black clouds darkened the horizon, which made the prospects for a game very bad. All were in good spirits, however. After waiting awhile, as the weather showed no signs of clearing up, it was decided to play in the rain. The game was called at eleven o'clock. Mr. Dan Devinney, of the St. Louis Empires, was chosen umpire, and he discharged the duties of his position through the long and tedious game with remarkable satisfaction, and received high compliments from all. Ed. Whitford kept the score. St. Louis, losing the toss, went to the bat. In the first inning they tallied two; Chicago, five. Many of the Chicago boys were provided with base ball shoes, which prevented, to a great degree, their "skating" over the wet and slippery grounds. The game went in favor of Chicago from the start, principally on account of the St. Louis fielders' inability to manage the ball, as before stated, on account of slippery ground. They also failed to run bases in proper style. There was a fine exhibition of "muffingism" on both sides, Mr. Sam Braeken, of the Chicago, making the only creditable play. Mr. Batcheler, of that nine, did good execution with the willow, and, aided by St. Louis' poor fielding, made a good score. Delaney played an honest game at first base, but scarcely a good one. Scates' pitching was slow, and under different circumstances would have been severely punished. Curt Meserve at "third" and Johnnie Kemp at "second" made several stops, but were slow in getting the ball to "first." The outfield play was not noticeably bad or good. On the St. Louis side, Captain Nelson distinguished himself in running bases, not otherwise. Carroll was weak behind the bat, and Al. Marsh caught several innings. Lenhardt at "third," Bell at "second" and Deering at short, made the most errors. Charlie Cummings at "first" did beautifully, his play being almost without error.

The game was interrupted several times by rain, and towards the close grew exceedingly uninteresting. Considerable money changed hands on the result. It is a somewhat singular fact that in Chicago the betting was in favor of the St. Louis Club, and in St. Louis in favor of the Chicago. Five double plays were made by the Chicago boys; none by St. Louis.

It had been expected that there would be quite a number of spectators present, but the rain prevented a great many from attending. Prominent among those who were present were Billy Spink, who represented the *Globe-Democrat*; John Cassidy, Charlie Day, Charlie Newton, Jim Murray, Tom Wheeler and J. W. McDonald.

The game was telegraphed, by innings, from the grounds to Chicago and all the principal cities of the country, and all the St. Louis papers contained accounts of it. The following is the score:

CHICAGO.		ST. LOUIS.	
O.	R.	O.	R.
Delaney, 1 b.....	4	Carroll, c.....	3
Kemps, 2 b.....	5	Marsh, 1 f.....	2
Scates, p.....	1	Bell, 2 b.....	3
Batcheler, s. s.....	1	Cummings, 1 b.....	3
Meserve, 3 b.....	4	Nelson, p.....	1
McCulloch, r f.....	5	Deering, s. s.....	4
Andrews, 1 f.....	4	Irwin, r f.....	3
Kerns, c f.....	4	Lenhardt, c b.....	4
Braeken, c.....	2	Moxon, 3 f.....	1
Totals.....	27	Totals.....	18

Base hits—St. Louis, 8; Chicago, 9.
Passed balls—Braeken, 2; Marsh, 1; Carroll, 6; Lynch, 3.
Left on bases—Chicago, 6; St. Louis, 2.

After the game the visitors were escorted to the

office, and also paid a visit to the bridge. After supper all had a short rest, and at 7.20 P. M. were bidden good-bye by the whole nine, besides many others from the office, including Messrs. Cummings, Topliff and Van Tyne.

The visitors expressed themselves well pleased with everything, including the result of the game, and promised to do as well for the St. Louis boys when they visit the Garden City for the return game, which will probably be some time in August.

TOO MUCH CED.

Weather.—Welcome.—Personals, etc.

PHILADELPHIA, Pa., July 20.

TO THE EDITOR OF THE TELEGRAPHER.

WE are still alive in this part of the universe, notwithstanding that it has been 103 deg. in the shade, and I think our office is especially a warm place, as there is very little pure, fresh air that penetrates into our office, it being mostly hot air from the numerous engines, tracks, etc., and, not speaking of the numerous dust storms we are often greeted with, you can imagine our "feelings."

Feeling hot and uncomfortable one day, I took a trip up the road and called on Mr. Sellers, the genial and active agent at Sellersville, who presented me to his partner in the blessings of this life and his little "sunder," and had the extreme pleasure of feasting on a luxurious dinner, prepared at the hands of Mrs. S. and her sister, to which I did ample justice; and after having been further entertained with some excellent music, rendered by Mr. Sellers, and a good talk, as only operators can talk, I soon left there and concluded my journey home. Any one wanting to take a rest from office duties and have a pleasant time I advise them to call on Mr. S.

Miss Lees is still managing the affairs at N. P. Depot here in the city, for Bentley's City Line, and is doing her very best for the interest of said company.

We heartily welcome among our ranks Mr. T. Frazier, "D. C.," formerly messenger for the W. U. Co. at Doylestown, Pa. Give us your hand, Tom.

A message for Pittman was delivered to Hillman. The chief operator at this office kindly permitted me to have the day and evening of the 5th inst. at my leisure, after having worked only two hours and a half in the morning. I tried to make myself agreeable to the numerous young ladies at a pic-nic in the afternoon, and towards evening several of us young men wended our way to Fairmount Park, taking the P. & R. cars at Ninth street and Reading R. R. near Erie avenue, and soon thereafter arriving at destination. Whether cakes, pies and healthy edibles were not allowed in the park I don't know, but I do know that after a long and vain search we were obliged to go supperless, as we had not the time to spare to go to one of the crowded hotels or restaurants in that vicinity. There were, however, plenty of peanuts to be had, and a sort of reddish looking water, called by the vendors lemonade, but we had had enough of that stuff.

After the conclusion of the beautiful fireworks (which I leave to a more capable person to describe) we had the pleasure of walking fully thirty squares, after having been on our feet nearly all day; and after partaking of some excellent cream and ices we boarded the street car for the remainder of our journey, and thus I passed the fifth of July. EX-PROF.

A Difficult Problem.

TO THE EDITOR OF THE TELEGRAPHER.

WE all know, as a matter of course, that electricity is a mighty force (called for convenience a fluid), and that it appears to exist in every substance of nature, and may be developed by a variety of causes, such as friction, heat, and chemical action.

Now, the question is with me, and which I would like to have answered, Why is electricity excited or developed by these causes? W. A. S.

[NOTE.—We should be pleased to afford the information desired by our correspondent, but his question is a difficult one to answer. Able electricians in this and other countries have studied it for many years, but have not arrived at a satisfactory explanation. If any of the electricians who read THE TELEGRAPHER can solve the problem intelligently and satisfactorily we should be pleased to hear from them on the subject.—EDITOR OF THE TELEGRAPHER.]

A NEW SOURCE OF MAGNETISM.—M. Tommasi states that, when a current of steam under a pressure of 8 or 6 atmospheres is driven through a tube of copper 500 to 600 of an inch in diameter, rolled in a spiral about an iron cylinder, the latter becomes so highly magnetized that an iron needle, placed at a fraction of an inch from it, is strongly attracted and remains magnetized during the passage of the current.

THE TELEGRAPHER

DEVOTED TO THE INTERESTS
OF THE
TELEGRAPHIC FRATERNITY.

SATURDAY, JULY 17, 1875.

THE TELEGRAPHER:

PUBLISHED EVERY SATURDAY at 38 VESEY ST.

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38 VESEY ST., New York.

Express Messages.

OUR contemporary, the *Journal of the Telegraph*, in its last issue reviews the argument against the adoption of the system in use in some European countries, of express messages, or messages accorded priority of transmission over telegraph lines on payment of a special rate therefor.

It is true that there is much to be said on both sides of this question, and it is therefore a fair subject for discussion in telegraphic journals. We have carefully considered the arguments and assertions of our contemporary, but we are yet unconvinced of the untenableness of the position which we have taken in regard to this matter.

The first, and as it is evidently considered by our contemporary, an unanswerable argument, advanced and reiterated, is that transmission of messages in the order of reception is imperative and fundamental under the laws of most of the States in the Union. We do not understand that the State laws prohibit special contracts between telegraph companies and their customers. If this be so, then the half rate system for night service, now universally adopted and equally popular, is illegal. At night messages are given priority of transmission and delivery upon the payment of double the rate paid, when taken under a special contract to be transmitted and delivered within a certain specified time, at the convenience of the telegraph company. There has been no complaint of illegality or unfairness in this matter, and we can see no valid reason for such complaint applicable to other business which is not equally so to this.

We are by no means convinced by the argument of our contemporary that the application of the half rate night service to telegraph business generally, would lead to such a universal protest as he asserts. It would be merely a classification, not by the telegraph officials, but by the customers themselves, of their messages, as regards the relative importance and value of immediate or less prompt transmission, for which they would pay accordingly. Much of the business requires prompt transmission and delivery, or it is of little or no value to the customer. A considerable percentage, if sent and delivered at any time within from five to ten hours, will answer the purpose just as well. Under the present arrangement all messages, except the half rate night messages, are taxed to furnish immediate transmission and delivery. Is not the proposed priority sys-

tem more fair and equitable to all parties? If a message is of immediate importance it would pay accordingly, if prompt transmission is not essential, it would have the benefit of the fact, which, with the exception before noted, it does not now.

There is a general demand for lower rates for telegraphic service. Under the present system the rates are probably about as low now as telegraph companies can afford to make them. By scaling the tariff and giving priority of transmission within certain limits to those whose business requires it, and who desire and are willing to pay for it according to its value, a less important class of messages might be taken to be transmitted and delivered within a specified time, lower rates could be accepted therefor, and to our mind this would be but simple justice to all parties. It would moreover leave the wires free during the business hours of the day to carry such preferred business, enabling telegraph companies to perform the business more satisfactorily and advantageously to themselves and their customers. The lower rate would, when the system was understood by the public, undoubtedly increase considerably that class of business, and thus furnish additional employment to the lines, when otherwise they would for much of the time be idle. This has been the result experienced with the half rate night message system, which, it should be said, was not introduced by the Western Union Company, but forced upon it by the action of the Pacific and Atlantic Company, when it originally extended its wires to this city. At that time the Western Union officials regarded the half rate night service with as much disfavor as they now do the proposed express message service.

We have no doubt but that this system will eventually be introduced generally in this country, and after it has been in use for a year, will be as popular with the public, and as much in favor with our Western Union friends as the once despised duplex of Mr. STEARNS, and the half rate night service now are.

The Direct United States Cable.—Where is the Faraday?

NOTHING reliable has been heard from the steamer Faraday, which, at the last advices, was engaged in repairing a fault which had been developed in the long section of the Direct Cable. This was some three weeks ago, and the prolonged silence, and the fact that no communication has been had with the ship from either end, causes some uneasiness, and gives rise to reports and rumors of a discouraging character. On Tuesday and Wednesday last the quotation of Anglo-American shares largely advanced in London, and that of the shares of the Direct Cable Company declined to 8 on a par value of 20. A report was circulated in London that the attempt to get the Direct Cable in working order again had been abandoned, but from what authentic information we have been able to obtain we do not think there is reliable foundation for this report. Up to the time this is written absolutely nothing has been heard from the Faraday, and there is no communication through the cable. We understand that the steamer Hercules was, on Monday evening last, despatched from St. Johns, N. F., in search of the Faraday, with instructions for her, if found.

European and East India Telegraph Agency.

MR. E. C. VAN HOVENBERGH, formerly clerk to Mr. E. F. LUDWIG, Supt. of the C. N. D. of the Gold and Stock Telegraph Company of this city, has established a European and East India Telegraph Agency at No. 21 Wall street, New York.

Those who may have occasion to forward messages per Atlantic cable as above, will find it to their advantage to arrange with Mr. VAN HOVENBERGH for their transmission. His arrangements are very complete for this business, and those who may patronize him will save money by so doing.

Literature.

The Electrical News and Telegraphic Reporter.—Edited by WILLIAM CROOKES, F. R. S., etc. London: Boy Court, Ludgate Hill, E. C. 1875.

This is a new weekly electrical journal, of which the first number of July 1, 1875, has just reached us. It is conducted by Mr. Crookes, the well known editor of the *Chemical News* and *Quarterly Journal of Science*. The new publication is modeled somewhat after the *Chemical News*, and evidently aims to occupy the same position as an exponent of electrical, as that valuable publication does of chemical science. In his salutatory the editor makes the somewhat remarkable assertion, that "journals have been started with the professed object in view of making public all that is known or can be learned of electricity in all its branches, but they have degenerated into unscientific records of unimportant events, and the purpose for which they have been started has been lost sight of; thus it comes that while engineering, chemistry and other applied sciences have all their representative recognized organs, the electrician finds himself without any current journal from which he can learn the events which are daily occurring of peculiar interest to himself." If this is so, we trust the new comer will be able to supply the deficiency.

Washington, D. C., Fire Alarm Telegraph.—Application for an Injunction.

JOHN ESPUTA, JOHN THOMAS YOUNG and CHARLES STEWART have filed a bill for an injunction against the Commissioners of the District of Columbia and the firm of GAMEWELL & Co., of this city, to prevent them from putting up the new fire alarm telegraph for the District. The grounds upon which the injunction is asked for are that the contract is illegal—the consideration to be paid extravagant; that the title to the patents for the machinery is incomplete and imperfect, etc. It is also stated that the GAMEWELL system is not in successful operation anywhere.

There has been a very bitter contest for the Washington contract, and it is supposed that this action has been instigated by parties who failed to obtain it. We understand that the libellants are a Spaniard and two negroes residing in Washington.

We do not know as to the legality of the contract, but in view of the fact that the GAMEWELL system is now in successful operation in seventy-one cities in this country, the assertion to the contrary is rather startling. We do not take sides in contests between rival inventors or claimants of inventions in this matter, but we are bound to refute such statements as are made in this case in regard to a system so valuable and useful, and which has been so extensively introduced as the American (or GAMEWELL & Co.) Fire Alarm Telegraph.

The preliminary hearing on the application for the injunction was to take place Friday, the 23d inst. Meanwhile the erection of the new fire alarm telegraph is actually proceeding.

Handsome Business Cards.

WE have received from Messrs. JOSEPH MODRE AND SONS, the well known manufacturers of insulated telegraph wires, 535 and 537 China street, Philadelphia, a series of cards, five in number, giving excellent lithographic views of the several buildings and grounds included in the Centennial Exhibition, and which are combined with their business card. This is a very good idea, as the excellence of the views will insure the cards being preserved and exhibited.

In this connection we would refer to the fact that this house was established in 1820, and has, therefore, passed its semi-centennial, but it is not by any means antiquated or behind the age in its manufactures and business. All wire furnished by this firm may be relied upon as being of the best quality, reasonable in price, and just what it is represented.

Tillotson & Co.'s Manufactory of Car Trimmings, etc.

In addition to the extensive business of Messrs. L. G. TILLOTSON & Co. in electrical and telegraphic apparatus and supplies, in which they are largely engaged, they are probably the largest manufacturers, importers and dealers in railway machinery and supplies in the country.

They have recently added to their facilities, as a result of the greatly increased demand for these goods, a separate and extended branch of manufacture of car trimmings, lamps, etc., devoted specially to this class of work. They have also purchased the patterns and machinery of W. C. MARSHALL & SONS, of Hartford, Conn., and will continue the manufacture of all styles of goods formerly manufactured by that firm.

Personals.

Mr. MILLER, formerly assistant agent and operator at Quakertown, Pa., N. P. R. R., has been appointed agent and operator at Hartsville, Pa., N. E. P. R. R.

Mr. THOMAS FRAZIER, formerly messenger W. U. Tel. Co. at Doylestown, Pa., has been appointed assistant agent and operator at Quakertown, Pa., N. P. R. R., *vice* MILLER, promoted.

Mr. FRANK SCHUMAKER is the gentlemanly operator at the Western Electric Manufacturing Co.'s office on Kinzie street, Chicago, Ill., and copies all his business as it is sent on the Sholes & Glidden type writer.

Mr. J. L. MANSFIELD officiates at the Sherman House, Chicago, Ill., while his brother, Mr. J. P. MANSFIELD, takes a few weeks' vacation in the country.

Mr. A. FARQUHAR, an old Pacific and Atlantic operator, has charge of the C. & P. R. R. passenger depot, on Larrabee street, Chicago, Ill., as ticket agent and baggage master, in conjunction with his duties as operator.

Miss EMMA BONSALE, formerly operator at Racine, Wis., Western Union office, was married July 13th to Mr. W. H. DILWORTH, of New York City, and has left for her future home.

The Telegraph.

By Cable.

ADVANCE OF ANGLO-AMERICAN AND DECLINE OF DIRECT CABLE STOCKS.

LONDON, July 21.—The stock of the Anglo-American Telegraph Company advanced £2 10s. yesterday. Some of the papers state that the rise was on account of a rumor that the efforts to repair the Direct United States Cable had been abandoned, while others say it was in consequence of heavy purchases to cover speculative sales. The stock further advanced £1 10s. to-day, but fell 10s. The price is now 63. The stock of the Direct Cable is declining, and is now quoted at 8, which is a fall of 20 per cent. since the 8th inst., when it was quoted at 10. Its par value is 20.

The Franklin Telegraph Company.

AT an adjourned meeting of the Franklin Telegraph Company for the election of directors, held at Boston, Mass., June 15th, Mr. Alfred Nelson, of New York, presided, and said that the statement of the company's finances could not be presented as it was not completed.

The following directors, who were on the ticket presented by the New York interest, were elected: Messrs. Sidney Dillon, Jay Gould, W. J. Symms, John H. Mortimer, Thomas T. Eckert, Henry M. Faber, Fred. L. Ames, E. T. Atkins and E. H. Rollins. Messrs. Dillon and Eckert received 7,833 votes, their election being unanimous, and the others 5,544 each. Mr. James G. Harris was unanimously reflected clerk, and Mr. Alfred Nelson was chosen treasurer.

A preamble reciting that the Atlantic and Pacific Telegraph Company fraudulently assumed the control of the Franklin line, decreased its rates and injured its business by gross mismanagement, and a resolution directing the directors to bring an action in behalf of the company in law or in equity against the Atlantic and Pacific Telegraph Company, to recover damages therefor, was defeated by a vote of 5,446 to 2,295. The meeting was then adjourned.

The Maine Telegraph Company.

THE annual meeting of the Maine Telegraph Company (whose lines are leased to and form a part of the Western Union Telegraph Company's system) was held at Bangor, June 30, when the following directors were elected: Messrs. Wm. Gallupe, Albert Holton, Albert N. Paine, Jacob A. Smith, Bangor, Me.; Edwin F. Littlefield, Winterport, Me.; Hiram O. Alden, Wm. H. Simpson, Belfast, Me.; Bion Bradbury, Wm. P. Merrill, Portland, Me. The board subsequently elected Hiram Alden, President, and W. P. Merrill, Secretary and Treasurer.

Telegraph Business at Saratoga, Regatta Week.

THE business of regatta week at Saratoga was something enormous, and Wednesday, the day of the great University race, the number of messages and specials exceeded anything ever experienced before at that "Baden-Baden of America." With the quadruple of the Western Union Company had the equivalent of six wires to New York, and they were crowded to their fullest capacity during the afternoon and until late Thursday morning. After three P. M. 49,641 words of press were sent, which is nearly half as much as in the whole amount of press in the month of July last year. During the same time, Wednesday evening, between 1,200 and 1,800 messages were handled and despatched without any delays. The operators there relate that they were not crowded all day, but say that the bulk of the work came in in the afternoon after the races. The press sent Sunday, Monday and Tuesday aggregates considerably over 100,000 words. The regatta arrangements have been pronounced a signal success by the New York press, and we think the telegraph companies can exalt their horn considerably and claim a good share of the honors of the occasion. Without the splendid facilities afforded the regatta would have been as unsatisfactory as last year, and this is another instance of what timely provision and good management can do.

Gold and Stock Company's Extensions.

THE Gold and Stock Telegraph Company of this city have lately completed a line of fifty foot poles, extending from Old Slip and Water street, through South street to James street, to Water street, and thence to Cherry street, connecting there with the main line. This new line will carry mainly the Brooklyn wires of the company, now numbering forty-three, and enable the company to devote those in use for those wires now running through and along Cherry street to the up town circuits. By the erection of this line the last chance for down town pole lines is gone, no other street being vacant.

A further extension is also in progress and will shortly be completed from Jackson and Cherry streets, through Cherry, Corlear, Mangin and Houston streets, to Avenue D, through Avenue D to Fifteenth street, and thence to First Avenue; with another branch line from Avenue B and Fifteenth street, along Avenue B to Twentieth street, thence through Twentieth street to Avenue A, through Avenue A to Twenty-third street, and thence joining main line and Twenty-third street and First Avenue. The poles on this latter extension are forty-five feet long and very heavy, and will be a valuable addition to the facilities of the company for their many wires running in that direction.

These lines are built for the company by Mr. Robert Brown the veteran contractor, who has built a large portion of the lines of this company in New York and Brooklyn.

Western Union Notes.

THE night force at the new Western Union building now consists of twenty-six men. When the list is complete, the first four men are exempt from duty on Sunday evening. The list moving along one every day, the first man becoming last and the second man first, it gives each man an off night once a month, which makes it very pleasant for all concerned, as the pay goes on regularly. However, if any one of the force are late Sunday night they are put on the "reserve," and, as a penalty, are docked for the time late, and have to come on duty when it would otherwise have been their night off. No elevators run Sunday night, and as five o'clock draws near there is a good deal of perspiration (and induced profanity) as the crowd toil up the eight flights of stairs.

It is exquisitely funny sometimes to see the boys at the Western Union building, in the middle of a message or special, suddenly open their key and say "min," "blot," and move quickly away towards the end of the switch, obviously going for a drink of water. It is rich, too, to see their closely compressed

lips, and the way they roll their eyes in the direction of the manager's desk as they slip along, and when the water tank is reached, to see them bend carefully over as if to examine closely the style and finish of the tank faucet, and then suddenly let loose a quart, more or less, of mucous, highly impregnated with tobacco, into the slop pail underneath. Sometimes they seem to have a high opinion of the landscape outside, and admire it frequently from the window, and vent their admiration in floods of expectoration in lieu of applause. The filthy habit of chewing tobacco has gained such a hold on most of the operators that even amid the elegant surroundings of this palatial office they cannot abstain therefrom. To such, then, the stringent rules against spitting upon the floor or from the windows are most burdensome. They are having a good effect, though, we are glad to say, and are doing a great deal of good. Many have given up the habit altogether, and others are striving towards the same end.

A day or so ago the following was going around the office, written upon a blank by one of the operators, who evidently had a keen appreciation of the humor of the situation:

THE OLD WATER BUCKET.

Oh, dear to my ease and comfort, while chewing
The narcotic weed of my brothers so free,
Is the thought that the bucket, besmeared with my spewing,
All coated with mucous, is waiting for me.

Oh, blissful indeed is my sweet rumination,
With never a dread of soiling the floor,
Or raising beneath me a young inundation—
The bucket's my safeguard, my prized cuspadore.

The old water bucket, the ice water bucket,
The bucket we buck at, that stands on the floor.

Reduction of Western Union Force and Salaries in the South.

THE palmy days of telegraphy in the South have almost, without its being known, gradually slipped away—that is, the days when the South was looked upon as a never failing refuge for operators out of a job, or looking for immense salaries.

Within the past six months there has been a general overhauling throughout the Southern division of the company. Expenses have been cut down, which involved reduction of force in many places and material reduction of salaries in others. Texas has been, up to within this short space of time, looked upon by operators as a perfect Eldorado—large salaries and not much to do—besides affording a chance for outside speculation (bar rooms, etc.) But it is so no more. A position in Texas is no longer the sinecure it was, and the boys going there will find just as much work and no better compensation than in the northern and western offices. To afford an idea of the extent of the reductions we will cite a few.

New Orleans formerly paid operators \$125 per month, now pay \$115, besides a reduction in force of two men. Galveston, formerly \$125 (at one time in gold), now pays \$105 and \$110, reduction of two men. Memphis, Tenn., formerly \$125, now \$115. Houston, Texas, formerly \$125, now \$115, reduction of three men. Little Rock formerly paid report man \$120, now \$105, reduction of two men. Dallas, Texas, formerly \$110 to two operators and \$140 to manager, now gets along with one operator (besides manager) at \$90, manager's salary remaining unchanged. Austin, Texas, reduced from \$110 to \$90. Shreveport, La., from \$125 to \$100, reduction of one man. Besides these, many smaller offices, such as Marshall, Sherman, Long View, Jefferson and others have had force and salaries reduced considerably. For instance, Long View paid manager \$100, now pays half receipts, which amounts to about \$50 per month. The reduction only affected the managers of the smaller offices. It will readily be seen that some of these reductions could have been made before, but it was probably the idea of the company to make one sweeping move, which would affect the entire south simultaneously.

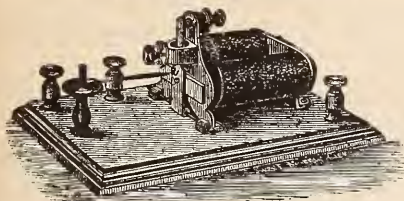
Our motive in publishing these facts is merely as a matter of information.

The men who were relieved on account of reductions, at least in Assistant General Superintendent Clowry's district, were provided with situations as rapidly as possible, and probably not one of the number who desired one is now out of a position in his district.—*The Electric.*

M. SELIM MENSTROM writes to *Les Mondes* that the diffused lights seen over the summits of the mountains of Lapland and Spitzbergen are of the same nature as the aurora borealis. In the spectrum of those lights and in the spectrum of aurora there are nine rays, which appear to agree with the lines given by the component gases of the atmosphere.

LANNERT & DECKER

will not be undersold by any firm competing in price or quality.



A reduction of 25 per cent. from our former prices on all Relays and Main Line Sounders.

	Former Price.	Red. Price.
No. 1 Relay, a superior d'ble adj. inst., and standard res., and finely finished.....	\$15 00	\$11 25
No. 2 Relay, a superior d'ble adj. inst., and standard res., and finely finished.....	14 00	10 50
Pony Relay, a superior inst. for lines of 15 miles or less.....	7 50	5 65
No. 1 Main Line Sounder, d'ble adj., finely finished, standard resistance.....	16 00	12 00
Fifteen per cent. from our former low prices on keys.		
No. 1 Key, improved standard size, heavy platinum, finely finished.....	4 00	3 40
No. 2 Key, improved standard size, heavy platinum, iron base.....	3 00	2 55
Ten per cent. discount from our former very low priced Local Sounders.		
Acme Local, No. 1, large and loud, works well with one cell local.....	5 00	4 50
Acme Local, No. 2, small size, round base, one cell local sufficient.....	4 75	4 28



ELECTRICAL BELLS

of various styles and sizes at a reduction of 25 per cent. from former prices.

No. 1 Alarm Bell, 3 3/4 inches in diameter (see cut), works well with one cell local; single stroke or continuous ringing, as desired, changed by lever; thumb-screws with check nuts, for adjusting spring and stroke, large and hard platinum connections; binding posts for holding wires; Bell finely polished, and base extra ornamented. Former price, \$4 50; reduced price, \$3 38.

No. 2 Alarm Bell, without binding posts, and cheaper finish, but working equally as well. Former price, \$3 50; reduced price, \$2 63.

All other standard improved instruments proportionately as cheap. Also, Batteries, Supplies, Chemicals, &c., at lowest rates.

PRICE REDUCED!!

THE POCKET GALVANOMETER,

finely finished and Nickel Plated, will be sent by mail, to any address in the United States, on receipt of one dollar (\$1 00). Canada, 10 cents extra to pay postage. Send for Circular.

Until further notice, when desired, instruments of our own make will be sent to responsible parties C. O. D., with instructions to the express agent to show instruments before receiving pay, and if not satisfactory they can be returned at our expense.

Other goods will be sent C. O. D. as usual, on receipt of money order, registered letter, or draft on N. Y.

Price List and Circular of other Instruments, Batteries, Supplies, Chemicals, &c., sent on application.

All orders will receive prompt and careful attention, consigned to

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The Pocket Galvanometer manufactured by LANNERT & DECKER, finely finished and nickel plated, sent by mail to any part of the United States on receipt of ONE DOLLAR. To Canada, ten cents extra, to pay postage. May be seen at the office of THE TELEGRAPHER, and will be forwarded as above on application to

J. N. ASHLEY,
38 Vesey street, New York.

P. O. Box 5,503.

ORTON'S PATENT PENCIL HOLDER.

"SAVE THE PIECES."

This HOLDER is intended to save the last half or third of the pencil.

DIRECTIONS.

When the pencil becomes too short to write with comfortably, have down the butt and screw into the Holder. The screw takes its own thread and will hold the pencil perfectly firm.

Price, 10 cents each.

Sent by mail on receipt of price.

Price per doz., 60 cents.

GEO. H. BLISS & CO., Gen'l Agents,

220 Kinzie Street, Chicago, Ill.

WESTERN ELECTRIC MAN'FG CO.

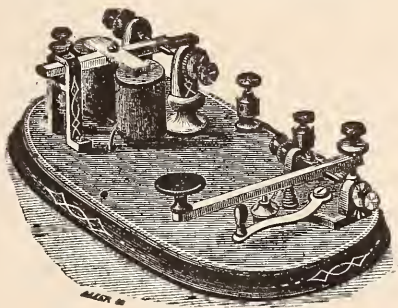
220 Kinzie Street,

CHICAGO, ILL.

CELEBRATED

PRIVATE LINE OUTFIT.

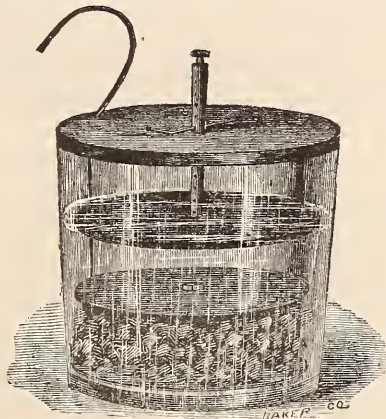
THE BEST IN THE WORLD.



PRIVATE LINE INSTRUMENT.

This instrument is mounted on an iron base and finely finished.

It gives a clear, loud sound. It is made to work on a line from a few feet to ten miles in length.



BLISS RESERVOIR BATTERY.

This battery took the first premium and a silver medal for force, constancy and economy at the Cincinnati Exposition.

With each "Private Line Outfit" is furnished one Private Line Instrument, one Cup Reservoir Battery, the necessary Chemicals, Wire for connections and a Manual.

PRICES.

Private Line Outfit, complete.....	\$10 00
Instrument only.....	8 00
Bliss Reservoir Battery, per cell.....	2 00

DISCOUNT.

A discount of twenty per cent. will be allowed when remittance accompanies the order. Remit by express, registered letter, postal order or draft.

In ordering state length of line, so that the resistance of instruments may be proportioned accordingly.

SEND FOR CIRCULAR.

Liberal terms to Agents.

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NEW AND ENLARGED EDITION OF

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SHORT LINES OF TELEGRAPH,

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WITH A CENTRAL OFFICE,

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UPON THE AUTOMATIC PLAN,

is now in operation in the following Cities, to which references

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The Distinctive Features of these Systems of

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ARE,

First—The **Automatic Repeater**, through which the apparatus may be distributed in a combination of circuits, and the entire system successfully worked, without the constant personal attention of either operators or watchmen.

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Only **PERFECT, COMPLETE and RELIABLE** System

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IN THE WORLD.

It is a sufficient vindication of the claims which are made by the Proprietors of these systems of

FIRE ALARM AND POLICE TELEGRAPHS,

that they have sustained the test of more than twenty years of practical use, and that the efforts which have been repeatedly made to supplant them by other inventions have

COMPLETELY FAILED;

the few instances in which municipalities have been induced to adopt other systems having demonstrated their insufficiency and unreliability, and resulted in their abandonment, and substitution thereof of the

AMERICAN FIRE ALARM TELEGRAPH.

Messrs. GAMEWELL & CO. are the owners of the original *FARMER & CHANNING PATENTS*, one of the most important of which has just been extended for seven years, and during the past seventeen years have spared no expense or effort to secure improvements, and the Systems are now covered by

MORE THAN TWENTY PATENTS.

The most important improvement which the Proprietors have adopted and introduced is the

AUTOMATIC SYSTEM.

the introduction and operation of which involves so little expense, compared to the benefit which it confers, that even small communities can profitably adopt and maintain it.

The American System of

FIRE ALARM AND POLICE TELEGRAPHS

has met with the universal approbation and commendation of the

People, Municipal Authorities,

AND THE

PRESS

throughout the UNITED STATES and CANADA.

NO EFFORT, TROUBLE OR EXPENSE

is spared by the Proprietors to obtain and secure ANY POSSIBLE IMPROVEMENT which shall increase the

EFFICIENCY,

RELIABILITY and

ECONOMY

of the system. They intend that, as far as possible, it shall be

ABSOLUTELY PERFECT!

The amount of property which has been saved from destruction, and the number of lives which have been preserved through the general adoption of this system, throughout the UNITED STATES and the DOMINION OF CANADA,

CANNOT EASILY BE ESTIMATED,

but that, in every community where it has been introduced for any considerable length of time, they have been enormous, **THEIR CAN BE NO QUESTION.**

The cooperation of **TELEGRAPHERS** in securing its introduction into their localities is cordially invited, and their efforts will be duly appreciated and compensated.

Any information desired in regard to the above system will be cheerfully and promptly furnished upon application at the office.

A pamphlet, setting forth more fully its advantages and superiority, has been printed, and will be supplied to Municipal Authorities and others interested in Fire Alarm and Police Telegraphy, upon application as above.

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TELEGRAPH ENGINEER,

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a most compact and reliable Switch, forming a clean spring-locked connection between any number of wires, occupying for each different connection only one square inch of space, and though made of the largest size, not subject to the warp and contraction of wood-work.

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KERITE,

OR

COMPOUND RUBBER COVERED WIRE

SUBTERRANEAN & AERIAL WIRES,

OF THE

HIGHEST INSULATION.

We are now prepared to furnish, after an experience of three years, an Insulated Wire which can be buried in the earth or exposed to rain and sun, or to the vapor of acids, without injury. Professor SILLIMAN, who has exposed it to the most destructive agencies, finds that it remains uninjured in an atmosphere of ozone, which would destroy gutta-percha in a few hours. It exceeds glass or any other known substance as a non-conductor.

We have made special arrangements to furnish this article for office purposes at a reduced rate.

ALSO, TO FURNISH

IRON CLAD CABLES

of the usual size, with KERITE COVER, believing that it will exceed, in insulation for submarine purposes, ANYTHING HITHERTO MANUFACTURED.

We shall be happy to furnish estimates for any amount and size of cable, which will be found to compete with any other construction, both in quality and price.

We manufacture the Genuine ELECTROPOION BATTERY, with Patent Platina Connection. Introduced by us eight years since; also, THE ALPHABETICAL OR DIAL TELEGRAPH, now extensively used in this and other cities for private lines being easily and quickly learned by any one.

We offer for sale, among other novelties, a SOUNDER that will work practically with a single DANIELL cell, a BATTERY that does not require to be taken down but once a year, and the very best MAIN LINE SOUNDERs made.

Our CATALOGUE, embracing a large amount of new matter and description, is now ready for distribution.

THE TELEGRAPHER

A JOURNAL OF ELECTRICAL PROGRESS.

J. N. ASHLEY, PUBLISHER.

SATURDAY, JULY 31, 1875.

VOL. XI. WHOLE No. 472.

[Written for *The Telegrapher*.]

The Reporter's Growl.

SEQUEL TO THE "LATE MAN'S LAMENT."

I'll give you thirty bye and bye,
So don't go off just yet,
It's lively times 'round town to-night,
And I am rushed, you bet.

I'll strike the coroners first, I guess,
A floater's found, I hear—
Some boatman hitched a rope to him
And moored him to a pier.

The Station house comes next—there's been
A big fight in "Bull Run,"
And a woman in "Hell's Kitchen"
Stabbed some drunken son of a gun.

I haven't got particulars yet,
But I'll take a little turn
Up around the Barbary Coast, and see
What further I can learn.

Then there's a grand mass meeting
At Union Hall to-night,
When the Democratic war horses
Commence the campaign fight.

I hear it rumored in the street
That Ralston has suspended—
Must hunt him up and get the facts,
That all doubt may be ended.

There goes a gun—I'll bet four bits
The China steamer's in;
If I don't send the news to-night
J. W. 'll growl like sin.

Hark, there's a fire bell—ninety-three,
Corner of Turk and Jones,
A pretty waltz for a man that's got
Rheumatics in his bones.

A suicide on Broadway,
And a shooting scrape on Pine;
I'll give you thirty at eleven,
And now it's only nine.

So keep your spirits up, but not
By pouring spirits down;
You see it keeps me humping
When things are brisk round town.

Original Articles.

Love and Lightning.

BY JOHN OAKUM.

G. GREGORY JONES had been courting a girl by wire for about three years, and had corresponded with her by mail until an engagement of marriage had been finally settled between them, "sight unseen," it being inconvenient for them to meet, on account of the distance, she being located some four hundred miles away from him.

"What could be expected when we note their common labors, What when we consider that the two had long been neighbors, Not so near that they had met, but near enough—'Tis true, Little distances may lend enchantment to a view."

In the same office with Jones there worked a stylish youth by the name of John Birdsong, and so partial was the fair telegrapher to Jones that whenever he went to dinner and she was compelled to work the wire with Birdsong they invariably quarrelled about something or other, and became, in the course of time, as cordial enemies as she and Jones were friends. Birdsong lost no opportunities to wound her feelings, and she often told him that if she ever laid eyes on him she would tell him to his face what she thought of him in such terse and vigorous English as to leave no doubt in his mind about the position he occupied in her estimation. Thus matters stood, when one day Jones attired himself in gorgeous plumage to go and see his own true love, and left on the evening train. He arrived in due time, and they were mutually pleased with each other. I will not stop to dwell on the subject of their hilling and cooing—there was no end to it, it is safe to assume. But his furlough ran along like the wind and all too soon came the sad hour of parting. He was to return by the midnight train, and they had long since closed the little office at the depot and adjourned to the old farm house—her father's residence—in the suburbs of the village.

It was a beautiful moonlight night in the early September, and the scene out of doors upon which they had long been gazing, talking of their happiness and the prospect of quick coming nuptials, meantime, had wrought them up to the sublimest pitch of ecstatic bliss. You nor I, reader dear, will ever know the half they had said that night; no indeed. As the last half hour of Jones' stay was wearing on, she arose and lighted the lamp, and then went and brought from an adjoining room his natty light overcoat and glossy beaver. She sat the latter on the table while she assisted him on with his coat, her hands lingering lovingly on his shoulders, and then while he was settling himself into his coat she went and took up the hat and stood looking into it, waiting to pass it to him. Her sweet face flushed, her eyes downcast, she looked almost heavenly in his eyes, and he said: "Ah! darling, you are more beautiful than Phryne, and —"

At that moment, the hat sped across the room and she fell to attacking him in the choicest epithets of abuse that ever fell from a pretty woman's lips. He tried to sooth her but she would not answer any questions, and Jones hearing his train whistle and knowing he must positively return home that night, went and picked up the shako and ran mournfully to the depot, as she sat weeping as if her heart would break in the old room which had witnessed so many scenes of love and devotion between them. Probably no man was ever more wretched than Jones as the night express rumbled out of the quiet village and sped onward. But he was a philosophic young man, withal, so he went into the smoking car, lighted a segar and began to think the matter over. But the more he thought about it the more he was puzzled. He pictured her standing there, pretty and patient, holding his hat, and suddenly he said to himself: "I wonder if there is anything about that hat which disturbed the little girl?" and he took it off and looked at it. It had a great dint in the side of it to be sure, but that wasn't there when she had it. Then he looked inside and he grew pale, for there in capital letters appeared the unhappy name—John Birdsong. It all came to him then; he had borrowed Birdsong's new fall tile, at the last moment, to make his *tout ensemble* altogether irresistible, and, as he knew very well, Birdsong had often told her, when she and he had indulged in a difference, that if she didn't behave better he would come down some day, tell her he was Jones, and let her say "pretty things" to him.

I will not weary you with the details of the explanations which followed or the conciliation afterwards. Our's is an age in which people clamor for results, not particulars, for the sum total and not for the items of an account, so I will conclude by just stating that Birdsong helped to bring the matter to a happy settlement, and finally stood up with Jones at the wedding in the same old parlor where his hat had gone skurrying from an angry hand. And if you ever pass Jones' house and see a five year old boy, swinging on a gate, who looks like his father and speaks like the echo of his mother's voice, bear in mind that your happy eye is resting on the figure of Master John Birdsong Jones.

Burmah.

BY MEPHISTO.

RANGOON is the chief town of British Burmah, and is situated about 80 miles from the mouth of the Irrawaddy River. Time was when it was called the white man's grave, so pestilential was its atmosphere; but by dint of clearing jungle and draining swamps it is now a healthy place enough, even in the hot season, the nights being comparatively cool. The mosquitos there beat anything I ever saw for size and viciousness. I remember once— But no; the readers of THE TELEGRAPHER would not believe me if I told them, and my reputation for veracity is as yet unimpugned. It was a burning hot day in May (the hottest month in the year) that I landed from my steamer—I was then third lieutenant of the gunboat "Pluto"—to send a despatch to a friend, who was an officer of one of the Government river steamers, then wooding at Thayetmyoo, the frontier town. Calling a hack *gharree*, I was run up to the telegraph office in style. These Burmese hacks are very handy, comfortable and cheap. They consist of a body like a large chest, with eight windows, mounted on four wheels, and drawn by one of the strong, hardy ponies of the country. The driver runs at the pony's head, leading and guiding him by a short check rein. You need not have any conscientious misgivings about the driver. He has been doing nothing else but running all his life, and can run down and utterly wear out two or three ponies in the hottest day. The telegraph office of Rangoon is not a very imposing edifice; rather the reverse. Picture to yourself a long thatched barn, old and rickety in the extreme, mounted on piles to raise it out of the mud. The flooring is so conveniently laid that one can see all that goes on beneath through the wide interstices of the boards, can view the twenty or thirty *pariah* dogs that growl, and whine, and howl under its shelter; can

watch the graceful movements of the deadly *cobra* as it glides to and from its lair, and can enjoy the balmy breezes that are wafted through the chinks, bearing with them the odors, not of Araby the Blest, but of good, honest, genuine Rangoon mud. 'Tis not a gorgeous palace; but then in that hot climate a few chinks here and there are rather agreeable than otherwise, and it can be and is (or rather was, for I presume it has by this time been replaced by a brick building), made delightfully cool by the constant application of water to the *cus-cus* *tatties*, or mats, with which it is surrounded. Strolling in, I found the two or three operators (there are four wires, I believe) lounging in the peculiarly graceful attitudes incidental to hot weather, lassitude, slack work and laziness generally. Calling for a blank, I was writing my despatch, and had got near the "sig." when my shoulders were almost dislocated by a hearty blow, and a voice as of a roaring lion bellowed, "Mephisto, old fellow, is it you?" and turning more in sorrow than in anger I faced the burly form, and was caught in the vice-like grip of my old cronie, chum and bosom friend, George Doughty, developed into manager of the Rangoon telegraph office, and weighing some fifty or sixty pounds more than when last I gazed upon his jolly old phiz. Fancy a modern Hercules, six feet two in his stocking feet, with an arm like a gladiator, a fist like a sledge-hammer, and a voice like a volcano; yet withal, as gentle as a dove, as tender as a woman, and as chivalrous as a knight of the olden time.

"Come along, old boy, come into my den and check perspiration. It's so confounded hot here that it takes one all one's time to keep the blood decently below boiling point." And so retiring into his private room we made ourselves comfortable, lit our cigars, and inaugurated the process of "checking perspiration," which I knew of old consisted of imbibing a bottle of soda water with a handful of crushed ice and a soupcon of cognac in it, "to kill the animalculæ," as George said. He had much to tell—how he got sick of the sea; "denced hard life, you know, for a fellow of my weight and inches;" got friendly with a telegraph operator, mastered the dots and dashes, and went to work at telegraphing; how he graduated from a plug to a first class operator, until he woke one morning to find himself, not like Byron, famous, but manager; how the life suited him to a T, "nothing to do; you know, and lots of fellows to help you. And now, old boy, I have been working like a nigger these last three years (he had, I presume signed the pay roll thirty-six times in that period), and I have applied for a month's leave and am going for a holiday. Where would you recommend me to go?" "Come with me, George," I said; "come with me; come where the jungle has ne'er been trod by the foot of white man; come where the buffalo roams at large, where the rhinoceros is at home and the elephant holds his grand levee; come where the tiger, grim monarch of the forest, lies in wait for the timid *sambur*; come, in a word, to my station; take a cruise with us over our cruising ground, and I will warrant you more fun than in any other show, and it shan't cost you a red cent." We shook hands on the arrangement, and in ten days more we were steaming down the river on our way to the cruising ground. How we got on and what we did I will tell you in my next if you care to hear it.

Damage to a Telegraph Cable by a Vessel.

IN the Vice-Admiralty Court at Quebec, Canada, on the 16th inst., Judge G. Okill Stuart gave the decision of the Court in the case of the Montreal Telegraph Company, against the *Czar* vessel, Scollaw master, for negligence in breaking a submarine telegraph cable of the plaintiff, across the river St. Lawrence, on the 5th of July, 1874. One end of the cable was fastened at Victoria Cove, near the City of Quebec, and the other extremity near the Chaudiere, on the south. The *Czar*, laden with a cargo of lumber, was lying close to a wharf known as Rockett's wharf, within Victoria Cove, where one end of the submarine cable was fastened. The vessel was insufficiently moored, of which, as the evidence showed, the persons in charge of her were aware. Although warned of danger attending her being thus moored, no precaution was taken to secure her. About eight o'clock on the morning of the 5th of July she broke away from her fastenings, went adrift and came to anchor about a cable's length from the wharf. Although warned again that she was in a dangerous place, and likely to take the ground at low water, she remained there and the assistance of tug steamers close at hand, which could have placed her in a safe anchorage, was refused. At the fall of the tide she did take the ground and was then abandoned. With the rising of the tide she floated, and by dragging her anchors and chains over the submarine cable she broke it; all of which was owing to the negligence of the persons on board the vessel.

The respondent denied that the cable was broken by the *Czar*. He asserted that she was properly moored at her wharf from the 4th of June to the 5th of July, when a heavy squall struck her broadside, which, with

the additional force of the flood tide, caused her to break away from her moorings. That the occurrence was an inevitable accident, occasioned by an overpowering, irresistible force; and, further, that the submarine cable was in an improper place, and that, therefore, the promoters had no right to complain.

In a lengthy opinion the Judge reviews the evidence and the law in the case, and gives judgment in favor of the plaintiff, and condemns the vessel in damages and costs, and the usual order of reference to the Registrar is made.

Correspondence.

We do not hold ourselves responsible for the opinions of our Correspondents. Our columns are open to free discussions on all Telegraphic subjects, without distinction of person or opinion.

No notice will be taken of anonymous communications.

A Proud Parent.—Hot Weather and Heated Excuses.—Lexicographical Conversation.—Personals.

CHICAGO, ILL., July 15.

TO THE EDITOR OF THE TELEGRAPHER.

YE'OD orter see him—whew! Proud? Why, that's no name for it at all. The floor ain't good enough for him to walk on. He lays down No. 1 blanks to step on. Why, he's a foot taller. Who? Why, Charlie Thayer, of course, our day report operator. Boy, nine pounds, born to-day. Why, he's the happiest dad in these States!

Ring the drum, watchman,
And beat the bell's for joy,
For Thayer is the father
Of a bouncing baby boy.

That's partly original. Please put it all in without quotation marks, just as though I composed it all myself.

Yes, it's getting a little hot now, or has been. It ain't so hot as it was the morning of the 7th, when the boys rendered their several excuses to Manager Maynard for not being able to be around on the 6th. Some who saw the testimony given in say it was warm work. One of the boys had three handkerchiefs wet with perspiration, and we "Hurd" by the way one of them didn't get around for a week. Oh, George! but they all had excuses. One of the boys, who hadn't been used to it, said he just took a *lemonade*, and the ice being frozen gave him *cramps!* Well, we thought we noticed him *cramping* to a lamp post as we were on our way home; but we didn't know that *cramps* brought on by *frozen ice lemonade* made a "feller" sing, "We wo(hic)n't go home till (hic) mornin' 'till day(hic)light doth (hic) appear. Smore be(hic)er." I might fill your paper full of just such very *valid* (?) excuses as that.

Then it's so warm now that a fellow can "meet his darling Josie at the gate" (provided the old gentleman is absent) without an overcoat on (sometimes). We understand one of the boys (who has been to college) has been in the habit of treating his fair dulcinea to a good deal of sentimentality all along during the winter and spring months. When it was *cool*—well, she could stand it, and being she was a lady of refinement and culture, would coolly reply with a smile. One of those sultry evenings recently, however, the youth undone himself completely. Having donned his best bib and tucker, he says he thought he saw thunder and lightning in those black eyes, although she languidly remarked "what an extremely warm evening it was." As near as we can ascertain he addressed her as follows: "Miss —, can I have the exquisite pleasure of rolling the wheel of conversation around the axle-tree of your understanding for a few moments this past meridian?"

It immediately broke upon her hitherto beclouded vision that he was "Brown," of South Bend, Ind., and that he had an attack of Studebaker's wagon manufactory on the brain. He says he shall never forget that moment the longest day he lives. Her false hair "riz," her store teeth dropped to the floor, as she grasped the knob of the street door, and (with a voice that sounded like his Aunt Sal's, after the brindle cow kicked all her teeth out) exclaimed, "Mr. —, elevate your golgotta to the summit of your pericranium, and allow me to present to your ocular demonstration that scientific piece of mechanism which constitutes the egress portion of this habitation!" He hasn't been there since, and he's ready for a fight if you ask him "How about that sixty thousand dollar girl on Ashland avenue, Jim?"

"He's gone, he's gone, as meek as any lamb. They took him"—no, not to the arms of Abraham, but on the day force. Yes, "Stanbury" has been placed on the Detroit duplex with "Jack" Martin, and Audru

Jaxon Long has been assigned to duty on the Montreal wire.

No more will the "night owls" hear "Stan's" voice blending with "Austin's," "McRobie's" and "Bill" Long's in those beautiful (?) quartettes in the lunch rooms. By the way, that reminds me Harry Anstin is taking a short vacation in the country. "Stevenson" has taken one side of the New York duplex nights along with "Eitemiller," "Teirney" having left us, and "Sam" Wallace taken Cincinnati wire nights since "Stanbury's" promotion to the day force. "Jake" Tallman takes "Eitemiller's" place on Salt Lake duplex, working it and Omaha wire alternate nights with "Rool." WESTERN UNION.

The L. N. and G. S. R. R. Telegraph.—Personals.

TO THE EDITOR OF THE TELEGRAPHER.

NOT having seen any communication from this section in your columns recently, I have concluded that a few items might not prove uninteresting to some of your readers at least. This is the first attempt I make at journalism, and I would not dare to trespass on your readers' patience if I did not know that items are a little scarce now, since most of your correspondents are disinclined to write this hot and dull season.

The Clarksville Division of the Louisville, Nashville and Great Southern R. R. extends from Bowling Green, Ky., to Paris, Tenn., a distance of 133 miles. There are five wires over this road, four commercial and one R. R. wire, which latter I shall make my principal subject to-day. There are about 16 offices on the R. R. wire, and I am sorry to be obliged to say it works generally very poorly, and weak for so short a circuit as it is; one reason being insufficient battery and the wire being old and rusty; while the commercial wires are all galvanized. Mr. T. C. Harvey is Train Despatcher of this division, with headquarters at Bowling Green, Ky. He has held that responsible position for a good many years, and has always managed everything satisfactorily. He is very attentive to business and a courteous gentleman, though he is sometimes not very pleasant to get along with when anything has ruffled his equanimity of temper.

Clarksville, Tenn., used to be the headquarters of this division up to about a year since, when our former Superintendent, Mr. R. Meek, left us, and Mr. Jas. Montgomery, the present superintendent took charge. He makes a good officer and is very zealous in the discharge of his duties, and does all in his power to promote the interests of the company. Within the last year the salaries of operators on this division have been gradually reduced about 33 per cent., which reduction is far in excess of that made in any other department, which is rather heavy on the boys. Several of them have quit, and their places have been filled by *cheap phumes* who can "frite gerse" with a vengeance. There is a certain young man among others on this string who has got the chronic dot affection. I suppose this is a new disease, in name at least, to most of your readers. When he takes hold of a key and has any dot letters to make, he is like a train on a heavy down grade, hard to check, and no telling how many dots he will frantically string on. There has also been a reduction in the number of operators employed on this division, some offices having been temporarily closed and some night offices being discontinued. Business is and has been very dull on this road for some time; we hope for improvement soon.

Mr. J. R. Glover, agent and operator at Paris, Tenn., is up home (Canada), visiting his relatives and friends. He has been gone some time, and we shall all be glad to see him back and hear his genial voice once more. Mr. Geo. Evans who has been working nights in the despatcher's office at Bowling Green, has accepted a position at Nashville, Tenn., with this company. He is succeeded by Mr. Hunt. Mr. C. H. Huckleberry has returned to this line and is now holding forth at Auburn, Ky. Mr. J. S. Thomas has been appointed agent and operator at Russellville, Ky. Mr. E. W. Harper from Mumfordsville, Ky., is operator and ticket agent at the passenger depot, Clarksville, Tenn. He is a clever boy and liked by everybody. Vic. Albitz, formerly night train dispatcher on this division, got tired of the business, and is now digging ore in the silver mines, at Rosita, Col.

We have been having some heavy storms and rains, temporarily prostrating the lines, but doing us no serious damage. Having written much more than at first intended, I will close by wishing you success.

ELMWOOD.

Correction.—Personal.

ALBANY, N. Y., July 27.

TO THE EDITOR OF THE TELEGRAPHER.

THE list of the Saratoga force, as given in my letter of last week, was sadly twisted out of shape as it appeared in your columns. Mr. J. A. Ashurst (not Ashwist), of New York, being one of the operating force,

not cashier, Mr. F. H. Patrick handles the cash, Mr. D. H. Patterson the delivery department, and Mr. Wm. G. Hill keeps the accounts straight.

We were favored on Monday with a brief visit from Mr. Henry Van Hooeverbergh, Superintendent of "C. N. D.," the man whose house was not despoiled by burglars.

Mr. S. W. Raukin, night report man at Troy, and Mr. G. E. Hinman, of Saratoga, have "changed off" for a couple of weeks.

The Western Union expect to move into their new office in the Museum building on Friday or Saturday of this week. DOUBLE SIX.

The Penn. R. R. Telegraph.—Local Telegraphs, etc.

IN THE WILDS OF JERSEY, July 12.

TO THE EDITOR OF THE TELEGRAPHER.

LIKE Micawber, I have been waiting for something to turn up, but as nothing of any very great interest to your readers has turned up, I have not written lately, nor have I anything so very interesting yet, but think a few lines from this section will not hurt your readers.

I will not condemn the weather, but really it is not fearful warm?

"Man is never contented with his lot—
When it's hot, he wants it cold,
And when it's cold, he wants it hot."

Times on the Penn. R. R. are not quite so lively now as before the railroad war, but still operators are kept quite busy, and I do say that it has never been so hot to work on a railroad where operators have so much responsibility thrown on their shoulders for so little pay, as there is on the N. Y. Division of the Penn. R. R.

The *block system* of signals used on the above road appear very complicated to outsiders, but as soon as one gets fully posted, it seems very simple, yet it is very tedious to the brain, especially in the afternoons, when trains run two, three and five minutes apart, for an hour or two.

The reader will easily see that an operator has no time to call offices more than once; he must report trains to both the offices, each way from him and then must lookout for their signals, the trains, and the rear train signals; and as no passenger train can pass a signal station until the preceding train has passed the signal station in advance, which stations are generally two miles apart, it will be seen then that operators have no time to fool away. We don't think that there is any other railroad in this country that uses the block system, the principle of it is taken from the English Railway Block System.

Our batch of news is not very great nor yet very interesting, it's too hot, you know!

The old P. and A. lines are being transferred from the turnpike to the W. U. poles on the line of the Penna. R. R. between New York and Philadelphia. I have heard it remarked that the W. U. and Penna. Co. are not the best of friends, it however may be only an idle rumor. The A. and P. are doing a very good business in Newark and Paterson. In Newark the A. and P. have placed two signs crosswise on their poles, near the tops, in front of their offices, which look very neat and tasty. They also prove to be a good advertisement. The W. U. have refitted their office in Newark, on the corner of Broad and Market streets, and have placed a set of duplex in the office to work with New York. In Elizabeth the A. and P. are not prospering as well as they might. We are told that the company gave the office at that place to a young man, promising to give him what he took in as his salary, for the sake of establishing an office there, but he resigned after his first month's stay, because, as he says, he received a message from headquarters, saying, "send in the amount which is charged against you for messages transferred to W. U."—he did not think that the money he was taking on messages transferred to W. U. belonged to the W. U. and not him. We will let them settle the difficulty between themselves.

An enterprising doctor (Franklin), of Newark, converses with his patients in different parts of the city by telegraph, over a line which he had constructed, and now runs it on his own hook, as a pleasure wire. He uses old U. S. and P. and A. keys and sounders. He styles his line "The Eastern Union." There are two other private lines in the city, one of which is "The Owl," the name of the other being forgotten. These, together with W. U., A. and P., and Fire Alarm wires, make quite a nest of spider webs overhead. I have been looking over some back volumes of THE TELEGRAPHER, which has brought back to me again the old times out west. I think the "Humors of the Telegraph column" would be welcomed back, as well as the old "Facetia" column. I only wish that I had saved more of the volumes of the paper than I have, for a more valuable reference for the operator can hardly be found. Looking back I find that all the talk about the "student question," "train despatching," and the "Telegraphers' Organization," amounted to almost nothing. Only one

railroad telegraph department ever did much of anything towards the "student question," and that one was the D. L. and L. M. R. R., of Michigan, who did a good thing towards it, and which the writer is proud of as being one of three who originated it.

Times over on the N. J. Midland R. R. have improved somewhat since the Hon. G. A. Hobart took hold as receiver. The operators have all been changed around lately, and 'twould be hard to find them now. Poor Erie! she, too, has had a Receiver appointed, but it is really surprising how little anxiety the operators on the Eastern Division feel over their situation.

We will close for this time and write a shorter one the next. P's AND Q's.

Personals.—Promotion of Mr. E. B. Brown.—Telegraphers' Base Ball at St. Louis, New Nines Organized.

ST. LOUIS, Mo., July 8.

TO THE EDITOR OF THE TELEGRAPHER.

'Tis hot—red hot—98° in the shade, and yet we are not happy! Some people think it's 9,800. Shaved heads are in vogue; Messrs. Hayes, Irwin and others have had their craniums sand papered, so the flies can have a fair show.

Messrs. French and Gritchett, of the night force, have been on the sick list for the last few days, but have recovered sufficiently to resume duty. The old war horse, Dave Ryan, has been indisposed for the past two weeks, but manages to keep on his pins. Mr. W. W. Cummings, our worthy and estimable chief, has returned from a brief visit and is looking splendidly. The boys all welcomed his return with a hearty shake of the hand and with a "glad to see you back." Messrs. Van Tyne and Parmelee acquitted themselves nobly during Mr. C.'s absence, performing their respective duties in a highly commendable and very satisfactory manner. Mr. E. A. Keene has returned from a six weeks' vacation, and resumed his position on N. Y. duplex. Mr. Charles Patch, the well known telegrapher, passed through here last Thursday, on his way to San Francisco. Wm. T. Loper, night press man, has resigned, and gone home to Oshkosh, Wis., for a brief visit, after which he goes to New York. In his resignation St. Louis office loses one of the best operators that ever graced it. Mr. Loper is not only a fine and accomplished telegrapher but is a perfect gentleman in every respect and an honor to the profession. He carries with him the best wishes of his host of friends here.

Mr. T. P. Wheeler succeeds Mr. Loper on report and turns out a copy that can't be surpassed. Mr. E. B. Brown, for several years operator in the City Fire Alarm office, has been appointed superintendent of that department, vice Saml. Howard, retired. Chas. W. Hammond, the old well known telegrapher, is constructing and rebuilding thirty miles of city fire alarm.

The much talked of game of base ball between the nines under Mr. W. W. Cummings and Capt. Nelson was played on July the 5th, and James was badly scooped. Five innings, and the score 24 to 5 in favor of Mr. Cummings' nine was too much for the gentle James, and he threw up the sponge.

Two nines have been organized from the day force, and will play evenings for exercise and amusement. They will be governed by Mr. W. W. Cummings and Mr. A. E. Van Tyuc. The following list will show the respective positions:

FIRST NINE.	SECOND NINE.
W. W. Cummings.....Catcher.....	H. Luckings.....
Charles Cummings.....Pitcher.....	A. E. Van Tyne.....
T. P. Cooke.....1st base.....	Jno. McNevin.....
John L. Cassidy.....Short stop.....	J. C. DeLonge.....
Geo. W. Huddleston.....Left field.....	E. L. Parmelee.....
Chas. T. Day.....Centre field.....	E. A. Keene.....
H. H. Eckert.....Right field.....	Jos. Purcell.....
Jno. F. Stansifer.....2d base.....	J. McMichael.....
Chas. E. Burroughs.....3d base.....	Wm. J. Foy.....

Look out for black eyes, disjoined fingers, stiff knees and all such. But 'tis a noble game. C.

Boston Telegraphers on a Fishing Excursion.

BOSTON, MASS., July 19.

TO THE EDITOR OF THE TELEGRAPHER.

PERHAPS no city in the country has such natural advantages for yachting and other aquatic sports as Boston; and the large number of yachting and fishing clubs bear evidence that these advantages are fully appreciated. To telegraphers a sail down the harbor and out on the restless bosom of the broad Atlantic is particularly exhilarating, giving as it does a relaxation from the constant round of every day confinement which cannot fail to be both pleasurable and beneficial. As the clock struck the hour of 12 a few evenings ago, several telegraphers embarked from Central wharf for a midnight cruise in the yacht "Mattie," owned and commanded by that veteran telegrapher and follower

of Neptune, Commodore C. L. Pope, of the South Boston squadron. All safely on board, and favored by wind and tide, the little craft swiftly glided from her moorings out towards the ocean.

Hardly a ripple ruffled the surface of the water, which, beneath a cloudless sky and a full moon, shone like a mirror. Behind us lay the city, hushed in silence, reflecting the moonbeams from many a tower and dome. Before us was spread the beautiful panorama of Boston Harbor and Bay, dotted with its many islands, standing like grim sentinels of the night, to challenge our outward progress. The entire party gathered on deck—the ever changing beauties of the scene droye sleep from every eye.

Anchoring off Hull at 2.30 o'clock A. M., it was discovered that the bait for fishing operations had been left behind; consequently the "cabin" passengers were impressed, or rather improvised as amateur clam diggers on Hull Beach. Pope, McFarland, Kelley and McGee, arrayed in nondescript garments, and armed with various instruments of death to the genus clam, sallied forth to capture the inoffensive but sorely needed hivalves.

To a superstitious or imaginative observer this clam digging, story telling, piratical looking coterie of telegraphers, at such an untimely hour, might easily have been taken for some of the Genii of the vasty deep, who had emerged from their watery habitations bent on a mission of evil in the upper world. However, the boys got the clams, "little" Tom Kelley carrying off the laurels as a successful clammist.

Again setting sail, we arrived on the fishing grounds near Minot's Ledge Lighthouse about 5 o'clock. A pool was made up for the purpose of giving prizes to the two luckiest fishermen of the party. McFarland carried off the first prize, and Thomas the second.

After indulging in the piscatorial sport for three hours with good success, we turned our prow towards home. Becoming becalmed off Hull the muscular Keating, the celebrated athlete, volunteered to act as a tug, which duty he performed satisfactorily, towing us into port. Deharking, we had breakfast, after which we visited the Observatory on Telegraph Hill, and were reported by telegraph to the Boston Marine Exchange as a distinguished party. Having accomplished this imposing feat, we again weighed anchor, and were soon flitting over the wave towards Hingham, which place we reached about noon. Here we purchased all the Sunday papers we could find—amusing ourselves in various ways—strolling about the town and visiting all the points of interest in this beautiful suburb. We re-embarked for Boston at 4 o'clock P. M., where we arrived about 6 P. M. Although tired, by reason of our long jaunt, we were exceedingly well pleased with our experience of "life on the ocean wave." With three hearty cheers for our gallant commander, Pope, we separated for our respective homes, looking forward to a recurrence of the enjoyable trip at an early day.

NAUTILUS.

A Bull.—Excess of Politeness.—A Suggestion to Correspondents.—A Prospective Telegraphic M. D.—Improvements in the A. and P. Office.—Personals.—Atmospheric Electricity.

CHICAGO, Ill., July 19.

TO THE EDITOR OF THE TELEGRAPHER.

'Tis an old saying that "coming events cast their shadows before;" but in the following error a change in the phraseology of the old saying would no doubt be appropriate, that PAST events leave shadows behind them. The message as sent read "yours received, will come on morning train." As received it read "Your sister will come on morning train." Inasmuch as the party to whom the message was addressed had no sister, the error was rather ridiculous, and as a pure case of guessing, it stands almost without a parallel, and looks as though the receiver was troubled with a bad case of the "your sister" disease which finds a partial remedy in "moonlight walks," etc.

I have heard of a good many cases where the extreme pinnacle of politeness was about reached; but I think the man who addressed his message to "Mrs. Joseph A. W—, Esq., deserves to have his name recorded above all the rest.

Our "old time friend" Mr. Crary, of Dubuque, still holds things level in the Western Union office there as night manager, and although suffering somewhat with partial paralysis of his right arm, occasioned by long and arduous labor at the key, is still able to "warm up" the W. U. boys when he gets "waked up."

During a stroll for exercise a few days ago, I chanced to pass the telegraph office of the C. and N. W. Railway, at the Round House of that road, and was very agreeably surprised to find our friend "Billy" Washburne in charge. Billy expects ere long to have an M. D. attached to his name, and hang out his shingle in the Garden City, having made rapid progress, for a young man, in the study of medicine the past two years.

We very often see communications in the correspondence column of THE TELEGRAPHER without dates or the name of the place they emanate from, and I have often thought that a livelier interest might be awakened in the paper in the locality where they originate if made more personal, and if operators in that part of the moral vineyard knew they had a representative who was looking out for THE TELEGRAPHER and their interests at the same time. Please consider the matter, boys.

The A. and P. operating room has been removed from the basement of the Major block to the fifth floor of the same building, while the receiving room remains in the place formerly occupied by the receiving room and operating room jointly. This change was necessitated by the rapidly increasing business of the company here, the old quarters being too restricted.

Supt. Towler's office was moved to the fifth floor of the Major block some time ago, but my inability to write at the time prevented noting the change before. Under the new order of things the company have a large commodious receiving room, or will have when it is thoroughly remodelled, and the operators, who so faithfully look after the interests of the company here, have a large, and well aired and ventilated room. It fronts directly on Madison street, while Supt. Towler's rooms are connecting and front on Lasalle street.

The furious storm of last Thursday night did immense damage to the crops all around us. This of course only affects the fraternity in as far as it increases the price of provisions, of which telegraphers (who are mortal and can't live on air) must have their share. Electricity of a high tension became low very suddenly and in some cases destructively. At Aurora, Ill., a number of buildings were struck, and a charge passing into a kitchen along the water pipes, was so heavy as to melt them and start a fire near the sink. A number of houses and barns were struck in close proximity to where a picnic party had taken shelter from the elements at Green Bay, Wis., some of the party being badly stunned.

A church at Oshkosh, Wis., was struck and considerably damaged. A house near Dwight, Ill., was also struck, but the inmates escaped unhurt. At Sloan, Iowa, however, the inhabitants were not so fortunate, Mr. J. H. Boyer, postmaster of that place being struck and instantly killed, while several other persons were seriously injured.

OCCASIONAL.

Base Ball.—A Pneumatic Tube.

ST. LOUIS, Mo., July 16.

TO THE EDITOR OF THE TELEGRAPHER.

ON the 14th instant the base ball nines organized by Messrs. Cummings and Van Tyne played their first game on the grounds of the Samuel C. Davis and Co.'s mine.

Game was called about 5:30 P. M., and six innings were played, which resulted in a victory for Mr. Cummings' nine, by a score of 30 to 10.

The pitchings and catchings of the Messrs. Cummings were decidedly good, both working together like clock-work.

Keene and Luckings done justice to the other side, and displayed skill.

Both sides played exceedingly well for new hands, and done good batting. Huddleston is a sure batter, but not a success as a fielder. Cassidy made three nice base hits, and secured three home runs. Cook batted a hot sky flyer, which Van Tyne took in. Parmelee took in a hot liner to left field, but finding it a little warm let go rather suspiciously, and examined his hands in a surprised manner, something like the man who sat down on a pin.

Both sides displayed the ability to become good and substantial players, and when "Chicago" wants to give the St. Louisianians another whirl, they will find something better than a "mud bath," if not a victory.

The Western Union Company will soon commence to erect a pneumatic tube from the main office to the new Merchants' Exchange, now being completed on the block bounded by Pine, Chestnut, Fourth and Third streets, which is built of handsomely cut stone, and when finished will be one of, if not the finest exchange in this country.

Mr. Brackens' base ball nine from Chicago W. U. office played Captain Nelson's nine here on Sunday, and got away with our boys nicely. It rained nearly all day, and mud was in abundance. Captain Nelson will play a return game soon, when it is hoped he will make a better showing. Jim is good, but some of his staff are wanting. C.

ELECTRIC.—"Armored" cables are to be experimented with on board the torpedo school ship Vernon, at Portsmouth, England, in connection with the torpedoes laid down for harbor defence. Should these invulnerable cables prove a success as a means of connecting torpedoes with the shore, the value of these machines for defensive purposes will be considerably increased.

THE TELEGRAPHER

DEVOTED TO THE INTERESTS
OF THE
TELEGRAPHIC FRATERNITY.

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38 VESEY ST., New York.

The Profits of Telegraphic Enterprises.

THE organization of a new telegraph company upon the Pacific coast, which proposes to build lines throughout the country, and announces in advance the intention to materially reduce telegraph rates from what they now are, naturally leads to the consideration of the profits of telegraphing as a business. Of course the profits made by contractors in the construction of lines do not enter into this consideration, as these are an entirely different matter, as those who have invested their money in such enterprises have had ample opportunity to discover.

The extent, and sparsely settled character of much of the territory covered, makes telegraphing in this country exceptionally costly. Thousands of miles of line have to be kept up, over which the local business is not, and is not likely to be for years to come, remunerative at any rate which can be charged. Skilled labor, too, is higher here than in Europe, or even in the adjoining British Provinces, the cost of living being relatively greater. For these reasons higher rates must be charged even to pay expenses. We know that it is a popular delusion that telegraphing is a "big bonanza," which in some undefinable way enriches all who are so fortunate as to be interested in it. Those who have invested money in telegraphs, as a general thing, relying upon the legitimate profits of the business as their reward, do not share in this delusion. They know by painful experience that telegraph investments are not such a "big bonanza" as the public suppose. Even the Western Union Co., with its great extent of lines and its thousands of employes, has only within this last year commenced paying dividends after a suspension of six years, and many doubt whether the dividends declared are actually earned. The Atlantic and Pacific, and Southern and Atlantic Companies have never paid any dividends. The dividends paid by the old United States Company were fraudulent, and paid out of capital.

Telegraphic rates have been reduced about fifty per cent. in the last few years, and under the circumstances we do not see how they can at present be further materially reduced without bankrupting the telegraph companies.

It is true that the capital stocks of most of the leading telegraph companies are very much watered, and this complicates the matter by requiring so much additional net income to pay dividends. To further divide up the business, however, is not, so far as we can see,

likely to improve the situation. The old companies will naturally retain a considerable share of their present business, but if they are now making any profit, that which is diverted, and the effect of a further material reduction of rates, will deprive them of this profit, while the business of the new company will not even pay expenses.

It may be that the cost of doing the business may be reduced by economical management, and a cutting off of all unnecessary expenditures. The system of doing business may perhaps be simplified, and much of the "red tape" which has been introduced unprofitably, done away with. This should be done in any event, and the patrons of telegraph lines given their fair share of the result of such economies and improvements.

It is not for the interest of telegraphic employes that rates should become unremunerative. In such an event they may be sure that no inconsiderable part of the loss will be assessed upon them. While we believe in, and advocate now, as heretofore, reasonable competition in telegraphy, in the interest of the public and the employes, we do not desire to see a cut-throat policy inaugurated, which can be in the interest of nobody. To maintain the telegraphs of the country in an efficient condition, and to properly remunerate those who are engaged in telegraphic service, reasonable tariffs must be maintained. Any other policy will prove unfortunate and damaging to all concerned. We do not mean to say that the present rates are as low as they can be made, but any further reduction should be made only upon careful consideration of all the facts and premises. With the full development and introduction of improvements which shall increase the capacity of the lines for business, and relatively reduce the cost of telegraph service, it is probable that still further reductions may be made. Until these are assured, however, we do not see how such reductions can be advantageous or desirable.

The Telegraphic Situation.

THERE is but little of special interest in connection with the telegraphic situation generally to communicate to our readers. In our news columns will be found the record of what the telegraph companies are doing or propose to do. The Direct Cable is still dumb, and nothing has been heard from the Faraday. Until some further definite information is received, it is, perhaps, useless to indulge in speculation. A more unfortunate telegraphic enterprise has probably never been known, and it is not strange that the public has become somewhat incredulous in regard to the probability of the line ever being actually in operation for public use. We are satisfied, however, that the stories and surmises in regard to any arrangement by which the threatened competition with the old Atlantic Cables was to be prevented are without foundation. In fact, the blunders and misfortunes which the enterprise has met with would seem to preclude the necessity for any such arrangement. It is, of course, annoying and damaging to the last degree to the company that there should be such delay in getting the cable in working condition, but as it is yet in the hands of the contractors, they are powerless to remedy it.

All sorts of rumors and reports in regard to the position of Mr. JAY GOULD towards the Western Union Company are in circulation. It is understood that Mr. GOULD is long of Western Union stock to a large amount, but what truth there is in this, or what his ultimate purpose is, it is not his habit to inform the public. The election in October will, no doubt, solve many perplexing questions which now annoy those who speculate in telegraph shares.

We do not hear much additional in regard to the new National Telegraph Co., whose organization in San Francisco was recently announced. There is considerable doubt felt and expressed in telegraphic circles in regard to the real purpose of this organization—whether it is really intended to build new lines, as stated, or whether it is not intended to operate speculatively upon existing companies. There is no

doubt but that the corporators have the means to build any extent of lines they desire, if they are willing to invest them for that purpose.

If it is really their purpose to establish a national telegraph system, they would probably make more rapid progress by obtaining the control of one of the two principal telegraphic organizations of the country, which could undoubtedly be done if the necessary investment were made. Time will develop this as all other matters, telegraphic or otherwise, and those who have not the means of obtaining reliable information must be content to wait and watch.

Upon the whole, telegraphic prospects for the future appear to be somewhat improved, and we believe that telegraphic interests may look for better times in store for them at no very distant period.

Almost Another Panic.

MONDAY forenoon last the city was startled by the announcement of the failure of DUNCAN, SHERMAN & CO., the great banking house.

The extensive business of this house, and the great wealth and resources which it was supposed to have, and its hitherto undoubted credit, made the announcement of their failure the occasion for the time of almost another panic similar to that of 1873. Gold rapidly advanced to 16½ premium, 3 per cent. above the opening price, and stocks tumbled generally. The excitement on the street and in the Stock Exchange and Gold Room was intense, and there were fears of a general smash. Western Union ran down in a few minutes from 82 to 73—or 9 per cent. It soon after recovered, however, to 97, but there is an uneasy feeling in the market, and fears that this failure will drag down other firms with it eventually. The liabilities of the firm are said to be about \$6,000,000, but the amount of their assets is not yet known.

There seems to be no special reason why this failure should so seriously affect the price of Western Union shares, even temporarily, but it was probably additionally influenced by a repetition of the lying report of the death of Com. Vanderbilt at Saratoga.

Call from a Southern Superintendent.

MR. J. T. THORNTON, Assistant Superintendent of the Southern and Atlantic Telegraph Company, whose headquarters are at Macon, Ga., favored us with a call this week.

MR. THORNTON is here with his family on a visit to MR. GEORGE H. GRACE, General Supt of the S. and A. Co. He returns South in a few days, but his family will remain during the summer at Mr. GRACE's residence at Fanwood, N. J.

Electrical and Telegraphic Works Supplied.

WE have made arrangements with publishers and booksellers by which we are enabled to supply electrical and telegraphic works postpaid on receipt of the price of the same. This will no doubt be a convenience to many persons who cannot readily obtain such books in their locality. The advertisement, which will be found in our advertising columns, will supply a list of the more important works of this class. We will, however, furnish any such work that can be obtained in this city, whether included in the published list or not. All orders will be promptly filled, and the latest editions of such works forwarded.

Combined Blank and Envelope.

WE have received some specimens of a patent combined telegraph blank and envelope. It is intended to facilitate the delivery of messages, the address being written on the envelope as received by the operator, and the message on the blank attached, thus saving clerical labor, and enabling a boy, if necessary, to inclose the same for delivery. The idea does not strike us as an improvement over the present style, and we are inclined to think that in practice it would be found objectionable.

The Fire Alarm Contest.

AT the hearing of the petition for an injunction against the District Commissioners and GAMEWELL & Co., at Washington, D. C., on Wednesday last, to restrain them from carrying out the contract for the construction of a fire telegraph, the petition was dismissed. From this the plaintiffs appealed.

Messrs. GAMEWELL & Co. have, we are informed commenced actions against CHESTER & Co., of this City, L. H. McCULLOUGH, of Richmond, Indiana, and POND & Co., of Detroit, Michigan, for infringement of their patents on Fire Alarm Telegraphs.

Call and See Us.

AT this season many telegraphers from different sections of the country visit New York, while on vacations or trips for pleasure or business. We would cordially invite all such to give us a call at the office of THE TELEGRAPHER. They will be cordially welcomed, whether subscribers or not, and any information or aid that it may be in our power to give them will be cheerfully rendered. We are always pleased to meet telegraphers and make their personal acquaintance, and are never too busy to welcome them.

Personals.

Mr. W. M. TALCOTT, State press operator on night force, Western Union Office, corner Broadway and Dey street, New York, has been transferred to day work.

Mr. W. T. LOPER, late of St. Louis, Mo., has accepted a situation on the night force of the Western Union main office, New York.

Messrs. THOMAS, ASHURST, and WILLIAMS, who were temporarily transferred to Saratoga, N. Y., during the rush of business consequent upon the late college regatta, and who so efficiently discharged their duties on that occasion, have returned and resumed their former positions in the Western Union building at 197 Broadway, New York.

Mr. CHARLES E. BURROUGHS, of St. Louis, Mo., has been appointed manager of the Western Union Company's office at St. Joseph, Mo., vice Mr. W. H. WOODRING, resigned.

Mrs. A. V. CARR, manager of the Jacksonport, Ark., W. U. office, has resigned.

Mr. FRED. B. MOXON has resigned his position with the W. U. Co., at St. Louis, Mo., and accepted a position with the same company at New Orleans, La.

Mr. LESTER BRADLEY, of the New Orleans, La., W. U. office, has accepted a position on the night force of the same company at St. Louis, Mo.

Mrs. KIT BARNUM is subbing at Jefferson City, Mo., W. U. office for Miss ANNIE GRIGGS, who is visiting at Topeka, Kas.

Mr. LUCKINGMEYER, of St. Louis, Mo., is subbing at Leavenworth, Kas., during the illness of Miss FLORA COATES.

Mr. ED. F. SHEETS, late manager of the depot office at Wichita, Kas., has resigned, and accepted a position with the Texas Pacific R. R. Co. at Marshall, Tex.

Mr. E. L. SMITH, manager of the Topeka, Kas., W. U. office, is visiting at Atchison, Kas. Mr. SPINAGLE acts as manager during his absence.

Mrs. J. N. COONS (formerly Mrs. J. C. MORRIS), operator in P. and A. Fifth avenue office, Pittsburg, Pa., is now residing at Bloomington, Ill.

Mr. J. N. COONS, formerly station agent P. and K. C. R., Petrolia, Butler county, Pa., is running a book and news business in connection with the Great Western Telegraph office, at Bloomington, Ill.

THE telegraph operator at Pine City, Minn., has sued *The Pioneer Press* for \$10,000, because that journal copied an item from another paper that copied it from still another paper, and that paper got it wrong because its informant was a little "crooked" in his statement. The item said that the Pine City operator outraged a lone Swede woman, when the paragraph should have read "the Hinckley operator." The man's name was not mentioned.

A COUNTRY store in Virginia was the other day struck by lightning, the fluid making a large hole in the roof, and passing through a feather bed, the recognized non-conductor.

The Telegraph.

By Cable.

REPORTED RETIREMENT OF MR. SCUDAMORE FROM THE BRITISH POST-OFFICE DEPARTMENT.

LONDON, July 26.—The *Standard* reports that Mr. Frank Ives Scudamore, the Secretary to the British Post-office, specially in charge of the postal telegraph administration, will retire from the department, and go to Turkey to organize a postal service for that country in accordance with the Bern Convention.

THE DIRECT UNITED STATES CABLE.

LONDON, July 26.—The manager of the Direct United States Cable Company, in a communication to the *Times*, referring to its remarks in its financial article of Thursday, the 22d instant, in regard to the cable, says no stockholder has been denied information.

He also says a small portion of the cable has been injured, probably by ice. The contractors are now engaged in cutting out and replacing the injured part.

The Atlantic and Pacific Telegraph Company.

THE Atlantic and Pacific Telegraph Company are doing a large amount of work this season in the construction of new lines, and in putting in order the old wires. The new line from Philadelphia to Pittsburg, Pa., will probably be completed this week, and the office in Pittsburg be opened for business by the first of next week. The Pittsburg office will be under the charge of Mr. E. W. Firman, as manager, with an efficient corps of assistants. The new wire will be continued west from Pittsburg via Wheeling and Columbus.

The new A. and P. wire from Chicago to Milwaukee has been completed, and the line is doing an excellent business. The wire to St. Louis from Chicago is also being pushed ahead as rapidly as possible. Arrangements have also been made for the construction of an additional wire from Buffalo to Suspension Bridge, and it will be commenced within a few days.

Work has been steadily progressing also in overhauling the existing wires of the company, and putting them in good shape, so that they now work much better and more satisfactorily than ever before.

During the recent Regatta at Saratoga the arrangements of the A. and P. Co. were very complete, and a large amount of business was done from that point during the week.

Notwithstanding the general dulness and depression of business, the business of the company is steadily increasing. The automatic instruments have been introduced on the main circuits, and are doing good service in enabling the company to handle satisfactorily its increasing business.

General Eckert, the President of the Atlantic and Pacific Co., is convalescent from his severe attack of pneumonia, but is not yet in condition to resume the active discharge of his duties. In the meantime the active direction and general management of the affairs of the company devolve upon Mr. Albert B. Chandler, who is his chief assistant, and whose ability and untiring industry, combined with his long telegraphic experience, amply qualify him to discharge satisfactorily the arduous and exceedingly important duties which have so unexpectedly devolved upon him.

The general management of the Western Division is in the able hands of Mr. E. D. L. Sweet, whose head quarters are at Chicago.

Extension of the Southern and Atlantic Lines.

THE Extension of the line of the Southern and Atlantic Telegraph Company from Jessup, Ga., to Jacksonville, Fla., over the Great Southern Railroad, has been completed. The office at Jacksonville was opened on the 22d inst. Mr. T. D. Gibbens is the manager of the Jacksonville office. By this line the distance by telegraph between Jessup and Jacksonville is reduced from 246 to 96 miles, and it will doubtless prove a valuable addition to the facilities of the Southern and Atlantic Company. Other offices on the line will soon be opened for business.

The American District Telegraph Co.

Mr. H. W. POPE, Superintendent of the American District Telegraph in this city, has arranged to give to each District Manager a vacation of six days, furnishing relief for that purpose without expense to the manager. This favor is duly appreciated as an evidence not only of the fact that promotion has not caused forgetfulness on the part of the Superintendent of the wishes and necessities of his subordinates, but also of the liberality of the company by whom they are employed. It

is understood that all employes of the company who desire it will be offered an opportunity for a vacation during the season. The Superintendent is deserving of credit for his action in this matter, more especially in view of the fact that vacations for telegraphers, except at the cost of extra labor or money on their part, are the exception and not the rule at the present day.

The Board of Fire Commissioners of this city have granted permission to the American District Telegraph Company to connect their system with the Fire Department; the work to be done under the supervision of the Superintendent of the Fire Telegraph.

New York City Telegraphic Notes.

THOSE clocks in the operating room of the new Western Union building are a little off, it seems. One of the fellows on Chicago duplex last night was getting it handed to him a little soon, when he opened and casually remarked, "Min, till I find a clock, they move 'em every day and — hello! I see one but I'll be dash dashed if I can tell whether its off or not." But the clock was off and way off too, for the seven clocks told seven different times. Looking towards Jersey, the bleared faced electric said 4.10, another 3.55, another 3.20, another 3.06, another 3.08, another 2.10, and the old original chief cook and governor, father of them all, on the wall over the switch was remonstrating with his followers to the tune of 2 A. M. But then it is all right, independence is a good thing and when a clock gets on a rant "it can't help it" as the boys say.

But be it as it may, every morning when the dim shades of night are fading and the sun is just sending his golden rays over the heights of scandalized Brooklyn, a spectral, majestic form is seen to hover below the enchanted timepieces and then quickly mount upon a crazy ladder to the discontented faces, and with deft fingers to straighten their distorted countenances. Ye clocks have ye no bowels?

Under the new arrangements now, the Western Union Company have on the eighth floor of their new building a restaurant for employes, which is not excelled by any in the city. The food furnished is nicely cooked, and served in an excellent manner, by a corps of efficient and obliging waiters. Three meals a day are furnished—noon, 6 P. M. and 9 P. M., and a pleasing variety is always presented. The dining room is spacious and has about eighteen tables, seating four each. None but employes are allowed to eat there, and they must hold non-transferable tickets, which are sold at three dollars each, having various amounts printed upon the face which aggregate five dollars, and which are punched out in payment for meals. Five dollars' worth of sustenance for three dollars, is a very handsome reduction, and the operators generally, take most their meals there. The whole is under the charge of the able and obliging steward, Mr. P. J. Murtagh, who makes every one happy by his obliging and gentlemanly ways. Mr. Dennis is the urbane cashier who puncheth ye tickets.

The Atlantic and Pacific and Franklin Companies have adopted a new blank for receiving business upon at their general office, No. 198 Broadway. It is about three inches longer than the ordinary sender's blank, and has the rules printed across it lengthwise; next comes a line divided up into squares for number, time, sending operator's letter, receiver's letter, and, finally, check, which we understand is to be sent the first thing after the number of the message, as it should be. The remaining part of the blank, which is all but the inch occupied as described above, is left for the message, and is ruled in squares, accommodating thirty-five words in all, allowing five words to a line. At the ends of the lines are the figures 5, 10, 15, 20, 25, 30, 35, in a column, so that the receiver can tell at once without counting how many words he has, and can compare with the check without the slightest difficulty, as he has that the first thing. It is the simplest, neatest and most satisfactory blank yet in use, and all operators are loud in their praises thereof.

Foreign Telegraphic Notes.

THE total number of messages forwarded from postal telegraph stations in the United Kingdom for the week ended July 3, 1875, was 419,871, an increase on the corresponding week last year of 32,813.

"The duties of telegraph clerks in Australia," says the *Electrical News*, "would seem to be as strictly apportioned as in England, and mistakes are as vigorously punished. From a printed copy of the rules and regulations for the guidance of railway clerks in South Australia we find that a fine of £100 is inflicted for divulging a message, or, in default, imprisonment with hard labor for any period not exceeding six months. The rules apparently leave nothing unnoticed from the hours of attendance to the important duties of signalling trains. The clerk is provided with the calls for 101 stations, instructions for charging the main and local batteries, the future signals to be used in inter-office

communications relating to the general business and working of the line, and he is also provided with all the abbreviations."

It has been decided that the next International Telegraph Conference shall meet in London in 1878.

A message from Montevideo announces the completion of the last section of cable between that city and Cluny, close to the Brazilian frontier, where the Western and Brazilian Telegraph Company's system begins. The portion just finished belonged to the Montevideo and Brazilian Telegraph Company, which was taken over by the Platino-Brazilian and Western and Brazilian Companies. Direct communication from England is now opened, not only with the River Plate region by way of Brazil, but also by the overland wire with Chili, which is traversed by telegraphic lines from Valparaiso southwards to Talcahuano, and north to Caldera.

The West India and Panama Telegraph Company have received intelligence that their steamship "Investigator" has repaired the cable between St. Vincent and Barbadoes, and that all stations on their system are now in telegraphic communication with England.

The Indo-European Telegraph Company announces that the average time in transit between London and India of all outward messages to India and beyond, during the week ended July 9th, *via* Teheran, was 1 hour 31 minutes.

The Globe Telegraph and Trust Company recommends a final dividend of 3s. per share on the preference shares, making 6 per cent. for the year, and 2s. 6d. per share on the ordinary shares, making 5 per cent. for the year.

The Eastern Telegraph Company's traffic receipts for the month of June, 1875, amounted to £30,211, against £29,819 in the corresponding period of 1874.

The traffic receipts of the Brazilian Submarine Telegraph Company for the month of June last amounted to £9,478.

The number of messages sent by the Cuba Submarine Company's lines during the month of June was 2,471, estimated to produce £2,500, against 1,874 messages, producing £2,000, in the corresponding month of last year.

The average time occupied in the transmission of messages, by the Direct Spanish Telegraph Company, between Madrid and England, *via* Santander, during June, was 3 hours and 5 minutes, including transmission over Spanish land lines. The traffic receipts for the month of June, 1875, amounted to £1,464, against £1,442 for the month of May.

The traffic receipts of the Eastern Extension, Australasia and China Telegraph Company for the month of June last amounted to £20,183, and for the corresponding month in 1874, to £19,026.

The half yearly report of the Eastern Telegraph Company to the 31st of March gives the net revenue for the six months at £147,293, the ordinary expenses being £52,756. Of this amount £12,832 was absorbed by "special expenditure." During the half year £46,212 was paid as interim dividend, and a final dividend is now recommended of 2s. 6d. per share, making 5 per cent. for the year. This and other charges absorb all save £35,934, which is carried to reserve, raising it to £159,522. The traffic receipts for the month of June last amounted to £30,211, and for the month of June, 1874, £29,819.

The traffic receipts of the Great Northern Telegraph Company for the month of June amounted to 393,080fr., against 386,374fr. last year, and the total receipts from 1st January to 30th of June were 1,995,477fr., against 2,076,371fr. last year.

The Fire Alarm Telegraph Case.—The Bill for an Injunction Dismissed.

In the Equity Court this morning, Judge Wylie presiding, Gen. Henkle, counsel for the petitioners for an injunction restraining the District Commissioners and Gamewell & Co. of New York, from carrying out a contract for the reconstruction and extension of the Fire Alarm Telegraph in the District, concluded his argument, claiming that the Commissioners were acting outside of the law, and that neither Congress nor the Legislature had given them power in the premises.

E. L. Stanton, Esq., replied on behalf of the District Commissioners. He claimed that the work was absolutely essential and important for the proper protection of the lives and property of the citizens of the District; that the authority of the Commissioners to make a contract for the work was full and complete, and that in this case the petitioners had no good and sufficient ground for the relief prayed for; that the award of the contract was regular; and that the amount to be paid was within that appropriated by Congress.

Judge Wylie then rendered his decision, the main points of which are: That the Acts of Congress creating the Commission give them full power to expend money raised by taxation for the support of schools, police and fire departments, &c., and the fire telegraph is generally recognized as indispensable to the proper working of the fire department, and the Commissioners have the same authority to extend and improve it as they have to purchase horses for the department or steam engines. He also declared that the court held large discretionary power in a case of this kind—that no injunction should issue unless some serious and irreparable injury was likely to follow its refusal—that in this case the total amount of tax which could be imposed upon the petitioners, if the amount to be paid for the new telegraph was divided among the property owners of the District, would be four dollars and sixteen cents; that the petitioners were not entitled to an injunction, for the reason that they, or other parties represented by them, were disappointed bidders, and had shown no disposition to question the action or authority of the Commissioners until the contract had been awarded to another party. For that and some other reasons, which Judge Wylie gave at considerable length, the motion was dismissed.

Counsel for the plaintiffs entered an appeal. During the hearing an affidavit in support of the motion was offered from Stephen Chester, of New York, but was withdrawn without being read, his honor intimating that he, being a disappointed bidder, it could have but little weight.—*Evening Star*, Washington, D. C., July 28.

Scene on a Way Circuit.

(N. Y. sending), "Ship ten hhd's."
(Distantly and laboriously), "I, I, I, H."
"Get out; ga, hhd's."
"I, I, I, H."
"Oh, thunder! will you never tumble?"
(Curtain descends. "H" drops and confidence is restored.)

Quotations of Telegraph Stocks at N. Y. Stock Exchange,

Showing Lowest and Highest Prices each day during week.

July.	WESTERN UNION.		ATL. AND PAC.		AMER. DIST.		GOLD AND STOCK.	
	Bid.	Asked.	Bid.	Asked.	Bid.	Asked.	Bid.	Asked.
22	80½	81½	20½	21½	30	30	70	70
23	80½	81½	21½	22	30	30	70	70
24	80½	81½	21½	21½	30	30	70	70
26	81½	82½	19½	20½	30	30	70	70
27	73	82½	19½	20½	30	30	70	70
28	78	81½	20½	20½	30	30	70	70

New Patents.

OFFICIAL COPIES of any U. S. Patent issued since July 1st, 1871, including drawings, specifications and claims in full, sent free to any address for 25 cents each. Address F. L. POPE, Elizabeth, N. J.

For the week ended June 22, 1875, and bearing that date.

164,723.—ELECTRIC TOYS.—Wm. J. Decker, New York, N. Y. [Filed May 12, 1875.]

Electrical excitation in the glass, resulting from rubbing, causes the figures to dance and execute various gymnastic feats. The electric toy composed of the glass plate A, which is supported on legs B, and of the rubber C, combined to affect the figures D D, which are placed beneath the glass, substantially in the manner herein shown and described.

164,807.—GALVANIC BATTERIES.—Theophile Chutaux, Paris France. [Filed May 12, 1875.]

For withdrawing the spent liquid. The tube J, provided with an exhaust globe, K, and extending down into and secured in a tube f, which is secured in and extends to the bottom of the porous cup, and is made of non-conducting material, substantially as and for the purpose set forth.

REISSUE.

6,508.—DUPLEX TELEGRAPHS AND CIRCUITS THEREFOR.—Jos. B. Stearns, Boston, Mass., assignor to the Western Union Telegraph Co., Patent No. 132,932, dated Nov. 12, 1872. [Filed March 20, 1875.]

"Bridge duplex" circuits arranged to pass currents of sending station around receiver of such station.

1. A duplex telegraph having a receiving instrument placed between the main line and an artificial line, and a connection from the transmitting key to both sides of the receiving instrument, so that such receiving instruments may be at a neutral point with reference to the electric pulsations produced at that station, substantially as set forth.
2. A duplex telegraph containing a receiving instrument placed at a neutral point, and an electro-magnet in the artificial line, substantially as set forth.
3. The combination of the receiving instrument with the resistances R R R², in the manner and for the purpose set forth.
4. The combination of the receiving instrument and the resistances R R R², with a series of smaller resistances, r, as and for the purpose set forth.
5. The combination of the receiving instrument A with the electro-magnet B, as and for the purpose set forth.

For the week ended July 29, 1875, and bearing that date.

164,921.—ELECTRIC FUSERS.—C. L. Kalmbach, Richmond, Va. [Filed June 24, 1874.]

1. A fulminate primer constructed by sealing a glass vial containing the fulminate of mercury hermetically in a chambered wooden block, substantially as set forth.
2. In combination with the firing wires, a quill with which the ends of the wires are adjusted in proper relation to one another, substantially as set forth.

164,940.—TRAIN TELEGRAPHS.—A. Ryder, Oakland, Cal. [Filed Jan. 18, 1875.]

Designed for use with that class of signals in which the breaking of an electric circuit extending from end to end of the train sounds a signal upon the engine.

The plugs or pistons E moving in the case A A, and provided with a guiding slot, c, and spring a, so that after the plug has been drawn back the spring arms causes the two ends of the cable to become reinitiated, and perfect contact to be between the wires of the cable, substantially in the manner as herein set forth and specified.

165,055.—TELEGRAPH WIRE COUPLINGS.—Samuel M. Barbour and Frank A. Page, Philadelphia, Pa.; said Page a signor to said Barbour. [Filed April 29, 1874.]

A block of metal having two apertures for the passage of the wires, and provided with shouldered chambers adapted to retain the ends of the wires after they are bent back upon themselves, as set forth and described.

165,164.—ELECTRO-MAGNETIC ENGINES.—Theophile Chutaux, Paris, France. [Filed May 26, 1875.]

The two parts of the armature are acted upon successively, the lower drawing down the upper to a point where the electro-magnet can act forcibly upon it.

In an electro-magnetic engine, the armature lever B, constructed in two parts, hinged at one end to the frame of the apparatus, one part being connected at its opposite end to the connecting rod S of the walking beam, and the other provided with a hook, h, adapted to work within the first mentioned part, substantially as herein specified.

165,090.—BURNERS FOR ELECTRICAL GAS LIGHTING.—Samuel Gardiner, Jr., Washington, D. C. [Filed Nov. 6, 1873.]

1. The insulated globe holder I, in combination with the wires J and K, the one connecting with one burner, A, through its electrode E, and the other with the next succeeding burner by the electrode F, with the said holders in the circuit throughout the series of burners, substantially as described.
2. The negative electrode E, as a part of, and a prolongation of the separate metallic nipple C, and in combination with the burner tip D, substantially as and for the purposes herein set forth.
3. The combination, with the burner and the metallic globe holder I, of the wires J K, connecting said globe holder with the negative electrode E and the insulated wire G' of the positive pole passing through and beneath the globe holder, whereby a single burner may be lighted through the medium of said globe holder, as herein set forth.

Obituary.

GEORGE HART MUMFORD.

ON Monday last the telegraph unexpectedly announced the death in Paris of Mr. GEORGE HART MUMFORD, Vice-President and Secretary of the Western Union Telegraph Company.

Mr. MUMFORD, on the 8th inst., left this city for Europe for a few weeks' vacation. He had not complained of any special illness, but was fatigued by close application to his duties, which it was supposed a few weeks' rest and recreation would remedy. After his departure symptoms of disease of the kidneys were developed, with the fatal termination above stated.

Mr. MUMFORD was born in Rochester, N. Y., September 23, 1840, and was consequently in the thirty-fifth year of his age. He was the only son of Mr. George H. Mumford, one of the pioneers in telegraphy and the first Vice-President of the Western Union Telegraph Company.

He was educated at Harvard University, and graduated from the excellent law school of that University, and subsequently entered the law office of his uncle, Judge Palmer. He did not practice law long, however. In 1868, when but twenty-five years of age, on the recommendation of Judge Palmer, he was delegated as the representative of the Western Union Telegraph Company to go to California and reorganize the California State Telegraph Company, in which the Western Union had a controlling interest. At the reorganization Mr. MUMFORD became President of the California Company, and upon its subsequently being merged in the Western Union organization, he was appointed General Agent of the latter for the Pacific coast, which position he held until he was recalled to New York and made Secretary of the Company in 1870, and in 1872 he became its Vice-President also. When the Western Union Company acquired a controlling interest in the International Ocean (Cuba cable) Telegraph Company, he became traffic manager of that company, also, which position he held until his death.

Mr. MUMFORD was a man of much ability, and was highly esteemed by his official associates. His natural abilities and his personal advantages had enabled him to take a position in the telegraph service seldom attained at such an early age.

His sudden and unexpected removal from his sphere of duty was a shock to his official associates, who had expected in a short time to welcome him, with renewed strength and vigor, on his return, and to have once more the benefit of his counsel in the management of the interests committed to their charge.

Mr. MUMFORD leaves a wife and four children to lament his loss. He was accompanied abroad by his sister and her husband, Dr. Fowler. His body will be returned immediately to this country for interment.

ORTON'S PATENT PENCIL HOLDER

"SAVE THE PIECES."

THIS HOLDER is intended to save the last half or third of the pencil.

DIRECTIONS.

When the pencil becomes too short to write with comfortably, shave down the butt and screw into the Holder. The screw makes its own thread and will hold the pencil perfectly firm.

Price, 10 cents each.

Sent by mail on receipt of price.

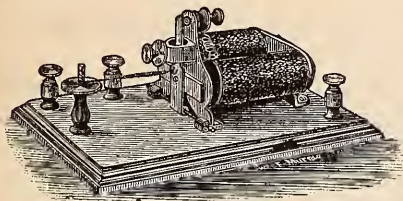
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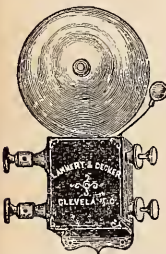
will not be undersold by any firm competing in price or quality.



PONY RELAY, PRICE \$5.63.

A reduction of 25 per cent. from our former prices on all Relays and Main Line Sounders.

	Former Price.	Red. Price.
No. 1 Relay, a superior d'ble adj. inst., and standard res., and finely finished.....	\$15 00	\$11 25
No. 2 Relay, a superior d'ble adj. inst., and standard res., and finely finished.....	14 00	10 50
Pony Relay, a superior inst. for lines of 15 miles or less. See above Cut.....	7 50	5 63
No. 1 Main Line Sounder, d'ble adj., finely finished, standard resistance.....	16 00	12 00
Fifteen per cent. discount from our former low prices on keys.		
No. 1 Key, improved standard size, heavy platinum, finely finished.....	4 00	3 40
No. 2 Key, improved standard size, heavy platinum, iron base.....	2 75	2 34
Ten per cent. discount from our former very low priced Local Sounders.		
Acme Local, No. 1, large and loud, works well with one cell local.....	5 00	4 50
Acme Local, No. 2, small size, round base, one cell local sufficient.....	4 75	4 28



ELECTRICAL BELLS

of various styles and sizes at a reduction of 25 per cent. from former prices.

No. 1 Alarm Bell, 3 1/4 inches in diameter (see cut), works well with one cell local; single stroke or continuous ringing, as desired, changed by lever; thumb-screws with check nuts, for adjusting spring and stroke, large and hard platinum connections; binding posts for holding wires; Bell finely polished, and base extra ornamented. Former price, \$4 50; reduced price, \$3 38.

No. 2 Alarm Bell, without binding posts, and cheaper finish, but working equally as well. Former price, \$3 50; reduced price, \$2 63.

All other standard improved instruments proportionately as cheap. Also, Batteries, Supplies, Chemicals, &c., at lowest rates.

PRICE REDUCED!!

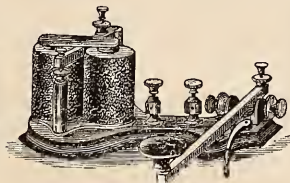
THE POCKET GALVANOMETER,

finely finished and Nickel Plated, will be sent by mail, to any address in the United States, on receipt of one dollar (\$1 00). Canada, 10 cents extra to pay postage. Send for Circular.

X-L-C-R.

20% discount from former price.

The X-L-C-R outfit for learners consists of instrument finely finished, levers, binding posts, thumb screws, &c., of brass, finely polished, platinum points; one cell Calland battery, Manual, office wire, chemicals, &c. Price, \$5.44.



Until further notice, when desired, instruments of our own make will be sent to responsible parties C. O. D., with instructions to the express agent to show instruments before receiving pay, and if not satisfactory they can be returned at our expense. Other goods will be sent C. O. D. as usual, or on receipt of money order, registered letter, or draft on N. Y.

Price List and Circular of other Instruments, Batteries, Supplies, Chemicals, &c., sent on application.

All orders will receive prompt and careful attention, consigned to

LANNERT & DECKER,
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THE POCKET GALVANOMETER.

PRICE REDUCED.

The Pocket Galvanometer manufactured by LANNERT & DECKER, finely finished and nickel plated, sent by mail to any part of the United States on receipt of ONE DOLLAR. To Canada, ten cents extra, to pay postage. May be seen at the office of THE TELEGRAPHER, and will be forwarded as above on application to
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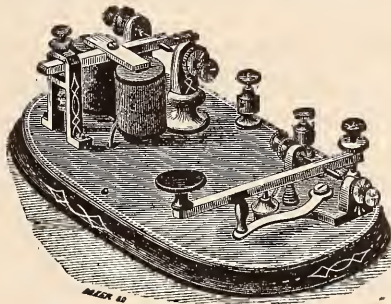
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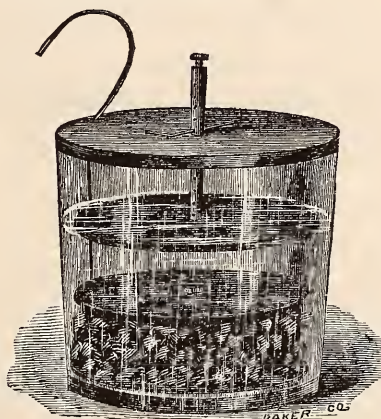
THE BEST IN THE WORLD.



PRIVATE LINE INSTRUMENT.

This instrument is mounted on an iron base and finely finished.

It gives a clear, loud sound. It is made to work on a line from a few feet to ten miles in length.



BLISS RESERVOIR BATTERY.

This battery took the first premium and a silver medal for force, constancy and economy at the Cincinnati Exposition.

With each "Private Line Outfit" is furnished one Private Line Instrument, one Cup Reservoir Battery, the necessary Chemicals, Wire for connections and a Manual.

PRICES.

Private Line Outfit, complete.....	\$10 00
Instrument only.....	8 00
Bliss Reservoir Battery, per cell.....	2 00

DISCOUNT.

A discount of twenty per cent. will be allowed when remittance accompanies the order. Remit by express, registered letter, postal order or draft.

In ordering state length of line, so that the resistance of instruments may be proportioned accordingly.

SEND FOR CIRCULAR.

Liberal terms to Agents.

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NEW AND ENLARGED EDITION OF

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Complete Directions for Self-Instruction in Telegraphy, Instructions for Building and Operating

SHORT LINES OF TELEGRAPH,

Diagrams showing the manner of connecting wires, batteries instruments, &c.

Descriptions and cuts of all forms of telegraph instruments, batteries, &c.

Cuts, descriptions and prices of the

BEST LEARNER'S APPARATUS

AND

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Together with full explanations of everything necessary for the

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To know.

Every operator and every student of telegraphy should have one.

It is the

MOST COMPLETE, PRACTICAL

And easily understood explanation of the

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AMERICAN FIRE ALARM AND POLICE TELEGRAPH.

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J. R. DOWELL, Richmond, Va.,

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J. A. BRENNER, Augusta, Ga.,

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L. M. MONROE, New Canaan, Conn.,

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ELECTRICAL CONSTRUCTION AND MAINTENANCE CO.,
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Special Agents for California, Oregon and Nevada.

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WITH A CENTRAL OFFICE,

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UPON THE AUTOMATIC PLAN,

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SUPERIORITY, VALUE

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Charlestown, Mass.,
Covington, Ky.,
Detroit, Mich.,
Dayton, Ohio,
Elizabeth, N. J.,
Fall River, Mass.,
Fitchburg, Mass.,
Hartford, Conn.,
Indianapolis, Ind.,
Jersey City, N. J.,
Louisville, Ky.,
Lowell, Mass.,
Lawrence, Mass.,
Lynn, Mass.,
Mobile, Ala.,
Montreal, Canada,
Milwaukee, Wis.,

New York City,
New Orleans, La.,
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St. Louis, Mo.,
St. John, N. B.,
Springfield, Mass.,
San Francisco, Cal.,
Savannah, Ga.,
Syracuse, N. Y.,
Troy, N. Y.,
Taunton, Mass.,
Toledo, Ohio,
Toronto, Canada,
Washington, D. C.,
Worcester, Mass.

The Distinctive Features of these Systems of

Fire Alarm and Police Telegraphs

ARE,

First—The Automatic Repeater, through which the apparatus may be distributed in a combination of circuits, and the entire system successfully worked, without the constant personal attention of either operators or watchmen.

Second—The Automatic Signal Boxes.

Third—The Electro-Mechanical Bell Strikers, adapted to produce the full tone of the largest church or tower bells.

Fourth—The Electro-Mechanical Gong Striker, for hose and engine houses, by means of which the location of the fire is instantaneously communicated to the members of each fire company.

These Features combined form the

Only PERFECT, COMPLETE and RELIABLE System

OF

FIRE ALARM TELEGRAPH

IN THE WORLD.

It is a sufficient vindication of the claims which are made by the Proprietors of these systems of

FIRE ALARM AND POLICE TELEGRAPHS,

that they have sustained the test of more than twenty years of practical use, and that the efforts which have been repeatedly made to supplant them by other inventions have

COMPLETELY FAILED;

in the few instances in which municipalities have been induced to adopt other systems having demonstrated their insufficiency and unreliability, and resulted in their abandonment, and substitution thereof of the

AMERICAN FIRE ALARM TELEGRAPH.

Messrs. GAMEWELL & CO. are the owners of the original FARMER & CHANNING PATENTS, one of the most important of which has just been extended for seven years, and during the past seventeen years have spared no expense or effort to secure improvements, and the Systems are now covered by MORE THAN TWENTY PATENTS.

The most important improvement which the Proprietors have adopted and introduced is the

AUTOMATIC SYSTEM,

the introduction and operation of which involves so little expense, compared to the benefit which it confers, that even small communities can profitably adopt and maintain it.

The American System of

FIRE ALARM AND POLICE TELEGRAPHS

has met with the universal approbation and commendation of the

People, Municipal Authorities,

AND THE

PRESS

throughout the UNITED STATES and CANADA.

NO EFFORT, TROUBLE OR EXPENSE

is spared by the Proprietors to obtain and secure ANY POSSIBLE IMPROVEMENT which shall increase the

EFFICIENCY,
RELIABILITY and
ECONOMY

of the system. They intend that, as far as possible, it shall be

ABSOLUTELY PERFECT!

The amount of property which has been saved from destruction, and the number of lives which have been preserved through the general adoption of this system, throughout the UNITED STATES and the DOMINION of CANADA,

CANNOT EASILY BE ESTIMATED,

but that, in every community where it has been introduced for any considerable length of time, they have been enormous, THERE CAN BE NO QUESTION.

The coöperation of TELEGRAPHERS in securing its introduction into their localities is cordially invited, and their efforts will be duly appreciated and compensated.

Any information desired in regard to the above system will be cheerfully and promptly furnished upon application at the office.

A pamphlet, setting forth more fully its advantages and superiority, has been printed, and will be supplied to Municipal Authorities and others interested in Fire Alarm and Police Telegraphy, upon application as above.

CHARLES T. CHESTER,
104 Centre Street,
NEW YORK,
TELEGRAPH ENGINEER,

AND MANUFACTURER OF

INSTRUMENTS,

BATTERIES,

AND EVERY DESCRIPTION OF

TELEGRAPH SUPPLIES

BUNNELL'S PATENT REPEATER.

These instruments are now made in two different styles, at \$120 and \$135 a set, consisting of two Relays, two Sounders, two Keys and Governor.

JONES' LOCK SWITCH-BOARD,

a most compact and reliable Switch, forming a clean spring-locked connection between any number of wires, occupying for each different connection only one square inch of space, and though made of the largest size, not subject to the warp and contraction of wood-work.

EXCLUSIVE AGENTS OF

A. G. DAY'S

KERITE,

OR

COMPOUND RUBBER COVERED WIRE

SUBTERRANEAN & AERIAL WIRES,

OF THE

HIGHEST INSULATION.

We are now prepared to furnish, after an experience of three years, an Insulated Wire which can be buried in the earth or exposed to rain and sun, or to the vapor of acids, without injury. Professor SILLIMAN, who has exposed it to the most destructive agencies, finds that it remains uninjured in an atmosphere of ozone, which would destroy gutta-percha in a few hours. It exceeds glass or any other known substance as a non-conductor

We have made special arrangements to furnish this article for office purposes at a reduced rate.

ALSO, TO FURNISH

IRON CLAD CABLES

of the usual size, with KERITE COVER, believing that it will exceed, in insulation for submarine purposes, ANYTHING HITHERTO MANUFACTURED.

We shall be happy to furnish estimates for any amount and size of cable, which will be found to compete with any other construction, both in quality and price.

We manufacture the Genuine ELECTROPOION BATTERY, with Patent Platina Connection, introduced by us eight years since; also, THE ALPHABETICAL OR DIAL TELEGRAPH, now extensively used in this and other cities for private lines being easily and quickly learned by any one.

We offer for sale, among other novelties, a SOUNDER that will work practically with a single DANIELL cell, a BATTERY that does not require to be taken down but once a year, and the very best MAIN LINE SOUNDER made

Our CATALOGUE, embracing a large amount of new matter and description, is now ready for distribution.

THE TELEGRAPHER

A JOURNAL OF
ELECTRICAL PROGRESS.

J. N. ASHLEY, PUBLISHER.

SATURDAY, AUGUST 7, 1875.

VOL. XI. WHOLE No. 473.

Original Articles.

The New, Albany, N. Y., Western Union Office.

At last the new office of the Western Union Telegraph Company in this city is finished, or so nearly so that they have moved into it. Nearly six months have elapsed since this office was totally destroyed by fire, and, though it seems a long time to look back upon, we are now fully compensated for our waiting, and for the inconveniences to which we have unavoidably been subjected, by the improvements which have been effected during these months.

About four years ago the office was remodelled and fitted up in first class style, with eight quartette tables, a new sixty wire switch and other improvements. This for a while seemed to meet the requirements of the business, but with the introduction of duplexes, quadruplexes, etc., came the necessity for more room. The enlargement of the operating and battery rooms was under consideration, and undoubtedly would have been carried out had not the fire stepped in and relieved the company from the necessity of patching up a set of old rooms, whose days of usefulness and comfort had already passed away.

The boys used often to remark, in a joking way, that they would like to see the old building cremated; but, of course, no one really desired to see any such wholesale destruction of property. However, in the light of subsequent events, no one seems inclined to question the wisdom of Providence in allowing it to go as it did. We bore our loss with a resignation equalled only by that of an old gentleman in one of our rural townships, whose pathway through life had not been strewn with roses. The trouble seemed to be one which appears to be quite common now-a-days, i. e., the incompatibility of temper which existed between himself and his better half. In the course of time she passed away to that land where it is either no trouble or all trouble, and "Daddy," as he was commonly known, was left alone. The next morning he came down town, and meeting a friend, he remarked confidentially, "Well, Rosy is dead, and I'm not sorry." But I am wandering from my subject.

The Museum Building, in which the new office is located, stands at the junction of Broadway and State street, facing south. It is built of white marble, which in course of time had become weather stained and badly discolored by smoke. These stains were removed by rubbing with sand and water, and now the building presents a very creditable appearance. At the top of the fourth story a heavy galvanized iron cornice extends entirely around the building. Above this story rises the French roof, surmounted by an ornamental cupola, which is built in a half circle facing the street, the rear portion being a half square. The whole is covered with galvanized iron and filled in with brick, thus making it comparatively safe against fire. The heavy cornice and the fancy window cornices are painted white, to correspond with the main body of the building, while the plain portions of the roof and cupola are a slate or drab, thus making a pleasing contrast, and setting the fancy work out in bold relief. The top of the building is ornamented with a gilded cresting of fancy iron work.

The eastern, western, northern, southern and city wires, sixty-nine in number, come together in State street, east of Broadway, and are carried on sixty-five foot poles to the corner opposite the office. And now, contrary to the general custom, we propose to give your readers a glimpse of our new office, commencing at the top instead of the bottom. The reason for this departure is that it will save us climbing five flights of stairs, which any telegrapher will acknowledge to be quite an object.

From the corner of Broadway the wires are carried up to the circular front of the cupola and attached to three parallel horizontal rows of insulators, which are not visible from the street. From these outside insulators they are carried through hard rubber tubes by means of sections of korite wire to the lightning arresters inside; from this point they are connected by cotton covered wire with the switch.

Entering the operating room by the private entrance on the north side, near the Broadway end, the visitor finds himself in a room about fifty feet in length,

by about thirty feet in width, and fifteen in height, lighted by windows on three sides by day, and by eight elegant four-light chandeliers by night. Above each chandelier is a ventilator, about two feet six inches in diameter. In addition to these ventilators there are several registers (not the old style paper and weight machines) set into the wainscoting, leading to flues extending to the top of the building, thus insuring an upward draft of air, and effectually clearing this room of all the impurities in its atmosphere. During the warm weather a current of cool, pure air from the river passes through the room, making it cool and comfortable for the toiling "blacksmiths" who occupy it. Twelve quartette tables fill up the greater part of the room, leaving a small vacant space in the circular end on Broadway, which will be used for light gymnastics by the "boys" (when the chief is out).

The number of instruments is somewhat larger than in the old office, it being found necessary to have some in reserve, to be used in case of emergency. There are twenty-seven sets of single instruments, all furnished with the new style nickel base sounders, which, by the way, present a very handsome appearance, and if in practice they fulfil the conditions of the old saying, "Handsome is as handsome does," they will certainly prove an important improvement on the Phelps sounder. There are also seven sets of Milliken's repeaters, one set of Edsonian, Prescottian, Smithsonian, etc., etc., quadruplex, and two sets of differential duplex; these latter being so arranged that they can be used as four sets of single Morse instruments, two separate duplexes, or a duplex repeater. Each table is furnished with a glass ink well, sunken into the table, thus doing away with the troublesome, always upsetting inkstands. The chairs are, perhaps, the most striking feature of the room, being built entirely of wood, the seats being carefully tested before the chairs were put together, and invariably placed with the soft side up. The backs curve out gracefully and are quite ornamental. The whole arrangement is painted a delicate straw color: it is believed they are not patented.

On the north side, about midway between the Broadway and west ends of the room, placed about four feet from the wall, stands the switch, of which we are all justly proud. It is of brass, finely polished, and set up with Mexican mahogany, rosewood and black walnut, and is the most beautiful piece of furniture in the room. It is enclosed in an elegant black walnut framework, with doors at each side. The material is the same used in setting up the new switch in 145 Broadway, New York, and having been thoroughly renovated, is now as good as new.

This switch will accommodate eighty wires and sixty instruments. The instruments are connected with the switch by cables running under the floor; not a wire is to be seen except where they are attached to the binding screws of the instruments. A pneumatic tube and a speaking tube connect the operating with the receiving department. Electric bells are attached to the pneumatic tube in both rooms. When a box containing a message is sent up, upon arriving at the top it strikes and throws back a spring, which closes a local circuit, and setting in motion both bells, or "buzzers," as they are technically termed, these continue to ring until the attendant comes and takes out the despatch and opens the circuit, by placing the spring back in its first position. An eight inch drop pipe and a speaking tube connect with the delivery department. At the west end of the operating room are two smaller rooms, one being used for the files of business and a lunch room, and the other as a store room for stationery and other light supplies, and also as a cloak room. A door on the north side of the main room, and at the left of the switch, opens into the hoistway. From this door are to be pitched all operators who fight circuit or read almanacs during office hours.

On the same floor in the rear is located a well arranged and handsomely furnished room, used as a wash room and water closet.

On the floor below, and right under this is located the battery room, in charge of the veteran batteryman, Anthony Hodley. The room has a capacity of 1,600 cells, but at present only about 900 cells are to be used. The Callaud Gravity Battery is the only kind used.

In one end of this room is fitted up a small office, occupied by Mr. George Thompson, foreman of repairs. Down two flights, of stairs and directly in front of the main stairway, is located the delivery department, which is not as yet entirely completed. It is to be fitted up with handsome black walnut desks for the book-keepers and delivery clerk, and seats for the boys, who are hereafter to be kept entirely clear of the receiving department. A pneumatic tube and a speaking tube connect this room with the office below. The front corner of the building on the ground floor is again occupied as a receiving office. This is also still incomplete, but is to be fitted up with elegant black walnut counters, now in course of construction at the company's factory in New York. Manager Rugg's private office is to be located in a room on Broadway, off the operating room. Here reporters will be allowed to

prepare their despatches, as hereafter the operating department is to be kept strictly private.

The transfer from the Exchange building was effected on Saturday night, July 31st, between nine and ten o'clock. The arrangements for moving were so complete that it was done without any mishaps or delay to business, which is highly creditable to those who had it in charge. It would be unjust to close without referring to the skilful and intelligent manner in which the wires were shifted from the old Exchange street line and carried into the building by Mr. Wm. Gage. The whole sixty nine wires were shifted and arranged on the State street line and in the cupola without a single mistake—a thing which has not been done before in the memory of the oldest inhabitant. The working force of the W. U. Company at this point is as follows:

- | | |
|---|---------------------|
| J. H. Rugg, Manager. | |
| M. J. Morgan, Chief Operator. | |
| S. C. Rice, Assistant Chief Operator. | |
| H. V. Shelley, Night Manager. | |
| Operators— | Operators— |
| C. C. King, | T. Stewart, Jr., |
| H. L. Waterbury, | F. A. Warriner, |
| O. Coats, | S. I. Herschberger, |
| J. F. Collins, | J. F. McAuliffe, |
| P. Clark, | F. S. Fancher, |
| J. R. Van Wormer, | W. A. Anstin, |
| F. A. Evans, | G. Woodworth, |
| C. E. Shelly, | |
| G. P. Riley, Cashier. | |
| W. B. Derly, Book-keeper. | |
| J. J. O'Connor, Assistant Book-keeper. | |
| M. A. Peenev, Delivery Clerk. | |
| F. A. Watson, Assistant Delivery Clerk. | |
| James Gillespie, | " " |
| Elmer D. Osborne, | " " |
| Wm. H. Kelly, | } Office boys. |
| William Platto, | |

Seventeen messenger boys make up the remainder of the force.

Hoping that we have been successful in the endeavor to give your readers a fair description of this establishment, without tiring them out or patting them to sleep, we domino this letter with a DOUBLE SIX.

Poetry of the Telegraph Wires.

ARCHITECTS come, and architectural horrors go up, but the telegraph lines go on forever. They are the one sure picturesque element of our nineteenth century city building. They are lines of beauty, that fall in pleasant and unpleasant places alike, and every once in a while they give us a bonning reminiscence of childhood when a forlorn city kite gets stranded across one or more of them, and hangs there dragged and picturesque against the unpitiful sky. There is so much evident poetry in the telegraph wire that it is a difficult subject to handle poetically. We once heard a Methodist preacher do very well by it, however; he had it waiving above the Colosseum, the realm of superstition. It was a good point, and would have brought down the house under other circumstances. A great many of the newspaper poets, we believe, have tried it, but generally with much the same fate as that of the city kite above mentioned. You will recall Mrs. Julia Ward Howe's "Telegrams;" very suggestive, certainly, and with something of the telegraphic rattle and surprise—but a poem more, perhaps, of the telegraphic office than of the telegraph wire—or if of the wire, then chiefly of its psychology:

"Let him hasten, lest worse befall him,
To look on me, ere I die;
I will whisper one curse to appeal him,
Are the black flood carry me by,
His bridal? The fends forbid it;
I have shown them his proofs of guilt;
Let him hear, with my laugh, who did it;
Then hurry, Death, as thou wilt!
On, and on, and ever on!
What next?"

Mr. George P. Lathrop, however, has given us "The Singing Wire," itself:

* * * * *
"I listened to the branchless pole
That held aloft the singing wire;
I heard its muffled music roll,
And stirred with sweet desire.

'O wire, more soft than seasoned lute,
Hast thou no sunlit word for me?
O, thou so long, so coyly mute,
Sure she may speak through thee!"

I listened; but it was in vain.
At first the wind's old wayward will
Drew forth again the sad refrain;
That ceased, and all was still.

But suddenly some kindly shock
Struck flashing through the wire; a bird,
Poised on it, screamed and flew; the flock
Rose with him, wheeled and whirled.

Then to my soul there came this sense:
 ' Her heart has answered unto thine;
 She comes, to-night. Up! hence, O hence!
 Meet her: no more repine!'

Mayhap the fancy was far fetched;
 And yet, mayhap, it hinted true.
 Ere moonrise, love, a hand was stretched
 In mine that gave me—you!

* * * * *

So now, according to the newspapers, the telegraph wires are to be taken down and buried, with all their music in them, just as if they were some of your old classic statues—Venus of Milo or Laocoon! O, Mrs. Howe and Mr. Lathrop! O, all ye poets of New York—you who sang the death of the flowers and of the musical leaves of the forest; you who sang of Pan in Wall street; you who mourned so tenderly for the youth that goes and never comes again—come forth and bewail! Where were ye, nymphs, when the remorseless deep closed o'er the head of your loved Lycidas? O, winds, sweeping in from the sea, weep and moan, for your harp of many strings is taken from you! O, my poor tenement house child, living in the sixth story back, no more at night you shall wake and listen to the songs of angels!—*Scribner's Monthly Magazine.*

Correspondence.

We do not hold ourselves responsible for the opinions of our Correspondents. Our columns are open to free discussions on all Telegraphic subjects, without distinction of person or opinion.

No notice will be taken of anonymous communications.

Express Messages.

TO THE EDITOR OF THE TELEGRAPHER.

In the last number of the official *Journal* of the Western Union Telegraph Co., the editor returned again, for the third or fourth time, to the subject of Express Telegraph Messages. In the *Journal* of May 15th the editor wrote in strong language of general condemnation of the principle of express messages, assuring his readers that "the system, if established, would be perilous, and destructive, and disastrous." In the number last issued the editor characterizes this "subject" as "dangerous and impracticable," and we are also assured that no more objectionable proposition could be suggested, nor one "which would sooner kindle the anger and the opposition of the people."

The editor is kind enough to state, in the editorial under the review, the objections of the managers of the Western Union Co. to express messages, and, stripped of their verbiage, they are as follows:

1. The law—which is imperative and fundamental—requires telegraph messages to be transmitted in the order of reception.

2. The acceptance of a message for which a pledge of priority in transmission is given, would be hostile to public law and to public justice.

3. A telegraph company has no right to pronounce upon the relative value of messages, or to entertain any system which makes a right of selection a part of its operations.

4. There cannot be express messages as well as express packages, because "the mail and the night service already provide for slow messages."

The editor closes his argument with a story of his own imagining, in which a wife, at Newburgh, is supposed to telegraph to her husband, in this city, to meet her, within an hour or so, at the depot. She requires the message, necessarily, to be sent at once, and makes the mistake of supposing that an "express" message is entitled to go over the wires at the minimum charge made for an ordinary message—a very natural blunder for any one to make once, or until explained, but not at all likely to occur a second time, or to cause any possible dissatisfaction after fully understood.

1. 2. If, as the editor supposes, the law imperatively requires all telegraph messages to be transmitted in the order of reception, then the Western Union and every other telegraph company glaringly violates the law every day under what is called the "night service," which entitles the party wishing to telegraph to a reduction of half the regular day tariff, provided he writes his message upon a certain prescribed blank, by which he is pledged to be satisfied if the telegraph company transmits his message during the ensuing night. But, of course, this order of business is distinctly assented to by the writers of the messages intended for night service, and I cannot imagine that any sane person would for a moment doubt its legality or its propriety; and if it is legal, and I happen to think it will serve my purpose (the telegraph company assenting) to write a message at 8 o'clock A. M., to be delivered at New Orleans by 6 P. M., at half the rates charged for an express message, why should I not save \$1 and let my

neighbor, who has a hurried message, but who is behind me in handing in his telegram, have the instant use of the wires, and pay for the service rendered him \$2? I am thus served within 10 hours, which is all I require, and save \$1; and my neighbor is served, perhaps, in one hour, which was necessary for his business, and he pays twice as much as I do.

Who hat those astute old fogies of the Western Union Co., who so triumphantly proved to their own satisfaction that it was impossible to telegraph over 60 words per minute in circuits of 250 miles, would think of condemning the principle of express messages on such a flimsy pretext as is set up in the *Journal's* first and second count?

3. This objection seems to presuppose that those who advocate express messages propose to leave it discretionary with the telegraph company as to which form of blank the party wishing to telegraph shall use; but of course it cannot be necessary to say to any one outside of the *Journal's* office, and the executive offices of the Western Union Co., that no such idea was ever advocated or entertained by any one who has written in favor of express messages. The public would be quick to learn the advantages and the disadvantages of "express" and "ordinary" messages, and the telegraph company will have discharged its legal and moral obligations when it fixes a fair scale of charges for "express," "ordinary" and "night" messages, and provides blanks with clear conditions and obligations attached, and leaves to its patrons the selection of that one which most nearly corresponds to their necessities.

It is, of course, easy to see that a soulless corporation like the Western Union Co., which is run primarily in the interest of speculators in its stock, might add another to its many tricks and devices to entrap the credulous public, and so manage as to force all its patrons to select "express" blanks to write their messages upon, by needlessly withholding all messages written upon "ordinary" blanks; and I suppose it is the most natural thing in the world for the official *Journal* of the company to assume, as it does in its editorial of May 15th, that telegraph companies would resort to this species of knavery to enhance their revenues. But I assume that the public of America are not yet prepared to risk their business inter-communication to any one telegraph company, and I, for one—and I believe I speak for nineteen twentieths of the business community—feel quite willing to trust to competition to regulate the speed, cost and precision of telegraphing in this country.

4. This objection, coming from the Western Union Co., commands notice, but only because of its origin, for what there is of argument in it is utterly beneath contempt; whilst its statement of alleged fact is in keeping with a previous assertion of the President of the Western Union Co., who caused it to be published in the editorial columns of his *Journal*, that "Duplex" and "Automatic Telegraphy" were altogether inferior to the Morse system, and that not over 60 words per minute could be telegraphed automatically, and not even that number, except over single wires upon poles, owing, as the distinguished electrician of the company had discovered, to "inductive influences."

The editor of the *Journal* does not seem to comprehend what is meant by "express packages." In Mr. Latimer Clark's address before the Society of Telegraph Engineers, which has been criticised by the Western Union editor, Mr. Clark says: "In order to obtain the full benefit of telegraphic communication, any reduction in the cost should be accompanied by the introduction of express messages—a species of message bearing the same relation to ordinary messages that passenger trains bear to goods (freight) trains." Perhaps the editor of the *Journal*, at a future time, will explain his present foggy ideas about "express messages" in connection with "the mail and night service." No doubt the night service, at half rates, is of great advantage to the telegraph companies and the public; but it is not forgotten that the managers of the Western Union Co. did all they could to make it unpopular, whilst the Atlantic and Pacific Co. were popularizing the service.

The Western Union Co.'s managers are the direct, however illegitimate, descendants of the Morse and Kendall promoters of Morse telegraphy, and neither they nor their direct descendants ever adopted, sanctioned or paid for any real improvements in telegraphy until absolutely forced to do so; and if it had rested with Morse and his descendants, down to and including the Western Union Co., to make or pay for improvements in telegraphy, the system of to-day would have been the system of Morse in 1847, without addition or improvement. The really able men of the Morse fraternity have been the operators and subordinate managers, who, often in spite of their ignorant, conceited or stupid superiors, have invented without pay and improved without reward, or even the sense to appreciate on the part of the executive managers, until the Morse system of to-day compares with the Morse system of 1847-1850 as does the express railway train with the old stage coach. But, I repeat, these vast improvements are in no sense due to conceited executive managers or to their backers, with more money than brains. There

is, therefore, special fitness in the present opposition of the Western Union Co. to express messages, and, indeed, to every advance toward the full utilization of telegraph wires.

Improvements in telegraphy have now, in defiance of the hostility, deception, and even the glaring misrepresentations of the Western Union Co., reached a point which admits of round profits in telegraphing, day and night through, in any circuit of 1,000 miles, for 10 cents per 100 words; and the managers of the Western Union Co. will be compelled to do telegraphing at something like these rates so soon as the public become educated up to the conveniences and the capabilities of the present actual improvements in automatic telegraphy. How Mr. Orton is to bring his present alleged cost of more than 33 cents per message of 10 words down to 10 cents per message of 100 words is a problem which he will do well to begin soon to solve; and it is one which, I apprehend, will never be even half solved by any system of telegraphy now within the reach of the Western Union Co. D. H. C.

The Improvements in the Chicago, Atlantic and Pacific Office.—The Automatic System Working Satisfactorily.—Personal.—Base Ball.—Arrested.

CHICAGO, ILL., July 22.

TO THE EDITOR OF THE TELEGRAPHER.

In a former communication I briefly mentioned the removal of the A. & P. operating room to the fifth story of the Major block. I did not have time and space to give as full a description as I had intended, and, in writing from hearsay, made several errors. Superintendent Towler's room is not directly on the corner adjoining the operating room, but several doors south on the same floor, fronting on La Salle street. Mr. Robert C. Minot, familiarly known as "Bob," still operates as Mr. Towler's chief clerk, apparently to the entire satisfaction of all interested. Having been promoted from time to time since he clerked for the P. & A., five years ago (being about a year ago appointed to the position he now holds and fills so creditably), of course he knows the whole routine of that branch of the service.

The location of the superintendent's office is a very desirable and sensible one, as parties having business with the superintendent are not obliged to pass through the operating room to get there, as would have been the case had it been where I erroneously stated heretofore. The elevator being still south of the superintendent's room, it (the latter) is reached before coming to the operating room. The corner room mentioned heretofore as Superintendent Towler's room, is used for the automatic punching room. This room is very light and airy, having a frontage on both Madison and La Salle streets. Directly south of this room, and connecting to it, is another fronting on La Salle street, which is also used for automatic purposes, and connects by a door on the east side of the room with the operating room, which, from its peculiar location, is never directly under the rays of either the morning or afternoon sun; thus, by opening the windows of the last mentioned automatic room and the door to the operating room, when those windows are open a delightful current of air can be made to pass through both, making them as cool and delightful as any in the country. I was kindly shown through the rooms recently by chief operator Sweet, who took considerable pains to make everything plain. According to Mr. Sweet's theory, it takes experienced persons, and not mere children, to work the automatic. He says a good puncher can punch out the messages a great deal faster than the best Morse operator can send or receive business; and the same rule which makes a Morse operator who can receive a few words behind (safely and easily) an expert, is also applicable to the punching process. A puncher who is a well informed person—who can at a glance take in whole sentences easily, on account of being well educated and well read, can do much better service than a person of ordinary intelligence and little or no experience as a reader of copy. In this respect it seems that there is some similarity between a Morse operator and an automatic puncher. The automatic is worked daily and gives satisfaction here. I hope at some future time to be present when it is working in all its various branches, and then give you a minute description of the whole system, as I think many of your readers would be pleased to know how it works.

The main battery room of the new operating room of the A. & P. Co. is situated on the same floor with the operating room, and is light and airy, fronting on Madison street, just east of the operating room. The wires cross Madison street from the buildings opposite the battery window, and are very nicely strung. The switch board will be on the east side of the operating room, next to the battery room, when completed, and I understand will be a very handsome affair. The wires will come through the wall which separates the battery room from the operating room, directly to the

switch, and passing directly down to the floor and from there to the different tables, no wires will be in sight in the operating room. The partition in the receiving room, which (from the fact that the operating room had to be crowded into the latter) extended so far out towards the door as to very much restrict the space for customers' accommodation, has already been removed, leaving a large comfortable room for customers and ample space for the receivers, back in the same place that it was heretofore. The manager's office occupies the same position as heretofore in the south part of the room, only it has been very much enlarged. A rotary engine, worked by hand, drives the messages up to the operating room through a pneumatic tube, while the messages for delivery are dropped down an ordinary pipe from the operating department. Everything seems to be working systematically, and no doubt the company will be greatly benefited by making such sensible changes.

Mr. Wm. Hubbard is the gentlemanly Superintendent of Telegraph and Train Despatcher of the Chicago and Pacific Railroad. The road is rapidly extending westward ho! and Mr. H. has his hands full filling the arduous duties of the two positions.

There was a general prostration of telegraph poles, fences, etc., along the line of the C. B. & Q. R. R. during the storm of the 19th, and three men named Ohlson, Andrew and H. Nelson, were killed by lightning at Altona, Knox Co., Ill.

A nine from the W. U. office (known as "Billy McMillan's nine") beat the Western Base Ball Club of this city to-day, by a score of 5 to 4. I understand they go to St. Louis shortly to play the Telegraph nine there.

A gang consisting of telegraph operators, brakemen and others, 29 persons in all, were arrested here to-night for boarding a train on the Pittsburg, Fort Wayne and Chicago Railroad, contrary to the orders of the road.

OCCASIONAL.

British Columbia Telegraph.

TO THE EDITOR OF THE TELEGRAPHER.

Our line runs from Victoria, on Vancouver Island, to Barkerville, in the Cariboo mining district, a distance of 650 miles. Mr. R. B. McMicking, our worthy and estimable Superintendent, passed through here a few days ago on his annual trip of inspection. The line is in excellent repair, and it is not necessary to call any office more than once when he is in the upper country. Our two chiefs are Miss Sarah Maclure at Matsyni and "Mike" O'Connor at Clinton. "Mike" got married this spring, and has not yet fairly recovered from the effects.

Barkerville is the only office north of Victoria that receives "press;" but "Dick" Allen is an old hand at it, and one that won't be frightened at a Chicago duplex.

The principal office is at Victoria, and is under the able management of Mr. A. Leonard Meyer, assisted by Mr. J. H. Carmichael, universally known as "Old Car."

Capt. Fravel, well known on this coast, is located at Saanish. Jimmy Gilliland, alias "The Growler," is repeating at Swinomish, and Aleck Lindsay at Vanwinkle. This latter gentleman also acts in the capacity of constable, notary public, coroner, collector, express agent, mining secretary, and I don't know what else, so that he must be making \$500 per month.

Alfred Peace runs the Yale office. He got his name from an exclamation a young lady was heard to make years ago, "Please don't."

At some future time I shall give you the names of the remainder of our staff, and also anything of interest that may transpire between now and then. B. C.

Changes Present and Prospective in Chicago W. U. Office.—Personals.—A Gentle Admonition.

CHICAGO, ILL., June 24.

TO THE EDITOR OF THE TELEGRAPHER.

CHANGE seems to be the order of the day here. Probably there is no office operated by the Western Union Company where in the course of a year so many operators come and go. Mr. Tom Weiler, who has been sick for some time past, has fully recovered, and been promoted to a position on the regular night force, having heretofore been on the "sub" gang. Charlie Robinson manages to fight his old enemy—the rheumatism—off long enough to get around and work occasionally on a fine day. Mr. F. M. Lester has sufficiently recovered his protracted indisposition to be able to grace the office days with his presence, and is working the "Bx" branch office (sugar broker) line until fully recovered. Mr. George Hurd has resigned on account of continued ill health and gone to his home in Canada, where he, no doubt, will meet a hearty welcome, his father being a leading Methodist minister of the Gospel in the Old Dominion.

Several resignations of first class men both on the day and night force, are rumored, they being dissatisfied with the salaries paid here. As this is only a rumor, I am not at liberty to give the names of those who intend leaving.

I like politeness, but I hate toadyism, as it is generating to quite an alarming extent in certain quarters. The shorter and more concise a business letter is the better it is appreciated by the recipient, and we are very much mistaken if those in authority like to have it spread on so thick, for be assured, boys, they can see as far through a millstone as some of the smartest of you can. It's all very well to use "Mr.," "Esq." and "Dear Sir," but when it comes to using all these and saying, "I have the honor, my dear sir," etc., etc., and "I am, dear sir, with great respect, your obedient servant, etc., etc.," it's too much; it spoils a good thing; it's too military. If you don't drop on it, boys, we'll have to call you "Major Generals," "Lieuts.," "Corporals," "Privates," etc. Let's have a rest.

WESTERN UNION.

An Amusing Incident.

NINTH BANK, August 2.

TO THE EDITOR OF THE TELEGRAPHER.

AN amusing incident occurred here a few days ago. An old soldier and pensioner had occasion to use the wires for the first time in his life upon some important business, and the whole family were interested in getting a quick reply. Frequent discussions took place between the family and neighbors as to the mysteries of telegraphing, and various modes were suggested as to the manner in which it worked. It happened that the reply was delayed on account of the party to whom the message was addressed being hard to find, and no reply could be got that night. This caused some talk, and the sender and his friends at once came to the conclusion that telegraphing was a "mighty" swindle. At last one of the children, a bright little boy of about six summers, suggested that their reply might have been knocked off the wires some place. "You're right, my boy," replied the father, "I never thought of that!" "Well," said the youth, "I know where it is—there's a pair of old boots hanging on the wires near the station—they've been hanging there over a week, and they must have knocked our message off." Those present coincided with the boy, and they retired to their beds after having come to the conclusion that the telegraph company could not be held responsible for the damage done by a pair of old boots.

ONCE MORE FOR THE CIGARS.

A Telegraphic Base Ball Victory.—Bulls.—Personals, etc.

CHICAGO, ILL., July 31.

TO THE EDITOR OF THE TELEGRAPHER.

THERE was no meeting of the American Electrical Society on the third Wednesday of this month, as it was ascertained that none of the officers could be present. At the last meeting it was understood that hereafter notices would be served by the secretary on all the resident members (and as many others as would be likely to attend) several days previous to the meeting, so that the forgetful ones might be reminded of the time of the meeting, and as none were received no one was disappointed by preparing for the meeting.

Mr. Edwin Spear, the enterprising agent of Holmes' burglar alarm telegraph, house and hotel annunciators, call bells, etc., has quite an extensive stock on hand at his new place, 141 La Salle street, in this city. Mr. Spear is an old resident of Chicago, having been here

A match game of base ball was played to-day between a nine composed of check clerks of the Western Union office, known as "Billy" McMillan's nine and a club made up of clerks from the *Inter-Ocean* office, resulting in a victory for the W. U. boys.

I was unable to obtain any points of the game, the name of the umpire, nor the time occupied in playing it. I understand the Western Union club intend challenging the "Dots and Dashes" of St. Louis, to play them at that city at an early day.

"Suit against *Bolls & Tale* is postponed; don't go to-morrow" was caught on the fly recently by one of our first class Chicago receivers, because there were too many words in the message, but the check was all right after it was changed to "*Bolls' estate*."

Mr. O. D. Knabenshue, operator at the general freight office of the Baltimore and Ohio Railroad, in this city, is one of the many operators in this section who cannot do without THE TELEGRAPHER. Mr. "Warby" Cooper is looking as happy as a nigger with a new shirt with a bosom pocket in it, in his new office in the B. & O. general ticket office, corner Clark and Washington streets. Give him a call, boys.

We thought our friend "Pete" Rowe, who was in town a short time ago, looked unusually happy about something that had happened, or was going to happen, and well he might, for on the 29th inst. he was made the happy father of a twelve pound boy, and it wasn't

a very good day for boys, either. "Pete" has something to *Rowe* for now, you bet!

Of all the nice little offices we have seen lately, the L. S. and M. S. R'y branch office in the Sherman House, presided over by the gentlemanly Mr. E. C. Edson, takes the linen off of the highest bough (that's original). A nice little strap switch, with reflecting mirrors between the perpendicular straps, and heavy walnut mouldings with furniture to match, makes it a little palace, indeed, and Mr. E. well knows how to take care of it.

Mr. Charlie Fortier, recently of the W. U. day force here, but more recently of the A. and P. branch office, known as "Bx" office, has resigned and gone to Milwaukee to engage in other business. I understand Mr. E. B. Ludlow, an old timer, takes Charlie's place at "Bx" A. and P. office. The A. and P. folks now have a Milwaukee wire in full blast, and I suppose your correspondent at Milwaukee will soon give you a full account of the A. and P. opening there. The connection was made about a week ago.

"Why, how do you do, John? What makes you look so happy?" etc.; that's what we said to Johnny Mason when we met him a few weeks ago. Johnny is one of the "old timers," you know, but is now engaged at Moberly, Mo., with his brother Stephen, on railroad lines.

"Well, I've gone and done it, Jim," says he. "What! got married?" "Yes," he replied. Well, we wouldn't believe him at first, but such is the case; married and settled down. "Good enough." "Shake," and we did just shake as only Johnny knows how to shake.

Hav'n't told you about "Whitcomb's" baby, have I? Well, it ain't my fault if a fellow will become the father of a ten pound son, and then only manifest it by walking around proud like and say nothing to anybody about it. Why, of course the boys have a right to laugh at him and tell him it's about time, etc., etc. But you must "cheese it," boys, for "Whit" has one of the finest boys in this "neck of woods." He seems a head taller, and hardly recognizes us "common herd" as he passes us on the street now.

"50 Havenne." How's that for "5th avenue?" That's on one of the W. U. boys.

Mr. T. F. Tracy is the W. U. operator in charge of the segar and news stand in conjunction with the "operatorial" (that's mine too) duties of the Tremont House. If you want a good segar, boys, give him a call.

Mr. Frank Cargill, who has been taking a few weeks' vacation in Canada among his friends, passed through here en route for St. Paul on Saturday, to take his old position on that end of the Chicago and St. Paul wire.

OCCASIONAL.

Weather.—Changes in the W. U. Office.—Personals.

CHICAGO, ILL., August 2.

TO THE EDITOR OF THE TELEGRAPHER.

WE have had all sorts of weather for the past week; yesterday and also several days of last week it was so damp and chilly that a fire would have been very comfortable.

A number of changes take place to-day or to-morrow here. Mr. Minor, of St. Paul, who has been "subbing" there for Mr. Cargill for some time, takes Mr. Sam. Bracken's place on the St. Paul wire, nights, while the latter, accompanied by Mr. Cushing, of the Pittsburg duplex, nights, take a six weeks' vacation, hunting, fishing and sight-seeing through different parts of Minn., Wis., Iowa and Michigan. Mr. Hazleton left us to-day, having resigned some time ago, to take effect the 1st instant, intending to take an extended tour through Iowa, and probably visit Milwaukee. Mr. Tatge, of the day force (Burlington wire), took a few days' vacation along the Mississippi River recently and returned looking very fine. He says those Burlington girls are handsome, and the boys generous to a fault. Messrs. Wilson, Grey and King have been added to the list of "subs" in this office, and seem to be very fine gentlemen and good operators. Tommy Knox and Jim Fish have gone on days regular. Mr. F. M. Crittenton takes Fish's place on the 12.30 A. M. to 8 A. M. track. Whitcomb, of the Quincy wire, takes "Crit's" place on the Milwaukee duplex; while A. J. Long takes the Quincy wire, worked formerly by Whitcomb. Mr. Eddie Dennis is making quite a protracted visit with his friends in Indiana. Mr. Henry Stanbury has taken the St. Paul wire days, while W. C. Long has been stationed on the Detroit duplex, along with Mr. Guthborl, who is still "subbing." Jack Martin has been sick a week. It's hoped he will be around soon, as the boys can ill afford to spare Jack. Talk about your efficient and witty operators! The boys tells us that Messrs. Thomson (fatty), "G." and Mills, "Ms.," of the Detroit office, who work that end of the duplex, are the jolliest fellows and wild as some of the wittiest in the biz. This is all I can think of in the

WESTERN UNION.

THE TELEGRAPHER

DEVOTED TO THE INTERESTS OF THE TELEGRAPHIC FRATERNITY.

SATURDAY, AUGUST 7, 1875.

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The Telegraphic Situation.

THE telegraphic situation has not been materially changed during the past week. Reports have been rife of a sale or lease of the Atlantic and Pacific lines to the Western Union Telegraph Company, but they are without foundation. They have sufficed, however, to give additional strength to the quotations for Western Union Stock. It is scarcely necessary for us to contradict these reports in detail, and as they are usually started merely for stock jobbing purposes, we seldom allude to them in the columns of THE TELEGRAPHER. The impression, however, has gotten abroad that where there is so much smoke there must necessarily be some fire. It is understood that Mr. JAY GOULD is heavily "long" of Western Union stock, and that he is not without aspirations for the control of the great telegraph organization of the country. That he can get such control, if he is able and willing to pay money enough for it, we think quite probable. At any rate from now until after the annual meeting and election of Western Union officers in October, we may expect that reports similar to those above referred to will constantly be circulated.

It is not unlikely that some parties heavily interested in both the leading telegraph companies may be desirous of arriving at some understanding or arrangement for their mutual advantage, but as yet nothing, so far as we have been able to ascertain, has been accomplished, or, in fact, seriously contemplated in this direction.

The new National Company of San Francisco comes in as a disturbing element just now in telegraphic calculations. That company has issued the following

(CIRCULAR.)

"SAN FRANCISCO, July 12, 1875.

The National Telegraph Company asks the favorable consideration of the public for the enterprise about to be inaugurated.

Cheap telegraphy is almost as much a necessity of the present age as cheap water or cheap gas-light, yet the rates now demanded by existing organizations are, for all but important business messages, nearly prohibitory, and in their effect quite as detrimental to the interests of holders of stock in telegraph companies as to their patrons.

It will be the policy of THE NATIONAL TELEGRAPH COMPANY to commend itself to public favor by a low tariff of charges, the directors believing that they can best make the business profitable to their stockholders by rendering the use of their lines profitable to the public, and that the present rates can be so materially lowered as to increase seven fold the volume and the net earnings of the business.

Sufficient of the company's capital stock having been subscribed to warrant the board of directors in undertaking the construction of its lines, the work will very shortly be commenced on both the eastern and western sides of the continent, and carried on with all the energy that is consistent with judicious economy."

A news despatch from San Francisco, of Monday last, to the American Press Association, states that the company has contracted for 60,000 telegraph poles, and that operations are to be commenced soon, simultaneously at San Francisco and New York, for the construction of lines.

New companies generally commence operations by proposing to "materially lower" the charges for telegraph service, but how this new company expects to do this profitably to themselves, as promised, remains to be explained. They certainly can't do it unless the capacity of the wires can be utilized to a greater extent than by the ordinary Morse system.

As will be seen by the cable reports in our news columns, the Faraday has arrived in England, and the new cable has not been got in working order. No details of the Faraday's experience have come to hand as yet, and nothing definite is known as to the actual condition of the cable, further than that it has not worked since it was reported out and buoyed by the Faraday. The Faraday is to be refitted and sent out again as soon as possible to complete the work. The opening of the new cable for business, and the commencement of competition in Atlantic telegraphy, is meantime indefinitely postponed.

Philadelphia Telegraphs and Telegraphers.

A RECENT visit to Philadelphia was made the occasion of renewing acquaintance with our old telegraphic friends, and of a hurried inspection of the telegraphs of that city.

It is scarcely necessary to remark that Philadelphia is an enterprising city, and, of course, is not behindhand in its telegraph facilities or a liberal patronage of the telegraph. In consequence of the brief time that we could devote to our visit, we cannot speak as fully as we could desire of telegraphic matters, etc., there.

We are under obligation to Mr. O. W. STAGER, manager of the Philadelphia, Reading and Pottsville Telegraph Company, in Philadelphia, for attentions and courtesies received from him. The new main office of this company, at No. 204 South Fourth street, is very conveniently and handsomely fitted up. The battery room, which is in the basement of the building, is kept perfectly clean and dry. The battery, which is of the Callaud pattern, has the cells closely fitted with wooden covers, which checks evaporation and waste. Mr. STAGER informed us that by the arrangement which is used the battery requires very little attention, is seldom renewed, and the current is always good and constant. The appearance of the office and battery room certainly reflects much credit upon Mr. STAGER and his assistants. The Philadelphia, Reading and Pottsville Company are doing a large and constantly

increasing business. It has now forty-four branch offices within the limits of the city.

The Western Union office on the corner of Chestnut and Third streets is, of course, a busy place. The receiving office on the ground floor is very conveniently fitted up. The office of the Sup't of the District, Mr. JAMES MERRIHEW, is over the receiving office. We had the pleasure of renewing an old time acquaintance with Mr. MERRIHEW, who, although very busy, is never too much so to cordially welcome his old friends. He has charge of one of the largest, best and most important districts of the Western Union Company. He is the right man in the right place.

The operating room, which, as usual in the large W. U. offices, is near the roof, is a good sized room and well filled with desks, instruments and operators. Messrs. JACOB WOODRUFF and GEORGE SNYDER were found, as we last saw them some years since, busily engaged in working the printing telegraph events. They bear their years and labors well, and are likely to be similarly employed for an indefinite period in the future.

Mr. HEBER C. ROBINSON is the able and efficient manager of the Western Union office, to which position he was promoted when Mr. MERRIHEW was made superintendent, he having been for eight years previously chief operator. This was another merited promotion.

On the opposite corner of Chestnut and Third streets is the office of the Atlantic and Pacific, and Franklin Telegraph Companies. Mr. JAMES T. MAXWELL, who has been for some years chief operator, was, on the 1st instant, promoted to be manager, in place of Mr. JOHN WINTROP, who has resigned to engage in other business. This office does a very good business, and under Mr. MAXWELL's management we have no doubt the prosperity of the company will be increased. In this office two automatic instruments are worked advantageously. A little money expended in fitting up the operating department would be judiciously invested.

The Local Telegraph Company, an auxiliary of the Gold and Stock and Western Union Companies, is managed by our old friend, Mr. HENRY BENTLEY, and is, we understand, doing a good business. As Mr. BENTLEY was not at his office when we called, we failed to see him.

The American District Telegraph Company is being very successfully introduced in Philadelphia, and new districts are constantly being established by Mr. W. H. SAWYER, whose experience as General Sup't of the company in this city has given him superior qualifications for the business. It is intended to have the city entirely covered by the American District system before the Centennial celebration next year. The American District office, in the depot of the Pennsylvania R. R., on Market street, is very handsomely fitted up with large plate glass mirrors and elegant fixtures and furniture, and reflects much credit upon the taste of Mr. SAWYER, under whose directions it was done.

Mr. W. J. PHILLIPS still manipulates the Fire Alarm Telegraph of Philadelphia as its superintendent—a position which he has held and efficiently discharged the duties of, ever since it was first established in that city. He is also interested in the American District Company. The Fire Telegraph of Philadelphia sadly needs reconstruction, and Mr. PHILLIPS hopes to succeed in accomplishing it before the Centennial. An ordinance making the necessary appropriation for the work has already passed the lower branch of the Municipal Council, and is expected soon to be agreed to by the upper. Philadelphia should by all means have GAMEWELL AND Co.'s latest improved fire telegraph system in operation for the Centennial year.

We regretted very much that our necessarily very limited stay prevented our making a more detailed inspection of the Philadelphia telegraphs and seeing more of the Philadelphia telegraphers.

The depression in business generally affects telegraphic interests there as elsewhere, but a call on Messrs. PATRICK & CARTER, at No. 38 South Fourth,

near Chestnut street, showed that business was not entirely at a stand still. This firm has a full stock of telegraphic and electrical goods, and they say that business is fair for the times.

The branch establishment of Messrs. L. G. TILLOTSON & Co., at No. 54 South Fourth street, under the management of Mr. CHAPIN, is also in successful operation, with a good stock of goods.

We had not time to visit the establishment of Messrs. JOSEPH MOORE & SONS, No. 535 and 537 China street, whose specialty is insulated and office wires. This firm are well known for the excellent quality and reliability of the wires manufactured and furnished by them.

Many of the old time telegraphers will remember Mr. ROBERT J. BLACK—"Bobbie," as he is more familiarly known by his numerous telegraphic friends. We found "Bobbie" in the order department of the mammoth clothing and goods establishment of Messrs. WANNAMAKER & BROWN, with which he has been connected for some years. He is the same genial, whole-souled fellow as when he fingered the keys of the Printers so deftly in years gone by. Nothing in our visit gave us more pleasure than the renewal of our acquaintance with our old friend and associate at 21 Wall street of more than twenty years ago.

Owing to the absence of Mr. DAVID BROOKS, we were unable to obtain the latest information in regard to insulators, or learn what progress was being made with the electrical department of the Centennial Exhibition, which will be under his superintendence and direction.

"The Electric."—Change of Proprietor.

WITH the issue of *The Electric*, published at St. Louis, Mo., for July 20th, the connection of Mr. FRED. B. MOXON, who has been transferred from the St. Louis, Mo., to the New Orleans, La., Western Union office, ceased. Mr. MOXON has disposed of his interest in *The Electric* to Mr. J. W. COOK, of the St. Louis office, and it will hereafter be published by him and Mr. J. W. HAYES, also of that office.

The Electric is an interesting and neatly printed paper, and has our best wishes for its continued success and prosperity. It has been published with a view to interest its readers, and has been kept free from the objectionable features which have characterized one or two other similar publications. The connection of Mr. COOK with the paper will, we have no doubt, prove advantageous to it, and it will be read with interest and profit by the telegraphers of the section which it especially represents.

Patent Pocket Relay.

WE take pleasure in calling attention to the improved Patent Pocket Relay, an advertisement of which, by the Western Electric Manufacturing Company of Chicago, may be found upon our last advertising page. It has several marked improvements over old style pocket relays, and gives a clear and distinct sound. It is supplied at the very reasonable price of \$18, with a discount of 20 per cent. upon this amount when the money accompanies the order.

Annual Exhibition of the American Institute.

THE forty-fourth annual exhibition of the American Institute of the City of New York will be held in this city, opening September 8th and continuing until the latter part of November. It is designed to make this exhibition unusually interesting, special efforts being made to have the leading industrial operations carried on upon the premises.

It is to be hoped that exhibitors will cooperate with the management in having the exhibition really ready when the opening day arrives, instead of, as heretofore, having it commence in a disorderly and incomplete condition, and days, and even weeks elapse before the display is in proper shape. This has been a serious drawback in previous years.

The American Institute is the oldest of the societies of its character now in existence, and is a public, not a private corporation, its charter providing that its earnings shall be devoted to the encouragement of domestic industries.

For blanks and all desired information, address General Superintendent, American Institute, New York City.

The New Blanks of the Atlantic and Pacific Telegraph Company.

BY an executive order of the Atlantic and Pacific Telegraph Company, both the new counter and receiving blanks are to be exclusively used on and after the first instant, and all old Nos. 1 and 2 blanks on hand to be returned to Mr. EDWARD C. COCKEY, Supply Agent, No. 198 Broadway.

These blanks were briefly described in the last number of *THE TELEGRAPHER*, and are believed to be a great improvement on the old forms generally used by telegraph companies. The number of the message, the initial of the sending operator, time of transmission, initial of receiving operator and check, are required to precede the message, and are entered in spaces ruled off for the purpose. The heading of the "sent" or counter blank is similarly provided with spaces for similar entries, so that both the "sent" and "received" messages correspond throughout.

The body of the receiving blank is ruled for five words on a line, so that the instant a message is completed the receiver can at a glance ascertain whether the number of words received corresponds with that called for by the check previously received.

Personals.

Mr. M. M. HERRINGTON, Supt. of Telegraph, Atchison, Kansas, has resigned, and engaged in mercantile business at Jewell City, Kansas.

Mr. GUS. D. SINGER, formerly of Sedalia, Mo., has been appointed manager of Monroe, Mo., Western Union office, *vice* Mr. SAM. Q. SEVIER, resigned, to accept a position with the same company in New Orleans, La.

Mr. CHARLES C. PONSONEY has been appointed Supt. of Telegraph, Central Branch, Union Pacific R. R., with headquarters at Atchison, Kansas.

Mr. ERASTES D. MOORE has resigned his position with the Atlantic and Pacific Co., at Cincinnati, Ohio, and accepted the position of special agent of the St. Louis, Mo., Mutual Life Insurance Co., at Quiney, Ill.

Mr. JOS. F. HIBBARD has resigned his position on the Erie R. R. telegraph at Jersey City, N. J., and accepted a position in the main office of the Phila., Reading and Pottsville Telegraph Company, at 413 and 415 North Third street, Philadelphia, Pa.

Miss ELLEN F. GILLET has been transferred from the Clinton, N. Y., to the Rome, N. Y., office of the Western Union Telegraph Company.

MESSRS. C. H. SMITH, L. BRADLEY and THOMAS O'NEAL have resigned their positions in the New Orleans, La., Western Union office.

Mr. C. H. SMITH, late of New Orleans, La., is working on the Western Union night force at 197 Broadway, New York.

Mr. THOMAS O'NEAL, late of New Orleans, La., W. U. office, is in Cincinnati, Ohio.

MESSRS. ED. FULLUM, of New York, and SAMUEL SEVIER, of Monroe, La., fill vacancies in the New Orleans, La., Western Union office.

Mr. D. W. H. VOORHIES has been subbing for Mr. A. T. TAYLOR, Galveston, Tex., Western Union office, for the past month. Messrs. J. L. MORRIS, of Austin, Tex., and FRANK LYON, of everywhere, are subbing in the Houston, Tex., W. U. office.

Mr. ALLEN, manager, and Mr. C. M. STEWART, a^d operator in the Key West, Fla., office of the International Ocean Telegraph Company, have recently died from yellow fever.

Mr. SAMUEL H. EDWARDS has been appointed chief operator of the Atlantic and Pacific main office at 198 Broadway, New York.

Mr. WILLIAM APLIN, late agent of the New York Associated Press in London, arrived in this city on Saturday last. Mr. APLIN is an old telegrapher, and his return to his native land will be cordially welcomed by his numerous telegraphic friends and acquaintances.

The Telegraph.

By Cable.

CHEAP TELEGRAPHY IN ENGLAND A FINANCIAL FAILURE.

LONDON, Aug. 2.—The *Times* says the system introduced by the Government for sending messages over telegraph lines in Great Britain for one shilling has disappointed anticipations. It says the time is coming when this rate will cease to pay, and unless a great change is made the service will become a heavy and increasing permanent charge on the country's finances.

RETURN OF THE FARADAY TO ENGLAND.

LONDON, Aug. 2.—The steamship *Faraday*, which has been engaged in laying and repairing the Direct United States Cable, has arrived at Deal.

THE STEAMSHIP FARADAY AND THE DIRECT U. S. CABLE.

LONDON, August 3.—Nothing is published or current here concerning the steamship *Faraday*. No London papers, except the *Shipping Gazette*, announced her arrival at Deal.

Inquiry fails to develop information negating the strong probability that the *Faraday* has failed to repair the direct cable, as heretofore rumored in London.

QUOTATIONS OF ATLANTIC CABLE SHARES.

LONDON, August 3.—The *Standard*, in its financial article this morning, says: "The principal variation in telegraph shares was a rise of 15s. in Anglo-American, which is attributed to the steamer *Faraday's* arrival in the Thames, after an unsuccessful attempt to repair the direct cable."

The Attempt to Repair the Direct U. S. Cable.

CAPTAIN DUNKERTON, of the ship *Eliza Everett*, arrived at this port on Tuesday from Yarmouth, Nova Scotia, and reported that on Sunday, July 11, in latitude 49, longitude 43 15, the officers of the *Faraday* boarded his vessel, and informed Captain Dunkerton that they had picked up the defective part of the cable about four miles from that point a few days previous, and had set a number of buoys. On account of a boisterous sea they were, however, compelled to drop the cable again. It was discovered that some defect existed in the cable, and that it had not parted, as reported.

The International Telegraph Conference.

THE broad results of the recent International Telegraph Conference will be that the International Telegraph Code will be more elastic than it has hitherto been, and therefore capable of adapting itself more rapidly to new requirements. The tariff, which was greatly reduced in 1865 and 1868, will not on this occasion be lowered, and the unit of charge will remain fixed at twenty words, including addresses. Between such countries, however, as choose to admit it, provision has been made for a "telegraph card" of ten words at three fifths of the charge for twenty. Under a similar restriction urgent messages at treble charge will be transmitted, and will have precedence of other private messages between the countries that admit them.

Foreign Telegraphic Notes.

Mr. RUSSELL GUNBY, the arbitrator of the claim of the Great Eastern Railway Co., of England, which claimed from the postal telegraph department over half a million pounds for its interest in the telegraph lines along its route, and damages, has awarded £77,000 in full for the same.

The Directors of Hooper's Telegraph Works announce that, owing to the absence of new contracts since the first of January, they have decided not to pay an *ad interim* dividend for the half year ended the 30th of June last. It is added, however, that negotiations are pending for several important contracts, and that one of considerable magnitude has been provisionally arranged.

Advices from Lima, Peru, of the 5th inst., *via* Panama 17th, state that the steamer "International" had arrived at Africa with a portion of the cable on board intended to unite Peru and Chili, and to connect them with the telegraphic systems of the old world—a result to be attained by means of the wire crossing the Andes to Mendoza, and thence to Buenos Ayres and Montevideo.

The steamship "Caroline" has been chartered by the English Post-office, and is engaged in effecting the repairs to the Channel Islands and the Isle of Man cables, which have been interrupted for some time.

Mr. James A. Brand, the liquidator of the Panama and South Pacific Telegraph Company has given notice that he is prepared to make a return of £1 10s. per share to all shareholders who have paid up £2 10s. per share.

The receipts of the Submarine Telegraph Company for the month of June amounted to £9,376, against £9,188 for the corresponding month of last year.

The traffic receipts of the Western and Brazilian Telegraph Company were £10,829 for the five weeks ended July 2.

At the meeting of the Eastern Telegraph Company, the directors' report was adopted. The dividend of 3s. 6d. per share, making 5 per cent. for the year, is 1 per cent. less than in the previous year.

The traffic receipts of the Anglo-American Telegraph Company for—

July 2	amounted to.....	£1,340
" 3	"	1,150
" 4	"	310
" 5	"	720
" 6	"	1,160
" 7	"	1,290
" 8	"	1,460
" 9	"	1,350
" 10	"	1,300
" 11	"	280
" 12	"	1,110
" 13	"	1,420
" 14	"	1,450
" 15	"	1,430
" 16	"	1,420
" 17	"	1,460
" 18	"	320
" 19	"	1,290
" 20	"	1,330

The Society of Telegraph Engineers in England now has 717 members of all classes.

The Meyer quadruplex is working well on the Paris and Lyons line. Two instruments working from each station on the one line.

An interruption has occurred to the Scilly Islands Cable. The fault is supposed to be about 200 yards from the landing place in the Scilly Isles. During the interruption messages are forwarded *via* Port Penzance.

Professor Cornu, of the *Ecole Polytechnique*, Paris, has put into successful use a new instrument for measuring the velocity of light between two stations, in which an electrical registering apparatus is used, giving, it is believed, more accurate measurements than the well known toothed wheel arrangement of Fizeau. Foucault fixed the velocity of light, by his instrument, at 185,157 miles per second. Professor Cornu, by his new instrument, fixes the velocity of light at 186,660 miles per second, or 1,503 miles faster per second than Foucault.

The number of messages passing over the Cuba Submarine Telegraph Company's lines during the month of June was 2,471, estimated to produce £2,500, against 1874 messages, producing £2,000 in the corresponding month of last year.

Two sets of Professor Wheatstone's Automatic Printing Instruments have been set up for traffic between Sydney and Melbourne.

Telegraphic and Electrical Brevities.

In the Cook County Circuit Court, held at Chicago, Ill., on the 24th ult., Judge Farwell granted permission to Mr. O. H. Horton, receiver of the Great Western Telegraph Company, to sell the property of that corporation on the 1st of October.

The headquarters of the Second district of the Southern Division of the Western Union Telegraph Company, of which Mr. Geo. W. Trabue was recently appointed superintendent, and Mr. J. B. Tree, assistant superintendent, have been removed from Louisville, Ky., to Nashville, Tenn.

A commercial news despatch was received in this city on Wednesday last by the Atlantic cable in seven minutes from the time it was filed in London. This is the quickest time yet made.

The recent storms have caused a good deal of trouble to the telegraph wires south. The lines in Virginia especially have been very seriously damaged, and many poles have been prostrated.

On Tuesday last the three Western Union and the Southern and Atlantic cables at the drawbridge across the Potomac River at Georgetown, D. C., were carried away by a vessel which was drifting, causing an interruption for some hours to communication south by that route.

The Atlantic and Pacific line from Philadelphia to Pittsburg has been completed, and works well. The office at Pittsburg has been opened for business. It is in the office on Fifth avenue, formerly occupied by the Pacific and Atlantic Co.—a most excellent and central situation—one of the best in the city.

Cost and Deficiency of the British Government Telegraphs.

THE *London Times* recently stated that the capital stock (consols) created in respect of money raised for the purchase of post-office telegraphs, etc., amounts to £9,790,198. The sum of £293,706 was required to pay the interest on that amount for the year 1874; but the year's surplus of receipts from the telegraphs was only £109,161, or £184,545 less than the interest payable, and there was a previous deficiency of a like kind amounting to £288,607, so that the accumulated deficiency of telegraph revenue to meet the interest on the capital amounted to £473,152 at the end of 1874. The deficiency was really larger, as there are some telegraph charges borne by the Office of Works, or not yet exactly ascertained.

Postal Money Order Arrangement Between the United States and Canada.

A CONVENTION has been concluded between the postal departments of the Dominion of Canada and the United States, establishing an exchange of money orders between the two countries. Money orders, payable in either country, will be issued at the money order post-offices, from the 2d inst., for sums not exceeding \$40 Canadian currency.

A First Class Telegraph Operator.

THE superintendent of a New England telegraph line has forwarded to us the following specimen of an application for a situation under him, which we print *verbatim et literatim* as received. In a private note which accompanies this the superintendent says: "It's one of dozens which superintendents are bored with daily, and might open the eyes of some unsophisticated chap to see himself in print to his unfitness for a place anywhere, even after his experience of seven years, and possibly induce him and others like him to get out of the business for its general good."

"DEAR SIR—if you remember On the 4th Day of May Last I was in your office and Laid in application for a situation as Operator On your Line but as all was fitted "and No room at that Present Time." I am at Present Working for the — R. R. but am Not Pleased as I Would be there in the East. My Salary here is but — Per month. Of course that is no discouragement for an Operator. I have had Nine years experience in the busnes and can furnish you With good Responsible Letters up to the Present date. Enclosed finde my address and I Will Wait for an answer.
"Yours With Respect, _____"

Soon after the telegraph was put in operation on the line of the Ohio and Mississippi Railroad, in Martin County, one of the natives stepped into the office and desired to know the price of pork in Cincinnati. In a few minutes an answer came, with a charge of thirty-five cents for the information. But the rustic was too smart to be caught in that way, and replied: "Oh, no, Mr. Telegrapher, you can't fool me in that way! I'm not as green as you think I am. That darn tickin' thing of yourn hain't been out of this room! I watched it all the time."

The Telegraphers' Mutual Benefit Association.

RECEIPT OF ASSESSMENTS.

NEW YORK, July 26, 1875.

ASSESSMENT No. 76.

- 17, 23, 46, 55, 65, 91, 136, 138, 139, 140, 148, 215, 328, 334, 344, 346, 352, 371, 372, 466, 468, 469, 470, 471, 475, 514, 516, 560, 617, 642, 690, 717, 761, 800, 943, 1099, 1102, 1144, 1164, 1175, 1193, 1194, 1210, 1221, 1267, 1289, 1292, 1295, 1440, 1532, 1603, 1637, 1653, 1655, 1657, 1672, 1678, 1699, 1708, 1718, 1864, 1953, 1968, 1994, 1996, 1997, 2033, 2040, 2048, 2074, 2075, 2094, 2136, 2147, 2165, 2169, 2178, 2190, 2192, 2233, 2242, 2256, 2258, 2261, 2266, 2289, 2304, 2323, 2348, 2354, 2363, 2380, 2414.

ASSESSMENT No. 75.

2005, 2203.

ASSESSMENT No. 74.

1969.

Members of the Association who look to THE TELEGRAPHER for receipt of assessments paid, will please take

notice that an acknowledgment of the receipt of one assessment should be taken as a receipt for all previous assessments.

Quotations of Telegraph Stocks at N. Y. Stock Exchange,

Showing Lowest and Highest Prices each day during week.

July.	WESTERN UNION.		ATL. AND PAC.		AMER. DIST.		GOLD AND STOCK.	
	Bid.	Asked.	Bid.	Asked.	Bid.	Asked.	Bid.	Asked.
29	80½ ... 84½	20½ ... 21	..	..	30	..	..	70
30	83½ ... 84½	20 ... 20½	..	..	30	..	..	70
31	82½ ... 83½	19 ... 20	..	..	30	..	..	70
Aug. 2	82½ ... 83½	18½ ... 18½	..	..	30	..	..	70
3	82½ ... 83½	18½ ... 19	..	..	30	..	..	70
4	82½ ... 83½	18½ ... 18½	..	..	30	..	..	70

New Patents.

OFFICIAL COPIES of any U. S. Patent issued since July 1st, 1871, including drawings, specifications and claims in full, sent free to any address for 25 cents each. Address F. L. POPE, Elizabeth, N. J.

For the week ended June 29, 1875, and bearing that date.

165,063.—DIAL TELEGRAPHS.—C. T. Chester, Englewood, N. J. [Filed March 30, 1875.]

One train, controlled by electro-magnetic escapement, actuates pointer, another, controlled by the keys, the transmitting break wheel, both brought to a common axis, N. On lid containing box is placed ordinary key and bell magnet. Lug on lid, when closed, taking on switch, breaks circuit to dial magnets, and closes circuit to bell magnet and key.

1. The combination of a shaft turning within a fixed tube or sleeve, and another hollow or tubular shaft turning about the said fixed tube, with mechanically driven trains of wheels, for the purpose of causing independently driven shafts, wheels, or devices to revolve upon a common axis of motion.

2. In connection with electric telegraphic circuits, the combination of two independent motors, carrying, respectively, a circuit breaking device and recording or receiving devices controlled by a magneto escapement, and so arranged that the shaft governing the motion of the circuit breaking device and the shaft causing the recording devices shall have a common axis of motion for the purpose of electro-telegraphy, substantially as set forth.

3. In combination with any electro-telegraphic apparatus contained in a box, wherein two or more devices having separate magnets may be alternately called into use, an attachment fastened to and moving with the lid of the box, and a switch or commutator within the box, so that the movement caused by the opening or closing of the box shall cause connections with the circuit to be made alternately with one or the other magnets, substantially in the manner and for the purposes hereinbefore described.

For the week ended July 6, 1875, and bearing that date.

165,156.—AUTOMATIC TELEGRAPHS.—Patrick B. Delany, Jersey City, N. J. [Filed October 21, 1874.]

The combination with an automatic transmitter of a relay which connects the line on one movement of its armature to the signaling battery, and upon the other to the earth or to a reversing battery, substantially as and for the purposes set forth.

165,157.—TELEGRAPH RELAYS.—Patrick B. Delany, Jersey City, N. J. [Filed December 11, 1874.]

The combination with a fixed armature, plain or electro-magnetic, of an electro-magnetic coil, movably suspended above the same, substantially as herein shown and described.

165,183.—ELECTRIC SIGNAL APPARATUS FOR STEAM VESSELS.—Charles A. Stearns, Boston, Mass., assignor to himself, Wm. H. Torbert, Philadelphia, Pa., and Edmund B. Vannor and C. H. Dolbear, Boston, Mass. [Filed November 27, 1874.]

The shaft or other moving part of the machinery has a stud affixed to it, which operates upon a circuit closing apparatus, so arranged that one circuit is closed when the shaft moves in one direction, and the other circuit when in the other. An indicator is placed at any distance to show the direction, which will also show the rapidity of the revolution.

The combination of the shaft E, projection F, bent lever D D', sliding bars A A', plates m' n' n', battery M B, circuits w w', and indicators I I', substantially as and for the purpose set forth.

165,396.—ELECTRIC WINDING MECHANISMS FOR CLOCK WORK.—John William Wignall, Manchester, Great Britain. [Filed December 7, 1874.]

Running down of motor allows battery plates to lower into liquid, sending current around magnets, operating, when charged, to wind up the motor and withdraw plates.

The combination in a clock operated by a weight, of an armature, L, of an electro-magnet, connected to the shaft of the winding drum with mechanism, substantially as described, for putting the battery into and out of action, as for the purpose set forth.

ORTON'S PATENT PENCIL HOLDER

"SAVE THE PIECES."

This HOLDER is intended to save the last half or third of the pencil.

DIRECTIONS.

When the pencil becomes too short to write with comfortably, shave down the butt and screw into the Holder. The screw makes its own thread and will hold the pencil perfectly firm.

Price, 10 cents each.

Sent by mail on receipt of price.

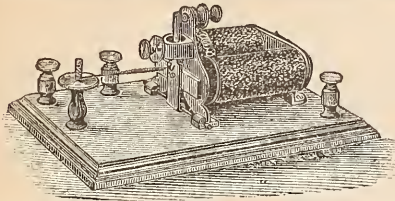
Price per doz., 60 cents.

GEO. H. BLISS & CO., Gen'l Agents,

220 Kinzie Street, Chicago, Ill.

LANNERT & DECKER

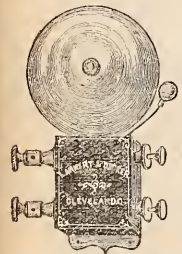
will not be undersold by any firm competing in price or quality.



PONY RELAY, PRICE \$5.63.

A reduction of 25 per cent. from our former prices on all Relays and Main Line Sounders.

	Former Price.	Red. Price.
No. 1 Relay, a superior d'ble adj. inst., and standard res., and finely finished.....	\$15 00	\$11 25
No. 2 Relay, a superior d'ble adj. inst., and standard res., and finely finished.....	14 00	10 50
Pony Relay, a superior inst. for lines of 15 miles or less. See above Cut.....	7 50	5 63
No. 1 Main Line Sounder, d'ble adj., finely finished, standard resistance.....	16 00	12 00
Fifteen per cent. from our former low prices on keys.		
No. 1 Key, improved standard size, heavy platinum, finely finished.....	4 00	3 10
No. 2 Key, improved standard size, heavy platinum, iron base.....	2 75	2 31
Ten per cent. discount from our former very low priced Local Sounders.		
Acme Local, No. 1, large and loud, works well with one cell local.....	5 00	4 50
Acme Local, No. 2, small size, round base, one cell local sufficient.....	4 75	4 28



ELECTRICAL BELLS

of various styles and sizes at a reduction of 25 per cent. from former prices.

No. 1 Alarm Bell, 3 1/2 inches in diameter (see cut), works well with one cell local; single stroke or continuous ringing, as desired, changed by lever; thumb-screws with check nuts, for adjusting spring and stroke, large and hard platinum connections; binding posts for holding wires; Bell finely polished, and base extra ornamented. Former price, \$4 50; reduced price, \$3 38.

No. 2 Alarm Bell, without blinding posts, and cheaper finish, but working equally as well. Former price, \$3 50; reduced price, \$2 63.

All other standard improved instruments proportionately as cheap. Also, Batteries, Supplies, Chemicals, &c., at lowest rates.

PRICE REDUCED!!



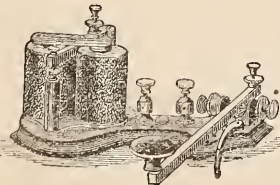
THE POCKET GALVANOMETER,

finely finished and Nickel Plated, will be sent by mail, to any address in the United States, on receipt of one dollar (\$1 00). Canada, 10 cents extra to pay postage. Send for Circular.

X-L-C-R.

20% discount from former price.

The X-L-C-R outfit for learners consists of instrument finely finished, levers, binding posts, thumb screws, &c., of brass, finely polished, platinum points; one cell Calland battery, Manual, office wire, chemicals, &c. Price, \$5.44.



Until further notice, when desired, instruments of our own make will be sent to responsible parties C. O. D., with instructions to the express agent to show instruments before receiving pay, and if not satisfactory they can be returned at our expense.

Other goods will be sent C. O. D. as usual, or on receipt of money order, registered letter, or draft on N. Y.

Price List and Circular of other Instruments, Batteries, Supplies, Chemicals, &c., sent on application.

All orders will receive prompt and careful attention, consigned to

LANNERT & DECKER,
CLEVELAND Ohio.

THE POCKET GALVANOMETER.

PRICE REDUCED.

The Pocket Galvanometer manufactured by LANNERT & DECKER, finely finished and nickel plated, sent by mail to any part of the United States on receipt of ONE DOLLAR. To Canada, ten cents extra, to pay postage. May be seen at the office of THE TELEGRAPHER, and will be forwarded as above on application to

J. N. ASHLEY,
P. O. Box 5,503. 38 Vesey street, New York.

WESTERN ELECTRIC MAN'G CO.

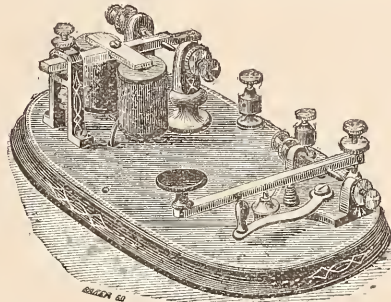
220 Kinzie Street,

CHICAGO, ILL.

CELEBRATED

PRIVATE LINE OUTFIT.

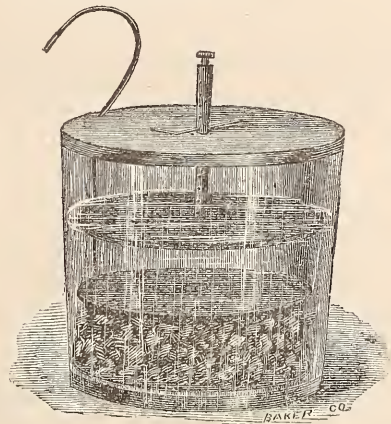
THE BEST IN THE WORLD.



PRIVATE LINE INSTRUMENT.

This instrument is mounted on an iron base and finely finished.

It gives a clear, loud sound. It is made to work on a line from a few feet to ten miles in length.



BLISS RESERVOIR BATTERY.

This battery took the first premium and a silver medal for force, constancy and economy at the Cincinnati Exposition.

With each "Private Line Outfit" is furnished one Private Line Instrument, one Cup Reservoir Battery, the necessary Chemicals, Wire for connections and a Manual.

PRICES.

Private Line Outfit, complete.....	\$10 00
Instrument only.....	8 00
Bliss Reservoir Battery, per cell.....	2 00

DISCOUNT.

A discount of twenty per cent. will be allowed when remittance accompanies the order. Remit by express, registered letter, postal order or draft.

In ordering state length of line, so that the resistance of instruments may be proportioned accordingly.

SEND FOR CIRCULAR.

Liberal terms to Agents.

WESTERN ELECTRIC M'G CO.,

CHICAGO, ILL.

JUST OUT.

NEW AND ENLARGED EDITION OF

SMITH'S

MANUAL OF TELEGRAPHY.

CONTAINING

Complete Directions for Self-Instruction in Telegraphy, Instructions for Building and Operating

SHORT LINES OF TELEGRAPH,

Diagrams showing the manner of connecting wires, batteries instruments, &c.

Descriptions and cuts of all forms of telegraph instruments, batteries, &c.

Cuts, descriptions and prices of the

BEST LEARNER'S APPARATUS

AND

SHORT LINE INSTRUMENTS;

Together with full explanations of everything necessary for the

AMATEUR TELEGRAPHER

To know.

Every operator and every student of telegraphy should have one.

It is the

MOST COMPLETE, PRACTICAL

And easily understood explanation of the

MORSE TELEGRAPH

AND ITS APPARATUS

EVER PUBLISHED.

PRICE.....30 CENTS.

Sent post paid upon receipt of price.

L. G. TILLOTSON & CO.,

8 DEY STREET, NEW YORK.

54 SOUTH FOURTH STREET, PHILADELPHIA.

22 WEST FOURTH STREET, CINCINNATI.

A **AMERICAN FIRE ALARM AND POLICE TELEGRAPH.**

GAMEWELL & CO., Proprietors,
62 BROADWAY, NEW YORK.

J. W. STOVER,
General Agent and Superintendent.

L. B. FIRMAN, Chicago, Ill.,
General Agent for the West and North-West.

TELEGRAPH SUPPLY AND MANUF'G CO., Cleveland, Ohio,
Special Agents for the Middle States.

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Special Agent for Georgia and South Carolina.

L. M. MONROE, New Canaan, Conn.,
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ELECTRICAL CONSTRUCTION AND MAINTENANCE CO.,
San Francisco, Cal.,
Special Agents for California, Oregon and Nevada.

THIS SYSTEM OF
FIRE ALARM & POLICE TELEGRAPH
WITH A CENTRAL OFFICE,
OR
UPON THE AUTOMATIC PLAN,

is now in operation in the following Cities, to which referencels
made for evidence of its great

SUPERIORITY, VALUE
AND
UNIFORM RELIABILITY.

Albany, N. Y.,
Alleghany, Pa.,
Boston, Mass.,
Bridgeport, Conn.,
Buffalo, N. Y.,
Baltimore, Md.,
Chicago, Ill.,
Cincinnati, Ohio,
Columbus, Ohio,
Cambridge, Mass.,
Charlestown, Mass.,
Covington, Ky.,
Detroit, Mich.,
Dayton, Ohio,
Elizabeth, N. J.,
Fall River, Mass.,
Fitchburg, Mass.,
Hartford, Conn.,
Indianapolis, Ind.,
Jersey City, N. J.,
Louisville, Ky.,
Lowell, Mass.,
Lawrence, Mass.,
Lynn, Mass.,
Mobile, Ala.,
Montreal, Canada,
Milwaukee, Wis.,

New York City,
New Orleans, La.,
New Bedford, Mass.,
New Haven, Conn.,
Newark, N. J.,
Omaha, Neb.,
Philadelphia, Pa.,
Pittsburg, Pa.,
Portland, Maine,
Peoria, Ill.,
Providence, R. I.,
Quebec, L. C.,
Rochester, N. Y.,
Richmond, Va.,
St. Louis, Mo.,
St. John, N. B.,
Springfield, Mass.,
San Francisco, Cal.,
Savannah, Ga.,
Syracuse, N. Y.,
Troy, N. Y.,
Taunton, Mass.,
Toledo, Ohio,
Toronto, Canada,
Washington, D. C.,
Worcester, Mass.

The Distinctive Features of these Systems of

Fire Alarm and Police Telegraphs

ARE,

First—The Automatic Repeater, through which the apparatus may be distributed in a combination of circuits, and the entire system successfully worked, without the constant personal attention of either operators or watchmen.

Second—The Automatic Signal Boxes.

Third—The Electro-Mechanical Bell Strikers, adapted to produce the full tone of the largest church or tower bells.

Fourth—The Electro-Mechanical Gong Striker, for hose and engine houses, by means of which the location of the fire is instantaneously communicated to the members of each fire company.

These Features combined form the

Only **PERFECT, COMPLETE** and **RELIABLE** System
OF
FIRE ALARM TELEGRAPH
IN THE WORLD.

It is a sufficient vindication of the claims which are made by the Proprietors of these systems of

FIRE ALARM AND POLICE TELEGRAPHS,

that they have sustained the test of more than twenty years of practical use, and that the efforts which have been repeatedly made to supplant them by other inventions have

COMPLETELY FAILED;

the few instances in which municipalities have been induced to adopt other systems having demonstrated their insufficiency and unreliability, and resulted in their abandonment, and substitution therefor of the

AMERICAN FIRE ALARM TELEGRAPH.

Messrs. **GAMEWELL & CO.** are the owners of the original *FARMER & CHANNING PATENTS*, one of the most important of which has just been extended for seven years, and during the past seventeen years have spared no expense or effort to secure improvements, and the Systems are now covered by

MORE THAN TWENTY PATENTS.

The most important improvement which the Proprietors have adopted and introduced is the

AUTOMATIC SYSTEM,

the introduction and operation of which involves so little expense, compared to the benefit which it confers, that even small communities can profitably adopt and maintain it.

The American System of

FIRE ALARM AND POLICE TELEGRAPHS

has met with the universal approbation and commendation of the

People, Municipal Authorities,

AND THE
PRESS

throughout the UNITED STATES and CANADA.

NO EFFORT, TROUBLE OR EXPENSE

is spared by the Proprietors to obtain and secure ANY POSSIBLE IMPROVEMENT which shall increase the

EFFICIENCY,
RELIABILITY and
ECONOMY

of the system. They intend that, as far as possible, it shall be

ABSOLUTELY PERFECT!

The amount of property which has been saved from destruction, and the number of lives which have been preserved through the general adoption of this system, throughout the UNITED STATES and the DOMINION OF CANADA,

CANNOT EASILY BE ESTIMATED,

but that, in every community where it has been introduced for any considerable length of time, they have been enormous, **THREE CAN BE NO QUESTION.**

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THE TELEGRAPHER

A JOURNAL OF
ELECTRICAL PROGRESS.

J. N. ASHLEY, - - - - - PUBLISHER.

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Original Articles.

Burma.—How a Telegraph Manager spent his Vacation, and how we did not Bag the Tiger.

By MEPHISTO.

(Continued from p. 181.)

AWAY down the muddy waters of the mighty Irrawaddy, scaring the alligators from their noon-day siesta on the many sand banks that render its navigation so dangerous, and startling the hundreds of monkeys that run wild and chattering along its banks, under easy steam, and in the usual nonchalant manner of a man of war on a cruise on her own hook, our smart little gunboat sought her native element—the deep blue waters of the Indian Ocean. Our cruising ground was bounded by the Gulf of Martaban on the north, the Tenasserim coast on the east, the Andaman Islands on the west, and the Equator on the south, and a prettier cruising ground, or one more abounding in possibilities of amusement it would be hard to find. George enjoyed it immensely. Having been a long time ashore, I observed that he once or twice found it absolutely essential to discuss some important matter with old King Neptune, which necessitated a leaning position over the bulwarks, and resulted in a grand feed for the fishes; but having got rid of his long shore bile, he was left free to enjoy the weather and the scene. The Captain had headed her for Mergin, a small town at the mouth of the Tenasserim river, and forming an island of the Mergin Archipelago. Now this same Tenasserim river abounds with large game all along its banks; deer, buffalo, rhinoceros, elephant, and tiger, and was a favorite hunting ground for us jolly tars. And Captain Baker had kindly decided to go there first, in order to give my friend a week's sport up the rolling Tenasserim. George was delighted with the idea, and vowed he would not leave the place without a handsome tiger skin for a trophy of his prowess—a vow which like many others has gone to pave the road that leads to a certain tropical country that shall be nameless. Now I too was possessed with a strange desire to obtain a tiger skin; but it is no fool's work to go and face the monarch of the Asiatic jungles on his native heath on foot and alone; and so I had cast about in my mind for some patent plan by which his majesty might be circumvented, spite of the heavy odds in his favor, and yet be honorably shot and not meanly trapped. And so one fine evening as we neared our destination, I unfolded my ideas to the redoubtable George, to be enthusiastically slapped on the back and dubbed, “a regular artful dodger, by Jove!” by this gushing disciple of Morse. Anchoring off the village the next afternoon we proceeded to put our plans into execution. There was a certain old Nimrod in those parts who was always ready to lend a hand to the promotion of sport, who kept a pack of dogs and endless native “beaters” for no other end, and who I knew would give us any assistance we needed. And taking two or three of his men along, we set out that very evening with guns, blankets and a few provisions, to visit a certain open glade some four or five miles from the village, where I had first seen the Royal Bengal Tiger in his freedom and sovereignty.

Camping right in the center of the glade, an open patch of about seven acres in a dense jungle, we passed the night anticipating a hard day's work on the morrow, and a good night's sport to succeed it. Breakfasted off some green parrots George shot, and then went to work to survey the ground and fortify our position. Care was taken to select two good sized trees as nearly opposite each other as possible, and on different sides of the glade; these trees were then cut down, leaving some thirty feet of stump, (and a mighty tough job it was with the thermometer away about 130°, and not a breath of wind in all the heavens), and on these stumps were rigged two square platforms of interwoven bamboo and rattan, made very strong and fixed firmly in their positions by bracket supports, so as to hold the weight of any two ordinary men. This task accomplished by four in the afternoon we rested from our labors, and sent the native help away, directing one of them to return with a kid, or lamb, or calf, or some animal that tigers love, to serve as a bait for “his royal

nibs.” We had a hearty supper of dove-and-squirrel stew, and by the time we had smoked our post-prandial meerschaums the darky arrived with a fine young kid which he presented to us, and departed, happy at having sold a kid for about five times its value, and rejoicing in considerable *bucksbeesh* given by my impulsive companion. Then staking our kid right in the middle of the glade we mounted with difficulty our respective perches and awaited the coming of night and the tigers as philosophically as we might. I did not conceal from myself that we had cut out for ourselves what might prove to be a pretty ugly job. A wounded tiger on the rampage is no respecter of persons, and is entitled to every mark of respectful consideration; and if we should only succeed in wounding one he might turn rusty and attack us on our perches, and though the tiger is no tree climber, he can jump considerable, and he might make things lively for us. But we were both young, healthy, and hot headed, and we thought more of getting the tiger's skin than of saving our own; and so we lay on our platforms, with our guns ready, and waited, longed, hoped for the tiger that would not come. Hour succeeded hour; the darkness had deepened until it was only possible to discover a form in motion, and as our bait kept up a continual movement and considerable of a noise we could make him out splendidly, but he looked like a shadow in a sea of darkness. I was just beginning to think of home, and mother, and the “girl I'd left behind me,” when I heard the click, click, of a rifle being cocked, and pricked my ears and held my breath in anxious suspense for further developments. But no further sound came out of the darkness, and I had just relaxed my nerves, and eased the tension of my muscles, when I felt a twinge of pain dart from my leg to my brain as the nerves telegraphed to the main office in the head the fact that I had been bitten or stung in the leg. Soon another, and another, and yet another sting set my nerves all jumping, and I realized the terrible fact that I had been stung upon by a colony of the big tree ant, the largest, most vicious, and most poisonous of the ant tribe. Reader, fair or otherwise, did you ever sit down on a hornet's nest? If you never did, take an old man's advice and don't. But if you did you will have some faint idea of what I was suffering in that awful hour. I was soon covered with the cursed red pests, and I felt like rolling on the points of millions of red hot needles. Heavens! how they did bite, and however could I get rid of them? Presently I heard a yell from the other stump, “Ants! by thunder! Millions of 'em! let's git.” Poor George, he was fat and well liking and the ants were having a high old time with him. “Run for river,” I cried. He understood me; we both dropped from our perches and in five minutes' time were standing up to our necks in the mud and water. Ants, like Irishmen, hate water, thank God! and so we got rid of our tormentors. Then leaving our guns where they were, we walked back to the village, and there heavily bribed a native boatman to convey us to the ship. We got on board and into our cabins unobserved save by the lookout man, in the corner of whose eye I twiggled a lurking smile, and whom I straightway silenced with a glass of grog. And so to bed. But if we thought we had covered up our tracks we were doomed to disappointment. The whole yarn had to be told, and a most unmerciful roasting we got about our brave retreat before our insignificant conquerors. “Went to beard the lion in his den and ronted by an ant.” Well we had a good laugh over it and vowed better success next time; we had many an adventure before George's time was up; but you may believe me we took good care never again to choose the thorny Acacia (a tree of which the red ant is inordinately fond) for a roosting tree when watching for tigers.

The Reports of Telegraphic Consolidation.—Views of Leading Telegraph Officials.

WILLIAM ORTON, President of the Western Union Telegraph Company, returned last week from his Western trip, and a reporter of *The Tribune* called upon him on Saturday to obtain his views in regard to the rumored attempted consolidation of the Atlantic and Pacific Telegraph with his Company, and in regard to the opposition line recently organized in California. Mr. Orton made substantially the following statement:

In relation to the formation of a new telegraph company in California, all I know about the matter is what I have read in the despatches in the daily press. It looks to me, however, as if they were making a great deal of talk before anything is done. It does not have the ring of a business enterprise to hear men talking about having bought a given number of poles and so many miles of wire, and all the other little items of detail, and that no business will be done until such and such things are accomplished—as, for instance, that they propose completing the line to New York and Washington before beginning to operate it. When men really mean business, they generally go about it quietly, and nothing is publicly known at least until work has been begun. There is no question about the pecuniary ability of the gentlemen engaged in the enterprise, if

they really wish to invest their money in such a way; but while I do not know anything positive about the matter, I must say, if it has been gotten up as a stock-jobbing scheme, the location selected is a good one. If I wanted to start a rumor factory, I should certainly locate it as far away as possible from the centre of interest, and where any definite information upon the subject could only be obtained with difficulty. There is no need at present of a third line between the East and West, as a large increase over the business of to-day could be done by the Western Union and the Atlantic and Pacific. The lines of the latter run to Ouden, where they connect with those of the Central Pacific Railroad, thus forming a through competing line with the Western Union.

As to the consolidation of the Atlantic and Pacific Telegraphy Company with the Western Union Telegraph Company, there has been, I think, considerable conversation between prominent stockholders of the two Companies upon the subject of a union of their interests, and some plans or outlines of arrangements have been discussed; but no scheme has been matured or so far advanced as to enable me to speak of the probabilities of its success with any reasonable degree of certainty. No proposition has yet been made to us that will be accepted by us. The scheme to sell the Atlantic and Pacific outright is practically impossible, as no one has the right to dispose of the stock belonging to others. Any one can sell his individual stock, but he cannot vote away the stock of another person. Whatever is done will doubtless have to be upon the basis of a division of the net earnings of the two Companies, but the profits of an old company that has been doing a successful business for years past must necessarily be much greater than those of a new concern whose business and lines are only being established, and some equitable division of the net earnings will have to be made. The possession of the Atlantic and Pacific is, of course, desirable to us if it can be procured upon a satisfactory basis. We are in the telegraph business, and as our business is yearly increasing we shall need more wires in the future; if we can buy a ready made article as cheaply as we can make it, of course we stand ready to make the purchase. It must also be borne in mind that we can do the whole business of the country at less cost on the single message than we can do only a part of that business. Call it monopoly or what you will, there has been no other business in the country of equal magnitude with ours, or anything nearly to compare with it, that has trebled the amount of business done during the past seven years, and at the same time reduced the expenses to the public to one-half the original figure. As to the automatic arrangement which is used by the Atlantic and Pacific Company, it is of no value whatever to us. We should not use it if we had it.

In regard to the amount of stock of the Western Union held by Jay Gould, I will say that I am without any information whatever upon the subject. For aught that I know, he may have 10 or he may have 1,000 shares. I am inclined to believe, however, that the amount held by Mr. Gould has been largely overestimated. A year ago the same rumor regarding his holding a controlling interest in the Company was current. At the time of the last election he voted on a large amount of stock, but I am disposed to believe he did not own all that he represented at this time. Whether or not he is repeating the tactics adopted last year I am entirely unable to say.

A. B. Chandler, Secretary of the Atlantic and Pacific Telegraph Company, stated to the reporter that he was in possession of no news whatever about the rumored consolidation of his Company with the Western Union. The only thing he could say was that if his Company were let alone for a short time, the managers would be able to show a much better condition of affairs than any that has yet been made public. The Company not only has been paying running expenses out of its earnings, but it has also paid in the same way for a large amount of extraordinary work. The Eastern lines are now in excellent condition, and the Company is rapidly putting those in the West in equally good shape. When this is done, said Mr. Chandler, the income may be made to exceed the expenses largely, as, by the automatic system in use by the Company, a very large amount of business can be done over the existing wires. Mr. Chandler admitted, however, that the automatic arrangement was probably of more value to his Company than it would be to the Western Union, as the latter has already a large number of wires put up, and there cannot be therefore the same necessity for using one wire for several different messages at the same time that there is with the Atlantic and Pacific.

Mr. Chandler was not acquainted with any of the gentlemen who have recently organized a new telegraph company in California, and knew nothing about their plans. The scheme of building a third line between the East and West, when the two that are now in existence could do much more business than comes to them, did not, however, impress him favorably. He thought that there was a great deal of risk attending such an investment.—*The New York Daily Tribune*.

Gould's Next Move.—The Great Speculator of the Age Reaching Out to Grasp Western Union.

THERE is a general conviction in Wall street that Jay Gould will be in possession of the Western Union Telegraph Company before next October. The annual election takes place at that time, and it is believed that Mr. Gould has secured a sufficient number of votes, in the hands of himself and friends, to elect a Board of Directors, all, or nearly all of whom will be in his interest. The reasons for this belief in Wall street are manifold, but some of them run as follows:

1. It is well known that Mr. William Orton has had difficulties with the so-called Vanderbilt party among the directors of Western Union—Schell, Banker and their associates. They are in the interest of Vanderbilt, and they have objected to the personal use made of the telegraph by Mr. Orton. The Vanderbilt party cannot see why Mr. Orton should have so many quarrels with the press, or rather with that portion of it which does not belong to the New York or its affiliated press associations. This has caused a soreness on his part, and fearing that a new President of the company will be chosen, he, it is understood, has struck hands with Jay Gould.

2. It is believed that Mr. Gould has long had his eye upon Western Union stock. He has speculated in it extensively, and has had a great deal to say among the minority of the stockholders; but the Vanderbilt party has hitherto been the strongest, and has succeeded in keeping control of the management. Then Mr. Gould has several lawsuits pending against the Western Union Company respecting certain patent rights covering telegraphic instruments and processes. It seems that when he gained control of the Atlantic and Pacific Telegraph Company he thought he had secured the undisputed right to the quadruplex and other important patents—a right which would place Western Union at his mercy. Through the action of Senator Conkling and the minor authorities at Washington he has so far been unable to establish his claims; but it seems that to perfect his plans he finds it necessary to get control of the Western Union, thus putting an end to all disputes between the two companies, and giving what would be in effect a consolidation of the two companies the monopoly of the telegraph business of the country.

These two influences—Mr. Orton's desire to get rid of the Vanderbilt dictation and Mr. Jay Gould's desire to get possession of Western Union—have led to a league, offensive and defensive, between these two gentlemen, and they are determined to so engineer matters that the next election shall be carried in their joint interest. Assuming that they succeed, it will be followed by the practical consolidation of Western Union with Atlantic and Pacific, the latter being leased to the former at a low rate, and made one of the assets of the larger monopoly.

It is not to be supposed that all this can be effected without a severe struggle. The press of the country will not exactly like to be at the dictation of Mr. Jay Gould, and a very lively contest in the stock of Western Union is likely soon to occur. It does not follow that the stock of the company will go up; speculators know how to keep stocks down in the midst of the fiercest struggles.—*The Graphic*.

A Government Telegraph in Operation.

MR. GEORGE B. PRESCOTT presents, in another column of this journal a very succinct statement of the practical financial operation of the government telegraph system in England. The result has shown how far short the most careful efforts to estimate the first cost of the telegraph to the government came of the exact amount, and how unprofitable, in a business sense, the property under government management has been. The extreme estimate of the cost was \$30,000,000; the actual cost up to the end of 1874 has been nearly \$50,000,000, with outstanding claims amounting to \$20,000,000 more. The estimate of the cost of working was \$1,895,000 a year; the actual cost in 1874 was more than \$5,000,000, exclusive of more than \$150,000 additional for repairs and new offices. The net revenue predicted from the business was \$1,400,600; the report of July 3, 1875, shows that the net revenue has failed by more than \$1,000,000 to pay interest at the rate of three per centum on the stock by the issue of which the purchase of the lines was made. Thus, after a practical trial, in a country whose civil service is almost entirely removed from the reach of the politicians, it has been found that a telegraph system controlled by the government does not pay its expenses. It might do this and yet be a failure because of the poor quality of the service, and because of the additional opportunity which it would give the professional politicians, under such a government as ours, for interfering with the public business, and thus increasing the political corruption of the country. But to fail financially is to fail radically, unless we accept the soundness of the doctrine that it is right to tax a whole na-

tion to support a business the benefits of which accrue to a small minority.

The *Witness* referring to a recent editorial article in the *Evening Post*, says:

"The *Evening Post* points to the collusion, corruption, swindling and stealing in connection with the New York canals, and says that this should deter us from government telegraphy. If this argument be good against government management of telegraphy, it proves too much, for it is equally good against government management of the post office."

We might reply that the *Witness* proves too little. Financially considered, our postal service is a failure, every annual report showing a deficit. This is the case, too, without a necessity on the part of the government of owning and keeping in repair long lines of railroads and a vast amount of rolling stock, as it would have to own and repair long lines of telegraph wires with their equipment if it undertook the business which the *Witness* proposes. It is by no means an undisputed question whether the mail service could not be as efficiently and more economically performed by a private corporation. It has, however, in its present shape grown with the government, and its existence as a government business is no argument at all in favor of other projects to increase the taxes.—*New York Evening Post*.

A Line Repairer's Dangerous Experience.

THE following communication from Mr. Joseph P. Furlong, line repairer of the Southern and Atlantic Telegraph Co., to Mr. J. G. Thornton, assistant superintendent, narrates a rather dangerous adventure which was recently encountered by him.

Mr. Furlong writes from Charleston, S. C., near which the affair took place, under date of August 4th. He certainly displayed good courage, and showed himself to be the right man for a country where robbery and murder await those who are unprepared to defend themselves.

He says: "On the night of the 29th of July, on the Savannah and Charleston Railroad, seven and a half miles from this city, I struck a camp for the night. At 9.40 P. M. a negro came up to me and told me I was in a bad place, and that several men had been murdered there, and to keep a sharp lookout. I told him they had better leave me alone or I would hurt some of them. The negro left me and I went to a place where some railroad ties were and got myself a pretty good club. At 1.20 A. M. I heard somebody say in a low tone, 'He is laying down on them ties; walk light!' Another says 'Let us go over here and fix ourselves. He is asleep now.'

"I then rolled over and took up my coat and hat, and spread my coat over my provision bag, and my hat on top of it. Pretty soon a negro came creeping on his hands and feet. When he got along side of the ties he opened a dark lantern, and I put myself in trim to fight and run for life. I raised my club and brought it down on him heavy. I struck for his head but missed it, but hit him on the shoulder and laid him out on the ground, when he hollowed for help, shouting 'Quick! I am down!' By that time two other negroes came rushing out. I then got excited and went for the two new comers—made another crack at one of them, but it was pretty dark and I missed him, and his companion got the first one I struck away. Me and the other negro then went for the other again. I made another crack at him, and he got my stick in his hand. I then struck him with my fist and brought him to the ground. He hollowed for help and the other came running up for me. I then went and got my hatchet out of my bag, and when I turned I saw the two running down the track. It's a hard place to travel in."

The Anglo-American Telegraph.

THE reduction in the rates for messages over the lines of the Anglo-American appears to be producing, as we anticipated would be the case, a considerable addition to the business of the company. As there are five lines of cable laid and four are available for work, it would appear to be but reasonable that the directors should endeavor to keep them as fully employed as possible. Judging from the results of the three months' working since the reduction to 2s. per word came into effect, it will not be long before the number of messages will have so far increased as to produce the same amount of revenue as under the 4s. per word tariff. The reduction in rates came into effect on the 1st of May. The average daily receipts for the month at the reduced rate were £1,095. For the month of June the average daily receipts increased to £1,222. The four weeks of July, the returns of which have been published, show for the first week a daily average of £1,061; for the second, £1,191; for the third, £1,256; and for the fourth week, ending Thursday the 29th, £1,327. From the figures given below it will be seen that the highest receipts for one day was on the 28th July (the receipts were £1,730); the lowest was on 5th July (£720), business being interfered with by the celebration of Independence Day.—*The Railway News*.

The Globe Telegraph and Trust.

THE meeting of this company was held yesterday, a lengthened report of which, owing to the pressure upon our space, must be postponed until next week. Mr. Ford, one of the directors who had taken an active and leading part in the promotion of the Trust, pointed out very clearly the advantages which would result from extending the principle upon which the Globe Trust was established. It does seem an anomaly that the board of the Globe, which is constituted by representing members from the boards of the Eastern, Eastern Extension and Anglo-American, cannot devise some plan by which the various companies can be brought under one great administration. At the present power we cannot have separate action, and great waste results from a number of separate boards and officials, and we hope that Mr. Ford will continue his efforts at the board to make the Globe Trust the great institution which it was originally intended to be.—*The Railway News*.

The Telegraph in Senegal.

THE Senegal Telegraph Service comprises three lines: the first from St. Louis to Dogana is the most important and is 126 miles in length. It is constructed with a single wire, connecting six offices. The region it traverses is for the most part uncultivated, without any road, intersected by large and deep morasses, slightly undulating, with impenetrable thickets of palms and bushes of different kinds scattered over it. It has a total of 23 employes.

The second line is from St. Louis to Dogana. Its length is 77 miles, and connects four offices. Total, 6 employes.

The third line is from St. Louis to the Bar, at the mouth of the Senegal river. It is nearly seven miles in length and traverses a region intersected by morasses and by the tributaries of the river. It unites to St. Louis the pilot station placed at the mouth of the Senegal.

The native employés of these lines are recruited by means of examinations. The military employés are put by the marine infantry at the disposal of the telegraphic service. They receive instructions at St. Louis and Dakar, and they are then sent to the interior stations. The native superintendents form a very good staff, many of them having been in the service since its organization, twelve years ago; they are well up in their duties, thoroughly disciplined, and capable of bearing the fatigues and privations of a journey on foot in this unhealthy climate.

The offices are open every day from 7 to 10 o'clock in the morning, and from 2 to 6 o'clock in the evening.

The total number of messages transmitted in 1873 was 8,531.

The surveillance of the lines, especially during the winter season, is very trying; the torrents of rain and the violent tempests overthrow the poles and break the insulators. Notwithstanding these difficulties only three days' interruption have taken place during the year. The thunder storms, notwithstanding their great electrical intensity, lead to no durable perturbation over the lines and in the apparatus. Disarrangements of the line from malevolence are rare. The blacks, very superstitious, fear to touch the line; they believe generally that it serves only to indicate to Europeans the road to follow in going from Dakar to St. Louis.

Miscellanea.

EDLUND'S THEORY OF THE NATURE OF ELECTRICITY.—In a report on the theory lately advanced by Prof. Edlund as to the nature of electricity, Dr. Emsmann states that apparently Edlund has, in this matter, taken such a step forward as was made when previous investigations were able, by means of one ether, to explain both optical and thermal phenomena. Edlund's theory consists essentially in ascribing to the ether itself an inertia which requires a slight interval of time in order to affect its movement. The flow of ether from one body to another explains the electrodynamic phenomena, while its abundance or deficiency in any body serves to explain the electrostatic phenomena. As regards the chemical influence of the galvanic current, it is deemed that the electricity has an equal influence upon the bodies that are to be separated or combined by it. The rotation of the plane of polarization of light is elucidated by the simple assumption that the electric ether is not different from the optical ether, and in general it is to be acknowledged that Edlund's theory is based upon well known facts, and is distinguished by its simplicity and sufficiency.

SIMPLE METHOD OF MAKING CARBON CELLS.—Mr. Symons gives the following method, as practiced by himself, for constructing plates or cells of carbon of any required shape and size, such as are used in galvanic batteries. With a syrup of equal quantities of lump sugar and water, mix wood charcoal, in powder,

with about equal parts of a light powder called vegetable black. The mixture should hang well to the moulds dipped into it, and yet be sufficiently free to form itself into a smooth surface. Moulds of the cells required are made of stiff paper, and secured by wax or shellac. These moulds are dipped into the carbon syrup, so as to cover the outside only, and then allowed to dry. This dipping and drying ought to be repeated until the cells are sufficiently thick; when well dried they are buried in sand and baked in an oven hot enough to destroy the paper mould. After being cleared from the sand and burnt paper, the cells are soaked for some hours in diluted hydrochloric acid, and again well dried, then soaked in sugar syrup. After dried, they are packed with sand in an iron box, gradually raised to a white heat, and left to cool. If some of the cells be cracked they need not be rejected, but covered with paper or plaster and dipped in melted paraffine. Rods of plate or carbon can be made by a similar process. The carbon thus made will be found to have a good metallic ring and a brilliant fracture.

THE POWER OF THE ELECTRIC LIGHT.—The most powerful artificial light at present in existence is that employed for the great lighthouse on Souther Point, on the coast of England, near the mouth of the Tyne.

On both banks of this river there is an immense number of manufactories of all kinds, the smoke from which, under the influence of the west wind, seriously obstructs the approaches from the sea. Fogs at this part of the coast are also frequent; and the problem of lighthouse illumination required that such light should be secured as would penetrate through any slight fog or haze, it having been generally acknowledged that not even the sunlight itself can penetrate an ordinary dense fog. The electric light established at Souther Point is considered to be equal in power to 800,000 standard candles, being eight times as powerful as the best American fixed lights. The electric spark passes between slender pencils of carbon, which are themselves consumed at the rate of about one inch per hour. The electric current is generated by two of Prof. Holmes's patent rotary magneto-electric machines, driven by steam engines of six-horse power. The number of revolutions made by each machine is 400 per minute and 12,800 sparks pass per minute when both machines are at work. These sparks are, of course, formed so rapidly that the eye does not separate them, and the result is an intense beam of light, so dazzling that the eye of a person within the lantern cannot rest upon them for an instant without intense pain. As observed from a distance of several miles, this light is so bright as to cast a well defined shadow upon the deck of a vessel.

PREPARATION OF EBONITE.—The use of ebonite, one of the newer preparations of India rubber, is constantly increasing, on account of its better applicability to many purposes in the arts than its near ally, vulcanite. The two substances are quite similar, being composed of India rubber and sulphur, with some preparation of gutta percha, shellac, asphalt, graphite, etc.; although these latter are not essential. In vulcanite the amount of sulphur does not exceed 20 to 30 per cent, whereas in ebonite the percentage of sulphur may reach as high as 60. An increased temperature is also required for this preparation. The approved formula consists in mixing together 100 parts of rubber, 45 of sulphur and 10 of gutta percha, with sufficient heat to facilitate the combination. In manufacture, a sufficient quantity of this mixture is placed in a mould of a desired shape, and of such material as will not be affected by the sulphur contained in the mass. It is then exposed to heat of about 315°, and a pressure of about 12 pounds to the square inch, for two hours. This is done most readily by placing the mould in a steam pan, where the requisite pressure and temperature can easily be kept up. When cold the ebonite is removed from the mould, finished and polished in the usual manner.

Correspondence.

We do not hold ourselves responsible for the opinions of our Correspondents. Our columns are open to free discussions on all Telegraphic subjects, without distinction of person or opinion.

No notice will be taken of anonymous communications.

Good Effects of Telegraphic Competition.—The Telegraphs and Railroads of Southern California.—The U. S. Military Telegraph Lines.—Personals, etc.

LOS ANGELES, CAL., July 28.

TO THE EDITOR OF THE TELEGRAPHER.

COMPETITION is said to be the life of trade, and it certainly has the effects of stirring up the latent energies of the competitors. When I came here very recently as the agent of the Atlantic and Pacific Telegraph Co.,

the Western Union hadn't a letter out in the way of a sign, not even one of the regulation boards. The first week they put up one sign, the next another, and yesterday one with the letters two feet long; but signs won't serve them. The Western Union Co. is unpopular in this section by reason of arbitrary monopoly of all Southern California business heretofore, and for other reasons of a personal nature.

The office of the Atlantic and Pacific Company has been neatly fitted up, and by Saturday next we will have as nice an office as the country can show—one side eight feet partition and seven feet glass above for 25 feet; new Tillotson instruments, two sets, new instrument tables, and all complete, compact—and nice as they can be made for money for office use. We open to fair business and have secured the patronage of some of the leading merchants, who are glad of opposition by any corporation, and more glad because its part and parcel of the Central Pacific and Southern Pacific Railroads, Wells, Fargo & Co., etc.

The Southern Pacific Railroad have a road to Caliente, first-class in every respect, and make the 250 miles from Lathrop in nine hours. At Caliente they are tunneling one tunnel almost directly over another. This is caused by the height of the mountain, and after they go through the first they run in almost a complete circle and pierce the second, then down through the Tehachepe Pass to the San Fernando mountains. Here they are also engaged in running tunnels, one of which is to be a mile and a half long. Three thousand Chinamen are digging, etc., while Americans, or white men, are doing all the skilled labor. Immense gangs, immense work, and thousands of dollars per month expended. One year from this time will see the through trains from San Francisco at Los Angeles, thence via San Geronimo Pass to Yuma, on the Colorado River, within the same time.

The Southern Pacific Railroad have now a branch in operation from here to Wilmington, one from here to Tnaheim, which is being extended south in the direction of San Diego, and one to Colton, which is now the end of track towards Yuma; but building is going on, as also an Anaheim branch.

Wilmington is the seaport burg, being at the head of the slough, which admits light draught steamers and sailing vessels to the S. P. R. R. wharf. Larger vessels remain outside in what is called San Pedro bay (a roadstead), and lighter their freight and passengers ashore.

The S. P. R. R. has also a branch to San Fernando, 25 miles north towards San Francisco. Passengers for San Francisco now go to San Fernando by mail, thence take stage to Caliente, 103 miles—six-horse Concord coaches, which make good time, with excellent and well provided eating places. The scenery in the mountain passes is beautiful, and terrible on the desert. A corner of the Mohave desert having been crossed and a splendid mirage seen, arriving at Caliente, passengers are again transferred to the railroad. Sleeping cars and all the attendant luxuries are provided to Lathrop. From Lathrop passengers go by the main line of the Central Pacific R. R. to Oakland wharf, when the trip is completed by boat across the bay, eight miles to San Francisco. Or they can take the Southern Pacific to San Jose, around the southern end of the bay, and thence along the western shore to San Francisco.

The telegraph line is the prettiest I have ever seen stretched. It is of steel wire, about No. 12, I think, and weighs 300 lbs. to the mile, glass insulators, with some of the largest and most taut stretches I have ever seen. Great credit is due Mr. Hayes, the builder of the line, for the excellent manner in which the work has been done. The building party suffered somewhat in crossing the desert. The wire was conducted at San Fernando on Saturday, the 16th inst., and has worked as perfectly as a short circuit since. The line is 444 miles direct to San Francisco, with about 15 offices on it north of Los Angeles. The line from San Francisco is grounded here after passing through a 50 cup electro-pole battery. No repeater is used between Los Angeles and San Francisco. The railroad line is built with two loops to bring all into one circuit and save battery. There are many little places on all their branches which have local business with us, and it brings quite a little rush. At present the office is rather short handed, but as business increases will have more help.

Arrangements have been made with two of the three daily papers to furnish them with report by the A. and P. line.

Los Angeles is a town of 12,000 to 14,000 inhabitants, the population comprising Americans, Spaniards, Jews, and foreigners of all nations, from Pekin to St. Petersburg. It was the seat of government under the old Mexican rule, and Don Pio Pico, the last Mexican Governor, is still here, hearty as ever. Being the residence of the Dous, it was beautified by cheap Vaquero labor, and now is almost a paradise. It is very hot here from sunrise until about 11 o'clock, A. M., when a breeze comes up and continues until evening, but at noon the sun is about vertical, and boils me almost—95° to 100° daily. We have nice cool nights—45°. There is a luxuriant growth of trees, shrubs, plants, etc. Orange groves are the rule. Semi and tropical plants flourish,

as well as all northern fruits, except apples and cherries.

On my recent trip I met Lieut. Reade of the United States military line, en route to San Diego, to relieve Lieut. Smith, as Superintendent of the military line. The latter preparing to join his company soon, preferring it to the responsibility, expense and inconvenience of signal service duty on special orders. Lieut. Reade appears to be an affable, polished officer, but is not a telegrapher. He assumed charge at once and will make a tour of inspection and commence work on the line from Tucson, Arizona, to Camp Grant and Camp Apache, 217 miles; thence from Camp Grant, via Silver City, Forts Bayard and Richardson, to Mesilla, New Mexico, thence to Santa Fe, N. M., 293 miles. The line will be completed when further appropriations are made by Congress, unless Lieut. Reade can cut under and build cheaper than the estimate of Lieut. Smith, whose estimate shows the appropriation will admit of building beyond Mesilla, towards Fort Richardson, on the Texas line of the U. S. M. Telegraph, 69 miles only. The operators on the military line are all well and seem to enjoy their respective positions. The only civilian on the line is Mr. P. Kearney, at Prescott, Arizona, retained by special request of Gen. Kantz, commanding the department of Arizona.

Several changes have taken place: John Carrol, a graduate of San Diego, under my management, enlisted and is at Stanwix, A. T., for the next 4 years, unless transferred at San Diego. Henry E. du Soucheto, of New Orleans, was doing duty at San Diego as relief sergeant, an easy billet. O. K. Tomkins, at Yuma, G. A. Ochus, at Maricopa, Wm. T. Burbridge as assistant, relieved Mr. Allen, now on the S. P. R. R. at Spadra, Cal. Sergeant Boutelle, relieved J. B. Smith, now here at leisure, but waiting for the completion of the Los Angeles and Independence R. R. line from here to Santa Monica, 15 miles, where he is promised superintendency.

Operators on the military lines receive \$97.72 per month, currency; Sergeants \$104 to \$108 currency, and board themselves.

I hear that there have been a number of changes in the Western Union force at San Francisco lately. Of these you will, no doubt, be informed by your San Francisco correspondent.

CLIX.

Appreciation of The Telegrapher.

CARIBOO, BRITISH COLUMBIA, July 10.

TO THE EDITOR OF THE TELEGRAPHER.

ALLOW me, now that I am renewing my subscription, to express my appreciation of your paper (our paper too), and of the principles on which it conducted. It has afforded me an amount of pleasure and instruction that I would not lose for ten times the money.

The fact of a high class paper like THE TELEGRAPHER being a favorite with the fraternity, should be gratifying to those who wish to see the professional standard raised.

D.

New Electric Clock at the London Post-office.

Messrs. T. COOKE & SONS, of York, have just completed the erection of an electric motor and clock dial in the telegraph gallery of the new buildings of the London General Post-office, St. Martins-le-Grand, which, in some points, is novel and interesting. The hands of the large dial, which are driven by the motor, are at a distance of about forty five feet from it, and are connected to it by means of iron rods and several pairs of bevel wheels for turning the hands. The dial itself is six feet in diameter, and such is the sensitiveness and power of the motor that the connecting rods, bevel wheel work and hands are driven by a single Leclanché cell, the current from which is transmitted to the motor every second by the standard clock in the gallery. The motor consists simply of what we may term a polarized pendulum, vibrating between two pairs of electro-magnets, and carrying a double ratchet at the upper end. The same firm have erected a corresponding dial at the opposite end of the gallery for showing the direction of the wind, the pointer of which is worked by a vane at the top of the buildings.—The Telegraphic Journal.

The ingenious French have contrived a novel way to impress the barbaric mind. M. de Brazza who has charge of the expedition to Senegal, carries an electric battery in his pocket communicating with two rings on his hand and with other apparatus scattered about his person. When he shakes hands with a savage chief, that chief will be very much astonished, for an electric shock will run up his arm and he will see lightning playing about the head of his visitor. Naturally he will think he is being interviewed by the devil and he will be ready to consent to anything in order to get away.

THE TELEGRAPHER

DEVOTED TO THE INTERESTS OF THE TELEGRAPHIC FRATERNITY.

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The Telegraphic Situation.

We print elsewhere from the New York Tribune a detailed statement of interviews of a representative of that journal with President ORTON, of the Western Union Telegraph Company, and Secretary CHANDLER, of the Atlantic and Pacific Telegraph Company, which will be read with interest. The statements made by these gentlemen to the Tribune representative are substantially the same as they have made to us, and we have no doubt correctly and fairly represent the relations and proposed relations between the two companies.

It has been well known for some time past that leading stockholders of those companies have been discussing the possibility of an arrangement being made which shall obviate damaging competition, and naturally the terms of such an arrangement, which should meet the views of the different parties, have been suggested and discussed. Up to this time, however, there is no reason to believe that any mutually satisfactory basis has been arrived at, and, considering the positions of the companies respectively, and the motives and interests by which they are governed, the difficulty of arriving at such a basis will be realized. The Western Union Company not unreasonably, feels very strong in its position, and is not, therefore, inclined to sacrifice or concede very much to its competitor in order to effect an amicable arrangement. What the managers of the Atlantic and Pacific Company regard as their most effective advantage in competing with the Western

Union Company, the possession and use of the Automatic telegraph system, is practically ignored by their opponent as of no, or at most, very little value. That we do not agree with Mr. ORTON and the Western Union Company in this estimate of the automatic system is well known; but the fact that it is so regarded by them has an important bearing upon the probable result of any negotiation between them.

It is unquestionably true in actual service, that the automatic system is of greater practical value to the Atlantic and Pacific than it would be to the Western Union Company. The limited number of wires of the former company renders the automatic system of great use to it in disposing of an increasing business, for which additional wires cannot readily be provided. Even if it gave them no additional advantage than enabling them to utilize more fully the wires already erected, and for the present, at least, relieve them from the necessity of constructing new lines over routes already occupied, under existing conditions this would be a most important consideration. It enables the Atlantic and Pacific Co. to devote its available means to the construction of lines over new routes, and the extension of its system over territory which it is desirable to cover, and this is exactly what is being done. The Western Union Company has already a large number of wires covering all important routes throughout the country; and on main routes, where additional facilities are required to meet increasing business, duplexing and quadruplexing existing circuits will for some time to come adequately supply the facilities demanded. It will thus be seen that to the former company automatic telegraphy is a necessity, while to the latter it is not as essential.

It is not, of course, impossible but that some amicable arrangement between the two companies may be arrived at, but we do not consider it very probable. It is not likely that there will be an actual consolidation of the two companies similar to that of the Western Union with the United States, American and Pacific and Atlantic Company, even if an understanding should be reached between them. It has become evident to the managers of the Western Union Company that absorbing competing lines into its system will not establish a telegraphic monopoly. New competing lines will be built speedily, and the work of consolidation has to be constantly repeated with an accumulating burden upon the great company, already sufficiently heavily weighted. There can be no such thing in this country as a permanent telegraphic monopoly, so long as the telegraph business remains in private control. The public demand and will have telegraphic competition.

In this connection the new National Telegraph Company of California comes into prominence, and very probably it would exceedingly gratify the managers of that company if the Western Union would as speedily as possible take the companies now competing with it under its own management. There would then be no important obstacle to its going ahead and extending its lines over the country as rapidly as they could be constructed and put in operation.

It will be noted that in his interview with the Tribune representative Mr. ORTON is disposed to regard this California movement as a stock jobbing operation. In this he may be correct, but we are in receipt of private advices from San Francisco which assure us that it is an enterprise established and intended to be carried out in good faith. There is no question in any quarter of the pecuniary ability of the promoters, and at this distance it seems to have this advantage over new telegraph schemes generally in that it is initiated by capitalists who propose to build the lines themselves instead of being started by contractors who first elaborate the scheme, make exceedingly favorable contracts with themselves, and then organize companies to furnish the money to pay them for the work. The nominal capital of the company, \$25,000,000, is adequate to construct and put in operation a national telegraph system if it is actually subscribed and paid in. If however, with a nominal capital of \$25,000,000 only two to three millions

cash are actually realized it will be in no better condition than other similar enterprises whose actual means inadequately represent the nominal investment.

One of the worst features of corporations in this country is the tendency to water stocks and burden them with obligations for which no adequate consideration has been received. It is to be hoped that this new company will avoid this error, and that its capital issued shall represent something like the amount actually invested and expended. If so, it will in this have a decided advantage over its competitors generally.

One reason, and perhaps the principal one for the negotiations and reports of negotiations for consolidation is the approach of the annual meeting and election of the Western Union Company, which takes place in October. Every year about this time there are reported combinations for obtaining the control of the organization of that company, which are effective in causing fluctuations in quotations for its stock, and which thus serve the purpose of those who speculate in it. After the election is past there is usually some months of quiet until the approach of another gives opportunity for profitable renewal.

The mystery which attaches to the financial operations of Mr. JAY GOULD, and in which that gentleman probably finds profit as well as pleasure, is also an element in this annual disturbance. There is no doubt but that he would like to obtain the control of the Western Union Company, and would do so if it could be had on profitable terms. That he can effect this object if he is willing to pay the price, we have no doubt, but that he is ready to invest the amount required is not so certain.

In any event one thing may be regarded as assured, and that is, that whoever may control existing telegraph organizations; or whatever consolidations or agreements may be effected or entered into, telegraphic competition will exist so long as the telegraphs of the country are not owned and controlled by the government.

An Exceptional Year.—Electrical and Telegraphic Disturbances.

THE present year has been an exceptional one in many respects. There has been but little complaint of drought in any but very limited sections in this or other countries. On the contrary, there has been an overplus of water almost everywhere. From Europe, as well as from our own country, come accounts of unprecedented rainfalls, floods and inundations. Atmospheric electricity has been in superabundance, and much loss of life and damage to property has resulted from the constant and severe thunder storms. Instead of drying up, the prospect is more imminent of the earth being drowned out.

The electrical disturbances in the atmosphere seem to have extended also to the interests connected with the utilization of the electric fluid. Disquieting rumors of consolidations, absorption and new telegraphic enterprises are rife, and those who are dependent upon telegraphy for a livelihood, especially in this country, are in a state of uncertainty as to the future, which is anything but pleasant.

Eventually the atmospheric phenomena will be duly regulated, and matters resume their wonted course. It is to be hoped that matters telegraphic will also settle down into a state of quietude and progress.

Our personal connection with telegraphic interests extends back for nearly a quarter of a century. During all that time the telegraph has been subject to these ever recurring perturbations. The work of consolidation has gone on until from a multitude of companies, with comparatively limited extent of lines for each, a few now own and control the telegraphs of the country. This, from the nature of the business, was inevitable, and in its progress of course there must be a constant rearrangement and adjustment, which would interfere with existing interests.

The Western Union-Telegraph Company has been the grave yard of many promising telegraphic enterprises, and has steadily grown with what it fed upon

until it has become the largest telegraphic organization in the world. It is popularly believed that it has not yet been sufficiently gorged, and that it aspires to further alimont of that description. This is but natural, and we have no doubt that so long as it continues ready to absorb the material will be provided. It is supposed to be now preparing to bolt the Atlantic and Pacific Company as its next victim. Whether it will succeed in this is yet a question, but in anticipation of such an event our Pacific coast friends are preparing even a larger and more extensive arrangement to take its place. As we have said, the present is an exceptional year, and the electrical element in an excited and perturbed state; but what has been shall be, and there is no danger of competition in telegraphy ceasing in the land.

Packard's Business College.

We have received the circular of Mr. S. S. PACKARD, proprietor of PACKARD'S Business College, which is established in the Methodist Building, 805 Broadway, New York. This institution has been in operation under its present proprietor for over 17 years. It is one of the very best of the numerous similar institutions throughout the country. The business education imparted is of the most thorough character, and its graduates are sought for in important and lucrative positions in business houses. Mr. PACKARD is thoroughly conscientious and an enthusiast in his profession, and has an able and efficient corps of assistants in the several departments. The regular school year commences Sept. 1st.

Promoted.

Mr. J. C. HINCHMAN has been appointed General Superintendent of the Eastern Division of the Western Union Telegraph Company in place of Mr. GEORGE H. MUMFORD, deceased. Mr. HINCHMAN has been Assistant General Superintendent of this division since the resignation of Gen. T. T. ECKERT, and his numerous friends will be pleased to hear of his promotion.

Personals.

Mr. FRANK NOEL, formerly of Corning, Mo., has accepted a position as manager in the Colorado Central R. R. office, at Fork's Creek, Colorado, vice Mr. ED. SCHERMERHORN, who takes charge of Floyd Hill, Colorado, office. Mr. M. L. ANGELL has been appointed to a position as operator at Kansas City, Mo., Western Union office. Mr. M. S. BACON, of the Kansas City, Mo., Western Union office, has resigned, and accepted a position with the Atlantic and Pacific Telegraph Company. Mr. L. W. BRADLEY, of St. Louis, Mo., Western Union office, has resigned and gone West. Mr. JAMES O'TOOLE, late of St. Louis, Mo., has accepted a position with the Western Union Company at San Francisco, Cal. Mr. J. LEVIN, formerly assistant operator at Atchison, Kansas, Western Union office, has been appointed manager of Denison, Texas, office of the same company, vice Mr. C. E. SMALLS, resigned. Mr. W. T. DOWNS succeeds Mr. LEVIN in the Atchison, Kansas, Western Union office. Mr. CHARLES CUMMINGS, of St. Louis, Mo., has been transferred from the LaClede Hotel to Brookmire and Rankins. Mr. STEVE FRAZIER has been transferred from the St. Nicholas to Barnum's Hotel office, St. Louis, Mo. Mr. R. J. NICOD, of Milwaukee, has accepted a position as night report operator at St. Louis, Mo., Western Union office. Mr. CHARLES E. SHERLING, of Albany, N. Y., W. U. office, is enjoying a two weeks' vacation. Mr. F. H. W. COOLEY, of the New York W. U. office, has just returned from his summer's vacation. Mr. THOS. J. TOMN, of the night force W. U. Building, New York, has laid aside telegraphic duties for a month to come, and is rusticating and rejuvenating at his old home, Auburn, N. Y. Messrs. W. P. BAKER, of Cincinnati, Ohio, and CHAS. CARTER, of Middleport, N. Y., have lately been

added to the day force of the W. U. Company, Buffalo, N. Y. Mr. J. W. LARISH, night report man at Buffalo, N. Y., W. U. office, who has been rusticating in Pennsylvania, is back again reording dots and dashes in true Spenserian style, with all the vigor and freshness of youth. Mr. GEO. H. BOWKER is now the manager of the A. & P. Buffalo Dock office. Mr. GEORGE WOODWORTH has resigned his position in the Albany, N. Y., Western Union office, to engage in other business. Mr. JOHN H. CUMMINGS has been appointed to fill the vacancy in the Albany, N. Y., Western Union office, caused by the resignation of Mr. WOODWORTH. Mr. DENIS BROWN, late of Augusta, Ga., is now working on the night force in the New York Western Union main office. Mr. PATRICK WALSH, agent of the C. N. D., and editor of the *Chronicle and Sentinel*, at Augusta, Ga., visited New York this week.

The Telegraph.

By Cable.

THE STEAMSHIP FARADAY PREPARING TO SET OUT FOR THE WORK OF REPAIR. LONDON, August 7, 1875.—The *Pull Mall Gazette* says: We are informed by the Direct United States Cable Company that the steamship Faraday returned to this country for supplies—principally grappling irons. She is to sail again early next week to resume operations for the repair of the injured part of the cable. The company are determined to have the work completed this season.

American District Telegraph.

THE American District Telegraphs have made connection with the headquarters of the New York Fire Alarm Telegraph, and now transmit their fire signals direct. The District Telegraph system has been extended to Harlem. The Company have leased an office at 124th street and Third Avenue, Harlem, and opened a district office there on Wednesday last. A new district is to be opened at Sixty-third street and Third Avenue, to extend from Fifty-eighth to Seventy-second streets. The Company will also establish an office within the Rink during the continuance of the American Institute Fair.

The Direct Cable.

THE steamship Faraday, it appears, returned to England to refit and obtain additional apparatus, especially grappling irons, and will immediately proceed to resume her attempts to remedy the fault in the Direct Cable which interferes with its being successfully operated. Mr. G. Von Chauvin, the manager of the Direct United States Cable Company, writing to the *London Times* in reply to the complaints about the silence maintained by the officials as to the position of the cable, says that all persons whose names appear on the register of shareholders, and who have made inquiries, either personally or by letter, at the offices of the company, have received the information that the laying of the cable has been completed, that messages were transmitted over it at a high rate of speed between New York and London, but that a small part of the cable had been injured, probably by ice, during the laying of the last portion of the deep sea cable, and that the contractors were now cutting out and replacing the injured part.

New York City Telegraphic Notes.

PRESIDENT ORTON'S office at the Western Union building is draped in deep mourning, as is also the office of the late Secretary Mumford, for the honored dead. Messrs. O'Reilly, Bronson, and Cromwell, of the Western Union main office, are whiting the happy hours away "far from the madd'ning crowd"—in fact, they are taking a vacation. Last week the spectacle of Nine big clocks, all in a row, Learning to be good and go "so so," was presented behind the switch at the W. U., but now the last bug having been shot, they occupy their old positions on the walls and gladden ye knights of the key with correct time. Striking an averaging between the different times of each, to obtain the true or mean (and it was mean) time, is now unnecessary. For the information of the uninitiated we would say that the "bugs" referred to on these timekeepers are not a specimen of the Colorado genus, who are said to jerk an ox cart around a ten acre lot for a few hours before dinner time, in order to get up an appetite; but

on the contrary are perfectly harmless, as they exist only in the lively brain of the fraternal brotherhood. We are sorry to note that W. Mayer, Jr., of the W. U., is on the sick list. And now, in the small hours of the night, as the foree begins to thin out in the great office at Broadway and Dey streets, the still, small voice of the mosquito is heard as he buzzeth, fresh from Jersey, in at the open windows. They must come over by the boat load, ear load, or some kind of load, for they are blood-thirsty and merciless, and can become greater agitators of bands and arms than anything of their size which we know of. One must keep up a continual slapping, always striking the place where the 'sketer last was, and indulging in an amount of hard swearing quite sufficient to cover the winged blood sucker with eternal obloquy if he would only stay covered—but he won't. One man was observed to raise partially from his seat last night, and in an excited manner slap his hip, ejaculating with smothered fervency, "Down, down to hell, and say I sent thee!" We think this man must have reveled in the Beecher trial, or fed on classic literature in his youth.

The Late George H. Mumford.

A NUMEROUSLY attended meeting of the telegraphic friends and associates of the late George H. Mumford Vice President of the Western Union Telegraph Company, whose sudden death in Paris has been announced in THE TELEGRAPHER, was held in the office formerly occupied by him, on Tuesday afternoon last. Mr. Wm. Orton was chosen chairman, and Mr. Geo. B. Prescott Secretary. Addresses were made by President Orton, Vice Presidents Corneli and Green, Grosvenor P. Lowery, Esq., Hon. George Walker, Gen. O. H. Palmer, and others, and the following resolutions were unanimously adopted:

Whereas, It has pleased our Heavenly Father, in His infinite wisdom, to remove from this life, suddenly, in a foreign land, our late cherished colleague, George Hart Mumford, one of the Vice Presidents of the Western Union Telegraph Company, who, by his manly qualities, had won the sincere respect and affectionate regard of his official associates; and, Whereas, We, who have for many years been connected with him in the management of a great business, desire to express our feeling of sorrow, and record a tribute of respect to his memory, it is hereby Resolved, That by Mr. Mumford's death our Company has lost an officer of inestimable value, one whose superb intelligence, improved by a careful and thorough education, and an enthusiastic devotion to the business in all of its varied details, and supplemented by an unimpeachable integrity, genial courtesy, and rare dignity, of character fitted him to discharge all official duties with wisdom and discretion remarkable for one of his age. In him the community has lost a citizen of the highest character, devoted to the best interests of society, loyal to his country in her darkest hour, and respected by all good citizens; one whose brilliant career, which had not yet reached its meridian, gave promise of the greatest future usefulness and influence. Resolved, That, by his early death, in the prime of vigorous manhood, his family has lost an affectionate and devoted husband and father, who was the pride and glory of a happy home; and we tender our warmest sympathy and condolence to the stricken wife and tender children, whom we commend to the care of Him who is the refuge and shield of the widow and the orphan. We also tender our respectful sympathy to the widowed mother and affectionate sister, to whom he was a dutiful son and loving brother.

Resolved, That as a tribute of respect a committee, consisting of Norvhu Green, John Van Horn, Anson Stager, John C. Hinchman, A. S. Brown, W. J. Holmes, S. B. Gifford, John B. Van Ivery, J. D. Reid, and A. H. Watson, is hereby designated to receive the remains on arrival in New York, escort them to Rochester, attend the funeral, and, if agreeable to the family, serve as pall bearers. Resolved, That these resolutions, appropriately engrossed and signed by the officers of this meeting, be presented to the bereaved family, and that copies thereof be furnished for publication to the several telegraphic journals, and to the daily press of New York, Rochester and San Francisco.

Foreign Telegraphic Notes.

THE total number of messages forwarded from postal telegraph stations in the United Kingdom for the week ended July 24, 1875, was 446,532, an increase on the corresponding week of last year of 39,181. At a special general meeting of the Western and Brazilian Telegraph Company, held in London, July 29th, a resolution was adopted to increase the capital of the company £48,200, to enable the company to fulfil its obligations under the agreement of May 23, 1873, between the company and the River Plate and Bra-

zilian Telegraph Company. The authorized capital of the company is now £1,398,200.

A prospectus has been issued by the directors of the Eastern Extension, Australasia and China Telegraph Company, offering 3,200 debentures, amounting altogether to £320,000, at £100 each, and bearing interest at the rate of six per cent. This amount is required to furnish the cable which is to connect Australia with New Zealand. Shareholders are allowed the option of subscribing in the first instance.

Estimated gross receipts of the Anglo-American Telegraph Company:

July 21 amounted to	£1,570
22 " "	1,600
23 " "	1,500
24 " "	1,400
25 " "	530
26 " "	1,120
27 " "	1,590

against an actual average in July, 1874, at 4s. per word, of £1,826.

The Italian Government has contracted with the firm of Erlanger & Co. for the laying down and maintenance of a submarine cable from the Continent, near Orbstello, to the island of Sardinia.

Mr. John Pender, M. P., stated at the meeting of the Eastern Telegraph Company, that the Suez and Aden section of the company's cable has improved in insulation by no less than 38 per cent, and the other cables of the company from 45 to 77 per cent. The cables which have been laid the longest have improved the most. All these cables have been laid by the Telegraph Construction and Maintenance Company.

The International Telegraph Conference at St. Petersburg was closed on Tuesday, July 20th. The President delivered a farewell address, in which he enumerated the results of the deliberations.

The number of messages forwarded from postal telegraph stations in the United Kingdom for the week ended July 10th, 1875, was 425,136—an increase on the corresponding week last year of 27,898: for the week ended July 17th, 1875, was 445,294—an increase on the corresponding week last year of 34,943.

A general meeting of the members of the Société du Cable Transatlantique Français (French Cable Co.) was to be held in London on Thursday, the 5th inst., for the purpose of receiving an account of the liquidations, showing the manner in which the winding up has been conducted, and the property of the company disposed of.

The East India Telegraph Company announce that the bonds falling due on August 10th will be paid off at the Bank of England, as provided for on each bond, and in order to replace them the Board will shortly raise by tender £1,000,000 on 4½ per cent. debentures.

The traffic receipts of the West India and Panama Telegraph Company for the month of April amounted to £4,485, as compared with £2,802 in the corresponding period of 1874.

On the 8th of July last the number of messages passing through the chief London telegraph office was 36,560, and on the 9th, 36,554, being the highest number passing through the office during 24 hours.

The Western and Brazilian Telegraph Company announce that communication by cable is complete to Monte Video, and that telegrams will now be forwarded direct to the River Plate, without transmission by land lines between Brazil and Monte Video, as heretofore.

The Platino Brazileira cable has been at last finished, and messages pass direct from the Plate to Rio. As yet the line is not open to the public, but it was expected to be in the course of the week.

Result of the International Telegraph Conference.

THE new convention and working regulations of the International Telegraph Conference will come into operation on the 1st of January next. The Convention, which is an International Treaty, and practically unalterable between two Conferences, has been reduced from about 60 to 20 articles, and now contains only the bare principles upon which the contracting Governments agree that their lines should be established and their messages interchanged. The working regulations, which can be modified at any time by common consent, have been augmented by the 40 articles from the Convention. The following are the principal clauses of the new Convention: The terminal charge of Germany for correspondence with France and Russia will be 3 francs; the terminal charge of Austria for correspondence with Great Britain will be 2fr. 50c.; the other terminal charges for European countries remain unchanged. A new rate of 7fr. 50c. is agreed upon for

Spain by the Direct Spanish Cable Company, and the transit rate by the cable between Barcelona and Marseilles is fixed at 4fr. A word-rate has been agreed to for all extra European countries, and uniform terminal rates are fixed for telegrams between Europe and India, viz.: For stations west of Chittagong, via Turkey, 5fr. per word; to the east of Chittagong, 5fr. 25c.; and Madras, 3fr. 75c.; via Russia, the rates are respectively 5fr. 50c., 5fr. 75c., and 4fr. per word. Between such countries as choose to admit it, provision has been made for a "telegraph card" of ten words at three-fifths of the charge for an ordinary 20 word message, and under a similar restriction urgent messages at treble rates will be transmitted, and will have precedence of other private messages between the countries that admit them. By the payment of £1 per year, the names and complete addresses of two correspondents can be inscribed in the books of two telegraph departments, and be thenceforth represented by a single word, which alone will be telegraphed and charged for.

The Conference is the fourth of a regular triennial series, the first of which was held at Paris, in May, 1865; the second in Vienna, in 1868; and the third at Rome in 1872. As we stated in a previous number, the next Conference will be held in London in 1878.—*The Electrical News.*

The Telegraph Construction and Maintenance Company.—Half Yearly Meeting.

At the half yearly meeting of the Telegraph Construction and Maintenance Company, Limited, held on Tuesday, July 20th, at the Cannon street Hotel, London, Sir Daniel Gooch said that the work they had had in hand during the present year had been very small. In the course of a few days, however, he hoped that the company would conclude a contract for a cable, 1,380 miles long, from Sidney, New South Wales, to New Zealand, and he trusted that for the rest of the year they would be well employed. They knew of no other work like the one he had mentioned coming forward, but they were quite prepared to take work should it present itself. He did not think it was unfortunate, even for them, that there should be a cessation for some time in the construction of these long cables. He thought this work had gone on now for some time, and with a little rest he hoped the existing cables would remunerate their shareholders better than they had in the past.

Quotations of Telegraph Stocks at N. Y. Stock Exchange,

Showing Lowest and Highest Prices each day during week.

August.	WESTERN UNION.		ATL. AND PAO.		AMER. DIST.		GOLD AND STOCK.	
	Bid.	Asked.	Bid.	Asked.	Bid.	Asked.	Bid.	Asked.
5	82½	82	18½	18	30	30	70	70
6	80½	82½	18	19	30	30	70	70
7	81½	82½	17½	18½	30	30	70	70
9	81½	82½	18	18½	30	30	70	70
10	81½	81½	19	19½	30	30	70	70
11	81	81½	19½	20	30	30	70	70

New Patents.

OFFICIAL COPIES of any U. S. Patent issued since July 1st, 1871, including drawings, specifications and claims in full, sent free to any address for 25 cents each. Address F. L. POPE, Elizabeth, N. J.

For the week ended July 6, 1875, and bearing that date.

165,210—GALVANIC BATTERIES.—Joseph C. Clamond and L. A. Gaffie, Paris, France. [Filed November 6, 1874.]

An artificial carbon is produced by calcining a mixture of graphite, tar and sugar. The carbon thus prepared is immersed in a solution of perchloride of iron, or of another salt of sesquioxide of iron, and then in ammonia. The sesquioxide of iron is precipitated and incorporated in the pores of the carbon. By this means the porous vessel is dispensed with, and the depolarizing agent is chemically produced in the pores of the carbon itself.

- The improved sesquioxide of iron battery, containing sesquioxide of iron in combination with zinc and an ammoniacal salt, as specified.
- The method herein described of preparing a sesquioxide of iron battery by mixing sesquioxide of iron with coke, or fixing it in the pores of carbon, substantially as specified.

165,263.—DUPLIX TELEGRAPHS. G. Smith, Astoria, N. Y. [Filed December 22, 1874.]

- The two batteries a and b of unequal power, connected with the same poles to the line, in combination with the adjustable rheostat between the larger battery and the line, the receiving instrument between the smaller battery and the line, and the key for simultaneously opening and closing the circuits from both batteries, substantially as specified.
- In a duplex telegraph the arrangement of the batteries a and b, receiving instrument f, and rheostat, substantially as specified, so that the batteries shall neutralize each other at the receiving instrument and act together on the line, substantially as set forth.

165,281—CIRCUIT CLOSERS FOR RAILWAY SIGNALS.—Saml. Weeks' New Orleans, La. [Filed June 5, 1875.]

A circuit closing device for signaling the passage of railway trains over the track, composed of a spring supported connecting plate insulated from the ground, and placed in communication with the line wires, and of a central contact plate supported below the connector, and connected to the earth for closing the circuit with the station by the contact of connector and central plate, substantially in the manner and for the purpose set forth.

165,312—POLES FOR GALVANIC BATTERIES.—Howd. P. Dechert, New York, N. Y. [Filed June 26, 1874.]

A battery pole consisting of a conducting skeleton or perforated frame or jacket, containing broken carbon or a carbon plate, substantially as and for the purpose described.

165,379.—PRINTING TELEGRAPHS.—John E. Smith, New York, N. Y. [Filed May 21, 1875.]

Type wheel revolved both on make and break of circuit. One coil of printing magnets in a local closed by escapement lever on prolonged closure of main circuit, other in a local ditto on prolonged break ng. Unison applied to stop transmitter automatically at zero.

- In a printing telegraph the arrangement of one half or portion of the wire of the printing magnets in a local circuit or branch of a local circuit, and the other half or portion of the wire of said magnets in another local circuit or branch of a local circuit, in combination with a circuit breaker that acts, during the rotation of the type wheel, to open and close the circuit or circuits alternately through the two parts of the printing magnet, substantially as set forth.
- In a printing telegraph, a printing magnet in a local circuit or circuits, a type wheel magnet in a main circuit, and an escapement wheel that allows the type wheel to advance a whole character at a single movement of the escapement pallet, in combination with a lever that serves the double purpose of liberating the type wheel and closing the local printing circuit, to effect an impression by either a prolonged opening or closing of the main circuit.
- In a printing telegraph, the ratchet wheel l and the pawl m, in combination with the lever f, substantially as described.
- The springs c and e, in combination with an electro-magnet and a train of wheels for letting into an electric circuit a resistance either measurable or infinite.
- The magnet C, pallet B, springs e and e, resistance k, lever f, ratchet wheel l, and pawl m, in combination with a train of wheels, substantially as set forth.
- In the transmitter of a printing telegraph, the combination with a train of wheels of the arm P, and the loosely fitted lever E, substantially as and for the purposes set forth.
- The lever U in combination with the lever R, substantially as set forth.
- In printing telegraph apparatus, a self-locking transmitter, in combination with a self-locking printer.

For the week ended July 13, 1875, and bearing that date.

165,413.—ELECTRIC THERMOSTATS.—Edwd. J. Frost, Philadelphia, Pa., assignor of one-half his right to J. Hoehnen, same place. [Filed Dec. 24, 1874.]

- The thermostat consisting of a compound strip formed into a flat spiral, a central adjusting screw, and the casing or covering, substantially as set forth.
- The combination, with the spiral compound strip and central adjusting screw, of the index plate and index concealed in a hollow in the base of the thermostat, substantially as set forth.

165,452.—GALVANIC BATTERIES.—George L. Leclanche, Paris, France, assignor to H. L. Roosevelt. [Filed Dec. 16, 1874.]

- Incorporates the depolarizing substance with the negative element in the manner specified in claims, thus dispensing with the use of a porous cup.
- A galvanic battery in which the use of a porous cup is dispensed with, and in which an insoluble or slightly soluble depolarizing substance, as above defined, rendered solid (with or without cement, by pressure), is combined with a conductor and negative pole, substantially as and for the purposes set forth.
 - A depolarizing body for connection with the negative pole of a galvanic battery, consisting, in whole or in part, of an insoluble or slightly soluble depolarizing substance, rendered solid, with or without cement, by pressure in a mould, substantially as and for the purposes set forth.
 - A galvanic battery in which the use of a porous cup or diaphragm, or its equivalent, is dispensed with, and in which the negative element consists of a mixture of an insoluble or slightly soluble depolarizing substance, as hereinbefore defined, and a conductor, with or without cement, rendered solid by pressure, substantially as and for the purposes set forth.
 - A negative element for a galvanic battery, consisting in whole or in part, of a mixture of insoluble or slightly soluble depolarizing substance, as above defined, and a conductor with or without cement, rendered solid by pressure in a mould, substantially as and for the purposes set forth.

165,535.—UNDERGROUND TELEGRAPH LINES.—David Brooks, Philadelphia, Pa. [Filed June 2, 1875.]

- An underground telegraph wire or cable clothed with absorbent material, covered with insulating substance, and contained within a pipe, in combination with a liquid insulating medium maintained under pressure within the said pipe, all substantially as set forth.
- An underground telegraph wire or cable surrounded by pipes arranged in sections, each section being bent upward at the ends, as set forth, and terminating in a box or receptacle, B, for the purpose specified.

ORTON'S PATENT PENCIL HOLDER

"SAVE THE PIECES."

This HOLDER is intended to save the last half or third of the pencil.

DIRECTIONS.

When the pencil becomes too short to write with comfortably, shave down the butt and screw into the Holder. The screw makes its own thread and will hold the pencil perfectly firm.

Price, 10 cents each.

Sent by mail on receipt of price.

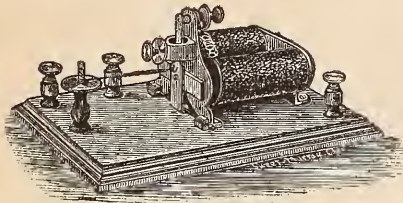
Price per doz., 60 cents.

GEO. H. BLISS & CO., Gen'l Agents,

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LANNERT & DECKER

will not be undersold by any firm competing in price or quality.



PONY RELAY, PRICE \$5.63.

A reduction of 25 per cent. from our former prices on all Relays and Main Line Sounders.

	Former Price.	Red. Price.
No. 1 Relay, a superior d'ble adj. inst., and standard res., and finely finished.....	\$15 00	\$11 25
No. 2 Relay, a superior d'ble adj. inst., and standard res., and finely finished.....	14 00	10 50
Pony Relay, a superior inst. for lines of 15 miles or less. See above Cut.....	7 50	5 63
No. 1 Main Line Sounder, d'ble adj., finely finished, standard resistance.....	16 00	12 00
Fifteen per cent. from our former low prices on keys.		
No. 1 Key, improved standard size, heavy platinum, finely finished.....	4 00	3 40
No. 2 Key, improved standard size, heavy platinum, iron base.....	2 75	2 34
Ten per cent. discount from our former very low priced Local Sounders.		
Acme Local, No. 1, large and loud, works well with one cell local.....	5 00	4 50
Acme Local, No. 2, small size, round base, one cell local sufficient.....	4 75	4 28

ELECTRICAL BELLS

of various styles and sizes at a reduction of 25 per cent. from former prices.

No. 1 Alarm Bell, 3 1/4 inches in diameter (see cut), works well with one cell local; single stroke or continuous ringing, as desired, changed by lever; thumb-screws with check nuts, for adjusting spring and stroke, large and hard platinum connections; binding posts for holding wires; Bell finely polished, and base extra ornamented. Former price, \$4 50; reduced price, \$3 38.

No. 2 Alarm Bell, without binding posts, and cheaper finish, but working equally as well. Former price, \$3 50; reduced price, \$2 63.

All other standard improved instruments proportionately as cheap. Also, Batteries, Supplies, Chemicals, &c., at lowest rates.

PRICE REDUCED!!

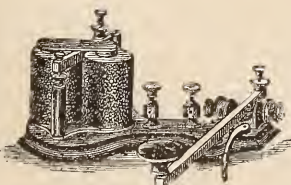
THE POCKET GALVANOMETER,

finely finished and Nickel Plated, will be sent by mail, to any address in the United States, on receipt of one dollar (\$1 00). Canada, 10 cents extra to pay postage. Send for Circular.

X-L-C-R.

20% discount from former price.

The X-L-C-R outfit for learners consists of instrument finely finished, levers, binding posts, thumb screws, &c., of brass, finely polished, platinum points; one cell Callaud battery, Manual, office wire, chemicals, &c. Price, \$5.44.



Until further notice, when desired, instruments of our own make will be sent to responsible parties C. O. D., with instructions to the express agent to show instruments before receiving pay, and if not satisfactory they can be returned at our expense.

Other goods will be sent C. O. D. as usual, or on receipt of money order, registered letter, or draft on N. Y.

Price List and Circular of other Instruments, Batteries, Supplies, Chemicals, &c., sent on application.

All orders will receive prompt and careful attention, consigned to

LANNERT & DECKER,
CLEVELAND Ohio.

THE POCKET GALVANOMETER.

PRICE REDUCED.

The Pocket Galvanometer manufactured by LANNERT & DECKER, finely finished and nickel plated, sent by mail to any part of the United States on receipt of ONE DOLLAR. To Canada, ten cents extra, to pay postage. May be seen at the office of THE TELEGRAPHER, and will be forwarded as above on application to

J. N. ASHLEY,
38 Vesey street, New York.

P. O. Box 5,503.

WESTERN ELECTRIC MAN'G CO.

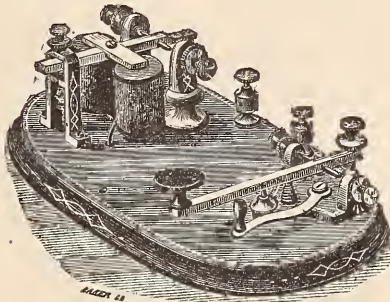
220 Kinzie Street,

CHICAGO, ILL.

CELEBRATED

PRIVATE LINE OUTFIT.

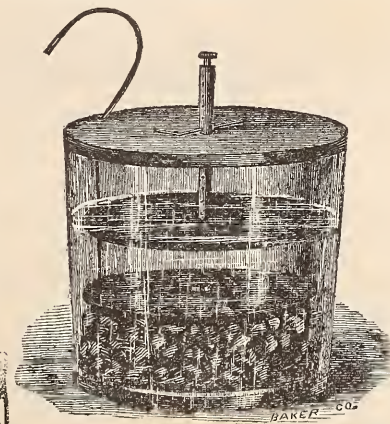
THE BEST IN THE WORLD.



PRIVATE LINE INSTRUMENT.

This instrument is mounted on an iron base and finely finished.

It gives a clear, loud sound. It is made to work on a line from a few feet to ten miles in length.



BLISS RESERVOIR BATTERY.

This battery took the first premium and a silver medal for force, constancy and economy at the Cincinnati Exposition.

With each "Private Line Outfit" is furnished one Private Line Instrument, one Cup Reservoir Battery, the necessary Chemicals, Wire for connections and a Manual.

PRICES.

Private Line Outfit, complete.....	\$10 00
Instrument only.....	8 00
Bliss Reservoir Battery, per cell.....	2 00

DISCOUNT.

A discount of twenty per cent. will be allowed when remittance accompanies the order. Remit by express, registered letter, postal order or draft.

In ordering state length of line, so that the resistance of instruments may be proportioned accordingly.

SEND FOR CIRCULAR.

Liberal terms to Agents.

WESTERN ELECTRIC M'G CO.,

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JUST OUT.

NEW AND ENLARGED EDITION OF

SMITH'S

MANUAL OF TELEGRAPHY.

CONTAINING

Complete Directions for Self-Instruction in Telegraphy, Instructions for Building and Operating

SHORT LINES OF TELEGRAPH,

Diagrams showing the manner of connecting wires, batteries instruments, &c.

Descriptions and cuts of all forms of telegraph instruments, batteries, &c.

Cuts, descriptions and prices of the

BEST LEARNER'S APPARATUS

AND

SHORT LINE INSTRUMENTS;

Together with full explanations of everything necessary for the

AMATEUR TELEGRAPHER

To know.

Every operator and every student of telegraphy should have one.

It is the

MOST COMPLETE, PRACTICAL

And easily understood explanation of the

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AMERICAN FIRE ALARM AND POLICE TELEGRAPH.

GAMEWELL & CO., Proprietors,
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THIS SYSTEM OF
FIRE ALARM & POLICE TELEGRAPH
WITH A CENTRAL OFFICE,
OR
UPON THE AUTOMATIC PLAN,

is now in operation in the following Cities, to which references
made for evidence of its great

SUPERIORITY, VALUE
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UNIFORM RELIABILITY.

Albany, N. Y.,
Alleghany, Pa.,
Boston, Mass.,
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Baltimore, Md.,
Chicago, Ill.,
Cincinnati, Ohio,
Columbus, Ohio,
Cambridge, Mass.,
Charlestown, Mass.,
Covington, Ky.,
Detroit, Mich.,
Dayton, Ohio,
Elizabeth, N. J.,
Fall River, Mass.,
Fitchburg, Mass.,
Hartford, Conn.,
Indianapolis, Ind.,
Jersey City, N. J.,
Louisville, Ky.,
Lowell, Mass.,
Lawrence, Mass.,
Lynn, Mass.,
Mobile, Ala.,
Montreal, Canada,
Milwaukee, Wis.,

New York City,
New Orleans, La.,
New Bedford, Mass.,
New Haven, Conn.,
Newark, N. J.,
Omaha, Neb.,
Philadelphia, Pa.,
Pittsburg, Pa.,
Portland, Maine,
Peoria, Ill.,
Providence, R. I.,
Quebec, L. C.,
Rochester, N. Y.,
Richmond, Va.,
St. Louis, Mo.,
St. John, N. B.,
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The Distinctive Features of these Systems of

Fire Alarm and Police Telegraphs

ARE,

First—The **Automatic Repeater**, through which the apparatus may be distributed in a combination of circuits, and the entire system successfully worked, without the constant personal attention of either operators or watchmen.

Second—The **Automatic Signal Boxes**.

Third—The **Electro-Mechanical Bell Strikers**, adapted to produce the full tone of the largest church or tower bells.

Fourth—The **Electro-Mechanical Gong Striker**, for hose and engine houses, by means of which the location of the fire is instantaneously communicated to the members of each fire company.

These Features combined form the

Only PERFECT, COMPLETE and RELIABLE System
OF
FIRE ALARM TELEGRAPH
IN THE WORLD.

It is a sufficient vindication of the claims which are made by the Proprietors of these systems of

FIRE ALARM AND POLICE TELEGRAPHS,

that they have sustained the test of more than twenty years of practical use, and that the efforts which have been repeatedly made to supplant them by other inventions have

COMPLETELY FAILED;

the few instances in which municipalities have been induced to adopt other systems having demonstrated their insufficiency and unreliability, and resulted in their abandonment, and substitution therefor of the

AMERICAN FIRE ALARM TELEGRAPH.

Messrs. **GAMEWELL & CO.** are the owners of the original **FARMER & CHANNING PATENTS**, one of the most important of which has just been extended for seven years, and during the past seventeen years have spared no expense or effort to secure improvements, and the Systems are now covered by **MORE THAN TWENTY PATENTS.**

The most important improvement which the Proprietors have adopted and introduced is the

AUTOMATIC SYSTEM,

the introduction and operation of which involves so little expense, compared to the benefit which it confers, that even small communities can profitably adopt and maintain it.

The American System of

FIRE ALARM AND POLICE TELEGRAPHS

has met with the universal approbation and commendation of the **People, Municipal Authorities,**

AND THE
PRESS

throughout the UNITED STATES and CANADA.

NO EFFORT, TROUBLE OR EXPENSE

is spared by the Proprietors to obtain and secure ANY POSSIBLE IMPROVEMENT which shall increase the

EFFICIENCY,
RELIABILITY and
ECONOMY

of the system. They intend that, as far as possible, it shall be

ABSOLUTELY PERFECT!

The amount of property which has been saved from destruction, and the number of lives which have been preserved through the general adoption of this system, throughout the UNITED STATES and the DOMINION OF CANADA,

CANNOT EASILY BE ESTIMATED,

but that, in every community where it has been introduced for any considerable length of time, they have been enormous, **THREE CAN BE NO QUESTION.**

The cooperation of TELEGRAPHERS in securing its introduction into their localities is cordially invited, and their efforts will be duly appreciated and compensated.

Any information desired in regard to the above system will be cheerfully and promptly furnished upon application at the office.

A pamphlet, setting forth more fully its advantages and superiority, has been printed, and will be supplied to Municipal Authorities and others interested in Fire Alarm and Police Telegraphy, upon application as above.

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104 Centre Street,
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TELEGRAPH ENGINEER,

AND MANUFACTURER OF

INSTRUMENTS,

BATTERIES,

AND EVERY DESCRIPTION OF

TELEGRAPH SUPPLIES

BUNNELL'S PATENT REPEATER.

These instruments are now made in two different styles, at \$120 and \$135 a set, consisting of two Relays, two Sounders, two Keys and Governor.

JONES' LOCK SWITCH-BOARD,

a most compact and reliable Switch, forming a clean spring-locked connection between any number of wires, occupying for each different connection only one square inch of space, and though made of the largest size, not subject to the warp and contraction of wood-work.

EXCLUSIVE AGENTS OF

A. G. DAY'S

KERITE,

OR

COMPOUND RUBBER COVERED WIRE

SUBTERRANEAN & AERIAL WIRES,

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THE TELEGRAPHER
A JOURNAL OF
ELECTRICAL PROGRESS.

J. N. ASHLEY, PUBLISHER.

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VOL. XI. WHOLE No. 475.

Original Articles.

[From the Polytechnische Zeitung of June 26, 1875.]

Remarks on the Combination of Telegraphic Double-speaking with Counter-speaking.

By Prof. Dr. K. E. ZETZSCHE.

A GREAT deal of noise has been made in America for some time past respecting the "Quadruplex Telegraph," by which term is to be understood a combination of telegraphic counter-speaking, with simultaneous double-speaking. Mr. J. B. Stearns, of Boston, when introducing his counter-speaker or Duplex Telegraph, seemed not to have been aware of what had already been accomplished in this direction in Germany, and to this he really added but little of undoubted merit. (Vide Dingler's Polytechnic Journal, 1874, vol. 202, p. 111.) So also the Americans seem to be quite as little aware that the combination of counter-speaking with double-speaking, has for a long time been the subject of theoretical investigations, and practical tests elsewhere. For this reason I beg leave to transcribe some historical remarks from my work, "The Copying Telegraph, the Type-Printing Telegraph and the Double Telegraph." Leipzig, 1865, page 168.

The first to assert the possibility of a simultaneous combination of counter-speaking with double-speaking was Dr. Stark, not only in his paper of October 15, 1855 (Journal of the German-Austrian Telegraph Union, vol. II, p. 224), but also in his communication to the Vienna Academy of Sciences, in which he pointed out the possibility of transmitting simultaneously four communications between two stations upon the same wire, although he did not give any detailed explanation, or plan of arrangement. Thereupon Dr. Bosseha, in his communication of October 27, 1855, made the same statement. Wartmann also expressed his opinion (Annales Telegraphiques 1861, p. 161) in regard to his own double-speaker (mentioned in the same pamphlet and illustrated in fig. 95), that in order to combine double-speaking with counter-speaking the relays should be connected directly with the line wire, each of the electro-magnets being provided with double coils, one of which should be traversed by a compensating current, and the other by the current going out to the line. Arrangements for double and counter-speaking at the same time were also devised by Maron and Schlaak about the end of 1863.

When a telegraph line is to be used for simultaneous double and counter-speaking, it is necessary that the receiving instrument, as in counter-speaking only, should be connected directly with the line, in order that it may be traversed at any time by the arriving currents. For this reason it is essential that the effect of the transmitted currents upon the receiving apparatus at the home station should be in some manner counteracted or destroyed. If we consider the use of an equating battery or of several relays as objectionable for this purpose, then we are generally obliged to use a relay with a double coil—as for example in the plan invented by Siemens and Halsko—or else the method of branch or divided circuits suggested by Maron. In combining double and counter-speaking, the only requirement is, that the circuit of the line be not interrupted by the movements of the transmitting keys. This is of the more importance, for the reason that this interruption must be avoided, not only with respect to currents received from the distant station, but also the currents transmitted by the other key at the same station. In addition to this, the danger of interference is much increased on account of there being double the number of keys in actual use at the same time. For these reasons, the best we can do is to make use of the method of connecting the key shown in fig. 1 and connect both poles of battery B1 or B2 with the points 2 and 3 of key T1 or T2. Both batteries at the same station are connected with either like or unlike poles to the axis of the key, accordingly as there are to be used for double-speaking several strengths of current of the same or different polarity, and this will also determine the kind of receiving instru-

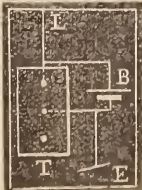


Fig. 1

ment to be selected. If now, in view of what has been said heretofore, the receiving apparatus be made to consist of three properly arranged relays, either polarized or non-polarized, with two recording instruments properly connected thereto, and if each of these three relays be provided with a double coil, the three inner coils being connected together with an adjustable resistance W, in a branch circuit (which, in distinction from the main line might be termed a local line), then the currents transmitted either by T1, T2 or T1 and T2 together will divide between the main or local lines, and thus their action will be neutralized upon each of the three relays. It is obvious that the neutralization of the effect of the currents in this method of connecting the key is even less difficult than in ordinary counter-speaking, because in this case only two positions of the key, viz., the resting and the working position, have to be provided for.

So long as only one station is transmitting, the course of the current at the receiving station is exactly the same as in the case of ordinary double-speaking, and therefore the receiving instruments are subject to precisely the same conditions that have previously been stated in regard to double-speaking, in order that the received signals may not be interfered with by the armatures falling off. The conditions are very much complicated when both stations are double-speaking. First of all, we may note two cases in regard to the manner of connecting the battery at the two stations; the batteries may be connected with either like or unlike poles to the line. For example, B1 may be connected with the same pole to the axis of the key T1 and the line at each station, or the positive pole may be connected to it at one station and the negative at the other. In the former case the current from the batteries B1 at both stations would oppose and neutralize each other, while in the latter case one would reinforce the other. In considering, however, whether simultaneous double and counter-speaking is possible, we need not dwell upon this distinction; it is only necessary to answer the question: What will happen at both stations, when, in addition to the current proceeding from the first station, there is thrown upon the line a current of like or unlike polarity from the second station? If this additional current has the same polarity or direction as that already present, then the effect of one will be added to that of the other. At the first station, therefore, the current of the main line will exceed that of the local line by an amount equal to the additional current, and accordingly all of the relays will be operated, which are capable of being operated by the additional current alone, supposing that the first current—the effect of which is neutralized upon the relays—were not present. At the second station the current is also increased on the main line to the same extent, but in this case its action upon the three relays is rendered null by the opposing local current, which is increased exactly in the same proportion. Therefore, the previously existing condition of the relays caused by the current from the other station remains unaltered.

When, on the contrary, the additional current is in an opposite direction to the previously existing one, the two currents will partially or wholly neutralize each other, according to their respective strengths. This will also operate to destroy the balance previously existing at the first station between the main and local circuits in the three relays, by neutralizing the line current either partially or entirely, and thus leaving the local current free to operate the relays. They will therefore respond in this case precisely as they did before to the additional line current of the same polarity. At the second station the action will be similar, and nothing will be changed as far as the operation of the relays is concerned.

I find, in No. 459 of the American journal, THE TELEGRAPHER, of May 1, 1875, a lecture delivered before the American Electrical Society at Chicago, by F. W. Jones, in which is contained the following communication in reference to the quadruplex:

Toward the close of 1874 it was noised abroad that a quadruplex had been put into successful operation between New York and Boston by Messrs. Prescott and Edison, electricians. More recently it has been put into actual use between New York and Chicago, through a repeater at Buffalo, and between Chicago and Cincinnati—the former distance being nearly one thousand miles, the latter three hundred miles. It has for its foundation the bridge duplex. In the bridge wire of the duplex there are two relays—one is a common relay of very short cores and moderately low resistance, capable of being affected only by strong currents. The other is a Siemens polarized relay, which is sensitive to feeble currents, and is so constructed as to allow the tongue to be thrown on the back or open stop when a current of a certain polarity passes through its coils, and on the front or closing stop when a reverse current passes. There are two separate transmitters brought into use in double transmission from either end. The double transmitter is a pole changer having one spring connected to line and the other to ground. The contacts with each spring are connected crosswise with the smaller portion of main battery through the spring and lever of the single transmitter, which has an additional section of battery inscribed between the lever and its closing contact point. When both transmitters are open the smaller part of the battery will be presented to the line. The current flowing therefrom will

divide between the sides of the bridge—one part passing to rheostat and earth, the other passing over line and dividing between the bridge wire and the transmitter ground at receiving end. The portion crossing the bridge will push the tongue of polarized relay on the back stop, but will not affect the common or neutral relay for reasons before stated. If the double transmitter at sending end be closed the same portion of battery is reversed in circuit, deflecting the tongue of polarized relay at distant end to the front or closing stop, thus recording a signal. The second transmitter merely cuts in or out of circuit an increased portion of battery, sufficient to close the distant common relay, and the movements of the first or double transmitter wholly determine the polarity sent to line; when the double transmitter is up and the single one closed the latter cannot record a signal on the polarized relay at the remote station, for the reason that the current is on the wrong polarity; the same effects take place at the home station under similar manipulations at the distant end.

Under the supposition that the batteries are divided into proportions of 50 cells and 150 cells, the following changes of polarity and quantity will take place on the line during transmission from both stations:

Table with 4 columns showing cell counts and polarity changes: +50 and -50 cells, -50 and +200 cells, etc.

These constant variations and reversals taking place through the relay coils tend to produce in them an unsettled magnetic condition, causing the movements of their armatures to be unsteady and unreliable for signals. To remedy this the bridge wire is supplied with a condenser which is charged by the same currents that work the relays, and so soon as they are withdrawn from relays the condenser discharges before a reversed current reaches them, thus prolonging the signals and preserving a magnetic equilibrium of the cores.

The condensers connected to the equating rheostat require the nicest adjustment to exactly neutralize the static discharge from line.

Dr. H. Nicholson, of Mt. Washington, near Cincinnati, has also constructed a quadruplex on the differential principle. When one key is depressed a positive current or given tension is sent to line, the second one sends a negative current of the same tension, while both keys, simultaneously depressed, send a positive current of double the tension of a single key. The relay has two oppositely polarized armatures, of which the one responding to positive current depresses a spring in addition when under the influence of a current of double strength, thus closing not only its own sounder, but also the one in connection with the opposite armature, recording simultaneous signals.

Jones does not explain in what manner Nicholson connects his keys, but the three different strengths of current required for double-speaking have the same relation to each other in Nicholson's method as in the plan of combining double and counter-speaking invented by Maron, except that Maron makes use of strengths of current +S, -S, and -3S. Furthermore, Maron also makes use of only one relay, which is, however, provided with three magnetic armatures.

The method of Prescott and Edison is, however, characteristically new, inasmuch as they give to the line a constant current of +S, but for telegraphing make use of -S, +2S and -2S. We regret that Jones does not give a diagram of the arrangement of the connections of the keys and batteries. But my own plan, given in the annexed diagram (fig. 2) fulfills in every respect the conditions above stated.

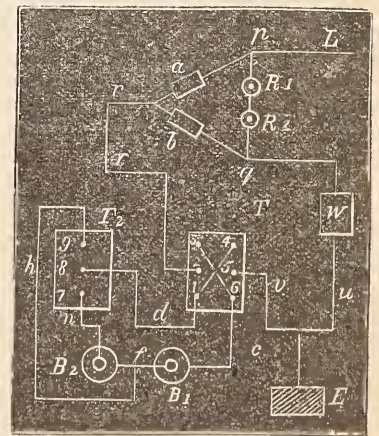


Fig. 2

The copper pole of the battery B1 is connected through the front contact 6 and the back contact 3 of the double key T1 with the key axis 2, and thence through the wire x to the angle of a Wheatstone's bridge. On the bridge wire p q are placed the two relays R1 and R2. The point p is connected with the line L, and the point q through the rheostat W and wire u with the earth at E. The zinc pole of battery B1 is connected through f and h with the back contact 4 and key axis 5 of the double key T1, and thence through wire v to the earth at E. Both keys are provided with contact springs so arranged that the front contact is closed at the instant the back contact is broken, whenever the key is depressed, and vice versa. If now the lever of the key T2 is depressed, then in addition to the battery B1 another section of battery B2 is brought into action through the wire n, front contact 7 and axis 8 of the key. The relay R2 at the other station now responds to the increased positive current, while the armature of the polarized relay R1 still remains against its insulated local stop. If, on

* This is the arrangement for counter-speaking which Maron of Berlin described at the same time with his double-speaker, in the Journal of the German-Austrian Telegraph Union, volume X, page 3.

the other hand, key T_2 is at rest, and T_1 is depressed, then the copper pole of battery B_1 is put to earth at E , while the zinc pole is connected with the line L through $f h 9 8 d 1 2 x$ and r . The line current is therefore reversed, and thus gives a signal at the other station upon the polarized relay R_1 . Lastly, when both keys are depressed simultaneously, then the copper pole of battery B_1 still remains to earth, while the zinc pole of battery B_2 is also connected to the line L by way of $n 7 8 d 1 2 x$ and r , and therefore both the relays R_1 and R_2 at the distant station are compelled to respond to the signals of T_1 and T_2 , in consequence of the increased strength of the negative current.

This arrangement possesses a not immaterial advantage over the previously known methods, inasmuch as it requires but two receiving relays, but it unites with this two points of inferiority. At the transmitting station there occurs, at each motion of the key (however short it may be), an interruption of the line, or what amounts to the same thing, a short circuiting of the battery, which is liable to cause a break in the signals. On the other hand, if the key T_2 is kept depressed at the sending station, while the key T_1 is operated, the relay R_2 ought not to let its armature fall back, however often the polarity of the current may be changed.*

We regret to say that these two defects are of such a nature that it is much to be feared that they will prove to be the rocks on which the practical application of this invention will split, and this is the more to be regretted, as the first mentioned advantage of this arrangement gave promise that through it an additional successful step might be taken to combine double-speaking with counter-speaking. The great value of such a combination lies perhaps not so much in the fact that it renders possible the simultaneous transmission of four messages on one wire, as in furnishing each receiving operator with a key by means of which he may break the sending operator, and each sending operator with an apparatus by which he may be informed of these interruptions.†

[From the *New York World*.]

The First Achievements of Telegraphy as a Detective Agency.

THE announcements have appeared on successive days that Carl Vogt, the man accused of a murder in Belgium two years ago, had sailed for that country, and that the international telegraphic conference had opened at St. Petersburg, and that the Czar would entertain its members at a grand banquet.

At first sight it might appear as though these two events could not possibly have any sort of connection, but in a certain way they have, for telegraphy has been among the most fertile agents in the discovery of crime, and it is very doubtful whether Mr. Vogt would now be en route for the scene of his alleged crime but for Mr. Cyrus Field and some of the other gentlemen who partake of the Czar's hospitality.

But for the cable these days would indeed be halcyon for a criminal. Steam had enabled him to hurry to the seaboard, and once afloat he was safe. Those who can carry their recollection a few years back will remember a number of cases in which crimes were committed with impunity. To mention one, there was the instance of "the Count de Miranda," who, by admirably executed letters of credit from Barings & Coutts, drew no less than £20,000 from the banks in Sydney, remained weeks there, was feted on all sides, from government house downward, and one evening was, in the refrain of a popular Australian song, "Off to Callao, my boys," never to be heard of more.

It is a singular feature in the history of the telegraph that an invention capable of such practical uses should so long have been regarded as little more than a philosophic toy. In July, 1837, the directors of the London and Northwestern railroad sanctioned the laying down of wires between their passenger station at Euston Square and their goods station at Camden Town, and late in the evening of the 25th of that month a man sat by the light of a flaring dip candle in a little room near the booking office, with a beating pulse and a heart full of hope—this was Prof. Wheatstone. In another little room at Camden Town were Mr. Cooke, his co-patentee; Mr. Charles Fox and Mr. Stephenson, the great engineer. "Never," said Wheatstone, "did I feel such a tumultuous sensation as when, all alone in the still room, I heard the needles click, and as I spelled the words I felt all the magnitude of the invention." It might have been supposed that this wonderful proof of applied science would forthwith have made a stir in Christendom; but when the directors of the London and Birmingham railroad soon afterward proposed to lay it down to the latter town if the Birmingham and Liverpool directors would continue it on their line, these latter refused, whilst not

long after that, at a meeting of the proprietors of the Great Western railroad at Bristol, a certain enlightened person, by name Hayward, denounced the invention as "a new-fangled scheme"—a frightful charge, and one which, in such an assembly, he doubtless knew full well bore death in it, and managed to obtain a resolution repudiating an agreement entered into with the patentees to extend it to Bristol. Meanwhile Brunel, had immediately recognized its importance, and managed to convey the wires in tubes to Slough Station, three miles from Windsor Castle. But, strange to say, here again for some time it was only used for railroad messages, until Mr. Cooke, the co-patentee, proposed to maintain it at his own expense, on condition of doing the company's business free, and in return being allowed to send the messages of the public. This, then, was the first popular use of the electric telegraph. The little office stood perched up high above the line, near the railroad station, and has, we hope, been preserved as it deserves. The charge for a message was at first what, after many fluctuations, it has come to be at last—one shilling. At length that time-honored and curious festival, the Eton Montem, the last ever held, in 1844 brought the Slough telegraph into some prominence. The telegraph book for 1844 at the Great Western terminus, Paddington, states that:

"The commissioners or police have issued orders that several officers of the detective force shall be stationed at Paddington, to watch the movements of suspected persons going by the down train, and give notice by the electric telegraph to the Slough station of the number of such suspected persons, their dress, names, if known; also the carriages in which they are.

The plan was perfectly successful, for presently came the entries:

PADDINGTON, 10:20 A. M.—Train just started; contains three thieves.

SLOUGH, 10:48 A. M.—Arrived. Officers have cautioned three thieves.

PADDINGTON, 10:50 A. M.—Special just left; contained two thieves; one, Oliver Martin, is dressed in black, crape on his hat; the other, Fiddler Dick.

SLOUGH, 11:15 A. M.—Thieves in custody, a lady having lost her bag; one of her sovereigns in Fiddler Dick's watch fob."

The thieves must have been terror-struck. An entry dated Slough, 11:15, records:

"Several of the suspected persons who came down are lurking about Slough, uttering bitter invectives against the telegraph. Not one of those cautioned has ventured to proceed to the Montem."

But it was reserved for the following year to bring the value of the telegraph far more vividly before the public, and it was through the detection of crime, not through its value as a political or commercial agent, that it bounded into fame. The traveller on the Great Western railroad may observe, just after he flits by Slough, in the fastest of express trains, the towers of Windsor in the horizon on his left, and in the foreground a group of cottages around a large timbered red brick mansion. This is the hamlet of Salt Hill, the scene of Eton Montem, Salt Hill being the "Mons," and the tribute levied on the occasion the "salt." The huge mansion is a famous hostelry, at which in coaching days seventy coaches daily changed horses. In a cottage beside it was committed in January, 1845, the crime destined to bring the detective power of electricity before the world. A Quaker killed a woman with whom he had secretly cohabited. He was tracked to Slough station, and being suspected, five minutes after he had taken his seat the news was flashed to London. He was "shadowed" for several hours, to discover his haunts, and at length arrested, and, being brought to trial, found guilty and hanged. From that hour dates the rapid and enormous growth of telegraphy. By the end of 1845, 500 miles were in operation in England. The following year the Electric Telegraph Company commenced operations, and a few years later the wires ran over more thousands of miles than in 1845 they did over hundreds.

Correspondence.

We do not hold ourselves responsible for the opinions of our correspondents. Our columns are open to free discussions on all telegraphic subjects, without distinction of person or opinion.

No notice will be taken of anonymous communications.

The Difficult Problem.

KENTON, KENTON CO., KENTUCKY.

TO THE EDITOR OF THE TELEGRAPHER.

YOUR correspondent, "W. A. S.," July 24, 1875, asks why is electricity excited or developed by friction, heat and chemical action? I will submit a few thoughts on the chemical cause, which may possibly lead some one out in the discussion of the problem that

may prove more satisfactory and beneficial to your many readers.

To have an intelligent understanding it will be necessary to consider the nature of the elements entering into the battery, or medium, as well as some of the properties of electricity.

Electricity is an imponderable fluid, possessing certain properties, viz., attraction and repulsion; it also emits heat, and light, and force under certain conditions. If a fluid, it is also a material, being an element composed of atoms, each atom of electricity possessing properties peculiar to the bulk; then each atom must have polarity, its north pole and its south pole, or negative and positive. It unites with other elements to form compound bodies, as sulphate copper, sulphate zinc, water, etc., etc. No chemical union can exist without its presence.

The battery is composed of two metallic elements of different affinities (say zinc and copper), also sulphate copper in solution, and a conductor from the zinc to copper to complete the circuit.

The battery is set up and the circuit closed. The first action necessary is the decomposition of the vitriol, the sulphate acid gives up the copper and liberates the electricity required to hold it in chemical union with the copper, because it, the sulph. acid, has a greater affinity for the zinc than it has for the copper, it is attracted to the zinc by means of their polarities, negative and positive being uniform, and there it forms a new body called sulph. zinc. The new body also requires the presence of electricity in its organization, probably in different degree from the sulph. copper, and as the needle points to the pole, so does each atom of electricity that is free from chemical union point to the zinc, because of the chemical union that is taking place between sulph. acid and the zinc, and because each atom of electricity possesses polarity, each one affecting its neighbor—the north pole of the one atom attracting the south pole of the other; thus the entire battery and circuit is affected; and then we have what may, as a matter of convenience, be called a current. The electricity is developed or disturbed, and instead of exerting its attractions north and south, exhibits its presence on the line and in the core of the magnet in the same order as in the battery.

We will sum up and say that the electrolyses in the battery (the decomposition of the sulph. copper and the composition of the sulph. zinc) are the exciting causes, acting through the medium of electricity and its own polarity to produce its general effect.

H. C. N.

The Attractions of New Orleans.—Telegraphic Changes.—Telegraphic Tournament Proposed, etc.

NEW ORLEANS, LA., Aug. 11.

TO THE EDITOR OF THE TELEGRAPHER.

IT has been many months since a letter from this sunny clime has brightened the pages of THE TELEGRAPHER, and its only simple poor I, who have at length seized upon my insignia of office, and resolved by one stroke to undo that which an overwhelming lassitude, a lamentable lack of energy, has prevented a more gifted writer from doing—that is, to let the fraternity know that New Orleans still exists, and that there is such a thing as a telegraph office there; to let our feeble light shine, that it may perhaps interest, and at least instruct the intelligent portion of the telegraphic world, who read THE TELEGRAPHER.

"The deal has chapped, and things are not as they were," in the South, yet there still remains many attractions to the weary operator, who after having labored at a small rate of compensation, and undergone the rigorous discipline in the larger Northern offices, seeks the salary that is at least sufficient to live upon, without the constant drudgery of "extra" work, which is absolutely necessary in the North, and the more congenial atmosphere which surrounds the Southern office; the pleasant, courteous, and gentlemanly superior officers, and the less rigorous, though equally efficient discipline; the hospitable manners of the Southern people, and the pleasant climate; all these advantages combine to make, in our humble opinion, New Orleans one of the most delightful cities in which to live. There is a great hue and cry raised about the yellow fever as the summer months approach, which has the effect of frightening off many of the boys who come in the fall and remain during the winter season, at which time New Orleans is in its glory, and life one round of gaiety and pleasure. The yellow fever has not prevailed as an epidemic since 1867; there are not, nor has there been any cases reported this season, and there has been only an occasional victim to this dread disease since 1867. The last of the fraternity (and one of the very few) who fell was Taylor Adams, which was three years since. In our opinion (which is that of most of the sane residents here) the yellow fever, like the heat and White League, are "big bugbears." The weather is quite cool, the thermometer seldom indicating over 90°; at night a fine breeze from the south renders sleep easy and delightfully refreshing.

* This was the same difficulty which attended the first arrangement devised by Boscchi.—*Journal of German-Austrian Telegraph Union*. Vol. III, p. 27.
† *The Copying Telegraph*, etc., p. 107.

The natural course of events always brings a considerable number of changes when the spring and summer time comes, and methinks that an enumeration of the present force in New Orleans office will be the best means of conveying an idea of the numerous changes. There are on the night force, including the chief operator, seven men. Messrs. Chas. R. Chase, chief; W. Dean West, H. H. Hunt, T. J. Woolf, Sam'l O. Sevier, J. H. Riddick, and Fred. B. Moxon; of these gentlemen, all but the first two are new-comers, having been in the office but from one to three months. The day force is composed of the old men in the office principally, as follows: Messrs. Hu. Irving, chief operator; Chas. Fisher, E. V. Wedin, A. D. Babbitt, C. F. Curtis, Paul Leloupe, J. F. McHugh, and E. T. Fullum. Of this number McHugh and Fullum are recent arrivals.

Besides the reductions of salaries and force already noticed in THE TELEGRAPHER, operators at Mobile, Ala., who formerly received \$125, have been reduced to \$115; at Augusta, Ga., from \$118 to range from \$80 to \$105; at Louisville, from \$110 to \$100. Besides these many other reductions have taken place throughout the entire South, and it is stated that new acquisitions to the force of this office will only receive \$100.

The following item recently appeared in the *Picayune*, this city, which will be of interest, as a matter of information to the mass of the fraternity to whom Mr. Jones is unknown:

"Mr. T. W. Jones, of Cleveland office, is entitled to the blue ribbon for rapid telegraphing in this country. In May, last year, he averaging forty-eight words per minute for an hour."

Mr. G. Jones may have accomplished this remarkable time, and is, I believe, willing to wager \$50 that he can do it again, but if he did, and can, no time has ever been recorded which exceeds that of Mr. E. C. Stewart, of Washington, D.C., who carried off the gold medal at the tournament, quite a number of years since, by sending an average of 47½ words per minute for an hour, which the famous Nick Snyder copied.

Would it not be a great idea, now that there are so many candidates for telegraphic honors, to have another tournament and another tussle for the prizes for rapid sending and receiving? It would give Mr. Jones, as well as such men as Boilcau, De Graw, Merrill and others, of New York; J. W. McDonald, St. Louis; Eitemiller, and Curt Meserve, Chicago; Geo. Armstrong and "Patsy" Ayres, Cincinnati; with Ed. Smith, of Dallas, Tex., and Billy Soward, of Augusta, Pa., an opportunity to distinguish themselves, and do credit to their respective localities. Philadelphia, July 4th, 1876, would be a suitable time and place for such an affair.

Mr. A. G. Taylor, of the Western Union office, at Galveston, Tex., has returned from a visit to his home in New York State, where he went for the purpose of getting married. We wish him any amount of happiness. Too Much Cud.

Consolidation Rumors.—Atlantic and Pacific Expecting to Absorb the Western Union.—A Raid on Telegraph Poles.—Base Ball.—Telegraphers Victorious.—A Telegraphic Visitor from New Orleans.—Corrections.

CHICAGO, ILL., August 11.

TO THE EDITOR OF THE TELEGRAPHER.

The chief topic of discussion here recently has been the reported absorption of the Atlantic and Pacific Company by the Western Union. Although it was generally looked upon as a stock-jobbing rumor there were not wanting quite a goodly number of the fraternity who gave the rumor credit.

A rumor was afloat at the Atlantic and Pacific office that the order of things in regard to telegraphic monopoly was reversed, and that the Atlantic and Pacific stockholders had secured a controlling interest in the Western Union! and one of the Atlantic and Pacific boys seemed dead in earnest when he told us that ere long the Western Union signs around that office would be replaced by those of the Atlantic and Pacific. However ridiculous this may seem, that such a report did actually come over the wires of the latter company I am creditably informed by those who have a right to know all about it.

Quite a stir has been created among leading telegraph men here by the introduction into the Common Council of a resolution requiring all the telegraph wires in the city to be placed under ground. It is not likely, however, that there is any real cause for alarm, as such a measure could hardly be passed without meeting with serious opposition. The Western Union don't seem to apprehend that such an order will go into force very soon, as I notice they are replacing the ungainly poles on east Madison street, between Fifth Avenue and the bridge, by fine, large, handsome poles. The grading and repaving of the street at this point made such an improvement necessary.

The Atlantic and Pacific are not slower in extending their lines in this section of the country than in the east. I understand they are, as rapidly as possible, working their way to St. Louis down the Illinois river, and will probably pass through Pekin, Peoria and Alton. The boys seem very much elated over the news of the extension. I have been obliged to treat your readers to the Atlantic and Pacific improvements in small doses, kind of homœopathically. I thought I had about got through, but upon noticing the workman-like manner in which the wires are run west, from large poles on east Madison street, at the corner of Clark, to the buildings on the northwest corner of Clark and Madison streets, I thought it not out of place to mention it. When the wires reach a point directly opposite the operating and battery rooms on the supports, such as are generally used for this purpose, they are turned directly across the street southward, entering the upper part of the battery room window.

The A. & P. have, in the reconstruction of their office, etc. entirely discarded the gravity battery, and returned to the use of electro-pile for main battery. Mr. "Tom" Baruard still retains charge of that necessary adjunct to a telegraph office (the battery room), and to him in a great measure belongs the credit for the artistic manner in which the wires are run inside as well as outside the new office. In my account in a recent communication of the base ball game between the W. U. check clerks, known as Billy McMillan's nine and the *Inter-Ocean* men, in which the latter was defeated, I inadvertently called the *Inter-Ocean* men "clerks." They were compositors and not clerks. The game was played at Ogden Park. To-day the same nine from the Western Union played a nine picked from the compositors of the *Tribune* office on the same grounds, beating them 15 to 13. The following is the score:

TRIBUNE.			W. U. TELGH.		
O.	R.		O.	R.	
Ogden, c.	3	8	Flanders, p.	3	3
Bamford, c. f.	5	1	Kearns, c. f.	2	3
O'Bryan, 1 b.	3	2	Ryan, s. s.	6	0
Broock, 2 b.	5	1	Furlong, c.	2	4
Flynn, 3 b.	4	1	Birmingham, 1 b.	1	0
Biles, s. s.	3	1	Hart, 3 b.	4	2
Fallon, 1 f.	1	0	Olson, 2 b.	4	1
Schildhelm, p.	1	2	Krusemarck, 1 f.	3	2
Snow, r. f.	2	2	Murphy, r. f.	5	0
Totals	30	13	Total	30	15

INNINGS:

	1	2	3	4	5	6	7	8	9	10	13
Tribune	2	0	0	1	3	1	1	0	2	3	—13
W. U. Telgh.	2	1	3	1	2	0	0	0	0	5	—15

Left on Bases W. U., 6; Tribune, 5; double plays W. U., 1. Time of game, 2 hours, 40 minutes. Umpire, Mr. Gaskins.

Our friend Howther, of the Grand Pacific Hotel, Western Union office, became, on the second inst., the happy father of a fine daughter. He's as happy as a "lord," and says, after over five years of adversity prosperity now dawns upon him. Among the telegraph visitors to our city recently was Mr. James T. Alley, assistant manager and cashier of the Western Union office at New Orleans. This was "Jim's" first visit north, and he expressed much gratification with the sights and sounds of Chicago. He leaves to-morrow evening for a glance at Niagara Falls, carrying with him the good wishes of his many new friends and old. "Jim" says there's no hay seed in his hair, and he's afraid of no banco roper, but he has his doubts about the "wild Putes" in front of the segar stores. This being his first furlough for over ten years, and being limited to ten days, he is making the best possible use of it, sight-seeing, forming new and renewing old acquaintances.

In your issue of the 7th inst., in his communication regarding express messages, your correspondent D. H. C. credits the Atlantic and Pacific Telegraph Company with originating the half-rate system. I think he meant to give the credit to the Pacific and Atlantic Company, as it has never been disputed that this now defunct company originated the system, forcing its adoption upon the other companies. In my communication of July 22d your printer calls A. & P. Superintendent Fowler's chief clerk Minor instead of "Minor." He must not do so. "Bob" won't stand it. The operator's name at the Baltimore and Ohio General Freight Office is not "Kabenshire" but "Kniabenshue" but he won't stop his paper on account of the "bad spell."

OCCASIONAL.

Western Union.—Chicago.—Personals.

CHICAGO, ILL., Aug. 14.

TO THE EDITOR OF THE TELEGRAPHER.

"AYE, aye, Mr. Murrinan, here we are." "What will the young lady have?" "The double balloon?" "All right, the double balloon, you clown!" "Now for the music." *Pum! pum! pum!* "What's the matter with you? I ain't been to the circus, but "Jack" Martin has got back and taken his place on the Detroit duplex. Mr. Keeler (who has been working there since Cuthbert went on the Philadelphia wire nights) going on the Des Moines wire. Eitemiller ("Capt. George,")

has gone to New York. Some of the boys wanted the "Capt." to do as "Eddie" Dorval did on his way from the South, save his money and get a pass. "Eddie" is reported to have been refused a pass by one of the superintendent's down there, when he very complacently asked him if he "wouldn't please give him a time card." "What do you want a time card for?" inquired the supt. "Why, I'm going afoot, and I want to keep out of the way of regular trains," replied "Eddie." This was too much for the supt. He gave "Ed." the pass.

Frank Farley has also left us, intending to go home visiting—then South. "Johnny" Powers, on the W. U. force here at the time of the great fire, is working for the W. U. in Detroit. Messrs. Bracken, Hazleton, and Cushing, were heard of 12 miles out on the C. R. I. and P. R. R. by one of the boys, and "were strictly sober," so says the postal card.

Mr. Fisher, of the A. and P. force, has joined the noble army of "floaters," and "Billy" Manners has left rather unceremoniously and gone to work on the A. and P. day force. Mr. Miller, formerly of Denver, Colo., is also "subbing" here. Mr. Angell airs his wings on the "W." and "Bx." locals. Miss Annie Veazey, "Vz.," taking the Racine wire, "Billy" Walsh the Rock Island wire, and "Eddie" Dennis the Davenport wire. Mr. Lester was only able to be at the office a few days. Miss "Sue" Musgrove, of the Metropolitan wires, is absent on a vacation, Mr. Frank Casbill, filling her place, quite acceptably. "Tommy" Knox is on second N. Y. Duplex. "Jim" Fish, on the Omaha local. The "original John" (not "cheap John") Strong is working the Springfield wire, while Olin Hamilton helps Miss Lizzie Veazey to hold up this end of the St. Louis Duplex. Whitcomb is back on Dubuque wire, "happy as a clam at high tide." "Eph" Martin is on the Fort Wayne wire, and Lawson works things harmoniously (?) on Dubuque No. 2, with the numerous way offices on that string.

"Hoffman," our Frenchman, one of the "classic" boys, works with La Salle and tries to keep (jolly yet) Joliet from growling.

McCord, one of the extras, gets his work in on "Mix" local. Everham is ever hammering around wherever he can make himself useful. Mrs. Connors has returned (without any brogue on her tongue), looking as fresh as a rose, from her extended trip in Ireland, and was as joyously welcomed as the flowers of May by her many friends, to whom she is constantly making valuable additions by the kindness she shows those operators on the Great Eastern. Our friend Willis has returned and taken one side of the "Ux" St. Louis (Board of Trade) duplex with Mr. Amsden. Messrs. Hatch and Meeker continue to make themselves generally useful on the way wires; one call is sufficient to bring them when within hearing. Mrs. Tillotson is making hosts of friends by the lady-like manner in which she holds up this end of the Amboy line; and the Chicago and Pacific boys, as well as the C. D. and V. operators, think no one suits them so well as Miss Glasson. Although "Halley" only has that one arm left, and it is "left," he manages to keep it warm enough on the Pittsburgh duplex days, with Mr. Stevely, the old P. and A. manager. Mr. Beidler has been transferred from the W. U. night force at Philadelphia to the same force here. He is a perfect little gentleman and a fine operator. "Fatty" Stewart has been placed on the first N. Y. duplex nights regular, to fill the vacancy caused by Eitemiller's departure. Charlie Wilkinson, formerly of the Detroit wire, here days, is taking a turn with us as an extra man nights, occasionally. This isn't a good day for personals, so I'll stop. WESTERN UNION.

Mr. W. H. Woodring.

The departure of no gentleman from the midst of us could have occasioned more sincere regret than will that of Mr. W. H. Woodring, who has just resigned his position as Manager of the Western Union Telegraph office in this city. Mr. Woodring has been a resident of St. Joseph for more than ten years, and during that time has established here a reputation for strict fidelity to business, energy and honesty that he has every reason to be proud of, and that every young man would do well to emulate. In his social life, too, Mr. Woodring has attached himself strongly to the respect and hearty esteem and affection of our people. His genial, courteous manners, his accommodating ways and his gentlemanly bearing, at all times and upon all occasion have placed him high in the opinion of all. As an earnest worker in the cause of religion he has had few equals. For several years he has been a member of the Official Board of the Francis Street Methodist Church, and has for a long time conducted the excellent choir of that church. He has always enjoyed the reputation of a high-toned, Christian, charitable gentleman. We repeat, his departure from St. Joseph will occasion universal regret.—*The St. Joseph (Mo.) Gazette.*

THE TELEGRAPHER

DEVOTED TO THE INTERESTS OF THE

TELEGRAPHIC FRATERNITY.

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Duplex and Quadruplex Telegraphy in America.

Dr. KARL EDWARD ZETZSCHE, of Chemnitz, Saxony, has recently published in the Polytechnische Zeitung, a paper upon the combination of telegraphic double-speaking with a counter-speaking, or as it is termed in this country, quadruplex telegraphy, for a copy of which we are indebted to the author. There is probably no person living who has devoted so much attention as Dr. ZETZSCHE to the history and development of simultaneous and multiple transmission, and other out-of-the-way branches of practical telegraphy. We republish Dr. ZETZSCHE'S paper in the present number of THE TELEGRAPHER, as our readers can hardly fail to desire to know what he has to say upon a subject of so much general interest to American telegraphers as the quadruplex. At the same time we wish to call attention to some errors into which the author appears to have fallen in his discussion of the subject.

It is unquestionably true that when Mr. STEARNS first introduced his duplex apparatus, he, like other American and even English electricians, was very imperfectly acquainted with what had already been accomplished in that direction on the continent of Europe, and it is also true that in some of its details, of which he at that time supposed himself to be the original inventor, he subsequently proved to have been anticipated by earlier experimenters. But the assertion that "he really added but little of undoubted merit" to the invention, as it existed at the time he took it up, certainly does him great injustice. It was STEARNS who was the first to

arrange the compensating rheostat coils in such a manner as to maintain the resistance of the circuit unaltered in every position of the key; and he was likewise the first to compensate the effects of the static discharge of the line, which he accomplished by the simple and effective device of the condenser. It is not too much to say that the latter is unquestionably the most important advance made in duplex telegraphy since the improvements of FRISCHEN in 1854. A leading German electrical writer, as late as 1863, asserted that "the operation of the duplex (Gegensprechen) on underground and submarine lines is utterly impossible by reason of the interference of the static charges." (Dub. Anwendung, etc., p. 468). Yet such lines are now operated successfully, and by Mr. STEARNS'S method. Above all, it is to Mr. STEARNS more than any other that the practical introduction of duplex telegraphy as a system of every day utility is due. Laying aside his other business, he has for a number of years devoted his time entirely to the improvement and practical introduction of that system, and thus it has been brought into use all over the world.

Nor is there much more reason for the intimation that we in America were entirely ignorant of what had been accomplished abroad in the direction of quadruple transmission prior to the year 1874. It is not reasonable to look for a very high degree of scientific or historical accuracy in the hasty, superficial and sensational reports of remarkable inventions and discoveries which appear from time to time in the daily newspapers. So when one of these first announced the Prescott-Edison quadruplex, with an unusual flourish of trumpets, we took pains to point out at the time, as Dr. ZETZSCHE will find by referring to THE TELEGRAPHER of July 18th, 1874, that these parties were not entitled to the sole honor of the discovery, inasmuch as the idea had suggested itself to Dr. STARK and Dr. BOSSCHA, in 1855, and had been practically worked out in 1863, in which connection, by the way, we referred to Dr. ZETZSCHE'S pamphlet of 1865, from which he quotes so liberally in his present paper. It was, therefore, certainly not the fault of THE TELEGRAPHER if its somewhat numerous constituency did not know something of what had been done elsewhere. Every intelligent person is of course well aware that these facts do not necessarily detract in the smallest degree from the credit properly due to the novelty, originality or intrinsic merit of the more recent invention.

It may, perhaps, be well for us in this connection to explain the reason why a complete diagram of the quadruplex apparatus was not published with Mr. JONES' paper, as suggested by Dr. ZETZSCHE. As most of our readers undoubtedly know, the title to the invention is in dispute, and the patent is still pending in the United States Patent Office, and until this is officially issued, the invention is of course private property, in every sense of the word; and although we had at that time, and still have in our possession, detailed drawings of the apparatus, yet it would be a manifest impropriety for us to publish them until the patent has been issued in due form. Such a premature publication might very possibly result in great pecuniary damage to the legal owners of the invention, as in the case of the English patent for Prof. MORSE'S telegraph, which, it may be remembered, was rendered entirely worthless by a similar indiscretion.

In regard to the practical objections pointed out by Dr. ZETZSCHE, it may be well to mention, what many of our readers already know, that they have been completely overcome by a very simple device, which has been in use upon a dozen different lines, varying from 100 to 500 miles in length, for many months, and with entire success. For reasons already stated, we do not yet feel at liberty to publish the details of this and other improvements which have been made in the apparatus. We would, however, certainly feel very much gratified to have the learned Doctor visit us during the Centennial year, and we will aid him to the best of our ability in astonishing himself by an investigation of our duplexes, quadruplexes, type-printers, automatics, fire alarms, district telegraphs and light-

ning sound operators, an occupation which will furnish him with abundant material for another of his excellent books.

The Telegraphic Situation.

It would require the larger portion of the space in THE TELEGRAPHER to record all the rumors and reports which have been rife during the past week in regard to the relations, present and prospective, of the Western Union and the Atlantic and Pacific Telegraph Companies. As a majority of them are mere surmises, or stated and circulated for effect upon the stock market, it is unnecessary to do this, and we shall endeavor to give the actual position of affairs as nearly as we have been able to ascertain it.

In preparing our statements of the telegraphic situation we endeavor to state facts so far as they are attainable, but the parties to negotiations, or supposed negotiations, between the two leading telegraphic organizations of the country are naturally somewhat reticent, and until a definite result is reached not disposed to expose their intentions, or give very definite information in regard to what is done or attempted to be done in bringing about more friendly relations between them.

In another column we reprint a communication from President ORRON, of the Western Union Company, to the Commercial Advertiser of this city, drawn forth by the statements and criticisms of that paper. It will be seen that Mr. ORRON denies the statements that he is in collusion with Mr. JAY GOULD for a change in the directorate of the Western Union Company, and expresses his decided preference to the present management of the company. He also intimates that his company would not be unwilling to acquire the lines of the Atlantic and Pacific Company, and is of the opinion that it may have occasion within the next year for 10,000 miles of additional wires, and if these can be obtained of its competitors cheaper than they could be built it would be better to purchase than to build them.

There is this much of truth in the reports which have been and are in circulation: that the Executive Committee of the Western Union Company recently appointed a committee, comprising Messrs. E. D. MORGAN, HARRISON DURKIE, and FRANK WORK, to confer with the representatives of the Atlantic and Pacific Company for such arrangements as should be for their mutual interests. The result of their labors, so far as is publicly known, is a return of both companies to the rates between Boston, New York, Washington, Albany, and some other places in operation previous to the reduction made by the Atlantic and Pacific Company when the change in its management took place. The Atlantic and Pacific thus practically abandons the stand taken under the new regime of reducing tolls, and will of course make no further reductions, as promised, except by agreement between the two companies. The reductions formerly made were not very large and the prices now charged are not excessive.

There has been as yet no consolidation of the two companies, and we adhere to the opinion formerly expressed that there will be none, for the present at least. It would require a vote of three-fourths of the stockholders to legalize such a consolidation, and that it would probably be difficult, if not impossible, to obtain. A lease of the Atlantic and Pacific lines to the Western Union would require the assent of a considerable majority of the stockholders, which it is not believed could easily be secured. The only practicable arrangement which could be made without an appeal to the stockholders would be a pooling of the receipts or profits of the companies, and it would be very difficult to arrange a basis for this which would be mutually satisfactory. Still, something of this kind may be done. This, however, would be likely to lead to litigation.

The situation at present is rather complicated, and it may be some time before matters work out. It is just about what we, and many others anticipated as the result of Mr. GOULD'S sudden and absorbing interest in telegraphic matters, and he is of course endeavoring to

manage things in such a way as shall afford him the largest profit.

There are no new developments in regard to what is popularly believed to be Mr. GOULD's desire and plans to secure a controlling interest in the Western Union Company. We hardly consider his chances of success in this as at present very promising. The rumors and excitement will be kept up until after the annual meeting and election which takes place in October. After that it will quiet down until the approach of another election. In the meantime *somebody* will profit by the fluctuations in the price of the stocks of both companies.

There are no new developments in regard to the California National Telegraph enterprise further than that the managers of that company continue to assert their intention of going ahead and building the system of lines as originally proposed. It would, no doubt, be decidedly to the advantage of the California company if the Atlantic and Pacific Company were really absorbed by the Western Union upon any terms. That there will be telegraphic competition in any event is indisputable. The public demand and will have it.

Death of Mrs. W. H. Sawyer.

In another column will be found a notice of the death of the wife of Mr. WILLIAM H. SAWYER, formerly General Superintendent of the American District Telegraph Company in this city, and now engaged in establishing circuits for the District Telegraph Company in Philadelphia.

Mrs. SAWYER has long been in declining health, and has been subject to severe suffering, which she has borne with exemplary patience and fortitude. It has for some time been evident to her, as well as to her husband and other relatives and friends, that she could be spared but for a brief time, but it was hoped that she would at least survive for some months yet. Her husband will have the heartfelt sympathy of his numerous friends and acquaintances in the severe affliction which has fallen upon him. He will have the consolation of knowing that nothing which he could have done to lessen her sufferings or prolong the life of a partner to whom he was deeply attached, was omitted, and that after the trials and sufferings of earth she has gone to a better world.

Personals.

Mr. D. W. H. VOORHIES, of Galveston, Texas, has accepted a position with the W. U. at St. Louis.

Mr. CHARLES L. SNYDER, has been appointed to a position on the day force, St. Louis W. U. office.

Mr. DAVID CAMPBELL, Jefferson, Texas, has been appointed to a position in Houston, Texas, W. U. office, *vice* Mr. FRANK GWYNNE, resigned.

Mr. ALBERT BREWER, who has been taking night report at Sedalia, Mo., W. U. office, has resigned.

Mr. E. D. MORTON, late of Philadelphia and Washington, is on the W. U. night force at 197 Broadway, New York.

Capt. GEORGE EITEMILLER, from Chicago, and who is undoubtedly the finest operator in the business, put in an appearance at 197 Broadway, New York, and goes to work at once on the day force, on the Cincinnati duplex, *vice* KEARNEY, for the present.

Mr. H. T. O'REILLY who works the Albany Quad. at 197 Broadway, New York, is working a few days at Saratoga.

Mr. J. MURRAY FAIRCHILD, manager of the New Haven, Conn., Western Union office, has resigned the Superintendency of the Fire Alarm Telegraph in that city, of which he has had charge from about the time it was first established.

The Telegraph.

By Cable.

SAILING OF THE FARADAY.

LONDON, August 13.—The steamship *Faraday* sailed to-day to renew operations for the repair of the injured part of the Direct United States Cable.

The Direct United States Cable.

THE *World*, of London, referring to the completion of the Direct United States Cable, says: "The Faraday went out in April to complete the laying of the cable. It started somewhat too early, but when the ice cleared away it laid its cable, and messages were transmitted between New York and the office in London at a speed of about twelve words per minute. There was, however, a trifling defect in the insulation about 250 miles from Newfoundland. A like defect exists in the French cable of the Anglo Company, and is rather a theoretical than a practical fault, for it does not interfere with the transmission of messages, and, curiously enough, rather increases the speed of transmission. The Faraday was, however, ordered on her return voyage to cut out this defect. She therefore broke the cable in two places, and separated about 35 miles from each other. On breaking the Irish end, last Saturday week, she called attention to the fact that she had only 50 miles of surplus cable on board, and that whilst 50 miles ought to be enough, even with slack, to lay 35 miles, yet that it might perhaps be safer to have more. The Company had about 70 more miles in London; and after some discussion between the ship and the office, through the cable, it was determined that she should return to England to take in these 70 miles. She will at once start again to the gap. Her business will be to take up the Irish end, to splice it to the cable on board, to run out 35 miles of cable, and then to effect the final splice to the American end in shallow water. There is no reasonable doubt, therefore, that the cable of the company will be open for public traffic in a few weeks."

New York City Telegraphic Notes.

Mr. RICHARD CHARLTON one of the night clerks at the W. U. general operating room, Broadway and Dey streets, is probably one of the best informed persons in regard to the city in New York. He brings forcibly to mind Dickens' great character, Sam Weller, in the Pickwick Papers. Sam Weller was probably (as delineated) the best informed youth amid the toil and moil of London. He could give the minutest directions for finding any place in that great city and never erred. So it is with the gentleman in question. He has for his nightly labor the routing of the entire city business of the company. When it is remembered that there are ever one hundred branch offices from which are delivered four fifths of the entire business of New York office, the magnitude of the undertaking will be appreciated. During the day and up to nine in the evening all offices are open and the business has a certain channel; at nine nearly half of the branches close, and the routes extend, and messages must be sent to different offices. Later more offices close and the routes widen again, and at twelve, when but six offices are left, they extend once more, and the six deliver from Harlem to the Battery. It will be seen that it is no feat of a job to route and mark this business, and do it in an expeditious and correct manner. A mistake is never made however by Mr. Charlton, who never consults the books, and tells at a glance the proper office at any hour of the night. He is even better informed on Brooklyn, and is as infallible as the eminently solid Muldoon. While he was a messenger, years ago, it is said that he knew every firm's location below Canal street, and could in most instances give their street number. Gen. T. T. Eckert, then general superintendent of the company, gave him a letter upon his promotion to a clerkship, characterizing him as the smartest boy the company ever employed. A bright future may easily be predicted for this precocious genius.

The Italian Telegraphs.

THE reports of the Italian Telegraph Service show that its development has very largely increased since 1861, when the present constitution of the empire was established. The following extracted statistical table of comparison will briefly show the increase:

	1861.	1873.
Length of lines.....	4,971 miles....	13,670 miles.
Length of wires.....	8,078 ".....	43,497 "
Number of offices.....	225.....	1,622
Number of instruments.....	400.....	2,800
Gov't messages per annum.....	180,000.....	300,000
Private messages per annum.....	600,000.....	5,040,000

Foreign Telegraphic Notes.

Mr. BURTON, Director-General of Telegraphs, conducted some highly interesting telegraphic experiments at the National Government House, Buenos Ayres, recently, in presence of President Avellaneda and a distinguished company. The chief attraction was the sending simultaneously different messages in opposite directions along the same wire. The President warmly expressed to the Director-General the great pleasure the experiments had afforded him.

The steamship Great Eastern has left the old moor-

ings in the Medway for Milford Haven, where she is going to be laid up for the present. The Telegraph Construction and Maintenance Co. have not renewed the charter they had of her, which has just expired.

The *Golos* announced the arrival at St. Petersburg of M. La Cour, assistant director of the Copenhagen Physical Observatory, in order to submit to the telegraphic conference a new invention in telegraphy. That invention gives the possibility of transmitting despatches between two telegraphic stations through one wire only, and by means of many instruments, so that transmission by one instrument cannot impede the action of the other. M. La Cour, whilst engaged some years ago in investigating the passage of electric currents through conducting media, found that electricity is transmitted from place to place by undulations analogous to those of sound. In consequence of this discovery, he hit upon an arrangement of electro-magnets and tuning-forks, by means of which a particular current passing through a tuning-fork pitched to a certain note does not become merged in or confounded with other currents which, after passing through differently pitched tuning-forks, are simultaneously transmitted along the same wire. This, of course, renders it possible to send many messages at a time through a single wire.

The directors of the Eastern Extension, Australasia and China Telegraph Company offer for subscription an issue of £320,000 in six per cent. debentures to bearer at par, repayable in 1891. The loan is rendered necessary to enable the company to provide the cable which is to connect Australia with New Zealand.

The Western and Brazilian Telegraph Company have received telegraphic communication announcing the completion of the cable to Monto Video: "Land lines between Brazil and Monte Video cut by revolutionist in Uruguay."

The total number of messages forwarded from postal telegraph stations in the United Kingdom, for the week ended July 31, 1875, was 463,360—an increase on the corresponding week last year of 55,074.

The Peruvian exploring vessel *Chalaco* has been engaged in taking preliminary soundings between Chorillos in Peru and Chaldera in Chili, with the view of laying the submarine cable between these two points. The route examined was on a line starting from Chorillos and passing within four miles of the Island of San Gallan, forming here a slight deviation towards the coast, and then running parallel to it for about twenty miles, about eight or ten miles off. The depth of the sea as far as San Gallan is not great, not exceeding a maximum of one hundred fathoms, the bottom being all along a mixture of mud and gravel. From thence the soundings began increasing as far as the Merre of Chala, where a depth of 600 fathoms was noted. The submarine exploration, so far as it goes, proved that no difficulties would be met with in laying the proposed cable.

In the financial year ending the 31st of March, 1871, the number of messages sent by the British Post-office telegraphs was 9,850,177; in the next year, 1871-72, the number rose to 12,473,796; in 1872-73 it was 15,535,780; in 1873-74, 17,821,530; and in 1874-75, 19,253,120.

Intelligence has been received by the India Rubber, Gutta Percha and Telegraph Works Company, by telegraph, of the successful laying and completion of their cable between Callao and Islay, in Peru. This section, about 460 miles in length, is the first of a series of cables, with stations at Arica and Iquique in Peru, and Chaldera in Chili, which will place those ports, as well as Lima and Valparaiso, in telegraphic communication with Europe—first, by the Transandine wires and the Brazilian cable system, and ultimately by the Isthmus of Panama, when a cable shall have been laid thence to Callao.

Telegraphic and Electrical Brevities.

THE Electrical Construction and Maintenance Company of San Francisco have contracted with the Los Angeles and Independence Railroad Company for the construction of a telegraph line from Santa Monica to Los Angeles, as soon as the material can be obtained. Mr. Haines will superintend the construction of the new line.

At the General Term of the Superior Court of New York, recently, Judge Curtis rendered a decision of interest to merchants and others, who have occasion to use the telegraph in their business transactions. The Court held that a telegraphic despatch agreeing to accept a draft is equivalent to a written promise to accept, and under the statute makes the person sending the despatch liable as acceptor. The law thus sanctions what could hardly be seriously questioned, that if a written promise is legally binding, it is equally so when sent by telegraph as when sent in any other manner.

On Saturday one of the employes of the Atlantic and Pacific Telegraph Company was engaged in fixing a wire on a pole at the corner of Ferry and South Market streets, Newark. He was near the top of the pole, when it suddenly fell to the ground, carrying him with it. He was removed to St. Michael's Hospital, when it was discovered that his spine was most seriously injured.

Good News for Telegraph Repairers.

The Chief of Police in Philadelphia has given notice that hereafter the ordinance prohibiting the flying of kites in the highways or public squares in that city will be rigidly enforced. Parents and guardians are earnestly requested to see that those under their control obey the law, so that accidents to persons and property may be avoided. The penalty for violation is \$5, and the Press says that the order has become necessary, in consequence of a number of accidents to persons or injury to property that have occurred within a few days. In addition to this, the wires of the Police and Fire-Alarm Telegraph have been so injured as to be useless for hours.

The Last Tribute of Respect to the Late George H. Mumford.

The remains of the late Vice-President of the Western Union Telegraph Company, Mr. George H. Mumford, whose death in Paris, July 22d, has been previously announced, arrived at this port on Tuesday evening, the 10th inst., on the steamship Gellert, of the Hamburg line. A committee appointed at the meeting of his friends and associates received the body, and it was temporarily placed in the receiving vault of the chapel of Christ Church, in this city.

On Monday morning last the remains were conveyed to his former home, at Rochester, N. Y., in a car appropriately draped by the master carpenter and other Western Union employes. The remains were accompanied by Vice-President Norvin Green; General Superintendents Stager, Van Horne, and Hinchman; District Superintendents Brown, Holmes and Gifford, and Messrs. Van Every, Reid and Watson, officers of the company. President Wm. Orton, Treasurer R. H. Rochester, and General O. H. Palmer, formerly Vice-President of the company, all proceeded to Rochester by the evening train to attend the funeral, which took place on Tuesday last.

[From the New York Commercial Advertiser.]

President Orton on his Reputed Relations with Mr. Jay Gould, and Proposed Consolidation of the Atlantic and Pacific with the Western Union Company.

To the Editor of the Commercial Advertiser.

SIR—For several weeks past the financial columns of the Commercial have contained frequent mention of my name in connection with allegations and insinuations to the effect, substantially, that I had entered into a conspiracy, or an arrangement, or was a party to an understanding with Mr. Jay Gould, looking to the turning out of certain of my present associates in the Western Union Board at the annual election in October and the substitution of Mr. Gould and his friends. Concerning these allegations and insinuations, the latest of which appeared in the Commercial of yesterday, permit me to say:

First—It is not true that I desire to be rid of any of my associates in the directory of the Western Union. If I have any cause of complaint concerning their conduct toward me, it is that they have been far too lenient and confiding in the adoption of my plans, and in putting upon me the sole responsibility of carrying them out.

Second—It is not true that I have an arrangement or understanding, expressed or implied, with Mr. Gould, or with any person in his behalf, or with any other person, concerning what shall be done at the annual meeting of the stockholders of the company in October, either in respect to directors or officers than to be chosen.

In view of the fact that I have been chosen President of the company by a unanimous vote at every election since the first, and that, too, without solicitation or effort on my part, it has not occurred to me that it would be necessary to enter into a combination now to prevent my "decapitation."

No one will question the right of Mr. Vanderbilt and his friends to sell their Western Union shares whenever they choose, nor the right of Mr. Gould to purchase such shares, even to the extent of a controlling interest. But I will say frankly that I should be sorry to part company in business with Messrs. Vanderbilt, Schell and Banker, whose names have been mentioned in the Commercial, and I would not willingly exchange them for any of the parties who have been named as their probable successors.

And now that I am, metaphorically, on my legs, let

me add, touching the rumors as to telegraph consolidations:

The Western Union Company can use to advantage, and may absolutely require, within the next twelve months, ten thousand miles of additional wires. If these additional facilities can be acquired of companies now using them in competition with us cheaper than we can erect them, clearly it would be for our interest to buy out such companies rather than to erect new wires. But we have made no proposition for the purchase of any competing lines, and no proposition has been made to us that would be for the interest of the Western Union to accept.

Very respectfully,
WILLIAM ORTON.

The Telegraphers' Mutual Benefit Association.

ASSESSMENT NOTICES.—No. 77, ISSUED AUGUST 2, 1875.

DEATH OF JOHN TREVOR.

JOHN TREVOR, of Rochester, N. Y. (Certificate No. 484, issued March 26, 1869), died in Rochester, July 5th, 1875, of peritonitis.

Mr. Trevor, formerly a telegraph line repairer, was at the time of his death a bank patrolman in Rochester, and was shot by a man who had escaped from custody and whom he was attempting to arrest.

One dollar for assessment 77 is due from members holding certificates numbered up to and including No. 2,468.

RECEIPT OF ASSESSMENTS.

NEW YORK, Aug, 10, 1875.

ASSESSMENT No. 77.

4, 16, 21, 28, 53, 64, 74, 77, 82, 86, 88, 90, 103, 131, 138, 140, 143, 157, 181, 208, 211, 217, 269, 274, 277, 289, 301, 319, 332, 361, 383, 416, 434, 464, 467, 476, 509, 526, 536, 547, 549, 553, 564, 565, 575, 594, 597, 604, 622, 626, 646, 649, 703, 721, 731, 740, 742, 787, 804, 830, 832, 843, 859, 901, 911, 915, 916, 917, 923, 977, 1011, 1024, 1039, 1054, 1081, 1126, 1143, 1148, 1154, 1173, 1178, 1183, 1182, 1185, 1199, 1205, 1225, 1252, 1266, 1289, 1298, 1300, 1306, 1333, 1345, 1357, 1394, 1398, 1402, 1403, 1404, 1407, 1409, 1410, 1490, 1502, 1503, 1516, 1527, 1560, 1568, 1571, 1579, 1615, 1623, 1625, 1635, 1830, 1831, 1852, 1894, 1901, 1944, 1957, 1964, 1986, 1995, 2019, 2029, 2030, 2049, 2066, 2069, 2082, 2097, 2133, 2135, 2141, 2162, 2164, 2172, 2174, 2175, 2178, 2212, 2214, 2228, 2229, 2233, 2239, 2240, 2242, 2259, 2279, 2281, 2282, 2283, 2287, 2305, 2322, 2337, 2343, 2346, 2352, 2359, 2390, 2391, 2896, 2397, 2400, 2403, 2412, 2413, 2414, 2427, 2428, 2435, 2442, 2444, 2445, 2450, 2455, 2468, 2469, 2470.

ASSESSMENT No. 76.

27, 39, 228, 237, 238, 242, 246, 258, 273, 294, 347, 392, 393, 394, 402, 441, 451, 453, 455, 457, 542, 556, 557, 652, 661, 692, 701, 710, 722, 766, 781, 783, 786, 802, 809, 835, 838, 871, 906, 926, 944, 980, 1000, 1002, 1014, 1016, 1041, 1135, 1138, 1136, 1141, 1196, 1255, 1256, 1277, 1281, 1283, 1284, 1285, 1286, 1339, 1340, 1342, 1344, 1346, 1348, 1349, 1350, 1351, 1352, 1366, 1385, 1390, 1391, 1405, 1427, 1430, 1432, 1433, 1444, 1465, 1469, 1471, 1474, 1476, 1481, 1513, 1558, 1573, 1586, 1616, 1619, 1649, 1666, 1673, 1700, 1701, 1704, 1715, 1716, 1731, 1737, 1746, 1747, 1778, 1785, 1786, 1828, 1854, 1974, 1976, 1982, 2023, 2037, 2050, 2063, 2085, 2120, 2177, 2182, 2227, 2257, 2269, 2280, 2284, 2286, 2293, 2309, 2320, 2325, 2326, 2328, 2353, 2360, 2364, 2365, 2398, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2425.

ASSESSMENT No. 75.

100, 569, 574, 870, 942, 1164, 1207, 1237, 1238, 1270, 1609, 1660, 1661, 1662, 1663, 1844, 1845, 2128, 2131, 2167.

Members of the Association who look to THE TELEGRAPHER for receipts of assessments paid, will please take notice that an acknowledgment of the receipts of one assessment should be taken as a receipt for all previous assessments.

Quotations of Telegraph Stocks at N. Y. Stock Exchange.

Showing Lowest and Highest Prices each day during week.

Table with columns: August, WESTERN UNION, ATL AND PAC, AMER. DIST., GOLD AND STOCK. Rows show price ranges for various dates from August 12 to 17.

New Patents.

OFFICIAL COPIES of any U. S. Patent issued since July 1st, 1871, including drawings, specifications and claims in full, sent free to any address for 25 cents each. Address F. L. POPE, Elizabeth, N. J.

For the week ended July 13, 1875, and bearing that date.

165,570.—CIRCUITS FOR ELECTRIC SIGNALS.—Thomas S. Hall and Geo. H. Snow, West Meriden, Conn. [Filed June 23, 1875.]

Designed more particularly for railroad signals, the purpose being that whenever the circuit is closed the current shall be compelled to traverse the same distance, and the resistance shall thus always be the same.

The combination, with a series of keys or circuit closers, C, D, of a battery and two line wires, A, B, one pole of the battery and one end of the line wire B being grounded, while the other pole of the battery connects with the line wire A, all constructed and operating substantially in the manner herein shown and described.

165,678.—POCKET TELEGRAPH RELAYS.—E. A. Hill, Chicago, Ill., and H. J. Schneider, Philadelphia, Pa., assignors to E. A. Hill, Chicago, Ill. [Filed June 18, 1875.]

1. The combination of the magnets C, piece E, for securing the magnets, and making a trannion support for the key, the stop plate N, and the key G, as specified.

2. The combination of the magnets C, stop plate N, sounder lever F, spring H, and inclined thumb-piece spindle I, as specified.

165,591.—NON-INTERFERING FIRE ALARM TELEGRAPHS.—Jos. W. Kates, Richmond, Va. [Filed April 23, 1875.]

To prevent operating instrument from locking itself, a rack bar carried by a pinion on a shaft of the clock mechanism comes into the path of the locking stop.

The herein described method of preventing interference of signals by connecting the instruments at the various signal stations by a second and independent electric circuit, which is opened or closed automatically, and operates the armature of an electro-magnet carrying a stop for the purpose of locking the clock mechanism to prevent the interference of signals, substantially as described.

2. The herein described method of automatically operating the armature provided with a stop for the clock gearing, by a non-conducting tape disposed and operated upon the same drums with the signal tapes, and having perforations at its extremity only, whereby the secondary circuit is closed when the instrument is not in operation, and is broken while the instrument is in operation, substantially as described.

3. The stop B, having the shoulder f, in combination with the rack bar g, spring i, and pinion h, substantially as and for the purpose described.

165,602.—CIRCUITS FOR ELECTRIC ALARMS.—George C. Maynard, Washington, D. C. [Filed April 24, 1875.]

For use with show windows, cases, &c., the breaking of the glass breaking the circuit controlling an alarm.

1. The combination, with a supporting base or plate of glass, in any desired form, of a metallic medium, applied thereto in the shape of letters, numerals, pictures, or ornamental work or device, and forming an electric circuit, or part of a circuit, adapted to be interrupted upon the breaking or cutting of the glass, substantially as and for the purposes set forth.

2. An electric conducting sign formed of a conducting medium or pigment applied for an insulating base, substantially as set forth.

B. A sheet of glass of any desired form, provided with an electric conductor, arranged in the form of letters, numerals, pictures, or other ornamental work or design, substantially as set forth.

165,620.—AUTOMATIC ELECTRIC TELEGRAPHS.—Wm. E. Sawyer, Washington, D. C. [Filed Feb. 2, 1875.]

Polarized relay adjusted to rapid work, and restored to normal condition by adjustable permanent magnet O. Throws into line currents, battery, and secondary of opposite polarities.

1. In a polarized needle telegraph relay, the combination of a polarized needle and a projecting contact piece operating with the needle, with a sliding bar magnet to act upon the polarized needle in the place of a spring, substantially as shown and described.

2. The combination of a line, transmitting battery and metallic contact point, brush or roller therefor, with a magneto-electric or induction coil apparatus, which throws into the line a current of one polarity and metallic contact point, brush or roller therefor, substantially as shown and described.

3. The combination in an automatic or chemical telegraph, with a transmitting apparatus, of a galvanic battery, so arranged that galvanic currents of one polarity will be thrown into the line, and a magneto-electric or induction apparatus so arranged as to throw into the line induced currents of opposite polarity to the galvanic battery currents, as and for the purposes specified.

THREE children, who were prostrated by a stroke of lightning that had first struck a tree, at Amerleus, Ga., all had more or less photographs of the tree imprinted on their persons.

Died.

SAWYER.—In Philadelphia, Pa., on the 15th inst., ANABELLA O., beloved wife of Mr. Wm. H. SAWYER, of the American District Telegraph Co., and daughter of W. H. and I. Baird, of Wilmington, Del.

ORTON'S PATENT PENCIL HOLDER

"SAVE THE PIECES."

This HOLDER is intended to save the last half or third of the pencil.

DIRECTIONS.

When the pencil becomes too short to write with comfortably, shave down the butt and screw into the Holder. The screw makes its own thread and will hold the pencil perfectly firm.

Price, 10 cents each.

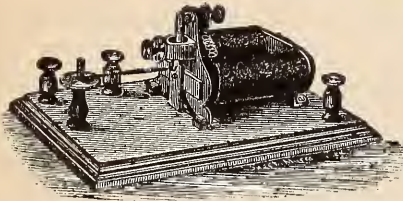
Sent by mail on receipt of price.

Price per doz., 60 cents.

GEO. H. BLISS & CO., Gen'l Agents, 220 Kinzie Street, Chicago, Ill.

LANNERT & DECKER

will not be undersold by any firm competing in price or quality.



pony relay, price \$5.63.

A reduction of 25 per cent. from our former prices on all Relays and Main Line Sounders.

	Former Price.	Red. Price.
No. 1 Relay, a superior d'ble adj. inst., and standard res., and finely finished.....	\$15 00	\$11 25
No. 2 Relay, a superior d'ble adj. inst., and standard res., and finely finished.....	14 00	10 50
Pony Relay, a superior inst. for lines of 15 miles or less. See above Cut.....	7 50	5 63
No. 1 Main Line Sounder, d'ble adj., finely finished, standard resistance.....	16 00	12 00
Fifteen per cent. from our former low prices on keys.		
No. 1 Key, improved standard size, heavy platinum, finely finished.....	4 00	3 40
No. 2 Key, improved standard size, heavy platinum, iron base.....	2 75	2 34
Ten per cent. discount from our former very low priced Local Sounders.		
Acme Local, No. 1, large and loud, works well with one cell local.....	5 00	4 50
Acme Local, No. 2, small size, round base, one cell local sufficient.....	4 75	4 28



ELECTRICAL BELLS

of various styles and sizes at a reduction of 25 per cent. from former prices.

No. 1 Alarm Bell, 3 1/2 inches in diameter (see cut), works well with one cell local; single stroke or continuous ringing, as desired, changed by lever; thumb-screws with check nuts, for adjusting spring and stroke, large and hard platinum connections; binding posts for holding wires; Bell finely polished, and base extra ornamented. Former price, \$4 50; reduced price, \$3 38.

No. 2 Alarm Bell, without binding posts, and cheaper finish, but working equally as well. Former price, \$3 50; reduced price, \$2 63.

All other standard improved instruments proportionately as cheap. Also, Batteries, Supplies, Chemicals, &c., at lowest rates.

PRICE REDUCED!!



THE POCKET GALVANOMETER,

finely finished and Nickel Plated, will be sent by mail, to any address in the United States, on receipt of one dollar (\$1 00). Canada, 10 cents extra to pay postage. Send for Circular.

X-L-C-R.

20% discount from former price.

The X-L-C-R outfit for learners consists of instrument finely finished, levers, binding posts, thumb screws, &c., of brass, finely polished, platinum points; one cell Callaud battery, Manual, office wire, chemicals, &c. Price, \$5.44.

Until further notice, when desired, instruments of our own make will be sent to responsible parties O. O. D., with instructions to the express agent to show instruments before receiving pay, and if not satisfactory they can be returned at our expense. Other goods will be sent C. O. D., as usual, or on receipt of money order, registered letter, or draft on N. Y.

Price List and Circular of other instruments, Batteries, Supplies, Chemicals, &c., sent on application. All orders will receive prompt and careful attention, consigned to

LANNERT & DECKER,
CLEVELAND Ohio.

THE POCKET GALVANOMETER.

PRICE REDUCED.

The Pocket Galvanometer manufactured by LANNERT & DECKER, finely finished and nickel plated, sent by mail to any part of the United States on receipt of ONE DOLLAR. To Canada, ten cents extra, to pay postage. May be seen at the office of THE TELEGRAPHER, and will be forwarded as above on application to.

P. O. Box 5,603.

36 Vesey street, New York.

WESTERN ELECTRIC MAN'G CO.

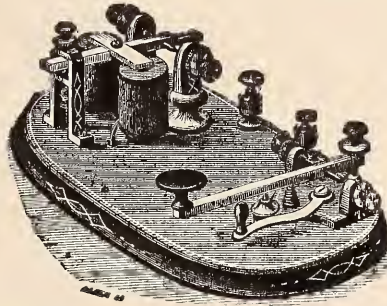
220 Kinzie Street,

CHICAGO, ILL.

CELEBRATED

PRIVATE LINE OUTFIT.

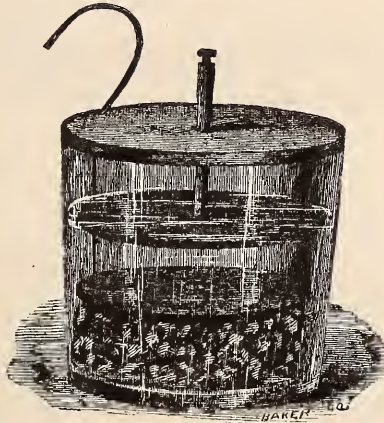
THE BEST IN THE WORLD.



PRIVATE LINE INSTRUMENT.

This instrument is mounted on an iron base and finely finished.

It gives a clear, loud sound. It is made to work on a line from a few feet to ten miles in length.



BLISS RESERVOIR BATTERY.

This battery took the first premium and a silver medal for force, constancy and economy at the Cincinnati Exposition.

With each "Private Line Outfit" is furnished one Private Line Instrument, one Cup Reservoir Battery, the necessary Chemicals, Wire for connections and a Manual.

PRICES.

Private Line Outfit, complete.....	\$10 00
Instrument only.....	8 00
Bliss Reservoir Battery, per cell.....	2 00

DISCOUNT.

A discount of twenty per cent. will be allowed when remittance accompanies the order. Remit by express, registered letter, postal order or draft.

In ordering state length of line, so that the resistance of instruments may be proportioned accordingly.

SEND FOR CIRCULAR.

Liberal terms to Agents.

WESTERN ELECTRIC M'G CO.,

CHICAGO, ILL.

JUST OUT.

NEW AND ENLARGED EDITION OF

SMITH'S

MANUAL OF TELEGRAPHY

CONTAINING

Complete Directions for Self-Instruction in Telegraphy, Instructions for Building and Operating

SHORT LINES OF TELEGRAPH,

Diagrams showing the manner of connecting wires, batteries instruments, &c.

Descriptions and cuts of all forms of telegraph instruments, batteries, &c.

Cuts, descriptions and prices of the

BEST LEARNER'S APPARATUS

AND

SHORT LINE INSTRUMENTS;

Together with full explanations of everything necessary for the

AMATEUR TELEGRAPHER

To know.

Every operator and every student of telegraphy should have one.

It is the

MOST COMPLETE, PRACTICAL

And easily understood explanation of the

MORSE TELEGRAPH

AND ITS APPARATUS

EVER PUBLISHED.

PRICE.....30 CENTS.

Sent post paid upon receipt of price.

L. G. TILLOTSON & CO.,

8 DEY STREET, NEW YORK.

54 SOUTH FOURTH STREET, PHILADELPHIA.

22 WEST FOURTH STREET, CINCINNATI.

AMERICAN FIRE ALARM AND POLICE TELEGRAPH.

GAMEWELL & CO., Proprietors,
62 BROADWAY, NEW YORK.

J. W. STOVER,

General Agent and Superintendent.

L. B. FIRMAN, Chicago, Ill.,

General Agent for the West and North-West.

TELEGRAPH SUPPLY AND MANUF'G CO., Cleveland, Ohio,

Special Agents for the Middle States.

J. R. DOWELL, Richmond, Va.,

Special Agent for Virginia and North Carolina.

J. A. BRENNER, Augusta, Ga.,

Special Agent for Georgia and South Carolina.

L. M. MONROE, New Canaan, Conn.,

Special Agent for New England.

ELECTRICAL CONSTRUCTION AND MAINTENANCE CO.,
San Francisco, Cal.,

Special Agents for California, Oregon and Nevada.

THIS SYSTEM OF

FIRE ALARM & POLICE TELEGRAPH

WITH A CENTRAL OFFICE,

OR

UPON THE AUTOMATIC PLAN,

is now in operation in the following Cities, to which references
made for evidence of its great

SUPERIORITY, VALUE

AND

UNIFORM RELIABILITY.

Albany, N. Y.,
Alleghany, Pa.,
Boston, Mass.,
Bridgeport, Conn.,
Buffalo, N. Y.,
Baltimore, Md.,
Chicago, Ill.,
Cincinnati, Ohio,
Columbus, Ohio,
Cambridge, Mass.,
Charlestown, Mass.,
Covington, Ky.,
Detroit, Mich.,
Dayton, Ohio,
Elizabeth, N. J.,
Fall River, Mass.,
Fitchburg, Mass.,
Fond du Lac, Wis.,
Hartford, Conn.,
Halifax, N. S.,
Hyde Park, Ill.,
Indianapolis, Ind.,
Jersey City, N. J.,
Kalamazoo, Mich.,
Louisville, Ky.,
Lowell, Mass.,
Lawrence, Mass.,
Lynn, Mass.,
Mobile, Ala.,
Montreal, Canada,
Milwaukee, Wis.,

Minneapolis, Minn.,
New York City,
New Orleans, La.,
New Bedford, Mass.,
New Haven, Conn.,
Newark, N. J.,
Nashville, Tenn.,
Omaha, Neb.,
Philadelphia, Pa.,
Pittsburg, Pa.,
Portland, Maine,
Peoria, Ill.,
Providence, R. I.,
Portland, Oregon,
Ravenna, R. I.,
Quebec, L. O.,
Rochester, N. Y.,
Richmond, Va.,
St. Louis, Mo.,
St. John, N. B.,
Springfield, Mass.,
San Francisco, Cal.,
Savannah, Ga.,
Syracuse, N. Y.,
Somerville, Miss.,
Troy, N. Y.,
Taunton, Mass.,
Toledo, Ohio,
Toronto, Canada,
Washington, D. C.,
Worcester, Mass.

The Distinctive Features of these Systems of

Fire Alarm and Police Telegraphs

ARE,

First—The **Automatic Repeater**, through which the apparatus may be distributed in a combination of circuits, and the entire system successfully worked, without the constant personal attention of either operators or watchmen.

Second—The **Automatic Signal Boxes**.

Third—The **Electro-Mechanical Bell Strikers**, adapted to produce the full tone of the largest church or tower bells.

Fourth—The **Electro-Mechanical Gong Striker**, for hose and engine houses, by means of which the location of the fire is instantaneously communicated to the members of each fire company.

These Features combined form the

Only **PERFECT, COMPLETE and RELIABLE** System

OF

FIRE ALARM TELEGRAPH IN THE WORLD.

It is a sufficient vindication of the claims which are made by the Proprietors of these systems of

FIRE ALARM

AND

POLICE TELEGRAPHS,

that they have sustained the test of more than twenty years of practical use, and that the efforts which have been repeatedly made to supplant them by other inventions have

COMPLETELY FAILED;

the few instances in which municipalities have been induced to adopt other systems having demonstrated their insufficiency and unreliability, and resulted in their abandonment, and substitution thereof of the

AMERICAN FIRE ALARM TELEGRAPH.

Messrs. **GAMEWELL & CO.** are the owners of the original **FARMER & CHANNING PATENTS**, one of the most important of which has just been extended for seven years, and during the past seventeen years have spared no expense or effort to secure improvements, and the Systems are now covered by

MORE THAN TWENTY PATENTS.

The most important improvement which the Proprietors have adopted and introduced is the

AUTOMATIC SYSTEM,

the introduction and operation of which involves so little expense, compared to the benefit which it confers, that even small communities can profitably adopt and maintain it.

The American System of

FIRE ALARM AND POLICE TELEGRAPHS

has met with the universal approbation and commendation of the

People, Municipal Authorities,

AND THE

PRESS

throughout the UNITED STATES and CANADA.

NO EFFORT, TROUBLE OR EXPENSE

is spared by the Proprietors to obtain and secure ANY POSSIBLE IMPROVEMENT which shall increase the

EFFICIENCY,

RELIABILITY and

ECONOMY

of the system. They intend that, as far as possible, it shall be

ABSOLUTELY PERFECT!

The amount of property which has been saved from destruction, and the number of lives which have been preserved through the general adoption of this system, throughout the UNITED STATES and the DOMINION OF CANADA,

CANNOT EASILY BE ESTIMATED,

but that, in every community where it has been introduced for any considerable length of time, they have been enormous, THERE CAN BE NO QUESTION.

The cooperation of **TELEGRAPHERS** in securing its introduction into their localities is cordially invited, and their efforts will be duly appreciated and compensated.

Any information desired in regard to the above system will be cheerfully and promptly furnished upon application at the office.

A pamphlet, setting forth more fully its advantages and superiority, has been printed, and will be supplied to Municipal Authorities and others interested in Fire Alarm and Police Telegraphy, upon application as above.

CHARLES T. CHESTER,

104 Centre Street,

NEW YORK,

TELEGRAPH ENGINEER,

AND MANUFACTURER OF

INSTRUMENTS,

BATTERIES,

AND EVERY DESCRIPTION OF

TELEGRAPH SUPPLIES

BUNNELL'S PATENT REPEATER.

These instruments are now made in two different styles, at \$120 and \$135 a set, consisting of two Relays, two Sounders, two Keys and Governor.

JONES' LOCK SWITCH-BOARD,

a most compact and reliable Switch, forming a clean spring-locked connection between any number of wires, occupying for each different connection only one square inch of space, and though made of the largest size, not subject to the warp and contraction of wood-work.

EXCLUSIVE AGENTS OF

A. G. DAY'S

KERITE,

OR

COMPOUND RUBBER COVERED WIRE

SUBTERRANEAN & AERIAL WIRES,

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HIGHEST INSULATION.

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THE TELEGRAPHER
A JOURNAL OF
ELECTRICAL PROGRESS.

J. N. ASHLEY, - - - - - PUBLISHER.

SATURDAY, AUGUST 28, 1875.

VOL. XI. WHOLE No. 476.

Original Articles.

Burmah.—Hunting by Lightning.—The Alligator and the Telegraph.—How he "received" more than he "sent."

BY MEPHISTO.

(Concluded from page 193.)

"SCIENCE, sir, is a great thing. By the help of science we do in a few moments and with great completeness what brute force can never accomplish; science, sir, shall help us to overcome the monarch of the forest or the king of the turbid river. Electricity, sir, is the future power of the earth; when man has learned the laws that govern it he shall control a force which is Titanic in its tremendous energy, and infinite in its possibilities; and two or three hundred thousand years hence, friend Mephisto, when you and I are floating around in space, we shall pay a visit to our former abode, and see the fruition of thousands of years of profound scientific inquiry, in the utter annihilation of time and space; and it will be accomplished through the agency of the 'vril-ya,' a term which you will understand if you have read 'Bulwer's Coming Race,' and if you have not, I advise you to go and read it."

Thus the genial and profound George; and while I gazed at him in mute admiration of the gigantic intellect which directed the intricacies of the Rangoon telegraph office, I wondered within myself what he was doing. He had collected a select assortment of stone jars, glass jars, old pickle jars, all sorts of jars (except family jars, which, being single, he had as yet carefully avoided), all more or less demoralized, and in need of the cleansing influence of warm water. He had bored the engineers and ship's carpenters to death hunting up old scraps of zinc and copper; had coaxed the doctor out of his whole supply of sulphate of copper, and was now busy as a bee and happy as a clam when the tide is in, twisting wires, and suspending zincs, and arranging coppers, and making himself and the quarter-deck in an awful muss generally.

"Whatever are you doing, George?" I asked; "the First Luff will raise hair when he sees this mess on his clean decks, and it seems to me you're wasting a heap of time and energy on what is only a useless toy after all."

"Useless toy, sir," he retorts, with all the fury his gentle nature is capable of, "useless toy! do you say? Why, confound your impudence, sir, are you so utterly ignorant as not to know that copper, and zinc, and sulphate, and all these things go to make up a battery, and that in a battery is generated electricity—that power which I have before had the honor to point out to you is destined to move the world? Why—"

"There, there, old fellow, don't get excited; be calm, and explain to me what it is you are at."

"No, sir," he answered; "to explain to an ignoramus is to waste one's breath; but an ignoramus may watch me as I proceed, and pick up the crumbs of knowledge that fall from the table of science."

And so I humbly gazed in mute awe as he "rigs his battery." There is a complicated arrangement of zinc and copper and wire, and then the jars are filled with water, and a portion of sulphate of copper put in each jar, and then some sulphate of zinc is added, and after various manipulations and alterations my friend announces—

"She'll soon work splendid."

But *cui bono?* To what end all this fuss and preparation? I am consumed with curiosity, which does no good, as G. is inexorable, and I am to "wait and watch."

We had left Merqui, and were steaming up between the Archipelago and the main land of the Tenasserim coast, heading for the Savoy river, expecting to arrive at the entrance thereof the following day. Our hunting experiences in Merqui had resulted somewhat meagrely; a few deer and many snipe being the sole result of our many weary tramps; and my friend had not ceased to abuse me for the lack of sport, though for the life of me I could not see, and cannot to this day, what I had to do with our ill success. But such is the gratitude of the world! As an old Eastern proverb says, "Give a man a ladder to climb up by, and

instantly he will turn his back upon you." And now I could see George was brimfull of some grand scheme. I noticed that he and Captain-B. were getting very confidential, and held long consultations together; and the result of these scientific manipulations and consultations was very shortly to be revealed. Early one morning the gunboat entered the mouth of the Savoy river, and, as the ebb tide had just made, was obliged to anchor. She lay in the stream about three hundred yards from a long, low sand and mud bank, on our starboard beam, and shortly after anchoring a boat was lowered and moored about half way between the ship and the bank.

"And now, oh most potent Mephisto," said George, "you shall have an illustration of the triumphs of science over brute force. Be for once my satellite! Fly hence, and cause that ebony colored *chef de cuisine* of yours to take the life of a full grown rooster, or other gallinacious ornithological specimen, and utterly denude it of its plumage and carefully remove its internal economy, and then bring it to me. Away!"

Verily the man is mad, I thought, but I'll do his bidding. Here cook, you black son of a chiropodistical hexameter (always use long words if you want to floor a nigger), rush round and kill a fowl, pluck and clean it, quick. So said so done; the rooster crowed his last crow, and in the shake of a lamb's tail he was handed over clean, as per order. I bore him in triumph to George, who received him with all the airs of the great Tyeoon.

"Now George, if you'd only asked me I'd have had him cooked for you—spread eagled, deviled, what you would—but if you *must* eat him raw." "Hence! horrible shadow!" was the answer, "visions of dyspepsia vanish into air! Eat him? Why, my long-eared friend, you are positively trying to be facetious—see!" And taking the defunct chanticleer in one hand, he with the other thrust into his abdominal cavity a soda water bottle filled with a dark substance, which I subsequently discovered to be gunpowder. It had two wires coming through the cork, both what telegraph people call "insulated," i. e., covered with gutta percha. A boat was manned—George with a long coil of wire, his deceased and stuffed rooster and a few short stakes, got into the stern sheets, I volunteered for coxwain and we shoved off, paying out wire over the boat's stern as we went, the ends being fastened on board the steamer; pulling past the half way boat the wires were trained over her gunwales. This was rendered necessary, as otherwise the tide, in a span of three hundred yards, might have broken the wires with the heavy wash and rush of the water. Thence to the sand bank, by this time some six feet out of water with gradual slopes towards the river. Having landed, George drove a stake into the sandy mud, and took a round turn or two with the wires on it. This took the strain off and allowed about ten yards of slack wire with the rooster attached, like a tassel on the tail of a kite, to lay loosely on the ground. Then getting into the boat we returned to the ship, made our boat fast astern, and awaited developments. George got his instrument ready, and then I ventured to inquire to what end all this tended.

"Sir," said he, "when you beguiled me from civilized life to wander with you over seas and through jungles, you promised me some sport; fun you call it. Now my ideas of fun do not coincide with yours; for instance, I am unable to perceive the most microscopic atom of fun in being eaten by red ants while attempting to preserve one's equilibrium at an elevation of twenty feet from the ground on a rickety bamboo platform: neither do I see much sport in toiling all day in a broiling sun up to one's knees in mud and water, with a fourteen pound gun over one's shoulder, to be rewarded with one snipe and two paddy birds. But I do see sport in sitting here comfortably on Her Majesty's quarter-deck, surrounded by Her Majesty's officers, and under the meteor flag of old England." "Stop, Mr. D." chimed in the skipper, "for Heaven's sake don't gush."

"Well, the short and the long of it is just this, if I can't get a tiger's skin or an elephant's tusks I'll have the head of an alligator. Gaze on this apparatus; soon as I close this circuit the electric spark will ignite the powder which is in the soda water bottle, which is in the martyred gallinacean, which will be at that precise moment in the stomach of an alligator. That powder once ignited, our amphibious friend will be what Americans call 'a busted up concern,' and I, even I, will go and decapitate him, and I shall possess the object of my ambition, the head of a cayman."

Prostrating ourselves before the sublimity of scientific genius, we raise eyes and hands in bewildered astonishment at the gigantic dimensions of an intellect so superbly colossal. By noon the sand bank was dry for several hundred yards east of us, and it being a blazing hot day, some five or six large alligators had crawled out of the water and were basking in the sun—one of them, and ho a huge one, not twenty yards from our bait. Presently he seemed to sniff a sniff, and like a Chicago hummer he did not hesitate to go for a free lunch. Crawling rapidly towards the dead fowl he opened his enormous jaws and in a moment it had disappeared in the cavernous opening. But George had his eye on

him, and even ere his teeth had closed on the wires he touched the instrument, there was a loud report, the air was darkened with pieces of alligator reduced to mince-meat flying in all directions, and Mrs. Alligator was left a widow and her children fatherless. George was delighted. The boat was manned again, he bounded on to the sand bank, he rushed on his prostrate foe to take his head; but woe is me that I should live to tell the tale! there was no head! *It had been blown into atoms by the discharge!* Poor George! Poor alligator!

The Meanest Man.

BY O. H. KAY.

"SPEAKING of originality, I am reminded of a person with whom my own unworthy self once came in contact."

Thus spoke Bob Whiting, one of a party of half a dozen who had gathered around the fire in the large, roomy old office of F. one evening during the time I worked there. It was customary for us to gather around the fire there evenings after business hours and make ourselves as comfortable as possible, and to while away the time, frequently until a late hour, with relating our remembrances of times past. On this evening business had already begun to slack, and we had yet to get two brief reports of stock due next morning for the Union Yards, and a modest batch of reds for the Great Western Manufacturing Company, before cutting out and closing business for the night. One or two of the boys from the "opposition" across on the other corner had already taken their places, and the rest dropped in soon after.

Bob drew a few complacent whiffs at the meerschaum with which he was struggling, and continued:

"I had been out of work pretty much all winter and was not therefore over and above flush. I was, at just the particular time of which I am about to speak, interested in looking for a situation, and almost anything would have been acceptable. It therefore happened that I called in at the despatcher's office of the X. & T. Y. Railroad and inquired for the division operator. A man of thirty arose from a table in the centre of the room, strode over to the counter where I stood, and said: 'I am the division operator.' I stated that I was an operator out of employment and desiring a position. Almost anything would do. I had excellent references, was a first class man, had had a varied experience, and could do all kinds of work, I said. 'Well,' says he 'come in, I will talk with you.' He opened a gate at my left and I passed through and followed him to a cosy and sumptuously furnished apartment adjoining the telegraph office. Motioning me to a chair and seating himself in one, he said he would look at my references if I pleased. I 'pleased,' and handed him two or three folded sheets, which he read carefully and returned. He then fell to scanning me, taking me in from head to foot. He did indeed look at my feet, and it was plain to see that he was satisfied. There was nothing lacking there. Then he settled back in his chair and contemplated me in an abstract kind of way for a few moments. Finally he said: 'Yes, I have got a position, and I want just such a man as you represent yourself, this very afternoon. But I am not certain that I will employ you.' I told him I hoped he would give me a trial. I would surely do the best I could. He said, 'well it depended upon myself as to whether he employed me. He would be glad enough to do so, but he doubted if I myself would accept the position.' I modestly asked him what he desired to pay, thinking that unless he put it at less than thirty dollars a month I would not refuse it. He replied that he would pay me seventy-five dollars if I was satisfied. 'What!' I gasped. 'Seventy-five dollars, and pay you every Saturday night,' he replied coolly. I said I guessed I would take it. 'Yes, of course you do. Everybody guesses they will take it when they have heard just so much of the story. You see the matter stands just here. I have recently been appointed division operator of these lines, and I will say to you that I got my appointment through influence, of which I have an abundance. The man whom I succeed was a very much better man, both for the company and for those in his employ than I am, and he knew more about the management of lines and of men than I ever hope to. Well, when I accepted the appointment, it was with the understanding that I should have full swing here, and have everything precisely as I liked, and if I wished to indulge any of my whims or fancies, no one must molest me or interfere in any way, so long as the service was performed satisfactorily to the company, and the expenses of the department did not exceed a certain limit. Now it is one of my fancies that stands in the way, as I imagine. In this office there are employed three men. It has always been customary to let one work all day and the other two half and half, paying them extra for the night work. But I have two particular friends, who were friends of mine in youth, by whom I am determined to do a nice thing; therefore I am going to let them both

work all day at ninety dollars, and I am trying to get a man to do the all night work at seventy-five. The day work is easy and not worth fifty dollars, but so much the better. I am enabled to do the better thing by my friends. Neither of them is as good an operator as I have reason to believe you are; still they can get along without difficulty. Again, there is a good deal of copying sheets, etc., which rightfully belongs to the day operators, yet the night man has got to do it. In short, the night man must bear with a great many impositions, or leave the service. All his work together will be light, and other railroad companies in this vicinity do not pay more than fifty-five dollars for the same amount of service. Still it is mostly work that does not belong to him, except as I allow it to be imposed upon him. It has been the case so far that all the men that I have employed have become indignant or disgusted, and when I have said I did not want a dissatisfied man in my employ, they invariably left and accepted positions elsewhere with three times the work and at from fifteen to twenty dollars per month less. Now, if you want a night office at seventy-five dollars and are willing to do your work just as you would expect to do it elsewhere—uncomplainingly—you may commence at anytime. In the case you do this you will be treated with the same respect and courtesy that the rest are. Otherwise you will confer a favor by resigning.”

Well, I went to work and found it just what it had been represented—a tolerably good night job at fair remuneration, but the most of the work was what should have belonged to the day men. I worked along for six months and never worked for a better official in my life. He was always pleasant and kindly spoken, always very considerate and not very particular. It was not difficult to please him, and he gave full credit for everything that merited it. At the end of six months I had a better offer and went West, and have never since heard from the meanest and yet the best man I ever worked for.

State Service.—The Telegraphs.

THE Blue Book detailing the results of the Government's trading in the telegraph business confirms, on the unmistakable evidence of facts, the truth of the principle we have all along maintained, that the functions of a national administration are entirely apart from those connected with commercial enterprise. We have never admitted the assumption that there was even a neutral territory common to the individual and to the State, and which might be occupied by either. On the contrary, we have always advocated the necessity of drawing a hard and fast line between them, and ignored the idea of a State service. We believe that, according to the rules of economic science, strictly interpreted, even the post-office service is a mistake, and that the conveyance of our mails ought never to have been taken out of the hands of those who originally embarked their private funds in that business. The only palliation of the appropriation—for it was nothing less—lay in the consideration that private capital was not likely to be introduced into the business with sufficient liberality to develop it to an extent commensurate with the necessities of the public. As joint stock association was then a thing almost unknown, we admit the force and application of this consideration; but now that it is open to every man to contribute his capital in association with others to the largest undertakings, it ceases to have any force or application whatever. Still, we are not such strict doctrinaires as to wish to take the post-office out of the hands of the State. We cannot, however, refrain from calling attention to how often it has been made the narrow end of the wedge in the up-tearing of private enterprise. In the first place, Government has become ship owners, and has carried passengers as well as letters in their mail steamers, an unfair invasion upon the legitimate business of private owners. Telegraph companies were established, and they proved prosperous, bureaucratic greed was excited, and forthwith private business was metamorphosed into a State service, with a loss of over a quarter of a million to the exchequer, notwithstanding that the number of messages has increased from six to twenty millions per annum.

Again, there has been a notable attempt, certainly tentative in its character, to bring the working of the railways directly under the management of some government official. When the late Mr. Dudley Baxter was the apostle of this movement we ventured to oppose his doctrine. We showed that, both socially and financially, such a scheme was indefensible—that it would foster corruption and speculation, and that it would result in a loss to the State, the operation of management being too great for any department of the Government. We now think that, as the experience of working the telegraph system has been such as we have just stated, we shall hear no more of the State purchase of railways; that it will henceforth be regarded as a delusion not one whit less preposterous than that put forward a few years ago by Mr. Scott Russell and some other dilettante social reformers, who main-

tained that the State should bake bread and butcher for the community, that it should be our grocer and our publican, our tinker and our tailor, and be to us a truly paternal government. Wild as are these day dreams, they are nevertheless the logical consequences of a violation of the principle that there should be a hard and fast line maintained between the functions of the Government and the commercial exercises of the community.—*The Railway News.*

The Life of Cables.

THERE is a very widespread notion that the life of a submarine cable is of very limited duration, and that investment in such property is very speculative and risky. Facts in their mere historical aspect tend fully to confirm these ideas. All the earlier cables that knit our coasts with the Continent, with Ireland and with the Channel Islands rapidly disappeared. A cable laid in 1852, and one in 1854, between Holyhead, and two in 1852 between Scotland and Ireland, were total failures. Two cables were lost between Sardinia and Africa in 1855. The first cable between Dover and Calais lasted only a day. The Crimean cable lasted but nine months. The first Atlantic cable remained entire but twenty-three days. The Channel Islands' cable of 1858 lasted three years. The Red Sea cable of 1859 lasted only six months. On the other hand many cables which are now in existence vary from twenty years old to twenty months. The Dover and Calais, laid in 1851, and the Dover and Ostend, laid in 1853, still speak, though perhaps in the former case, little or any of the original cable remains. The England and Holland cable, laid in 1858, is as sound as ever, while that laid to Hanover, in the same year, lasted but four years.

The existence of all these cables has been so fitful that some cause must exist to account for their irregular lives. So many cables have failed, and so many have succeeded, that sufficient facts have, however, been accumulated to justify some generalization on this point. There is no difficulty in learning lessons from the experience of the past. The materials used, the form in which these materials are fashioned into cables, the way in which they are submerged, and the localities on which they lie, have now had sufficient trial to justify some opinion as to the form of the cables of the future.

There is nothing to show that the main materials employed, whether gutta-percha or india-rubber, are destructible. On the contrary, in the case of gutta-percha everything points out that it is practically indestructible. Keep it away from oxygen and from the varying conditions of temperature and climate, and it seems as though it will last for ever. What action electric currents have upon it is not well known, but experience justifies the opinion that this action, whatever it be, is practically innocuous. In fact, gutta-percha wire actually improves in insulation in our deep seas. The Suez-Aden section of the Indian cable, which lies in comparatively warm water, has improved in insulation since its submersion no less than 38 per cent., and many other deep sea cables have improved from 45 to 77 per cent. in the same quality. Gutta-percha, taken up after twenty-five years' submersion in water, is as perfect as when it was first put down.

But the life of a cable does not always depend upon that of its core. It rather depends upon that of its sheathing, and far more upon the bottom on which it is laid. Those cables that have failed have done so because their sheathing was not adapted to their localities. Heavy cables were laid in deep seas, light cables were laid in shallow seas, rough anchorage ground was crossed by mere packthreads, rugged rocky bottoms and fierce tideways were spanned with slender ropes. The fact that the sheathing and structure of the cable must be adapted to the bed on which it is intended to lie is scarcely yet sufficiently followed. A cable is projected between two fixed points, a cursory examination is made of the depth of the water and of the nature of the bottom. So many miles of shore ends and so many miles of deep sea cable are specified to be used; sometimes intermediate sizes are introduced. But never has yet a cable been properly designed to meet the full requirements of its future bed. Heavy shore ends needlessly and uselessly rest upon safe and soft bottoms, light sea portions cross rocky bottoms with danger and risk. The great lessons taught by experience are these: that cables must be specially designed for the various portions of the seas they are intended to cross, and that more reliance must be placed on the careful surveys and examination of the bottom.

The durability of a cable does not depend upon the durability of its materials, but upon the special adaptability of its built-up parts to meet those great forces of nature which are present in its future home. Anchors, again, may be dropped when, when raised, strain it to its utmost limit. It is not altogether free from the attacks of insects and other assailants. Experience seems to point out fifteen years as about the average life of past cables; but if the lessons of practice have been care-

fully studied and followed, there is no reason why this period should not be doubled or even trebled in existing cables, and it is possible to construct, lay, and maintain cables so that they shall be practically permanent.—*The Telegraphic Journal.*

A Shrewd Trick.—How a Telegraph Operator Swindled the Bank of California Out of \$1,200.

IN January last P. S. Washburn was the sole agent of the Western Union Telegraph Company at Colusa as well as agent for Wells, Fargo & Co. and various insurance companies. Acting as clerk for him was a young man who went by the name of Charles Crowell, and who was employed by Washburn, and not by the telegraph company. He was frequently engaged to receive and transmit despatches to San Francisco and elsewhere, and had free access to the office and instruments. He was known to the various operators of the company to be the operator at Colusa, and was so recognized. On the 19th of January Washburn was absent, leaving Crowell in charge of everything, with authority to receive and transmit whatever despatches might be offered. Taking advantage of the opportunity, he telegraphed as follows to the Bank of California in this city:

“Pay Charles H. Crowley \$1,200.
W. P. HARRINGTON, Cashier.”

Mr. Harrington was then cashier of the Colusa County Bank at Colusa, and the despatch was accepted as genuine by the bank here. It was dated January 19th, and on the same day it seems Crowell left for San Francisco, having previously sent a telegram to one Charles H. Crowley at the Occidental Hotel, signed by a fictitious name, directing him to call at the Bank of California for money. Crowell, on his arrival in the city, obtained the despatch addressed to Crowley, and procured a young man named George W. Spencer to go with him to the bank to identify him. On reaching the bank he presented the despatch, and stated that he was the person named therein. Spencer, on being questioned as to the fact of identity, replied, “Yes, I know him,” and everything being considered satisfactory, the \$1,200 was paid. Crowell gave a receipt in the name of Charles H. Crowley, and Spencer certified “signature correct.” They then left, taking the money with them. The telegram to the bank was of course a forgery, but the discovery was not made until the 13th of March last, upon a settlement of banking transactions between the bank of California and the Colusa Bank. Crowell or Crowley has not been seen since he got possession of the money. Under the circumstances of the case, the Bank of California claims that the Western Union Telegraph Company is responsible for the loss incurred by compliance with the request of the telegram, and the company denies all responsibility in the matter. They have therefore mutually agreed to submit the matter to the decision of the Fourth District Court. The papers have been filed, and Judge Morrison has set August 5th for hearing argument.—*San Francisco (Cal.) Exchange.*

New Style of Telegraph Poles.

THERE has lately been erected at the junction of Broadway and 23d street, in this city, an example of a new form of telegraph pole of iron. It is said to be lighter than a wooden pole of the same height, stronger, and capable of supporting a greater weight. It is constructed of a number of wrought iron bars, rolled out the entire length of the pole, which bars are placed around light cast iron cores, arranged at proper intervals from each other. The cores have seats or notches to hold the bars in their places to prevent their moving sideways, and the bars also have notches, into which the cores fit to keep them from moving up or down. Around the outside, where each core is placed, a ring or band of wrought iron is tightly fitted, which holds the bars firmly in their places, and thus forms the whole into a light, open and graceful column. Any number or any size of bars may be used, but it is found that six very light bars of angle iron arranged in this way afford a strength that fully meets that required for a telegraph pole of fifty feet in height. The cores are large at the base and are made smaller as they approach the top, which gives the column a graceful taper, and the whole is surmounted by a suitable crosshead to hold the arms for the wires. Such a column is very simply constructed and is without a rivet throughout its entire length. No machinery or shop labor is required to put it together other than the making of the outside rings or bands by an ordinary blacksmith, so that the pole may be ordered in pieces and put together at the point where it is to stand. The column is suitable not only for telegraph poles but for masts for iron ships, derrick masts and booms, stringers for bridges, lamp posts, and a variety of other purposes.

Telegraphic Enterprise in New Zealand.

A correspondent of the *New York Herald* writes from Melbourne, Australia, under date of June 14th, as follows:

"Perhaps the most important question of a cosmopolitan nature, in this part of the globe, is the encircling of New Zealand within the telegraph route. Hitherto this flourishing appanage of the British Crown has been outside the pale of telegraphic communication with the outer world, but, thanks to the enterprise of the colonies of New South Wales, Queensland and New Zealand, a cable will shortly be laid between Sydney, New South Wales, and Wellington, New Zealand. Captain Nares, Royal Navy, of Her Majesty's ship *Challenger*, has completed the survey of the soundings and reported to the Governor of the colony of New South Wales, Sir Hercules Robinson, the result of his investigations on the conditions of the bottom of the sea with regard to its suitability for a telegraph cable.

"The contract for the construction of the cable has been brought about by Captain Audley Cooze, of Hobart Town, Tasmania, a gentleman who has evinced much ability in grappling with subjects of magnitude. Negotiations between the governments of the three colonies referred to and a syndicate in London, were conducted successfully by Captain Cooze, and cablegrams from London go to say that the contract has been ratified by the representatives of the colonial government in England."

Correspondence.

We do not hold ourselves responsible for the opinions of our Correspondents. Our columns are open to free discussions on all Telegraphic subjects, without distinction of person or opinion.

No notice will be taken of anonymous communications.

Errors Corrected.—Details of the New Albany W. U. Office.—Bulls.

ALBANY, N. Y., Aug. 24.

TO THE EDITOR OF THE TELEGRAPHER.

To begin with, there are a couple of errors which, in the haste of writing the letter descriptive of the new office, found their way into that article, and which need to be corrected.

Firstly, to give the battery room (not his Satanic majesty) its due, there are about 1,100 cells of gravity battery in use, instead of 900, as previously stated. Secondly, that new switch, instead of being restricted to sixty instruments only, will accommodate almost any number—at least four times as many instruments as there are wires could be inserted if necessarily required it.

The lunch room has been fitted up in good shape, and is considered one of the improvements.

Those "yaller" chairs have been ignominiously hustled out and taken down stairs to the delivery room, to hold up the messengers. Yo operating room is now furnished with—well, they are not mahogany, they are not black walnut—in fact, it is impossible to determine exactly of what material they are constructed, on account of the superabundance of paint and varnish with which they are covered. Perhaps these chairs are an improvement on the old ones (of course they must be or the company would not send them), but aside from their looks, we have failed to discover it as yet. It may be that when our bodies have grown to fit them we shall appreciate them more. But really, all joking aside, is it not strange that in this matter of chairs so few (if, in fact, any) offices are furnished with an article designed on common sense principles and constructed with a view to the comfort of its occupant? An operator sitting all day at his table requires something to support his back, and not oblige him to sit bolt upright like a stick of wood. He may be forced to do his work in this position, but he will go home at night with aching back and weary limbs, feeling very much as though he had been run through a threshing machine. Chairs which incline backward are entirely out of place in an operating room, and if they were animate objects, endowed with reasoning faculties, and cherished any regard for the welfare of those who used them, they would cry out, in the language of the poet, "Saw my leg(s) off short" in front! One of the principal advantages of chairs thus "doctored" would be that the men would naturally be more inclined to their work.

A speaking tube has been put in between the operating and battery rooms, but Prof. Hedley insists that he is getting to be too old a man to be routed from his comfortable chair, pipe and paper at the front window by any false alarms on the circuit—we won't do so any more, professor. Plate glass mirrors have been placed at each end of the drop pipe which connects the operating and delivery departments, the one in the operating room being so arranged that the chief operator can see by a glance, while standing at the switch, whether business is removed promptly by the delivery clerk, or if anything has become lodged in the pipe.

"Lodington," Ky. is fathered by our editorial aspirant.

The name of a celebrated trotting horse who recently made the fastest time on record at the Rochester Driving Park, reached here the other day as "99." As the perpetrator of the above is a man of family, and one not given to horse racing, we feel that he is entitled to unusual consideration, and we therefore omit his name.

DOUBLE SIX.

Rumors of Consolidations.—The Improved "Quad."—Personals.—Telegraphic Base Ball Triumphs and Reverses.

CHICAGO, ILL., Aug. 23.

TO THE EDITOR OF THE TELEGRAPHER.

THE rumors which have been so prevalent recently regarding the reported consolidation of the A. and P. with the Western Union have gained more credence, and the fraternity in this section seem to have settled down to the fact that soon there will be no opposition to the great "monopoly." It was currently rumored during the week that all that was necessary to complete the arrangements was the appointment of committees from the two companies to meet and adjust any difficulties that might lie in the way to a successful consolidation. It being understood if the *right men* were appointed from the two companies that all further hindrance to the consummation of the plan would be at an end. I am informed that the *right men* have been placed on these committees, and that they are to meet at an early day. How true the foregoing is I cannot of course vouch for; you can probably enlighten us more on the subject. I give you what I hear for what it is worth.

I am creditably informed that the "Quad." as arranged with Gerrit Smith's improved instruments has worked quite successfully, all four sides recently working the polar side to Buffalo, and the other side to Detroit. Mr. Smith himself has been in the city, and besides his tour of inspection at the W. U. office took a trip on the lake, and, I believe, Messrs. Summers, Maynard, Jones, and others did all in their power to make his business visit one of pleasure also.

The regular meeting of the American Electrical Society was adjourned last Wednesday evening, the 18th inst., until Wednesday afternoon of this week, the 25th inst., when it is thought some action will be taken upon the proposition to form auxiliary local societies.

Billy Manners, who recently left the W. U. here to accept a position with the A. and P., has made another move and gone to the opposition company at his home in Montreal, Canada. He was succeeded by our friend, Ed. L. Cuthbert, of the W. U. sub. gang. If the A. and P. boys don't find out "Ed's" good qualities then they must be set down as poor observers of human nature; to say that he's a gentleman in every sense of the word and generous to a fault is only giving a deserved compliment to a first class man. The Western Union boys were loth to see him leave, but as his chance for regular work in the W. U. would not "come round" for some time to come, and having the offer of a regular situation with the A. and P. he determined to accept.

"Flem" Drake, one of the "old timers," known to all "the boys" who have been "out west," who has for several years been sec'y to Supt. Hibbard at Salt Lake, has been promoted to a position as clerk to Genl. Supt. Gamble, at San Francisco, and has departed for his new home. Your San Francisco correspondent will no doubt tell you how he looks and acts after he arrives.

"Charley" Moore, who has for a long time been "chief operator" of the Western Union office at Salt Lake, takes the position vacated by Mr. Drake's promotion; while "Bob" Hamilton, "Vi," the old reliable, has been appointed chief operator of Salt Lake office.

Billy McMilton's nine "*Baz Bam*," still keep on playing. On the 14th inst. they played the Union Stock Yards Nine, and got beat, 37 to 17. This is the first defeat they have met in playing five different clubs, and when it is taken into consideration that this Stock Yards Nine are all stout, grown up, muscular men, who rank among the best amateur players in the city, while one of "Billy's" best men was absent, and they are but mere youths at most, it cannot be called much of a defeat after all. On the 17th inst. they played *The Tribune* compositors, beating them 15 to 14 in 7 innings; the game being called then on account of the lateness of the hour.

The 21st inst. they played and beat the *Inter-Oceans* again, 17 to 6, in 5 innings; the *Inter-Oceans* not caring to play the remaining 4 innings. I understand they were to "*uckle*" the Stock Yards Nine again yesterday (Sunday), and were quite sanguine of a victory; but I have not heard the score; nor how they succeeded. They are a "gritty" set of boys.

OCCASIONAL.

Criticism of "The Telegrapher" Correspondents.

MONTREAL, CANADA, August 15.

TO THE EDITOR OF THE TELEGRAPHER.

HAVING read your paper for years, and followed it from the time it so nobly stood by the telegraphers in the winter of their discontent—the strike, now almost forgotten—I consider it my privilege to say a word. I am particularly pleased with the able manner in which it is conducted, and enjoy the correspondence immensely, but there are some of the correspondents who are dreadfully tiresome; others are just the contrary—sprightly and interesting. "NILH NAMELESS" never should have given up the ghost so easily. His letters were possessed of great literary merit, and were decidedly superior to the man who thought he vanquished him, John Sterling. From a personal acquaintance with the latter I know whereof I speak. His knowledge is superficial, and his ability scarcely sufficient to tide him over the numerous squabbles he has got himself into by his conceit and self assurance. Such is the man whom a late correspondent characterized as "heavy." I noticed in one of your issues of June a poem very prettily written, and greatly to the point, which seemed directed against the fast senders of Boston (I believe he is one), which he utterly ignores in his late communications to you. This poem, denouncing some one there as Filibuster the Mighty, and the whole crowd as fiascoes, seems to me too full of satire and bitter invective towards Boston men to be passed over by this would-be model correspondent and champion of female rights and liberties. I say, let him come to the front and repudiate the slander; let him defend his own vine and fig tree and not wade so deeply into metaphysics and female suffrage with a man like Nihil, whose shoes he is not worthy to unloose.

I await the action of this high-toned champion with impatience. We are disinterested up this way, and can view the wordy battle which will be sure to follow if he tackles Tom Quad with a good deal of enjoyment, and can perhaps add fuel to the flame. Ye valient quillist from "the Land of Crooked Places" come forth.

MINISTRO DE CULPEPPER.

A Telegrapher Married—Additions to Telegraphers' Families.

CHICAGO, ILL., Aug. 21.

TO THE EDITOR OF THE TELEGRAPHER.

JACK MARTIN, that's his name, or used to be; now it's Mr. John L. Martin, of the Detroit Duplex, Chicago, Ill., no cards; and there's a Mrs. John L. Martin also. If I had known this, maybe I wouldn't be so tickled, 'case he'd got well and was back to work; but you want to know all about it, I s'pose. You allers out a feller short, and want him to come down to biz; adjust now keerfully, little higher—higher, there. August 10th, 1875, as a solitary horseman was seen wending his way afoot—what? oh, that's so, I ain't writing for the *Waverly*, am I? Well, just scratch all after "1875," Mr. J. L. Martin, of Chicago Western Union office, was united in the holy bonds of matrimony with Miss Almyra Gaylord, of Chicago, by His Holiness the Right Rev. Most Worshipful—oh! you don't care to know that, do you? Well, I don't know any more about it, ha! ha!—that's all.

But there's more fun coming. Benson's folks have had a baby, one of the female persuasion. I wasn't to tell, but I have to; we "night owls" can't keep secrets.

Still they come! "Dad" Armstrong became the happy father, on the 18th inst., to a ten pound girl baby, and everything is lovely. The recent additions to the "floater" gang are Messrs. M. J. Burke, a young Canadian, who seems to be quite a good "op.;" J. S. Henderson, an old timer, and one who has been up to the top rounds of the ladder—a little old and stiff just now; and last, but not least by any means, H. M. Goewey. Now, you all know Goewey, and when I say he "*goewies* it" in his usual first class style, that's enough out of "WESTERN UNION."

An Electric Fish.

THE London *Times* of July 30 says: "Among the specimens lately added by the Zoological Society to their living collection in the Regent's Park is a small fresh water fish belonging to the family of silurids, and remarkable for possessing an electric organ, like the better known *gymnotus*, or electric eel. When touched by the fingers on the lower side of the body it gives forth a slight, but very perceptible, electric shock. The fish is from one of the rivers of West Africa, and is known to naturalists as the *malapterurus beninensis*, from its having been originally discovered in the river Beni. A closely allied species—the *malapterurus electricus*—inhabits the Nile, and has been long known for its electrifying properties. It is believed that no example of any of these singular fishes has been previously brought alive to this country."

THE TELEGRAPHER
DEVOTED TO THE INTERESTS
OF THE
TELEGRAPHIC FRATERNITY.

SATURDAY, AUGUST 28, 1875.

THE TELEGRAPHER:
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INDEX TO ADVERTISING PAGES.

Table listing advertisers and their corresponding page numbers, including Ashley, J. N., American Fire Alarm and Police Telegraph, Am. Compound Telegraph Wire Co., etc.

To Subscribers and Friends of "The Operator."

THE publishers of THE OPERATOR having decided to discontinue its publication and consolidate it with THE TELEGRAPHER, the unexpired subscriptions to that paper will be filled by THE TELEGRAPHER, commencing with the number for September 4th, which will be sent in the place of the former journal, which should appear in regular course September 1st.

The Telegraphic Situation.

THE history of telegraphic enterprises in this country for the last quarter of a century is one of combinations, consolidations and arrangements between the companies which have from time to time undertaken to establish and conduct them. Originally each company covered a comparatively limited territory, and their relations, sometimes friendly, often antagonistic, were not such as to be advantageous to the public or to themselves.

organizations, covering more extended territories. From that time the work has proceeded, and has resulted in the present Western Union Telegraph Company, the largest telegraph organization in the world, owning more miles of telegraph line and operating more offices than any other. It has been the desire and intention of the successive managers of that company for many years to establish a practical telegraphic monopoly.

But there is a wide spread sentiment in the public mind opposed to telegraphic monopoly, and although investments in competing companies had not proved directly remunerative, the means have been provided from time to time to build other lines. Of these the Pacific and Atlantic (which is frequently confounded with the Atlantic and Pacific, a separate and entirely different company), the Bankers and Brokers and some other smaller companies, after an unprofitable existence, largely due to mismanagement, have since been absorbed by the Western Union.

A few months since the country was electrified with the information that Mr. JAY GOULD had taken the latter organization into favor, and that now a competing company would be found with ample financial means and first class management, which would be enabled to maintain competition with the Western Union Company upon something like equal terms.

In due time the curtain rose on another act of this telegraphic drama, and for some weeks past the air has been rife with rumors and reports of coming consolidation, and the intention of the master spirit to obtain the control of the Western Union Company at the election which takes place in October next.

The names of the committee acting on behalf of the Western Union Company were given in the last number of THE TELEGRAPHER. The committee on behalf of the Atlantic and Pacific Company is Messrs. T. T. ECKERT, President; JAY GOULD, SIDNEY DILLON and W. J. SIMS. This committee were to meet on Thursday last, but it was not expected that any definite action would be taken at that meeting.

We are yet of the opinion that no actual consolidation will take place, and that all that will be accomplished will be a working arrangement by which costly competition will be avoided in the future. As usual in such cases, where such large interests are involved, there are numerous and conflicting rumors of what has been and is intended to be done.

these are mere surmises, and not unfrequently purposely circulated for effect upon speculation in the stocks of the company. We have stated candidly, from time to time, all that has been done, so far as it was possible to obtain the information, and the real purposes which underlie the complicated movements of the parties.

The new National Company of San Francisco is undoubtedly proving a disturbing element in their negotiations and manipulations. Mr. COHEN, the President of that company, left San Francisco on Saturday last for New York on business connected with the enterprise, and will probably arrive by the time this reaches our readers. It is understood to be the desire of the managers of the new enterprise to purchase the property of the Atlantic and Pacific Company if it can be had on reasonable terms, and that Mr. COHEN is authorized to obtain the control of that company if it can be done.

In the meantime the employes of the Atlantic and Pacific Company are somewhat disturbed, and in a state of uncertainty as to the future, which is anything but pleasant. There seems to be no help for this, however, and it is only a repetition of telegraphic experience, from time to time, for the last twenty-five years. They can console themselves with the reflection that telegraphic competition will exist in any event, whatever may be the result of the present situation; and they are powerless to affect the result, however much their interests may be involved.

The Duplex Printing Telegraph Instruments.

WE have before referred to the successful duplexing of the Combination Printing Telegraph Instruments by Messrs. GEO. M. PHELPS and GERRIT SMITH, on the New York and Boston circuit of the Western Union Company. The arrangement continues to work well, and is likely to prove of great value to the Western Union Company. It has been the desire of some of the managers of that company to dispense with printers altogether, and but for the improvement made in the development of the motor printer of Mr. PHELPS, and the subsequent adaptation to duplex use upon the wires, they would probably have soon been retired from the service altogether.

It is probable that eventually duplexed printers will be introduced on most of the main circuits of the Western Union Company.

We understand that in view of the probable extended use of printing telegraph instruments in the future, the Western Union managers have acted upon our suggestion in THE TELEGRAPHER of July 3d, and have a number of young men in training in order that the additional instruments may be properly worked when ready for use by expert operators.

An exhibition of all kinds of electrical and telegraphic apparatus will probably be opened in Paris in December.

A Centennial Telegraphic Tournament Proposed.

OUR New Orleans correspondent, TOO MUCH CEB, in his communication published last week, suggests an idea which is worthy of consideration. It is that there should be, during the Centennial Exhibition at Philadelphia next summer, a telegraphic tournament, which shall be open to all operators who may desire to compete, with suitable medals and prizes for such as shall excel in expertness in transmitting and receiving by telegraph.

It is now several years since there has been any competitive trial of skill by telegraph operators, and consequently the stories of telegraphic achievements of expert operators are not restricted or limited by any record, and are becoming somewhat inflated and exaggerated. An actual competitive test, under rules and regulations and the supervision of disinterested umpires, would afford an opportunity of testing the actual ability of operators, and afford recognition and fame to the deserving which could not but be gratifying and advantageous.

A series of competitive trials could be arranged which should include not only sending and receiving on the regular MORSE, but also on duplex and quadruplex, and on printing telegraph circuits.

We have no doubt but that Mr. DAVID BROOKS, who has charge of the electrical department of the Centennial, would cooperate to make the suggestion a success. We should be pleased to hear from any of the readers of THE TELEGRAPHER who may have further suggestions to make in reference to this proposition, and as to the best means of carrying it out and making it not the least interesting feature of the Centennial Exhibition.

An Ex-Telegrapher Becomes a Successful Artist.

LAST week we passed a few hours in the beautiful and pleasant city of Hartford, Conn., and while there we fell in with our former telegraphic associate on the old New York and Boston House Telegraph line, Mr. J. W. STANCLIFF. To those who have the pleasure of his acquaintance it is needless to say that the time spent in the company of our genial friend was pleasantly passed. He is the same jolly good fellow as when he fingered the keys, and will be remembered by many of the old time telegraphers, and such of the present generation as have been located in Hartford. Besides the ability displayed as a telegraphic artist, he was always more or less, as opportunity was afforded by other employments, devoted to the pencil and brush, and there were not wanting indications of artistic talent of no common order.

Some years ago Mr. STANCLIFF retired from the telegraph service, and has since devoted himself enthusiastically to his favorite art. He chose the pleasing but difficult department of marine painting, and his subsequent success has amply justified the wisdom of his choice. We found his studio crowded with sketches, studies and finished paintings, each representing the sea in some of its characteristic and varied moods. It is at once evident that Mr. STANCLIFF has studied and labored with that highest of motives—a true and genuine love of nature and of his beautiful art. It would be almost wearisome to adequately describe all that we saw in his studio, though it was anything but wearisome to see them. There are gently sloping beaches of hard beaten, shining sand, where

“The breakers come and the breakers go
Along the silvery sand,
With a changing line of feathery snow
Between the water and land.
Sea weeds gleam in the sunset light,
On the edges of wave-worn stone,
Orange and crimson, purple and white,
In regular winrows strown.”

Again, we look far away across a waste of heaving waters, dotted here and there with sails that glitter in the sun

“Like planets in a mellow evening sky.”

Perhaps the finest work in Mr. STANCLIFF'S studio, all things considered, is a composition which he calls the “Coast of New England.” It is a harbor mouth,

with the tall white shaft of a lighthouse on a sloping green hill. A brisk breeze is blowing, and the emerald waves are crested with “white caps.” The scene is alive with coasting craft, steamers and tugs; just such a scene as the frequenters of “the summer isles of Eden,” that lie along the southeast coast of Massachusetts, are so familiar with.

These pictures should be seen to be appreciated and we hope that the artist will soon arrange to have his works exhibited in New York. If they were but brought to the notice of the connoisseurs in art in the metropolis, we have no doubt but that they would speedily secure for Mr. STANCLIFF the recognition of his genius and artistic talent which they deserve.

Hochhausen's Telegraphic and Electrical Instruments.

WE desire to call the attention of our readers to the new advertisement of Mr. W. HOCHHAUSEN, which will be found on the last advertising page of THE TELEGRAPHER. The standard main line relay, of which an illustration is given, is a highly finished and excellent instrument, and from its peculiar construction possesses many advantages.

Mr. HOCHHAUSEN'S telegraph instruments, bells, etc., are well made, and calculated to satisfy and please those who may purchase and use them.

Personals.

Mr. CHARLES E. SMAILS, ex-manager of Denison, Texas, W. U. office, has been appointed to a position on the night force at St. Louis, Mo., same company.

Mr. J. L. SPONAGLE, W. U., Topeka, Kansas, has resigned.

Mr. ROBERT MARSH, operator in the general office of the Kansas Pacific Railway Company, Kansas City, Mo., has been transferred to Los Animas, Colorado, same company.

Mr. THOMAS P. WHEELER, of St. Louis, Mo., W. U. office, is enjoying his annual vacation at home, Walnut Station, Kansas.

Mr. FRED LUCHTENMEYER, of St. Louis, Mo., has been appointed night report operator at Sedalia, Mo., W. U. office.

Major DAVID S. RYAN, assistant night chief operator, W. U. Telegraph Co., St. Louis, has resigned and accepted a position on the editorial staff of the Galveston News, at Galveston, Texas. Mr. RYAN is an old and well known Southern telegrapher. He served in the army from the beginning to the close of the war, where he earned his title.

Mr. T. KAHOE has been appointed assistant operator in the W. U. office at Topeka, Kansas.

Mr. W. B. SIMS, formerly of the M. K. & T. Railroad office, has accepted a position with the W. U. Co. of Denison, Texas.

Mr. P. J. FLYNN, operator at Quakake Junction, P. & R. Railroad, has resigned his position for the purpose of attending school.

Mr. L. C. SMITH has resigned his position as night operator, Ringtown, P. & R. R. R., and accepted a position as day operator at Quakake Junction, with the same company.

Mr. GEORGE S. HUGHES has been transferred from Mooresburg night office to Ringtown night office, P. & R. Railroad.

Mr. T. P. THORNTON has accepted a position as night operator at Mooresburg, P. & R. Railroad.

The Telegraph.**The American District Telegraph System in New Orleans.**

THE American District Telegraph system, so familiar and popular in New York and other cities, will go into operation in New Orleans, La., on the 1st of September. The organization of the company which has its introduction in that city in charge has already been noticed in THE TELEGRAPHER. The New Orleans office of the company is at No. 128 Gravier street, and the system is under the direction and management of Capt. W. H. Bofinger. The New Orleans newspapers have printed lengthy and commendatory accounts of the system, and it is understood to have been received with much favor by the citizens, merchants, hotels, etc.

Comparative Statement of Receipts of the Anglo-American Telegraph Company.

STATEMENT of amounts received by the Anglo-American Telegraph Co. during the months of May, June and July, 1874, under the tariff of \$1 per word, and the receipts for the corresponding period of 1875, with the tariff at 50 cents per word:

Months.	1874.		1875.	
	No. of Messages.	Amount Received.	No. of Messages.	Amount Received.
May.....	21,354	£56,216	27,184	£33,940
June.....	22,093	58,758	28,892	36,650
July.....	20,905	56,593	28,897	38,270
Total.....	64,292	£171,567	84,973	£108,860

It thus appears that the reduction of tariff to 50 cents per word has caused a falling off in the revenue of 36.55 per cent. for the three months in which it has been in operation, and that the messages have increased 32.17 per cent.

New York City Telegraphic Notes.

STEREOSCOPIC views of the interior of the general operating room at Broadway and Dey street are now published and for sale at the post office of the building at the modest price of thirty-five cents per one. It is but just to say that they are much better than the larger ones heretofore spoken of in those columns, and generally give better satisfaction among the operators.

Most of the night force at the W. U. are now “scooping” extra days, as business is heavy and the day force is insufficient to handle the noonday rush. At least twenty owls put in five hours a day as regularly as the festive, yet peripatetic cats upon our neighbor's roof repeat their tales of sorrow and invoke the *meuses* from night's plutonian shore.

A Law Reporting Telegraph System in Newark, N.

HERE is a new telegraphic wrinkle. A line telegraph is now in operation between the Sheriff's office at Newark and the residence of Prosecutor G. N. Abeel, and it is stated that arrangements are being perfected for the establishment of a Law Reporting Telegraph Company, to connect with offices of all legal gentlemen who desire to become subscribers to the enterprise. The plan contemplates that each subscriber will control a separate wire to communicate with the courts, and can be placed in instant communication with any law firm in the city using the telegraph. At each office will be placed a printing telegraph instrument which can easily be operated and capable of transmitting and receiving from fifteen to twenty words per minute. Messengers will at all times be at the service of subscribers, and can be summoned from the central office in three minutes. An operator will be stationed at the courts; and will report progress of all cases and answer all questions of subscribers. Exertions are being made to have the lines in working order by opening of the September term of court. By and bye it won't be necessary for people to go to court at all. To law court we mean, of course, as we don't believe the telegraph will ever supersede the old-fashioned way in the other.—*Pater-son (N. J.) Daily Press.*

Foreign Telegraphic Notes.

It is contemplated to connect the Kangra Valley, India, with the general telegraphic system at an early date. This measure, states the *Times of India*, besides serving the military stationed at Dhurumsala, Dalhousie, and Fort Kangra, will be a boon to the large tea planting interest in the valley.

The report of the Cuba Submarine Telegraph Company states that the net profits for the half year ended the 30th of June, were \$11,302. Of this sum £3,155 has been placed to reserve, raising it to £5,000, and the balance, after providing for the preference dividend, admits of a payment at the rate of 6 per cent. on the ordinary shares, leaving £852 to be carried forward.

A project has been set on foot to connect all the public clocks of Paris with the chief clock of the Observatory. A telegraphic wire will unite it to the Luxembourg clock, which will in turn, by means of a series of wires, communicate its time to the exchange, law courts, town halls, churches, and most of the public buildings. The Observatory regulating time-piece is placed in the catacombs, so as to be away from the trembling influence of the ground; the time piece scarcely varies one tenth of a second in a year.

The average time occupied in the transits of messages by the Indo-European Telegraph Company between London and India via Teheran, including messages for Penang, Singapore, China, Japan, Java, and Australia, during the week ending August 6, 1875, was 1 hour 23 minutes.

There is at length a fair prospect that telegraphic communication with the Channel Islands and the Isle of Man will be reestablished in a very short time.

The traffic receipts of the Western and Brazilian Telegraph Company for the four weeks ended 30th July, 1875, were £3,733, showing an increase of £710 over the corresponding period of 1874.

The receipts of the Eastern Telegraph Company for the month of July, 1875, amounted to £31,419, against £27,247 in the corresponding period of 1874.

The receipts of the Eastern Extension, Australasia and China Telegraph Company for the month of July last, amounted to £20,225, against £19,641 for the corresponding period of 1874.

The receipts of the Brazilian Submarine Telegraph Company for the month of July, 1875, were £10,230, against £8,037 for the corresponding period of 1874.

Table showing traffic receipts of the Anglo-American Telegraph Company for August last, with dates from July 28th to August 10th and amounts in pounds.

The actual daily average for the month of August last year was £1,676.

The traffic receipts of the Great Northern Telegraph Company for the month of July last were 414,831 francs, last year 410,355 francs. Total traffic receipts 1st January to 31st July this year 2,409,858 francs; last year 2,486,726 francs.

By means of the Wheatstone Automatic system between 30,000 and 40,000 words were transmitted during the trial of Capt. Baker, at Croydon, England, recently.

A despatch, dated August 1st, from Vienna, announces that—in compliance with the resolution passed by the St. Petersburg International Telegraph Conference—cipher despatches, whether inland or outward, are now received and transmitted by all Austro-Hungarian Telegraph offices.

The receipts of the Direct Spanish Telegraph Company for the month of July, 1875, were £1,834, against £1,349 in the corresponding period of last year. The average time occupied in the transmission of telegrams between Madrid and England, via Santander, during July was three hours and nine minutes, including transmission over Spanish land lines.

The number of messages transmitted over the lines of the Cuba Submarine Telegraph Company during the month of July last was 2,440, estimated to produce £2,400, against 1,820 messages, producing £1,762 in corresponding month of last year.

The receipts of the West India and Panama Telegraph Company for the month of May last, amounted to £4,500 as compared with £2,878 in the corresponding period of 1874.

Prof. Hughes' Printing Telegraph.

PROF. HUGHES' printing telegraph apparatus has recently been adopted by the Spanish Administration. This system was first used by the American Telegraph Company in the United States, and was adopted by France in 1861; by Italy and England in 1862; by Russia in 1865; by Prussia in 1866; in 1867 by Austria, Hungary and Turkey; in 1868 by Holland; in 1869 by Bavaria and Wurtemberg; in 1870 by Switzerland and Belgium; in 1871 by Peru; in 1872 by Buenos Ayres; in 1873 by the Submarine Telegraph Co.; in 1874 by the Argentine Confederation; and in 1875 by Spain. The inventor, David Hughes, was born in 1831, at Louisville, Kentucky. From a boy he devoted himself to physico-mathematical and mechanical studies. At the age of nineteen he became Professor of Physical Science in the College of Kentucky, and the same year (1850) he began his studies on the type printer, the perfecting of which cost him twenty years of study and experiment.—Electrical News.

A Surprised and Aggrieved Telegraphic Artist.

MR. THOMAS DOLAN, the night manager of the New York W. U. office, is noted for his witty sayings and pleasant way of reproving a fault. Recently he overlooked the shoulder of one of the knights of the key, who, being intently engaged in perusing the solid columns of the last number of the Scientific American, did not notice the approach of his worthy superior, and consequently was rather startled to hear "T. D." say:

"I guess you may as well put up that paper. The rules of this office are as unalterable as the laws of the Medes and Persians. We are not supposed to relent only so far as to send night messages at a reduced rate."

As the speaker withdrew the young offender was heard to murmur faintly "'Tis true, 'tis pity; pity 'tis, 'tis true."

Marriage of an Indiana Telegrapher.

MISS LINA GODFREY, of Middletown, was married last Thursday evening to Mr. Charles Link, of Peru, Ind. There is nothing unusual in this, such things happen frequently, but there is something unusual in the fact that the parties never saw each other until Wednesday evening. A little over a year since, through mutual friends, the parties commenced a correspondence which finally culminated in the young man's proposing marriage. The young lady gratefully accepting, Thursday was fixed upon as the happy day, and the young man arrived here Wednesday evening on train No. 8. The young lady met him at the depot. From out the crowd they selected their destinies, and rushing to each other's arms were folded in a long embrace. Miss Godfrey is well spoken of by all who know her. Mr. Link is a telegraph operator at Peru, Ind. Both parties are evidently very romantic, and although romance is but a poor foundation on which to base hopes of future happiness, they have our best wishes for pleasant future.—Middletown N. Y. Mercury.

A Telegrapher's Base Ball Match.

THE fourth game of base ball was played on the 19th inst.; between the day force nines of the W. U. office at St. Louis, resulting in the defeat of Capt. Van Tynne's team by Mr. Cumming's nine; score, 10 to 6 and a whitewash.

Quotations of Telegraph Stocks at N. Y. Stock Exchange.

Showing Lowest and Highest Prices each day during week.

Table with columns for August, Western Union, Atl. and Pac., Amer. Dist., and Gold and Stock, showing bid and asked prices.

New Patents.

OFFICIAL COPIES of any U. S. Patent issued since July 1st, 1871, including drawings, specifications and claims in full, sent free to any address for 25 cents each. Address F. L. POPE, Elizabeth, N. J.

165,700.—ELECTRIC BOILER-ALARMS AND REGISTERS.—William C. Baker, New York, N. Y. [Filed June 23, 1875.]

Circuit closed by high or low pressure through magnets, controlling a dial and step-by-step escapement, thus registering how often the rules as to maximum and minimum of pressure have been violated. An intermediate magnet in same circuit closes branch circuit to self-acting magnetic bell.

1. The combination, with a low water or pressure alarm and an electric circuit-closing apparatus, of an electro-magnet, stop-by-step movement, and dial, to indicate the number of times the boiler has been neglected, substantially as set forth.

2. The combination, with a boiler-alarm and electric circuits substantially as specified, of 6 branch, circuit, electro-magnet alarm-bell, and automatic circuit-breaker, operated by the hammer, substantially as and for the purposes set forth.

165,728.—TRANSMITTERS FOR ELECTRO-HARMONIC TELEGRAPHS.—Elisha Gray, Chicago, Ill. [Filed June 28, 1875.]

For securing greater uniformity of action of the magnets upon a steel reed vibrating to produce a certain note, and to transmit upon the line electrical impulses corresponding to the number of vibrations necessary to produce such note.

1. The combination, substantially as hereinbefore set forth, of the vibrating electro-tone and magnets arranged on opposite sides thereof, of such relative capacity as to impart impulses of equal force at equal intervals upon each side of the vibrating electro-tone alternately, whereby its isochronous vibration is secured.

2. The combination, substantially as hereinbefore set forth, of the vibrating reed, its counterpoise-magnets, a local circuit, and the shunt-wire, whereby the current is automatically changed, to each set of magnets.

For the week ended July 27, 1875, and bearing that date.

165,918.—SIGNAL BOXES FOR FIRE ALARM TELEGRAPHS.—Moses G. Crane, Newton, Mass. [Filed July 9, 1875.]

Boxes in normally closed circuit. On the breaking of the circuit, the armature levers are withdrawn by a spring. On taking against the fingers, closes a short circuit outside of magnet and circuit breaking wheel, thus preventing a signal being given by any except the box first operated. In such box the mechanism is released by raising a lever having a lug in recess of the wheel, a tooth taking against a lever and locking it, to prevent the formation of the short circuit in such box.

1. In a fire alarm signal box the lever G, with its lug V and hook E, the flange p and its notches V', the lever b, insulated plate e, and magnet D, all combined and operating as and for the purpose specified.

2. The combination of the lever H, the lever G, and the wheel F, whereby the said wheel is liberated and allowed to revolve under the stress of the motor C, as and for the purpose specified.

165,923.—TELEGRAPHIC FIRE ALARM REPEATERS.—John N. Gamewell, Hackensack, N. J., M. G. Crane, Newton, and E. Rogers, Boston, Mass. [Filed July 9, 1875.]

1. The combination, with a break circuit wheel of a telegraph repeater, upon which the lines of two or more circuits converge, of a governor, whereby, when a signal is being given over any one of the circuits, and repeated over the other circuits, the armatures of the magnets in such other circuits are locked in position, thereby preventing interference between the several circuits, as and for the purpose specified.

2. The auxiliary escapement movement, in combination with the governor J and the break circuit wheel, whereby the reverse movement of the governor is not permitted to take place during several successive revolutions of the said wheel, as and for the purpose specified.

3. The auxiliary escapement movement, the circuit wheel and its shaft, and the lever 25, combined and operating as described, whereby, after the winding up of the escapement by the revolution of the circuit wheel shaft, the reverse motion of the said lever is prolonged and graduated, as specified.

4. The combination, in an electro-telegraphic repeater, of two electro-magnets in the same circuit, one of which has a larger core than the other, whereby there results an appreciable difference in the periods required for them to be charged and discharged, respectively, as and for the purpose specified.

5. The device described, whereby the breaking of any one of several circuits connected with the repeater for the purpose of signaling occasions the break circuit wheel to be cut out from that circuit by closing the same over auxiliary fingers x x', all combined and operating as and for the purpose specified.

6. The auxiliary magnets F F', with their armatures and hooked lever M, in combination with the armature lever H and swinging lever D, as and for the purpose specified.

7. The combination of the swinging lever D with its two stop pins, and the arm l, with its two fingers s s' upon the break circuit wheel shaft, as and for the purpose specified.

8. The combination of the cam 28, levers 22 and 25, and sliding bar 18, as and for the purpose specified.

9. The combination of the governor J, bar 18, lever 25, and latch 37, as and for the purpose specified.

10. The lever I, with its short arm 10, the armature lever H, and lever D, and the governor J, combined and operating as and for the purpose specified.

11. The auxiliary escapement y y', with its train 31 32, in an electro-telegraphic repeater, employed to graduate the movement of the mechanism by which said train is actuated relatively to the movement of another telegraphic repeating mechanism.

166,012.—GALVANIC BATTERIES.—J. Kidder, New York, N. Y. [Filed April 24, 1875.]

1. A cell casing for galvanic batteries having interior cell forming partition walls, made at less height than outer walls, for enabling rapid filling and emptying of cells substantially as and for the purpose specified.

2. A cell casing for galvanic batteries provided with outer walls of greater height than the interior partition walls, and having a supply reservoir with flanged gutter and spout for the more rapid emptying and filling of the cells with the fluid, substantially as and for the purpose set forth.

3. The subdivided guide frame seated in main cell-case, and connected with vertically moving element carrying top plate, as shown and described, thus admitting of the lateral removal of cells and insuring the insertion of each element in its proper cell when depressed, substantially as set forth.

4. The diagonal pivoted straps E E, to command the parallel immersion of the elements into the solution of the coils, substantially as and for the purpose specified.

166,094.—RECEIVERS FOR ELECTRO-HARMONIC TELEGRAPHS.—Elisha Gray, Chicago, Ill. [Filed June 28, 1875.]

The combination, substantially as hereinbefore set forth, of the vibrating receiving spring, the elbow lever circuit interrupter and mechanism, substantially such as described, for adjusting the rate of vibration of said lever.

166,095.—ELECTRO TELEGRAPHS FOR TRANSMITTING MUSICAL TONES.—Elisha Gray, Chicago, Ill. [Filed Jan. 19, 1875.]

Depends primarily on fact that the core of a magnet expands and contracts, causing vibrations as it is made and unmade. Currents corresponding in number to the vibrations necessary to produce any particular note are transmitted, causing corresponding vibrations in core of magnet, which are transferred to a sounding box placed in the magnet.

The combination of a telegraphic circuit, a series of circuit breakers capable of producing musical tones of different pitch, a series of keys for simultaneously or successively throwing said circuit breakers into or out of operation, and an electro-magnet receiver, which is thrown into operation by the transmitters, whereby tones of different pitch may be reproduced at the receiving end of the line by the employment of a single circuit.

ORTON'S PATENT PENCIL HOLDER

"SAVE THE PIECES."

This HOLDER is intended to save the last half or third of the pencil.

DIRECTIONS.

When the pencil becomes too short to write with comfortably, shave down the butt and screw into the Holder. The screw makes its own thread and will hold the pencil perfectly firm.

Price, 10 cents each.

Sent by mail on receipt of price.

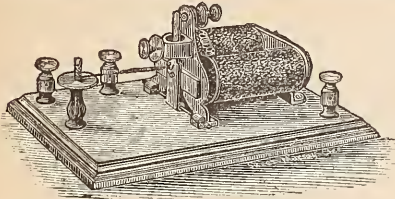
Price per doz., 60 cents.

GEO. H. BLISS & CO., Gen'l Agents,

220 Kinzie Street, Chicago, Ill.

LANNERT & DECKER

will not be undersold by any firm competing in price or quality.



PONY RELAY, PRICE \$5.63.

A reduction of 25 per cent. from our former prices on all Relays and Main Line Sounders.

	Former Price.	Red. Price.
No. 1 Relay, a superior d'ble adj. inst., and standard res., and finely finished.....	\$15 00	\$11 25
No. 2 Relay, a superior d'ble adj. inst., and standard res., and finely finished.....	14 00	10 50
Pony Relay, a superior inst. for lines of 15 miles or less. See above Cut.....	7 50	5 63
No. 1 Main Line Sounder, d'ble adj., finely finished, standard resistance.....	16 00	12 00
Fifteen per cent. from our former low prices on keys.		
No. 1 Key, improved standard size, heavy platinum, finely finished.....	4 00	3 40
No. 2 Key, improved standard size, heavy platinum, iron base.....	2 75	2 34
Ten per cent. discount from our former very low priced Local Sounders.		
Acme Local, No. 1, large and loud, works well with one cell local.....	5 00	4 50
Acme Local, No. 2, small size, round base, one cell local sufficient.....	4 75	4 28

ELECTRICAL BELLS

of various styles and sizes at a reduction of 25 per cent. from former prices.

No. 1 Alarm Bell, 3 3/4 inches in diameter (see cut), works well with one cell local; single stroke or continuous ringing, as desired, changed by lever; thumb-screws with check nuts, for adjusting spring and stroke, large and hard platinum connections; binding posts for holding wires; Bell finely polished, and base extra ornamented. Former price, \$4 50; reduced price, \$3 38.

No. 2 Alarm Bell, without binding posts, and cheaper finish, but working equally as well. Former price, \$3 50; reduced price, \$2 63.

All other standard improved instruments proportionately as cheap. Also, Batteries, Supplies, Chemicals, &c., at lowest rates.



PRICE REDUCED!!

THE POCKET GALVANOMETER,

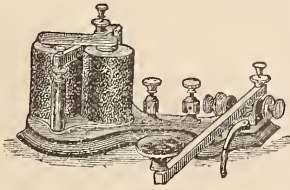
finely finished and Nickel Plated, will be sent by mail, to any address in the United States, on receipt of one dollar (\$1 00). Canada, 10 cents extra to pay postage. Send for Circular.



X-L-C-R.

20% discount from former price.

The X-L-C-R outfit for learners consists of instrument finely finished, levers, binding posts, thumb screws, &c., of brass, finely polished, platinum points; one cell Galvan battery, Manual, office wire, chemicals, &c. Price, \$5.44.



Until further notice, when desired, instruments of our own make will be sent to responsible parties C. O. D., with instructions to the express agent to show instruments before receiving pay, and if not satisfactory they can be returned at our expense.

Other goods will be sent C. O. D. as usual, or on receipt of money order, registered letter, or draft on N. Y. Price List and Circular of other Instruments, Batteries, Supplies, Chemicals, &c., sent on application.

All orders will receive prompt and careful attention, consigned to

LANNERT & DECKER,
CLEVELAND Ohio.

THE POCKET GALVANOMETER.

PRICE REDUCED.

The Pocket Galvanometer manufactured by LANNERT & DECKER, finely finished and nickel plated, sent by mail to any part of the United States on receipt of ONE DOLLAR. To Canada, ten cents extra, to pay postage. May be seen at the office of THE TELEGRAPHER, and will be forwarded as above on application to

J. N. ASHLEY,
38 Vesey street, New York.

P. O. Box 5,503.

WESTERN ELECTRIC MAN'G CO.

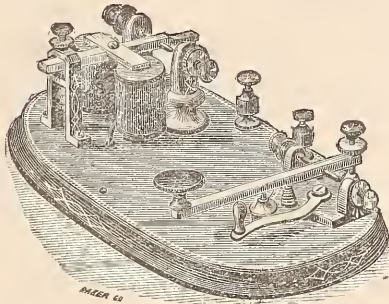
220 Kinzie Street,

CHICAGO, ILL.

CELEBRATED

PRIVATE LINE OUTFIT.

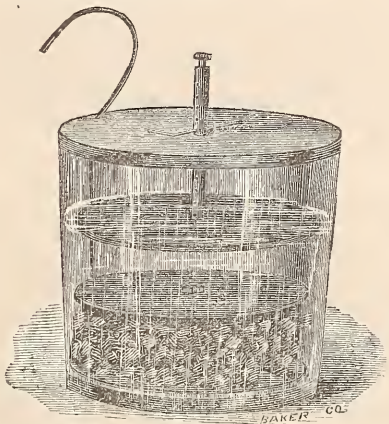
THE BEST IN THE WORLD.



PRIVATE LINE INSTRUMENT.

This instrument is mounted on an iron base and finely finished.

It gives a clear, loud sound. It is made to work on a line from a few feet to ten miles in length.



BLISS RESERVOIR BATTERY.

This battery took the first premium and a silver medal for force, constancy and economy at the Cincinnati Exposition.

With each "Private Line Outfit" is furnished one Private Line Instrument, one Cup Reservoir Battery, the necessary Chemicals, Wire for connections and a Manual.

PRICES.

Private Line Outfit, complete.....	\$10 00
Instrument only.....	8 00
Bliss Reservoir Battery, per cell.....	2 00

DISCOUNT.

A discount of twenty per cent. will be allowed when remittance accompanies the order. Remit by express, registered letter, postal order or draft.

In ordering state length of line, so that the resistance of instruments may be proportioned accordingly.

SEND FOR CIRCULAR.

Liberal terms to Agents.

WESTERN ELECTRIC M'F'G CO.,

CHICAGO, ILL.

JUST OUT.

NEW AND ENLARGED EDITION OF

SMITH'S

MANUAL OF TELEGRAPHY

CONTAINING

Complete Directions for Self-Instruction in Telegraphy, Instructions for Building and Operating

SHORT LINES OF TELEGRAPH,

Diagrams showing the manner of connecting wires, batteries instruments, &c.

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Cuts, descriptions and prices of the

BEST LEARNER'S APPARATUS

AND

SHORT LINE INSTRUMENTS;

Together with full explanations of everything necessary for the

AMATEUR TELEGRAPHER

To know.

Every operator and every student of telegraphy should have one.

It is the

MOST COMPLETE, PRACTICAL

And easily understood explanation of the

MORSE TELEGRAPH

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Price.....30 CENTS.

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L. G. TILLOTSON & CO.,

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AMERICAN FIRE ALARM AND POLICE TELEGRAPH.

GAMEWELL & CO., Proprietors,
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J. W. STOVER,

General Agent and Superintendent.

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Special Agents for California, Oregon and Nevada.

THIS SYSTEM OF

FIRE ALARM & POLICE TELEGRAPH

WITH A CENTRAL OFFICE,

OR

UPON THE AUTOMATIC PLAN,

is now in operation in the following Cities, to which references
made for evidence of its great

SUPERIORITY, VALUE

AND

UNIFORM RELIABILITY.

Albany, N. Y.,
Alleghany, Pa.,
Boston, Mass.,
Bridgeport, Conn.,
Buffalo, N. Y.,
Baltimore, Md.,
Chicago, Ill.,
Cincinnati, Ohio,
Columbus, Ohio,
Cambridge, Mass.,
Charlestown, Mass.,
Covington, Ky.,
Detroit, Mich.,
Dayton, Ohio,
Elizabeth, N. J.,
Fall River, Mass.,
Fitchburg, Mass.,
Fond du Lac, Wis.,
Hartford, Conn.,
Halifax, N. S.,
Hyde Park, Ill.,
Indianapolis, Ind.,
Jersey City, N. J.,
Kalamazoo, Mich.,
Louisville, Ky.,
Lowell, Mass.,
Lawrence, Mass.,
Lynn, Mass.,
Mobile, Ala.,
Montreal, Canada,
Milwaukee, Wis.,

Minneapolis, Minn.,
New York City,
New Orleans, La.,
New Bedford, Mass.,
New Haven, Conn.,
Newark, N. J.,
Nashville, Tenn.,
Omaha, Neb.,
Philadelphia, Pa.,
Pittsburg, Pa.,
Portland, Maine,
Peoria, Ill.,
Providence, R. I.,
Portland, Oregon.,
Pawtucket, R. I.,
Quebec, L. C.,
Rochester, N. Y.,
Richmond, Va.,
St. Louis, Mo.,
St. John, N. B.,
Springfield, Mass.,
San Francisco, Cal.,
Savannah, Ga.,
Syracuse, N. Y.,
Somerville, Miss.,
Troy, N. Y.,
Taunton, Mass.,
Toledo, Ohio,
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The Distinctive Features of these Systems of

Fire Alarm and Police Telegraphs

ARE,

First—The Automatic Repeater, through which the
apparatus may be distributed in a combination of circuits, and
the entire system successfully worked, without the constant per-
sonal attention of either operators or watchmen.

Second—The Automatic Signal Boxes.

Third—The Electro-Mechanical Bell Strikers,
adapted to produce the full tone of the largest church or tower
bells.

Fourth—The Electro-Mechanical Gong Striker,
for hose and engine houses, by means of which the location of
the fire is instantaneously communicated to the members of
each fire company.

These Features combined form the

Only PERFECT, COMPLETE and RELIABLE System

OF

FIRE ALARM TELEGRAPH

IN THE WORLD.

It is a sufficient vindication of the claims which are made by
the Proprietors of these systems of

FIRE ALARM AND POLICE TELEGRAPHS,

that they have sustained the test of more than twenty years of
practical use, and that the efforts which have been repeatedly
made to supplant them by other inventions have

COMPLETELY FAILED;

the few instances in which municipalities have been induced to
adopt other systems having demonstrated their insufficiency
and unreliability, and resulted in their abandonment, and sub-
stitution thereof of the

AMERICAN FIRE ALARM TELEGRAPH.

Messrs. GAMEWELL & CO. are the owners of the
original FARMER & CHANNING PATENTS, one of the most
important of which has just been extended for seven years, and
during the past seventeen years have spared no expense or effort
to secure improvements, and the Systems are now covered by

MORE THAN TWENTY PATENTS.

The most important improvement which the Proprietors have
adopted and introduced is the

AUTOMATIC SYSTEM.

the introduction and operation of which involves so little ex-
pense, compared to the benefit which it confers, that even small
communities can profitably adopt and maintain it.

The American System of

FIRE ALARM AND POLICE TELEGRAPHS

has met with the universal approbation and commendation of
the

People, Municipal Authorities,

AND THE

PRESS

throughout the UNITED STATES and CANADA.

NO EFFORT, TROUBLE OR EXPENSE

is spared by the Proprietors to obtain and secure ANY POS-
SIBLE IMPROVEMENT which shall increase the

EFFICIENCY,

RELIABILITY and

ECONOMY

of the system. They intend that, as far as possible, it shall be

ABSOLUTELY PERFECT!

The amount of property which has been saved from destruc-
tion, and the number of lives which have been preserved
through the general adoption of this system, throughout the
UNITED STATES and the DOMINION OF CANADA,

CANNOT EARILY BE ESTIMATED,

but that, in every community where it has been introduced for
any considerable length of time, they have been enormous, THREE
CAN BE NO QUESTION.

The cooperation of TELEGRAPHERS in securing its in-
troduction into their localities is cordially invited, and

their efforts will be duly appreciated and
compensated.

Any information desired in regard to the above
system will be cheerfully and promptly furnished
upon application at the office.

A pamphlet, setting forth more fully its advantages and
superiority, has been printed, and will be supplied to Municipal
Authorities and others interested in Fire Alarm and Police Tele-
graphy, upon application as above.

CHARLES T. CHESTER,

104 Centre Street,

NEW YORK,

TELEGRAPH ENGINEER,

AND MANUFACTURER OF

INSTRUMENTS,

BATTERIES,

AND EVERY DESCRIPTION OF

TELEGRAPH SUPPLIES

BUNNELL'S PATENT REPEATER.

These instruments are now made in two different styles, at
\$120 and \$135 a set, consisting of two Relays, two Sounders, two
Keys and Governor.

JONES' LOCK SWITCH-BOARD,

a most compact and reliable Switch, forming a clean spring-
locked connection between any number of wires, occupying for
each different connection only one square inch of space, and
though made of the largest size, not subject to the warp and
contraction of wood-work.

EXCLUSIVE AGENTS OF

A. G. DAY'S

KERITE,

OR

COMPOUND RUBBER COVERED WIRE

SUBTERRANEAN & AERIAL WIRES,

OF THE

HIGHEST INSULATION.

We are now prepared to furnish, after an experience of three
years, an insulated Wire which can be buried in the earth or
exposed to rain and sun, or to the vapor of acids, without injury.
Professor SILLIMAN, who has exposed it to the most destructive
agencies, finds that it remains uninjured in an atmosphere of
ozone, which would destroy gutta-percha in a few hours. It
exceeds glass or any other known substance as a non-conductor

We have made special arrangements to furnish this article
for office purposes at a reduced rate.

ALSO, TO FURNISH

IRON CLAD CABLES

of the usual size, with KERITE COVER, believing that it will
exceed, in insulation for submarine purposes, ANYTHING
HITHERTO MANUFACTURED.

We shall be happy to furnish estimates for any amount and
size of cable, which will be found to compete with any other
construction, both in quality and price.

We manufacture the Genuine ELECTROPOION BATTERY,
with Patent Platina Connection. Introduced by us eight years
since; also, THE ALPHABETICAL OR DIAL TELEGRAPH,
now extensively used in this and other cities for private lines
being easily and quickly learned by any one.

We offer for sale, among other novelties, a SOUNDER that
will work practically with a single DANIELL cell, a BATTERY
which does not require to be taken down but once a year, and the
very best MAIN LINE SOUNDERS made.

Our CATALOGUE, embracing a large amount of new matter
and description, is now ready for distribution.

THE TELEGRAPHER

A JOURNAL OF
ELECTRICAL PROGRESS.

J. N. ASHLEY, - - - - - PUBLISHER.

SATURDAY, SEPTEMBER 4, 1875.

VOL. XI.

WHOLE No. 477.

Friendship—So Called.

AN ACROSTIC.

Who is Dame Fortune's child and hath no friends,
And to whose will the fawning courtier bends?

Look now, in vain, among the throng to find
The man who, poor, can boast of friends as kind.

Each lout's a pilot on a summer's day;
Returning storms will drive the churls away.

Proud sailors all—in calms—but squalls will test
How many work to steer the craft to rest.

In lev'ling storms still one advantage lies;
Like little crumbs of bread, they make us wise.

Let light upon this maxim—old but true—
If I may quote to one as learned as you—

"Proud should he be who hath a friend indeed,
Still prouder he who ne'er a friend doth need."

Philadelphia, Aug. 19, 1875.

Original Articles.

The New York and New England Union Telegraph Company.

A CONTRIBUTION TO TELEGRAPHIC HISTORY.

WITHIN a very short time after the completion and successful operation of Morse's first experimental line from Washington to Baltimore in 1844, some of the most sagacious and public spirited citizens of different parts of the United States began to perceive the advantages which would result from the general extension of this new and important means of communication to the principal cities. The Morse patent was then owned by Professor Morse himself, Prof. L. D. Gale, Alfred Vail and F. O. J. Smith, the latter having one fourth interest. In 1844-45, Mr. Smith, aided by a few friends, labored indefatigably to enlist the public interest sufficiently to raise the necessary funds to construct a line of telegraph from New York to Boston, and thence to Portland, Me., of which city he was himself a resident. This proved a difficult task, but he at length succeeded in inducing some of his friends, as well as a limited number of public spirited citizens in some of the intermediate towns, to advance a sum, which, supplemented by the means which he himself was able to furnish, served to construct the pioneer telegraph line between New York and Boston. These gentlemen were organized into a company under the title of the "New York and Boston Magnetic Telegraph Association."

The original New York and Boston line, which was built by this association, was completed in 1845. The conductor was of No 16 copper wire and the insulation of glass. The route was by way of the Bowery and Third avenue, in New York, to Harlem, and thence along the Harlem Railroad for a distance of seven or eight miles, and thence by turnpike through Stamford, Norwalk and Bridgeport to New Haven, the railroad between these points not being then in existence. Thence it followed the line of the railroad from New Haven, via Hartford, Springfield and Worcester, to Boston.

This line, as originally constructed, was not remarkably successful. In fact it was disabled more than half the time. Every heavy storm broke the copper wire in hundreds of places. In 1846 Mr. Smith, in his annual report, advocated the substitution of iron wire for the copper, which was shortly afterwards commenced. During the following year such a great amount of trouble was experienced from the improvements upon the Harlem and Western railroads, in the way of double tracks and new station buildings, that the directors finally became disgusted, and in 1848 flanked the Western Railroad by building a new line across the country from Clappville near Worcester to Euclid Bridge, Conn., with thirty-five poles to the mile, No. 9 iron wire and brimstone insulators, to which one of the through lines was connected. The Harlem railroad was dodged in a similar way. The line must have paid a Hibernian dividend in 1848, the receipts for the year ending August 1st being \$34,835, and the expenses \$36,034.

The improvements which had been made had, however, increased the reliability of the line to such an extent

that there was now a fair prospect of some return to the stockholder during the ensuing year. But unfortunately the managers of the line, feeling secure in their patented monopoly, had treated its patrons, especially the newspapers, somewhat arbitrarily, and much dissatisfaction existed. In consequence of this mistaken policy, the merchants of New York were quite ready, not to say willing, to embark their capital in an opposition line, which was projected by Henry O'Reilly in the fall of 1848. Mr. O'Reilly had secured the Bain patent for operating his line, which was pushed forward with great energy, having been completed in September and opened for business in October, 1849. A company was formed embracing a number of the leading New York merchants of that day, prominent among whom was Marshall Lefferts, Esq., now president of the Gold and Stock Telegraph Company, under the corporate title of the "New York and New England Telegraph Company," though the line was popularly known as the "Merchants' Line."

This line was built along Eighth avenue, crossing the Harlem river at High Bridge, and thence by turnpike to New Haven, much of the way alongside the old line. At New Haven it diverged and followed the turnpike through Middletown and Norwich to Providence, and from thence into Boston by the Boston and Providence railroad. It was well built with large chestnut poles, No. 10 English galvanized wire, and iron-protected insulators, and worked much more reliably than the Morse line. Mr. Lefferts, the president of the line, was a business man and managed it on business principles, and it succeeded in a very short time in building up a comparatively profitable business. During the same year, 1849, a second competing line, using the House printing instrument, was constructed between New York and Boston, via New Haven, Middletown, Hartford, Springfield and Providence, having two wires and running upon the turnpike.

The Merchants' Line made a dividend the first year after its opening, but during the following two years the competition between the rival lines became so fierce, and the tariffs were so reduced, the rate between New York and Boston being only 10 cents, that neither of the three made any money. The final result of this state of things was that Messrs. Lefferts and Smith entered into negotiations which terminated in the consolidation of the Morse and Bain lines, a new company being formed on the 1st of July, 1852, under the corporate title of the "New York and New England Union Telegraph Company." The original stockholders in the consolidated company were F. O. J. Smith, J. M. Clark, John McKesson, John McKinney, J. J. Haley, A. B. Sands, H. M. Schieffelin, A. A. Pettingill, C. H. Seymour and P. Naylor. John McKinney was the first superintendent, but in less than a month he disposed of his interest in the concern to Marshall Lefferts and resigned his position. He then leased the House line, which, from having been poorly built in the first place, had grown more and more dilapidated and demoralized, and at once proceeded to reorganize it and make competition lively for his former associates. In August, 1852, H. M. Schieffelin was elected president. John A. Lefferts, superintendent, and L. L. Sadler, secretary and treasurer. Gustavus Swan, who learned the art in Utica, N. Y., in 1845, in the line then running from Albany to Syracuse, was appointed chief operator at New York. The board of directors held a meeting in September, adopted a new alphabet, "to go into use as soon as the operators have had sufficient time to perfect themselves therein," and fixed the salaries of the principal employes. It is to be presumed that the operators never perfected themselves in the new alphabet, as it does not seem to have gone into use. The salaries of the superintendent and treasurer were fixed at \$125 per month. The Providence operator got \$50 per month. New Haven, Hartford and Worcester, \$41.66, while the operators at Bridgeport, Middletown, New London, Norwich, and Springfield were obliged to work for \$33.33 per month, and the fun of it. In order to promote economy it was resolved "that the superintendent be instructed to cause the operators on the Morse registers to write out the messages *themselves* as they receive them."

In the latter part of 1852 Mr. Lefferts resigned the superintendency of the line, and Mr. Swan was appointed in his place. He had considerable trouble in getting matters arranged so as to work smoothly. The consolidation of the offices of the two lines, using different systems of telegraphing and different alphabets, made a great deal of confusion. The alphabet question was especially troublesome. The board of directors voted to have all the operators use the Bain alphabet, but the operators of the Morse line did not take very kindly to the proposition. The insulator question was also a great bother, as it has been ever since. Mr. Swan favored John A. Lefferts' plug insulator, then recently invented, and carried his point. They were at all events much better than any of their predecessors. The New York offices of the respective lines were at 5 Hanover and 29 Wall street. The operating room at the latter place was an ill ventilated apartment, about twelve feet square, into which operators, copyists,

clerks and messengers were closely packed, regardless of health and comfort, to say nothing of conveniences for transacting business. The offices were however shortly afterwards consolidated and removed to 23 Wall street, on the corner where the Drexel Building now stands, which afforded much better accommodations.

By this time, however, John McKinney and his friends had got the rival "House Line" into first rate condition. They had secured the associated press report, which was alone worth fifteen or twenty thousand dollars per year, besides a large share of the private business. They were extending their connections in all directions, and their energy and enterprise began to disturb the complacency of the managers of the Union line very seriously. The latter company therefore pushed on their improvements in the way of rebuilding and reinsulating with considerable vigor.

During the spring of 1853 they also purchased the line of the Rhode Island Magnetic Telegraph Company, a rather rickety concern, extending from Worcester to Pawtucket, Providence, Taunton, Fall River and New Bedford, and annexed it to their own lines, which gave the company a total mileage of 663 miles of poles, 1,281 miles of wire, and 18 offices. The gross receipts at this period averaged from \$6,000 to \$7,000 per month. The whole number of messages sent and received from the New York offices from July 1, 1852, to July 3, 1853, was about 145,000.

About this time Mr. Swan conceived the idea of establishing branch offices at some of the principal hotels in New York. As an experiment he built a branch line at his own expense from 23 Wall street to the Astor House, and opened for business on a commission of the receipts. This was the beginning of the system of branch offices and city lines, which has since become so extensive and popular. Mr. Swan's Astor House line may have cost him, all told, perhaps \$250, and it has probably been the most profitable telegraph line, in proportion to its cost, that was ever built. He still retains the ownership of it, or did at a very recent period.

In September, 1853, Mr. Swan resigned the superintendency of the line, and Chas. F. Wood, of the Magnetic Line office, was appointed in his place. Mr. Wood went to work energetically to improve the condition of the lines, rightly judging that continuous and reliable working would bring a large increase of business from the many flourishing cities throughout the territory covered by the company's lines. By the summer of 1854 matters were very much improved in this respect. About \$10,000 had been spent in reconstruction and the reinsulation of the lines with the Lefferts' plug insulator. The Grove batteries hitherto in use had been abolished and replaced with Chester's improved Smce battery. New instruments were placed in most of the offices, and the switches, connections and leading in-wires overhauled to the great improvement of the working of the line. The wires between Harlem and Stamford were transferred to new poles on the New York and New Haven railroad, which completed the reconstruction of all the main routes between New York and Boston. By an arrangement with the House Line the tariffs were restored to something like a living rate, and an era of prosperity began to dawn upon the enterprise. As Mr. Wood remarked in one of his annual reports, "The secret of its success lies in keeping the wires at all times in good working order, doing business expeditiously, serving the public faithfully, and giving them what they have ever wanted, and are willing to pay for, viz., reliability." The success of John McKinney's House Line probably served not a little to "point the moral and adorn the tale."

The correctness of this theory was proved by the gross receipts, which by another year had increased from \$6,000 to \$9,000 per month, enabling dividends amounting to 10 per cent. per annum to be regularly declared, whereat the directors were so delighted that they voted to present President Schieffelin with a service of plate. In 1856 the company succeeded in getting control of the Worcester and Nashua line, as well as arranging for the use of two wires between Boston and Fall River, one belonging to the Old Colony railroad, and the other to the Boston and Cape Cod Marine Telegraph Company.

In the meantime, however, the opposition had not been idle. About the year 1855, the American Telegraph Company was formed, which immediately leased the lines of the Maine Telegraph Company, extending from Boston to Calais, which was one of the most profitable telegraphic enterprises in the world, on account of the large revenues derived from the transmission of the European steamer reports. This company then proceeded to absorb the existing lines with great rapidity. They leased the New Brunswick line from Calais to Sackville, and the Troy and Canada Junction line, and the northern line extending respectively from Troy to Montreal and Boston to Burlington, Vt. In 1855, they purchased the house lines from New York to Boston, and Springfield to Albany. They also purchased the patent of the Hughes' printing instrument, which had then just

been brought out, attracting a great deal of attention. In 1856 they built a new line from New York to Boston, via Brewster's, Waterbury, Hartford, Springfield and Worcester, for commercial business, and equipped it with the new instrument; extended the Montreal line from Troy to New York by the way of the Harlem Railroad, and proceeded to make the competition very warm for the Union Company. The final result was that in 1860 the victorious American Company succeeded in consolidating all the lines between Sackville, N. B., and New Orleans, and the New York and New England Company, whose history we have briefly endeavored to trace, terminated its existence as a district organization.

A few words as to the operators and managers of the Union line may not be out of place. Many of them are still in the service, and are among our best known telegraph men at the present day. John A. Lefferts, the first superintendent, is still a resident of New York City, and is engaged in manufacturing. Gustavus Swan continues to run his Astor House office and branch line which he established in 1853, which affords him a very snug income. Chas. F. Wood is still actively engaged in the service of the Western Union Company as District Superintendent of the lines between New York and Boston, having held this position continuously ever since his appointment in September 1853, a period of twenty-two years. During this time the mileage of wire under his charge has increased from 1,251 to nearly 8,000, and the number of telegraph offices from 18 to somewhere in the neighborhood of 300! It is probable that the business handled, and the receipts for transmission have increased in even greater proportion. Geo. B. Prescott, who was chief operator of the Bain line at Boston, and with the Union Company after the consolidation, is now electrician of the Western Union Company. Henry H. Ward, of Boston office, is Secretary and Treasurer of the Gold and Stock Telegraph Company, of New York. H. N. Williams and W. P. Potter, who operated the old Rhode Island line at Providence were transferred, one to Worcester, and the other to Fall River in 1853. The latter is still in charge of the Fall River office, a position which he has held for 22 years. Mr. Williams, after a long term of service, retired three or four years since on account of impaired health. Another of the old settlers is J. D. Raymond, who was one of the inspectors of the Union line from the beginning, and still holds a similar position with the Western Union. His associate, W. W. Sadler, brother of the Secretary and Treasurer of the Union line, died some years since, as did also R. W. Raymond, of the Springfield, Mass., office, and that jovial old philosopher, Dan Smith, of New London. S. B. Fairchild, of New Haven, is now a chief operator in one of the principal Western cities. Thus we have endeavored, hastily and imperfectly, to preserve some historical reminiscences of one of the old telegraph companies, and some of the items which have been recorded may not be without interest and value to the future telegraphic historian.

The Telegraphers' Mutual Benefit Association.

ASSESSMENT NOTICE No. 78, ISSUED SEPTEMBER 1, 1875.

DEATH OF ABRAHAM KERN.

Abraham Kern, of Cincinnati, O., (Certificate No. 153, issued November 30, 1867), died at the Long View Asylum, near Cincinnati, O., July 23, 1875, of chronic maniacal exhaustion.

One dollar for assessment 78 is due from members holding certificates numbered up to and including No. 2476.

Members who have not yet remitted for assessment 77 (notice of which was issued Aug. 2, 1875), will please consider this a duplicate notice that that assessment is due and should be paid at once.

RECEIPT OF ASSESSMENTS.

NEW YORK, August 25, 1875.

ASSESSMENT No. 78.

21, 64, 103, 131, 138, 208, 211, 217, 277, 289, 464, 509, 564, 565, 615, 622, 626, 742, 843, 859, 911, 915, 916, 917, 941, 977, 1024, 1178, 1182, 1185, 1289, 1333, 1357, 1407, 1490, 1502, 1503, 1516, 1527, 1986, 1994, 2026, 2066, 2103, 2164, 2240, 2257, 2310, 2346, 2389, 2390, 2391, 2442.

ASSESSMENT No. 77.

5, 33, 46, 52, 54, 58, 61, 65, 67, 72, 75, 80, 91, 93, 95, 99, 121, 129, 134, 141, 142, 144, 153, 179, 182, 184, 215, 220, 235, 244, 247, 254, 257, 267, 276, 278, 279, 280, 281, 282, 283, 285, 302, 312, 349, 360, 367, 379, 380, 392, 393, 402, 405, 406, 413, 425, 426, 431, 463, 466, 468, 469, 470, 471, 475, 511, 512, 514, 532, 533, 545, 546, 548, 554, 560, 573, 576, 577, 587, 603, 618, 672, 678, 680, 685, 708, 734, 735, 750, 751, 756, 769, 791, 831, 855, 858, 874, 876, 883, 886, 905, 922, 932, 943, 952, 976, 995, 998, 1001, 1005, 1013, 1023, 1040,

1055, 1074, 1076, 1093, 1100, 1101, 1102, 1147, 1152, 1196, 1200, 1226, 1227, 1232, 1233, 1248, 1251, 1260, 1274, 1276, 1303, 1304, 1325, 1364, 1366, 1368, 1385, 1390, 1391, 1437, 1440, 1449, 1453, 1482, 1483, 1484, 1517, 1518, 1524, 1532, 1537, 1546, 1550, 1554, 1555, 1569, 1572, 1582, 1589, 1593, 1594, 1596, 1620, 1634, 1637, 1656, 1663, 1676, 1681, 1695, 1699, 1710, 1714, 1721, 1728, 1735, 1732, 1736, 1745, 1775, 1791, 1810, 1811, 1812, 1815, 1817, 1847, 1864, 1881, 1907, 1911, 1913, 1914, 1916, 1919, 1938, 1943, 1950, 1965, 1973, 1999, 2000, 2001, 2021, 2024, 2027, 2057, 2083, 2094, 2114, 2138, 2142, 2165, 2181, 2191, 2195, 2196, 2199, 2201, 2202, 2204, 2205, 2206, 2213, 2215, 2216, 2220, 2224, 2230, 2231, 2241, 2244, 2256, 2262, 2268, 2269, 2272, 2295, 2296, 2297, 2298, 2300, 2301, 2303, 2323, 2330, 2331, 2333, 2334, 2335, 2336, 2345, 2350, 2351, 2354, 2355, 2356, 2371, 2374, 2378, 2379, 2386, 2392, 2393, 2416, 2418, 2419, 2421, 2424, 2431, 2432, 2433, 2434, 2436, 2437, 2439, 2440, 2441, 2443, 2447, 2453, 2467.

ASSESSMENT No. 76.

496, 499, 506, 508, 600, 1104, 1375, 1553, 1677, 1743, 2150.

Members of the Association who look to THE TELEGRAPHER for receipt of assessments paid, will please take notice that an acknowledgment of the receipt of one assessment should be taken as a receipt for all previous assessments.

Correspondence.

We do not hold ourselves responsible for the opinions of our Correspondents. Our columns are open to free discussions on all Telegraphic subjects, without distinction of person or opinion.

No notice will be taken of anonymous communications.

Assignment of Automatic Patents.

TO THE EDITOR OF THE TELEGRAPHER.

I APPRISE you and your readers of the fact, that on the 26th inst. I transferred my United States patents for my "American rapid system of Automatic Telegraphy" to the Atlantic and Pacific Telegraph Company, in order to secure some portion of about eighty thousand dollars salary, and other liabilities incurred by the President and others of the late Automatic Atlantic Telegraph Company.

GEORGE LITTLE,
Passaic City, N. J.

August 30, 1875.

A Fire Alarm Telegraph in Oregon.—Progress of the New Telegraph Line.—A Telegraph Instrument Manufactory.—Telegraphic Experts.

PORTLAND, OREGON, Aug. 13.

TO THE EDITOR OF THE TELEGRAPHER.

IF I were as gifted in making excuses as some telegraphers I am conversant with, I imagine I could fill a few columns as an apology for my long silence, but I don't propose to do anything of the kind. I have been sick; out of sorts; off on a jaunt, health-seeking—and found it; besides there has been a fearful seeking of news in this section interesting to the telegraphic fraternity.

Since my last, Portland has acquired a fire alarm telegraph apparatus, sixteen boxes, scattered around town, "where it will do the most good," at an outlay of \$7,500. One of the dailies says, "Our city fathers have a fire alarm at last, at an outlay of \$7,500, and now they can't find any one competent to run it." This is very complimentary to the array of telegraphic talent of which Portland boasts, but the Ethiopian behind the woodpile some explain is, that the principal movers in this are trying to use it as a political influence and don't care about any one who they can't use. Sabbe! This line was put up by Mr. S. D. Field, of San Francisco, of the E. C. & M. Co., agents for Gamewell & Co., and is now under supervision of Mr. J. L. Hallett, the railroad contractor of the Pacific coast, as supt., &c., *pro tem*. The alarm was sounded for a fire for the first time last night, and the firemen don't seem to have the hang of it exactly as they went to the wrong place. The next thing of interest, to telegraphers especially out of a situation in Oregon, is the rapid construction of the new line from Winnemucca, Nevada, to Portland, Oregon. The holes have all been dug between Boise City, Idaho, and Walla-Walla, W. T., the only gap remaining, a distance of 150 miles, and the poles are now being set. Eighteen thousand pounds of wire were shipped from Winnemucca last Monday out on the line, and it is the intention to have the line working from Portland to California and Eastern States (connecting at Winnemucca with

tho A. & P. Co.) inside of two months at farthest. Mr. Platt Burr, the supt., is now in this city, looking after the interests of his company. The boys have it that a man from Chicago will be manager. Who is it? That's the "kontumdrum" now that excites the average telegraphist here, and especially in Portland, as they anticipate lively times in the telegraphic world, or the part contained in Oregon.

Our worthy supt., C. D. Faling, Esq., of O. & C. R. R. telegs., is now on a trip to California for his health, which for some time has been in rather precarious condition. We sincerely hope he may have a safe and pleasant trip, and return entirely recuperated by the balmy breezes of the Golden State and mighty tossings of old Neptune while *en route* to and from Frisco.

Telegraphic matters along the various lines are very quiet, very little business being transacted; but now that the new wheat crop is coming into market it will be certain to keep the hooks pretty well filled.

It seems that the fraternity will in due time turn out a disciple of Blackstone. I have reference to Thurman, "D. R.," in "Po.," W. U. office. The way he keeps a copy of Blackstone by him, and when business is slack pick it up and go to reading is pretty good. Go it, Bill, and when you're admitted you will be sure of the patronage of the telegraphers of Oregon.

You didn't know Oregon boasted of a telegraph instrument manufactory, did you? but such is the case. L. Ran, is his name, and Portland his head quarters. The instruments are not as finely finished as some we have seen, but they are good, strong and serviceable. Don't say we are not progressing, for I think the improvement in the last ten years is pretty fair. When Webfoot commenced learning the art of the dots and science of the dashes there were only two sound operators in this State; now, with the exception of a very few, all are good, sound operators, and some as good as they turn out any where in America. We cannot help being amused occasionally at some eastern boys coming out to the wilds of Oregon, as they call it, imagining they will have the preference and be certain of probably the best job on the line because they read by sound. These generally find out their mistake too late. They have to admit that we do have some sounders, and another very important thing to them is the places are all filled; but such is life. Experience is a hard school, but when a fellow learns a lesson therein he don't generally forget it, *you bet*.

WEBFOOT.

Farewell Presentation to Mr. Wm. Gage.

ALBANY, N. Y., August 31.

TO THE EDITOR OF THE TELEGRAPHER.

TUESDAY evening, the 24th instant, was the occasion of a presentation meeting, composed of operators, linemen, and others connected with the telegraph in this vicinity, who assembled in the ante-room off the operating room, to express, in a substantial manner, their appreciation of the worth, and regret at the necessity of parting with Mr. William Gage. Mr. Gage has for several years been employed as local repairer for the W. U. Co., and stationed at this place; his superior abilities as a "wire puller" have been mentioned heretofore in these columns. As his sudden withdrawal from the business might appear unaccountable, and possibly suspicious to those who are unacquainted with the circumstances of his leaving, a few words of explanation may not be out of place.

It will be unnecessary to enter into the details of the matter; it is enough to state that several weeks ago Mr. Gage was discharged on charges of a private and rather vague nature, and which, though doubtless made in all sincerity, are generally believed to have been unfounded in fact. Indeed had those charges been true, being of a purely personal character, and not in any way reflecting on his ability or faithfulness as an employe of the company, they could not possibly have formed the slightest ground for his removal. The case being brought to the notice of a higher authority, Mr. Gage was promptly reinstated, but he refused under the circumstances to return to work under the man who had treated him so unfairly, and verbally offered his resignation, which was reluctantly accepted. The testimonial which was in the shape of a finely finished imported double harrelled fowling piece, was presented by Manager Rugg, who read the following letter which was signed by a large number of "Bill's" friends:

MR. WILLIAM GAGE:
Dear Sir: For the past three years we have, in the discharge of our respective duties, met you almost daily. To-night we meet, it may be, for the last time on earth.

In saying to you good bye, we desire to testify to your faithfulness and integrity, and to bid you goodspeed. We ask you to accept, with our best wishes, the accompanying fowling piece. It is warranted, if aimed right, to be sure fire against partridge, woodcock, bears or Indians.

May all the "crosses" and "troubles" you meet

with in this life be easily "repaired" and when the final "break" occurs may you have a well grounded hope for the future."

On the "stock" of the gun is a neat silver tablet with the inscription "William Gage, from his Albany friends."

Bill's thanks [which were too plainly visible to require any words to corroborate them] were expressed in a few characteristic remarks.

Prof. Headley thought the occasion a very proper one to give a little friendly counsel, and therefore advised him, in the language of the lamented Horace Greeley, to "go West, young man."

As friend Gage is the owner of a snug farm of eighty acres, situated among the finest prairie lands of Iowa, he has seen fit to accept this advice, and on the 25th inst. left with his wife for their Western home. As a granger, we believe Bill will prove a success, at least he has the best wishes of the fraternity in this section for his future prosperity. DOUBLE SIX.

Telegraphic Changes.—Personals and News at San Francisco, Cal.

SAN FRANCISCO, CAL., Aug. 21.

TO THE EDITOR OF THE TELEGRAPHER.

SINCE the departure of your correspondent, "Clix," for the land of oranges and honey there seems to be no one willing to furnish the readers of "our" paper with anything regarding the telegraphers of San Francisco. I will therefore assume the responsibility and endeavor to furnish you a few items of general interest. The changes in the Western Union office have been very numerous recently, as follows: Jno. R. Yontz, late manager, having accepted a situation with the Electrical Construction Company, Mr. Chas. T. Dozier is acting manager, in addition to his duties as chief operator, no official appointment having as yet been made. Miss Susie W. Peck and Miss Rose Thomas have accepted situations in the main office, working the city lines. Miss Peck also running the "stock" printing instrument. Miss Fanny Wheeler has been transferred from San Francisco to Los Angeles, and Miss Norcross from the Grand Hotel to the Santa Barbara office. Mr. Geo. Sawyer, night chief operator, is absent on sick leave, his position being filled by Mr. Arscott Venton. Mr. J. B. Sheldon has been ruralizing at Paso de Robles Springs, and returns to his duties in the San Francisco office on Sept. 1st. By the way, Shel, did you "bag any snipe?"

New additions to the W. U. force here are as follows: Wm. H. Gloyer, of Detroit; James O'Poole, of St. Louis; and O. A. Stevenson. John A. Campbell has resigned and gone to Los Angeles for his health. Hope you will find it, "Q." We miss your cheerful face and bad jokes, and would rejoice to have you with us once more. R. M. Talbot, formerly of Cleveland, is working in the A. & P. office in this city. "Brick" Kenny has returned from the east, and is also working for the A. & P. Co. Brick says he only "tackled a hox car" once on his return trip. Mr. Chas. W. Patch, of Memphis, made us a short visit, but owing to poor health did not accept the position offered him in the W. U. office; the summer fogs and winds being too much for him. Charlie Lawson showed him the city. Patch consenting to walk around on condition they kept on the sunny side of the streets. Despite all Lawson's efforts we could not get him to the top of Telegraph Hill, and after a few days he became disgusted and started east, but accepted a situation with the A. & P. Co. at Ogden.

Mr. M. S. Bacon, a well known telegrapher, from—well, *everywhere*, is in the city looking around, and expresses himself as being much pleased with the "Golden City."

The W. U. Co. have opened a branch in the American District Co.'s office for the convenience of bankers and brokers, and are doing a lively business. Joo H. Thatcher is in charge with Wm. F. Archibald as assistant.

The American District Co. are rapidly extending their wires throughout the city, and are meeting with great success. ROMEO.

The Atlantic and Pacific, Chicago, Ill., Office and Employes.

CHICAGO, ILL., Aug. 25.

TO THE EDITOR OF THE TELEGRAPHER.

THE force of the Atlantic and Pacific Co. in this city consists of the following named persons:

Manager.—D. E. Sweet.

Chief Operator.—H. H. Scobell.

Night Manager.—M. A. Huyck.

Manager Board Trade Office.—Edward W. Farnham.

Operators.—Ed. L. Cuthbert; Ed. Cloud; B. E. Sunny; Ed. G. Everson; Lu. Bradley; Charlie Bloomfield; Geo. T. Richardson.

Check Clerk.—Geo. Chandler.

The automatic force consists of seven persons all told:

Chief Perforator.—Wm. Batchelder.

Assistant Perforators.—H. S. Waters; W. E. Bodley.

Copyists.—Mrs. Rogers; Miss Ella Harwood; W. J. Hopkins, E. B. Conklin.

Down stairs Mr. A. G. Stolbrand is Manager, Mr. R. B. Bentley is Receiver. Perhaps a few remarks about the above named gentlemen would not be amiss.

Mr. Sweet presides in the operating room. He is a thorough gentleman, and is generally liked by his subordinates. Mr. Scobell is the chief, and there never was a better one. You will always find him with a smile on his face, and a pleasant word for all. Ed. Farnham, the gentlemanly and business like manager of "Cx," is always on hand at 7:30 A. M. Never misses it. Ed. is fond of—of—coffee, and is the father of a bouncing boy. Sunny, beams and smiles as he wades through the business "On 'Change," and "puts it down" in a style that is hard to beat. Ed. Cloud "sushes" the boys in Cincinnati and on the Omaha line. He makes a brag that he can eat more peanuts and pears in less time than any man in town. Ed., it's your turn to "set 'em up." Farnham works the New Milwaukee wire, and the rapidity at which business is done on that wire is astonishing. Ed. Cuthbert takes it easy on Detroit. He finds plenty of time to play with the message boys, eat peanuts (Cloud's), and "shoot" the lady visitors in the gallery. George Richardson works Omaha at the main office, and "Cranks" "Automatox" in good shape. Everson works the city wires, he is a young operator of great promise. His hair, however, is cut too short. Mr. Huyck is night chief; he does his share of the work, and is a very fine sender. "Chawles" Bloomfield is an old timer. Lu. Bradley takes report like a little man. Lu. is a good boy, but he never has any tobacco of his own. Mr. Batchelder, chief perforator or "puncher," is one of the finest in the business. He can punch from 60 to 70 words of press per minute, and has punched as high as 103 from his head, which is considered very rapid work. Mrs. Rogers and Miss Harwood are both experienced copyists, and do excellent work. Mr. Conklin and Mr. Hopkins perform their duties in a satisfactory manner. Chandler is check clerk. He is called "Brick-top" for short. He does not chew tobacco; he is not noisy; neither is he very cheeky. We may want to borrow money of Chandler some day, and I hope he will remember all this.

The St. Louis wire (now in process of construction, and completed to Streator, Ill.) will soon be finished, as the work is being pushed forward at the rate of 20 miles per day. There is also a wire being built from Davenport to St. Louis, and when these two routes are completed 'tis hoped the A. and P. Co. will get their share of the business in St. Louis. Nearly all the press handled in this office is done by the automatic system, which has just been put in operation at Des Moines. Several hundred words of report are sent to Omaha and Des Moines in a few minutes, thus leaving that crowded wire clear for way business. The business of the Milwaukee wire is increasing so rapidly that a duplex will soon be necessary to handle business promptly. It's understood a duplex has been purchased for this purpose, and is now on the way here.

The main topic of conversation among the A. & P. boys is "the uncertainty of their business life" in case the two companies consolidate. I understand all arrangements have been made between the two companies for consolidation, but it is hoped that the W. U. will provide for the operators of the opposition if they are thrown out by the consolidation.

OPPOSITION.

Excessive Telegraphic Labor.

TO THE EDITOR OF THE TELEGRAPHER.

IN reading the proceedings of the meeting of the friends and associates of the late George H. Mumford, Vice-President and Secretary of the Western Union Telegraph Company, I could not but observe, in most of the speeches, that Mr. Mumford had been overworked, and "had assumed to do more than any one man could or ought to undertake," and Mr. James D. Reid's "second thought" plastered the executive officers all over with "oppressive, official care." No doubt there is a great deal of truth in what he says, and that there is a very heavy strain upon the brain of some of the officers, but that it is a strain unto death and "murder" I cannot think. But if it is, what must we think of the system which the executive officers have inaugurated for the operators. Theirs is as a strain, not upon the brain, but upon the muscular and nervous system. They are compelled to seat themselves at the desks at early morning, and there remain the entire day, with the exception of a few minutes at noon for dinner when they are allowed to go into the next room and "bolt" down a hurried meal, and then go directly back to their desks, and there remain in an almost fixed position the balance of the day. If this is not murderous, I don't know what is.

No doubt the company, in opening an eating room and establishing a list of prices which are certainly very reasonable, did a very commendable thing so far as the pecuniary interests of the operators are concerned; but when the company prescribed the time for eating to be just long enough to take the meal in a very hurried manner, it struck a blow at the health of the operator which, in its results, must be very injurious, not to say murderous. Had the company, in connection with the eating room established a gymnasium, and given the operators time for exercise, an opportunity to relax the muscles which are under constant strain at the key, they would have been the almoners of great good to the operator which in the end would result to the great advantage of the company. In fact I think the company would be the most benefited, as the operator would be refreshed both inwardly and outwardly, and would resume his labors with a will and energy which would more than compensate for the time.

As Mr. Reid has so forcibly called the attention of the executive officers to their overworked condition (and I have not a word to say against it), I trust that in providing for their own relief, which they certainly should do, they will at the same time take into consideration the propriety of affording to the operators such exercise as the nature of the business demands.

This is a subject upon which much should be said, but I will not enlarge at this time, as a word to the wise may be sufficient; and perhaps others will follow up the subject much more acceptably than I can.

JUSTICE.

English Patents.

AMONG the specifications of patents issued in England, printed in the *Electrical News* of August 19th, is the following:

Improvements in Duplex and Multiplex Telegraphs. Thomas Alva Edison, of Newark, N. J., U. S. A., February 2, 1875. No. 384.

This invention relates to improvements in telegraph instruments and circuits, whereby one wire can be used simultaneously by two operators at both terminal stations, one to send and the other to receive, usually known as a duplex telegraph; also one wire can be simultaneously used by two operators to transmit, and two operators to receive at each end, called a quadruplex telegraph. A circuit pressing key brings into operation the whole battery, or only a portion, to operate one set of electro-magnetic instruments by the rise and fall of tension. Another key reverses the current without breaking the circuit, and a polarized relay magnet responds to the reversal. Rheostats, condensers, and induction coils are inserted to neutralize static discharges, to equalize and neutralize the action of the currents sent on the receiving instruments at that station, and leave them free to respond to the currents from the distant station; also to establish artificial lines of equal resistance to the main line, and thereby to balance the electrical forces. The polarized relay and differential electro-magnet operate by local circuits the instruments that receive the messages, and indicate the same by sound or marks. At intermediate stations the instruments are arranged so as to work to either terminal station, or by connecting them a relay is effected, so that on long lines the operator at a terminal station works a relay at an intermediate station to send to the distant terminal station, and this is used either in the duplex or quadruplex telegraphs.

A Painting Wager.

THERE was considerable excitement yesterday between one and two o'clock on Dock street, below Second, occasioned by parties who were engaged painting the poles of the Local Telegraph Company. It has usually taken from three to four hours for the painting of a single pole, and upon the subject of completing the job in a much shorter time a lively discussion took place. Mr. James Grace, line-man, who for many years was employed in the City Police and Fire Alarm Department, asserted that he could paint a 55-foot pole, with six cross-arms, in thirty minutes, and there were plenty of wagers that he could not. The crowd on Dock street gathered to witness what all at the outset predicted would be a failure. He was exactly twenty-six minutes, finishing the job in that time, much to the surprise of the lookers on. He did some tall reaching, and each dash of the brush covered a deal of space. He descended once to supply his paint pot. This same person once on a wager strung a mile of wire in thirty-four minutes and fifteen seconds, climbing in that time forty-one poles thirty feet high, and winning the wager by three-quarters of a minute. Upon another occasion he put up a large cross-arm in a minute and a half. He is a tall fellow, and his hailing from Jersey cannot discount the fact that he can do some "tall" work.—*The Press, Philadelphia.*

Nothing more than write—editorial work.

THE TELEGRAPHER

DEVOTED TO THE INTERESTS OF THE TELEGRAPHIC FRATERNITY.

SATURDAY, SEPTEMBER 4, 1875.

THE TELEGRAPHER:

PUBLISHED EVERY SATURDAY at 38 VESEY ST.

ELEVENTH VOLUME.

TERMS OF SUBSCRIPTION.

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INVARIABLY IN ADVANCE.

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J. N. ASHLEY, Publisher,

(P. O. Box 5503.)

38 VESEY ST., New York.

INDEX TO ADVERTISING PAGES.

Table with 2 columns: Name and Page. Includes entries like Ashley, J. N., American Fire Alarm and Police Telegraph, Am. Compound Telegraph Wire Co., etc.

The Telegraphic Situation.

THE telegraphic situation appears to be a good deal "mixed" just at present, and it is somewhat difficult to express an opinion that will fit the circumstances as they may be on the day THE TELEGRAPHER makes its weekly appearance. The changes are kaleidoscopic in their rapidity. To-day consolidation, to all outward appearances, may be all but consummated; to-morrow the negotiations are off, and the prospect of consolidation anything but promising. After our last week's article was in print it was announced semi-officially that the conference committees of the Western Union and the Atlantic and Pacific companies had come to an understanding for a consolidation on the basis of a lease of the wires of the latter to the former company on a rental of seven per cent. upon a valuation of two and a half million of dollars. This was generally credited, and the belief was entertained that for the time at least telegraphic competition was practically dead. It has since transpired that this report was erroneous, but that in fact the committees had talked matters over, and that the propositions or suggestions would be submitted to the executive committees of the two companies. At a meeting held on Tuesday last the executive committee of the Atlantic and Pacific rejected all the propositions submitted. The conference committees are again at work as we write, but with what prospect of agreement we are unable to say.

After the conference committees shall, if they ever do, come to an understanding, the matter goes to the

executive committees, and if it passes that ordeal, remains to be acted upon by the directors, and in case of consolidation being agreed upon, will undoubtedly be taken into the courts for final adjudication.

We might fill columns of THE TELEGRAPHER with the conflicting rumors and reports, but with no profitable result. A reporter of the New York Times interviewed Mr. SIDNEY DILLON, who is one of the committee on the part of the Atlantic and Pacific Company, on Tuesday. He said that the statement that any terms had been agreed upon, or any definite proposition made on either side, was untrue. The committees have met several times and conversed generally about what would be fair to both companies. At the last two meetings the views of the opposing interests have harmonized better than heretofore, and on Monday the conference was so satisfactory that it was agreed to report to the directors of the two companies. Mr. DILLON denied that any proposition involving a sale or lease of the Atlantic and Pacific lines on a basis of twenty or twenty-five per cent. of its capital stock had been suggested or accepted. In regard to the reported effort of the new National Telegraph Company to obtain control of the Atlantic and Pacific, he stated that some months ago Mr. COHEN, on behalf of the new company, made a proposition to the Atlantic and Pacific Company, expressing a desire to purchase the latter's lines or to fuse interests, but nothing more has been heard from him since. The best interests of the company Mr. DILLON represented would be subserved, and the parties who bid high enough will get the lines, no matter who they are.

Western Union stock has declined heavily—six per cent. or more within the last few days. This is chiefly attributed to very large sales on account of Mr. JAY GOULD, it being stated that he had sold 130,000 shares. The financial crisis in California has unfavorably affected the stock market, and endangered Union Pacific Railroad interests, in which Mr. GOULD is deeply involved. It is currently reported that he has thrown over his telegraph stock in order to be better able to protect his railroad interests. As a matter of fact, this whole telegraph business has become a mere stock-jobbing operation, and negotiations are conducted, and combinations made mainly with a view to depress or advance the stock quotations.

The President of the new National Company did not leave San Francisco a week ago last Saturday, as reported. The financial difficulties there probably prevented, but it is stated, on apparently good authority, that he did leave on Tuesday last. Telegraphic advices from San Francisco received in this city are to the effect that the financial difficulties will not interfere with the telegraph project, but that it will be carried out notwithstanding.

We still adhere to the opinion that we have hitherto expressed, that there will eventually be no consolidation. In this many of those who are best informed concur, and it is believed that some of the parties actively engaged in the negotiations have never really intended that they should amount to anything practically.

The Faraday has succeeded in recovering the eastern end of the direct cable, and it is hoped in a few days the gap will be filled and the cable in working order. This event might have an important influence upon the negotiations. We have never known telegraph interests to be in such a muddle as they appear to be at the present time, and with apparently no immediate prospect of being straightened out.

The Latest Phase of the Telegraphic Situation.

SINCE the preceding article on "The Telegraphic Situation" was written matters have assumed a definite shape, and the muddle, for the present at least, appears to be cleared up.

The origin of the whole matter was a written proposition from Mr. JAY GOULD to the Western Union Company to appoint a conference committee to meet a committee of the Atlantic and Pacific Company, in

order, if possible, to arrange terms of consolidation, which was acceded to. Of what has occurred since our readers have been informed from time to time. The terms discussed were not acceptable to the directors of the latter company, and on Wednesday afternoon President ORTON received another communication from Mr. GOULD withdrawing all propositions for negotiation, which of course is the end of the matter, until the exigencies of stock speculations make a renewal of it advisable.

The result shows the reliability of the opinion which we have adhered to throughout, and have repeatedly expressed in these columns, that there would be no consolidation, and confirms our belief that the whole thing has been merely a stock-jobbing operation on the part of one of the parties.

How to Dispose of a Newspaper and Still Retain It.—A Queer Business Transaction.

THE announcement which appeared in our last number that the publishers of The Operator had decided to discontinue its publication, and that the unexpired subscriptions would be filled by THE TELEGRAPHER, caused considerable surprise, which will doubtless be increased when it is known that the arrangement is not to be carried out. In justice to ourselves and to our readers we are compelled to make the following statement of the facts connected with that remarkable business operation, and having done so, we leave the reader to draw the necessary inferences therefrom.

On the 17th of August last we received through the post-office the following note:

"N. Y., Aug. 16, '75.

"Mr. JAMES N. ASHLEY.

"Sir: I desire to see you on newspaper business. Will you be good enough to say when you can grant me an interview.

"Respectfully,

"THOMAS ALLEN,

"Box 3332."

Knowing Mr. ALLEN to be one of the publishers of The Operator, and further, being aware that the proprietorship of that paper had been hawked around, without finding a purchaser, for some time, we inferred the nature of his business to be a desire to get rid of it, and replied, appointing an hour the next forenoon for the interview. Nothing further was heard from him for several days, and we concluded he had thought better of it; but on Tuesday of last week Mr. ALLEN appeared at our office and opened negotiations for the discontinuance and disposition of his journal. He stated to us that on account of the positions of himself and partners as employes of the Western Union Company, it was very unpleasant to be the publishers and editors of such a paper; that it was not profitable, the receipts just about paying the actual cash expenditure, and that the circulation had decreased (a fact of which we were previously well aware), and that some 400 or 500 subscriptions had expired with the last number. Without coming to any definite conclusion the interview was adjourned until the next (Wednesday) afternoon, when we were to make a proposition. Mr. ALLEN was promptly on hand according to appointment. The matter was again talked over; his partner's name being brought up, he assured us that since the previous interview he had seen Mr. WILLIAMS, that he desired to be rid of the paper, and would agree to any arrangement that he, ALLEN, might make. After further discussion of the value of the paper, etc., we made Mr. ALLEN a proposition, which included our filling the unexpired subscriptions, as announced. The brief announcement which appeared at the head of our editorial columns last week was drawn up, read by Mr. ALLEN, and he said, "All right, let it go in."

Soon after THE TELEGRAPHER appeared there were indications that everything was not as satisfactory as had been represented. The mail books were not turned over to us as promised, and there seemed to be a hitch somewhere. On Monday we learned that Mr. WIL-

LIAMS had stated that *The Operator* had not been disposed of—that he had not agreed to ALLEN'S arrangements, and would not, etc.

Mr. WILLIAMS called upon us on Tuesday last, and utterly repudiated ever having authorized his partner to make the arrangement with us, declared that the statement that he had so done, and the subsequent statements made by Mr. ALLEN in regard to what he required to satisfy and carry it out, were false, etc. There has evidently been some pretty steep lying in the matter somewhere.

The result of the whole matter is that the arrangement will not be carried out, which is perhaps only unfortunate for the subscribers to *The Operator*. The paper was tendered to us by Mr. ALLEN. We have never sought to acquire it, or in fact had any intercourse with its publishers, who, previous to this negotiation, were personally strangers to us.

We have stated above that the proprietorship of *The Operator* had been hawked about without finding a purchaser. It was, however, sold once to the great professor of duplicity and quadruplicity, EDISON, but the arrangement was broken off by the absconding of an employé of the professor with his entire cash capital, some 300 to 400 dollars, which had been appropriated for its purchase. It has been the organ of the professor during and since his connection with the Western Union Company, and he has been allowed to use its columns to vent his spite, slander and blackguardism at will, the reason repeatedly given therefor by the publishers being that he *paid for it*, which certainly indicates a high toned principle of journalism!

Personals.

Mr. JAMES W. STACEY, supt' of telegraph for the A. T. and S. F. R. R., Topeka, has resigned.

Mr. R. E. FARRINGTON, formerly manager at Newton, Kansas, succeeds Mr. STACEY as supt' of telegraph for the A. T. and S. F. R. R.

Mr. F. W. MARSH, of Pittsburg, Pa., has accepted a position as operator in the general office of the Kansas and Pacific R. R. Co. at Kansas City, Mo.

Mr. ED. SCHERMERHORN is subbing at Cheyenne, Wyoming Territory, Western Union office.

Mr. RICHARD P. HALLOIAN, of the St. Louis, Mo., Western Union office, has been assigned to the duty of looking after way business at night.

Mr. PETER GRITCHETT, all night operator at St. Louis, Mo., Western Union office, is rusticiating in Pennsylvania; Mr. BORN acting in his place during his absence.

Mr. J. LEVEN is manager of the Denison, Texas, Western Union office, with Messrs. W. B. SIMONS and L. A. SMALLS, as assistants.

Mr. H. W. RATHBUN, report operator at Oil City, Pa., Western Union office, has leave of absence for two months from July 1, to recuperate.

Mr. W. P. LUCAS, officiates as report operator in the Oil City, Pa., Western Union office, during the absence of Mr. H. W. Rathbun.

Mr. W. B. OGDEN, who has been absent for some time on a pleasure trip, has returned and entered upon the discharge of his duties in Oil City, Pa., Western Union office.

Mr. L. L. SMITH discharged Mr. OGDEN'S duties at Oil City, Pa., Western Union office, during the absence of the latter.

Mr. GEO. BROOKS, of the Oil City, Pa., Western Union office, has departed on a short leave of absence.

Mr. GEORGE O. SMITH, of the Oil City, Pa., Western Union office, has also left for a pleasure trip, during which time, it is rumored, he will take unto himself a better half.

Mr. J. W. N. GILD, of the Western Union Oil City, Pa., office, has returned to duty after an absence of five weeks on a visit to the West and South.

Mr. GEO. E. FOSTER, Manager of the Oil City, Pa., Western Union office, left Sept. 1st, for the West, to visit friends, and indulge in pleasure at the same time.

Mr. C. O. BOLTON is officiating in the capacity of relief operator at Oil City, Pa., Western Union office.

The Telegraph.

By Cable.

FLUCTUATION IN QUOTATIONS OF CABLE SHARES.

London, Aug. 30.—Shares of the United States Direct Cable Company to-day advanced one shilling on a rumor that the Faraday had succeeded in repairing the cable, and shares of the Anglo-American Company declined two shillings.

THE UNITED STATES DIRECT CABLE RECOVERED.

LONDON, Aug. 31.—The steamer Faraday has recovered the end of the eastern portion of the direct cable, and is now in telegraphic communication with London. She has not yet succeeded in finding the western section of the cable, and reports that unfavorable weather retards operations.

The Dominion Telegraph of Canada.

A NUMBER of changes have lately taken place in the Toronto, Ontario, office of the Dominion Telegraph Company. Mr. N. Burke, formerly night manager of that office, has been appointed manager of the London, Ontario, office of the same company, in place of Mr. L. B. McFarlane, resigned. Mr. Burke was very popular with the employés of the Toronto office, and will be much missed. Before he left, his associates presented him with a very handsome amethyst ring, as a slight expression of the esteem in which they held him. The London office will doubtless prosper under his management.

To compensate for the loss experienced in Mr. Burke's departure from Toronto, the office has had quite an acquisition to its attractions through the appointment by Mr. Neilson, the efficient and popular superintendent, of an additional lady operator, Miss E. McDroy, formerly of Guelph, Ontario. As she is said to be both pretty and amiable (rather a rare combination is it not, ladies?) the staff will probably forget to mourn for their departed friend and associate in pleasure at the new acquisition.

Mr. Wm. Manners, late of the Atlantic and Pacific force at Chicago, Ill., has also accepted a situation in the Toronto office. A correspondent of THE TELEGRAPHER mentioned a few weeks since his having left the Western Union company rather unceremoniously, so he should probably be regarded as a *wandering* "star" operator.

Mr. J. Velleau, of Trenton, has also joined the force at the Toronto office. He is young as yet, but very ambitious, and in time will doubtless make an excellent "Vet" if he only keeps at it long enough.

Mr. S. E. Gibbs, chief operator, it is understood was in New York a few weeks ago, and it is to be regretted that he did not call at the office of THE TELEGRAPHER and make the acquaintance of the editor.

Mr. P. W. Snider, assistant chief of the Toronto office, is now taking his vacation. If Gotham lies in his route he will be heartily welcomed at the office of THE TELEGRAPHER, should he favor it with a call.

The Dominion Telegraph Company is rapidly extending its lines and facilities in all directions, a large number of new offices having been opened this season. It is enterprising enough for a Yankee institution—almost, and has nobly outgrown the sobriquet "lectle," which was so generally applied to it a few years ago. For several years the Montreal Telegraph Company had the field to itself, practically, but since the competing company has been started, and come under its present careful, energetic and efficient management, it has received a very liberal share of patronage, Canadian business men evidently understanding and appreciating the advantage derived from the support of two systems of lines, thus securing that healthy competition which is the life of trade.

Appointments of Western Union Officials and New Distribution of Duties.

THE following special executive order has been issued by President Orton of the Western Union Telegraph Company:

EXECUTIVE OFFICE,
WESTERN UNION TELEGRAPH COMPANY,
NEW YORK, August 31, 1875.

SPECIAL EXECUTIVE ORDER.

Mr. Abijah R. Brewer has been appointed secretary of this company and Mr. John C. Hinchman has been appointed general superintendent of the Eastern Division, in place of George H. Mumford, deceased.

The following business of the executive office will hereafter be conducted as follows:

The money transfer service will be under the direction of Vice President Cornell, who will also receive for approval all requisitions for money drawn upon the Treasurer. Mr. Cornell will also have charge of all

leases to or by the company and a general supervision of the department of supplies. Mr. Leonard Cox will continue to act as superintendent transfer service.

Estimates for construction, reconstruction and repairs, and reports of finished work, will be referred to George B. Prescott, Esq., Electrician. Reports of the condition and working of the lines will be sent to the electrician, who is also charged with the general supervision of the operating department, including apparatus and office supplies.

Vice President Green will continue to have charge of the department of complaints and claims, including the general supervision of the law business of the company. Also, until otherwise arranged, he will have charge of the business arising under contracts with railroad companies, including the free message service.

WILLIAM ORTON,
President.

An Enterprising Telegraph Operator.

A KEEN perception of the advantages of telegraphic communication was displayed recently by the operator (who also fills the position of clerk in a general store) at a village in the Catskill mountains, where an office has this summer been opened. A gentleman in New York, whose family are visiting in the neighborhood, wishing to inform his wife on Saturday morning that he would not be up in the evening, as usual, sent a message to that effect, which was duly received and deposited in the post-office by the operator, and received by the lady on Monday with the mail matter, started from New York on Saturday at the same time as the telegraphic despatch.

Electrical Cremation of a Dominion Mouse.

A VERY singular thing occurred recently on the Stock Reporting Telegraph lines at Montreal, Canada. The galvanometer used would vary so much that it was necessary to take out or put in at times 500 ohms resistance to steady it. There is about 3,000 ohms resistance in the line. A peculiar smell was also observed, which became so strong that the operator could scarcely stand it. Upon an examination being made under the transmitting table the remains of a mouse, which had got in between the two battery thumb screws, was discovered burned to a cinder. It is rather singular that during the whole time only one or two of the instruments were seriously affected. It is not known how long the mouse was thus caught, but it must have been for some time to have been so thoroughly cremated by the battery current.

Foreign Telegraphic Notes.

WE have, says the *Electrical News*, already informed our readers of the satisfactory settlement of the dispute between the Chinese Government and the Great Northern Telegraph Company. We have now to record the establishment of an imperial college of torpedo engineering, of which Mr. J. A. Betts, M. S. T. E., (who acted as arbitrator for the Chinese Government in the settlement of the above mentioned dispute) is the engineer-in-chief. Already there are about forty students, and the course of instruction includes the manufacture of torpedoes, mooring and placing them in position, the use of the "firing arc" in torpedoes fired by observation, lime light signalling, etc. There is also a class for instruction in practical telegraphy, testing, etc. At the arsenal inside the city the mechanical parts necessary for the completion of a stock of torpedoes are being manufactured.

The practice of hanging linen to dry on the telegraph wires has, according to the *Pall Mall Gazette*, lately become general in that country, and revealed the hitherto unknown fact that the Armenian peasantry are in the habit, occasionally, of washing their clothes. Much dismay has however been caused by an order that has been issued by the authorities forbidding the continuance of this arrangement. It seems that the wires have, on more occasions than one, been broken by awkward washerwomen, and Shekret Effendi, who has just been appointed director of the telegraph at Erzeroum, has solemnly declared that no more shirts, stockings, or other garments shall be hung on the wires on any pretence whatever.

It is, says the London *Examiner*, suspected that the Government mean to act upon the report of the Committee on Telegraphs, and raise the rates for postal telegrams at once.

The India Rubber, Gutta Percha and Telegraph Works Company have heard from Mr. Gray, who is in charge of their expedition, that the second section of their west coast of South America cables has been successfully completed, namely, that from Islay to Arica, both in Peru. This section is about 200 miles long, and increases the total length completely laid to 660 miles. The report of the directors states that during the half year ended the 30 of June last the cable sales

mounted to £72,573, against £63,933 in the same period of 1874, and £34,285 in the same period of 1873. The general sales for the half year amounted to £96,225, against £87,906 in the same period of 1874, and against £80,784 in the same period of 1873. The business at Porsan for the half year also shows an improvement upon the corresponding period of 1874. With regard to the cables now being laid in Peru and Chili, each length of cable as it is completed, and also of each section after it is shipped and covered with water, are tested by Messrs. Clark, Ford & Co. The cable which was made for the West India and Panama Telegraph Company, after the settlement of the suit with them, was tested and accepted by their engineer, Sir Samuel Canning. The cables made for the Direct Spanish Telegraph Company continued to work well, and were earning an increasing income for that company.

The traffic receipts of the Anglo-American Telegraph Company for

August 11	amounted to	£1,330
" 12	"	1,300
" 13	"	1,330
" 14	"	1,300
" 15	"	300
" 16	"	1,130
" 17	"	1,340

Mr. J. B. Stearns has successfully introduced duplex working into France. The system he has inaugurated is capable of six combinations, viz: Morse single working, Hughes single working, Morse duplex, Hughes duplex, Morse-Hughes duplex, Hughes-Morse duplex. The bridge system is used, and the results upon the Hughes are very satisfactory, because it is found that the instruments work better duplexed than on the ordinary single method, from the fact that the outgoing currents do not pass through the house instruments, and therefore disturb them. Paris has been working to have uninterrupted since the commencement of the year.—*The Electric News.*

Telegraphic and Electrical Brevities.

The Western Union cable under the Mississippi, from Vicksburg, Miss., to Delta, La., has been repaired, and is again working after several weeks' interruption.

During a severe thunder storm in the District of Columbia on Sunday last, three telegraph poles on the line between Georgetown and Tennytown were struck by lightning, and communication interrupted.

At a meeting of the Board of Directors of the International Ocean Telegraph Company on Friday, August 27th, a committee consisting of Dr. Norvin Green and Mr. Cambridge Livingston, was appointed to draft and record in the minutes suitable resolutions on the death of Mr. G. H. Mumford, a Director and Secretary of that company.

General Supt. Stager's House Burglarized.

On Tuesday afternoon the residence of General Anson Stager, general superintendent of the middle division of the Western Union Telegraph Company, was robbed at Chicago, Ill., during the absence of the family. At about four o'clock P. M. four men drove up to the house. Two of them, under the pretense of looking at the gas metre, entered the house. They then overpowered the servant and demanded the key of the closet containing the silverware. They threatened to take her life if she refused to deliver up the key. Upon being told that Mrs. Stager had the key in her possession, in the east, they broke in the doors of the closet and secured the silverware—the value of which is not now known—and left the premises.

It is narrated that certain Chinese fishermen brought up to the surface a submarine cable; that they cut it in small pieces and planted it, hoping it would grow.

Quotations of Telegraph Stocks at N. Y. Stock Exchange.

Showing Lowest and Highest Prices each day during week.

August.	WESTERN UNION.	ATL. AND PAO.	AMER. DIST.		GOLD AND STOCK.	
			Bid.	Asked.	Bid.	Asked.
26	83 1/2 ... 84 1/2	20 ... 20 1/2	..	.. 80	..	.. 70
27	81 1/2 ... 83	20 1/4 ... 21	..	.. 80	..	.. 70
28	83 1/2 ... 84	20 3/4 ... 21	..	.. 30	..	.. 69
30	80 1/2 ... 83 1/2	19 1/2 ... 20	..	.. 30	..	.. 69
31	78 1/2 ... 80 1/2	19 1/2 ... 20	..	.. 30	..	.. 69
Sept. 1	77 1/2 ... 78 1/2	20 ... 21	..	.. 30	..	.. 69

New Patents.

OFFICIAL COPIES of any U. S. Patent issued since July 1st, 1871, including drawings, specifications and claims in full, sent free to any address for 25 cents each. Address F. L. POPE, Elizabeth, N. J.

For the week ended July 27, 1875, and bearing that date.

166,096.—ELECTRIC TELEGRAPHS FOR TRANSMITTING MUSICAL TONES. Elisha Gray, Chicago, Ill., assignor of one half his right to Samuel S. White, Philadelphia, Pa. [Filed Jan. 19, 1875.]

Uses induced current. By any suitable circuit breakers, pulsations are sent upon the line, corresponding in number to the vibrations necessary to produce any given note or sound. At receiving station operator is placed in circuit, and in electrical connection with a vibrating resonant plate, also in the circuit. The transmission, then, of these vibrations through the lining tissue to the resonant substance causes an audible note, corresponding to vibrations sent.

1. The hereinbefore described art of transmitting musical impressions or sounds telegraphically, by producing musical impressions or sounds at the transmitting end of a telegraphic circuit by causing interruptions in the electric currents of sufficient frequency to produce musical tones, transmitting said tones through an electric circuit composed in part of animal tissue, and reproducing them at the receiving end of the line by means of a resonant body, which is also a conductor of electricity, substantially as set forth.

2. The electro-harmonic telegraph apparatus, hereinbefore set forth, consisting of the combination of a telegraph circuit, composed in part of animal tissue, a circuit breaker capable of producing a musical tone, and a resonant conductor of electricity capable of reproducing that tone at the receiving end of the circuit.

3. The combination, substantially as hereinbefore set forth, of a telegraphic circuit composed in part of animal tissue, a resonant receiver, which is also a conductor of electricity, a series of circuit breakers capable of producing musical tones of different pitch, and a corresponding series of keys for throwing the circuit breakers into or out of operation, whereby several tones simultaneously may be transmitted through a single wire.

166,168.—AUTOMATIC TELEGRAPHS. Charles Wheatstone and J. M. A. Stroh, London, England. [Filed March 16, 1875.]

The means for sending a weak current into the line at the end of a dash or space, for preventing an undue elongation of short currents, consisting of the lever K, operated from the transmitting levers, the contact points F E, and the resistance and branch circuit, substantially as set forth.

166,169.—MAGNETS FOR ELECTRIC TELEGRAPHS. Charles Wheatstone and J. M. A. Stroh, London, England. [Filed March 16, 1875.]

The combination, with an armature pivoted between and acted on by two electro-magnets or coils, of a spring and means for adjusting the tension thereof, and causing it to exert its force upon either side of the pivotal bearing of the armature, substantially as set forth.

For the week ended Aug. 3, 1875, and bearing that date.

166,304.—ELECTRIC GAS LIGHTING APPARATUS.—Frank V. Sandford, Chelsea, Mass. [Filed July 14, 1875.]

The combination, with an electrical gas-lighting apparatus, of a time registering mechanism, substantially as herein described, for the purpose specified.

166,305.—TELEGRAPHIC CIRCUITS.—Wm. E. Sawyer, Washington, D. C. [Filed June 19, 1875.]

1. The method of operating a line of telegraph, consisting in placing the transmitting battery at or near the receiving end of the line wire, and effecting the record or actuating the receiving instrument by making and breaking the line-wire circuits at the transmitting end, whereby the battery current passing through the receiving instrument is alternately, equally, or unequally divided, and restored to its normal strength or required maximum value, as set forth.

2. The method of operating a line of telegraph, consisting of the employment of two circuits, the line wire circuit and an artificial line circuit, in the latter of which is placed the receiving instrument, which is actuated, or in which the record is effected, by causing an increment and decrement, through breaking and making the line wire circuit of the quantity or force of the battery current flowing in the artificial line circuits, as set forth.

3. The artificial circuit at the receiving end of a line of telegraph, in which the battery current flows at its required maximum of quantity or force, excepting when a greater or less portion of the battery current is diverted into the line wire by establishing the line wire circuit, as set forth.

4. The method of effecting a record at the receiving instrument, or of actuating the receiving instrument, consisting in wholly or partially short circuiting the main battery, which is placed at the receiving station, by wholly or partially diverting its current from an artificial circuit into the line-wire circuit.

166,431.—ELECTRO-MAGNETIC ENGINES.—Alexander Tittman, Chamcey, assignor to himself and Henry S. Daggett, Lafayette, Ind. [Filed April 15, 1875.]

1. In combination with an unequal number of magnets and armatures, arranged, respectively, on a stationary cylinder and a revolving disk, a stationary ring provided with a series of keys and plates corresponding with the number of magnets, and a revolving disk provided with a series of recesses corresponding with the number of armatures, substantially as and for the purposes herein set forth.

2. In an electro-magnetic engine, the combination of the bell crank shaped keys k k', &c., plates P P', &c., springs s s, and central disk provided with recessed edge, all arranged to operate as set forth.

REISSUES.

6,575.—HOTEL ANNUNCIATORS AND FIRE ALARMS.—Edward A. Hill, Chicago, Ill. Patent No. 114,007, dated April 25, 1871. [Filed July 19, 1875.]

Numbers left unpainted on an opaque ground, tilting shields same color as ground normally behind the numbers, practically concealing them until withdrawn by magnet.

1. The combination of the pivoted armature O, and tilting blinds or curtains B, when constructed and operating in an annunciator, substantially as and for the purposes specified.

2. The dial S, provided with transparent figures, in combination with the tilting blind, as and for the purpose as specified.

3. The slide-bar V, for restoring the curtain or blind B or the pivoted armature O, as described.

6,577.—HOTEL ANNUNCIATORS AND FIRE ALARMS.—Edward A. Hill, Chicago, Ill. Patent No. 114,007, dated April 25, 1871. [Filed July 19, 1875.]

The combination of the thermostat and call key or knob in a circuit with an electro-magnetic annunciator, as described.

TO WHOM IT MAY CONCERN.

I, GEORGE LITTLE, of Passaic City, in the County of Passaic, and State of New Jersey, have had a writ of attachment issued on an UNASSIGNED INTEREST in certain UNASSIGNED PATENTS now in my possession, and heretofore held by me for GEORGE HARRINGTON, of Washington, D. C., to wit: For Great Britain—Patents 2,634, Sept. 7, 1869; 1,207, April 22, 1872. For the Dominion of Canada—Patents 2,039, January 9, 1873. For the Russian Empire—Patent of Dec. 6, 1874 (said Harrington having, on or about the first day of May, 1875, left the United States for parts unknown to me.)

The above Patents were issued to me for my "AMERICAN RAPID SYSTEM OF AUTOMATIC TELEGRAPHY," the right and title to which I am now ready to assign or responsible parties.

GEORGE LITTLE,
PASSAIC CITY, N. J.

August 27, 1875.

FOR SALE.—CEDAR TELEGRAPH POLES.

In lengths of twenty-five, thirty, thirty-five, and forty feet; five to six inches at small end, and bark pulled off. In car loads or by vessel loads, delivered at any of the lake ports between Oswego and Chicago as may be agreed upon. Thirty-foot poles for fire alarm telegraph a specialty.

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Our INSULATORS, made of Berlin-pressed, tempered porcelain, with screw thread and supports of hardened iron, which are screwed into the interior threaded portion of the insulators, acknowledged to be the most durable, are sold at lowest manufacturers' market price. We sell also telegraph wire of every kind at reasonable discount at wholesale. Address,

ACT. GES. FOR TELEGRAPHEN-BEDARF,
v. H. SCHOMBURG,
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BRADLEY'S

APPARATUS FOR

ELECTRIC MEASUREMENT,

COMPOSED OF HIS

Tangent Galvanometer and Rheostat.
(Patented January 7th, 1873.)

Widely known and used among telegraph companies for practical work; also in colleges and other institutions of learning as a means of instruction and scientific experiment. Invaluable to experts or students in electrical science.

APPARATUS COMBINING

WHEATSTONE'S BRIDGE,

Also GALVANOMETERS for special purposes designed and furnished at short notice.

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NAKED WIRE HELICES,
for Electro-Magnets, wound to any given size and resistance.

Manufacturers of Telegraphic and Electrical Instruments supplied at low rates.

For prices and pamphlet descriptive of apparatus, apply to

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DETROIT, MICHIGAN.

ORTON'S PATENT PENCIL HOLDER

"SAVE THE PIECES."

This HOLDER is intended to save the last half or third of the pencil.

DIRECTIONS.

When the pencil becomes too short to write with comfortably, shave down the butt and screw into the Holder. The screw makes its own thread and will hold the pencil perfectly firm.

Price, 10 cents each.

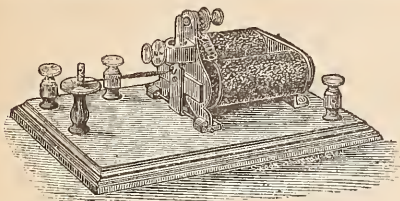
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Price per doz., 60 cents.

GEO. H. BLISS & CO., Gen'l Agents,
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will not be undersold by any firm competing in price or quality.



PONY RELAY, PRICE \$5.63.

A reduction of 25 per cent. from our former prices on all Relays and Main Line Sounders.

	Former Price.	Red. Price.
No. 1 Relay, a superior d'ble adj. inst., and standard res., and finely finished.....	\$15 00	\$11 25
No. 2 Relay, a superior d'ble adj. inst., and standard res., and finely finished.....	14 00	10 50
Pony Relay, a superior inst. for lines of 15 miles or less. See above Cut.....	7 50	5 63
No. 1 Main Line Sounder, d'ble adj., finely finished, standard resistance.....	16 00	12 00
Fifteen per cent. discount from our former low prices on keys.		
No. 1 Key, improved standard size, heavy platinum, finely finished.....	4 00	3 40
No. 2 Key, improved standard size, heavy platinum, iron base.....	2 75	2 34
Ten per cent. discount from our former very low priced Local Sounders.		
Acme Local, No. 1, large and loud, works well with one cell local.....	5 00	4 50
Acme Local, No. 2, small size, round base, one cell local sufficient.....	4 75	4 28



ELECTRICAL BELLS

of various styles and sizes at a reduction of 25 per cent. from former prices.

No. 1 Alarm Bell, 3 1/4 inches in diameter (see cut), works well with one cell local; single stroke or continuous ringing, as desired, changed by lever; thumb-screws with check nuts, for adjusting spring and stroke, large and hard platinum connections; binding posts for holding wires; Bell finely polished, and base extra ornamented. Former price, \$4 50; reduced price, \$3 38.

No. 2 Alarm Bell, without binding posts, and cheaper finish, but working equally as well. Former price, \$3 50; reduced price, \$2 63.

All other standard improved instruments proportionately as cheap. Also, Batteries, Supplies, Chemicals, &c., at lowest rates.

PRICE REDUCED!!



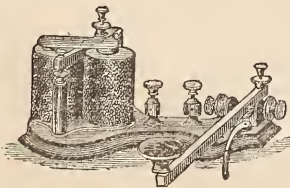
THE POCKET GALVANOMETER,

finely finished and Nickel Plated, will be sent by mail, to any address in the United States, on receipt of one dollar (\$1 00). Canada, 10 cents extra to pay postage. Send for Circular.

X-L-C-R.

20% discount from former price.

The X-L-C-R outfit for learners consists of instrument finely finished, levers, binding posts, thumb screws, &c., of brass, finely polished, platinum points; one cell Callaud battery, Manual, office wire, chemicals, &c. Price, \$5.44.



Until further notice, when desired, instruments of our own make will be sent to responsible parties C. O. D., with instructions to the express agent to show instruments before receiving pay, and if not satisfactory they can be returned at our expense.

Other goods will be sent C. O. D. as usual, or on receipt of money order, registered letter, or draft on N. Y.

Price List and Circular of other Instruments, Batteries, Supplies, Chemicals, &c., sent on application.

All orders will receive prompt and careful attention, consigned to

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THE POCKET GALVANOMETER.

PRICE REDUCED.

The Pocket Galvanometer manufactured by LANNERT & DECKER, finely finished and nickel plated, sent by mail to any part of the United States on receipt of ONE DOLLAR. To Canada, ten cents extra, to pay postage. May be seen at the office of THE TELEGRAPHER, and will be forwarded as above on application to,
J. N. ASHLEY,

P. O. Box 5,508.

38 Vesey street, New York.

WESTERN ELECTRIC MAN'FG CO.

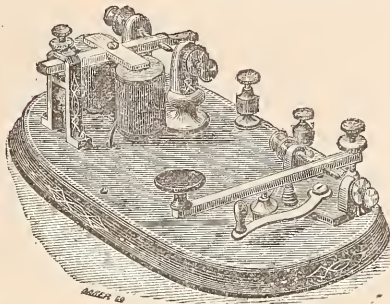
220 Kinzie Street,

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CELEBRATED

PRIVATE LINE OUTFIT.

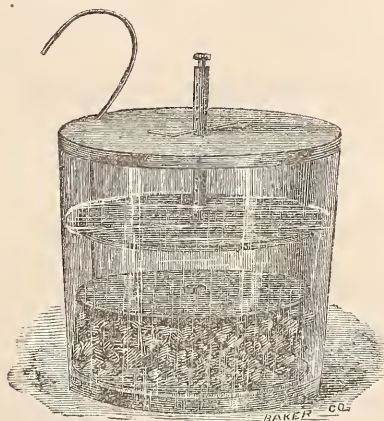
THE BEST IN THE WORLD.



PRIVATE LINE INSTRUMENT.

This instrument is mounted on an iron base and finely finished.

It gives a clear, loud sound. It is made to work on a line from a few feet to ten miles in length.



BLISS RESERVOIR BATTERY.

This battery took the first premium and a silver medal for force, constancy and economy at the Cincinnati Exposition.

With each "Private Line Outfit" is furnished one Private Line Instrument, one Cup Reservoir Battery, the necessary Chemicals, Wire for connections and a Manual.

PRICES.

Private Line Outfit, complete.....	\$10 00
Instrument only.....	8 00
Bliss Reservoir Battery, per cell.....	2 00

DISCOUNT.

A discount of twenty per cent. will be allowed when remittance accompanies the order. Remit by express, registered letter, postal order or draft.

In ordering state length of line, so that the resistance of instruments may be proportioned accordingly.

SEND FOR CIRCULAR.

Liberal terms to Agents.

WESTERN ELECTRIC M'FG CO.,

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JUST OUT.

NEW AND ENLARGED EDITION OF

SMITH'S

MANUAL OF TELEGRAPHY

CONTAINING

Complete Directions for Self-Instruction in Telegraphy, Instructions for Building and Operating

SHORT LINES OF TELEGRAPH,

Diagrams showing the manner of connecting wires, batteries instruments, &c.

Descriptions and cuts of all forms of telegraph instruments, batteries, &c.

Cuts, descriptions and prices of the

BEST LEARNER'S APPARATUS

AND

SHORT LINE INSTRUMENTS;

Together with full explanations of everything necessary for the

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To know.

Every operator and every student of telegraphy should have one.

It is the

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A MERICAN FIRE ALARM AND
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GAMEWELL & CO., Proprietors,
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Special Agents for California, Oregon and Nevada.

THIS SYSTEM OF
FIRE ALARM & POLICE TELEGRAPH

WITH A CENTRAL OFFICE,
OR
UPON THE AUTOMATIC PLAN,

is now in operation in the following Cities, to which references
made for evidence of its great

SUPERIORITY, VALUE
AND
UNIFORM RELIABILITY.

Albany, N. Y.,
Alleghany, Pa.,
Boston, Mass.,
Bridgeport, Conn.,
Buffalo, N. Y.,
Baltimore, Md.,
Chicago, Ill.,
Cincinnati, Ohio,
Columbus, Ohio,
Cambridge, Mass.,
Charlestown, Mass.,
Ovington, Ky.,
Detroit, Mich.,
Dayton, Ohio,
Elizabeth, N. J.,
Fall River, Mass.,
Fitchburg, Mass.,
Fond du Lac, Wis.,
Hartford, Conn.,
Halifax, N. S.,
Hyde Park, Ill.,
Indianapolis, Ind.,
Jersey City, N. J.,
Kalamazoo, Mich.,
Louisville, Ky.,
Lowell, Mass.,
Lawrence, Mass.,
Lynn, Mass.,
Mobile, Ala.,
Montreal, Canada,
Milwaukee, Wis.,

Minneapolis, Minn.,
New York City,
New Orleans, La.,
New Bedford, Mass.,
New Haven, Conn.,
Newark, N. J.,
Nashville, Tenn.,
Omaha, Neb.,
Philadelphia, Pa.,
Pittsburg, Pa.,
Portland, Maine,
Peoria, Ill.,
Providence, R. I.,
Portland, Oregon.,
Pawtucket, R. I.,
Quebec, L. C.,
Rochester, N. Y.,
Richmond, Va.,
St. Louis, Mo.,
St. John, N. B.,
Springfield, Mass.,
San Francisco, Cal.,
Savannah, Ga.,
Syracuse, N. Y.,
Somerville, Miss.,
Troy, N. Y.,
Taunton, Mass.,
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Toronto, Canada,
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The Distinctive Features of these Systems of

Fire Alarm and Police Telegraphs

ARE,

First—The Automatic Repeater, through which the apparatus may be distributed in a combination of circuits, and the entire system successfully worked, without the constant personal attention of either operators or watchmen.

Second—The Automatic Signal Boxes.

Third—The Electro-Mechanical Bell Strikers, adapted to produce the full tone of the largest church or tower bells.

Fourth—The Electro-Mechanical Gong Striker, for hose and engine houses, by means of which the location of the fire is instantaneously communicated to the members of each fire company.

These Features combined form the

Only **PERFECT, COMPLETE** and **RELIABLE** System

OR
FIRE ALARM TELEGRAPH
IN THE WORLD.

It is a sufficient vindication of the claims which are made by the Proprietors of these systems of

FIRE ALARM
AND
POLICE TELEGRAPHS,

that they have sustained the test of more than twenty years of practical use, and that the efforts which have been repeatedly made to supplant them by other inventions have

COMPLETELY FAILED;

the few instances in which municipalities have been induced to adopt other systems having demonstrated their insufficiency and unreliability, and resulted in their abandonment, and substitution thereof of the

AMERICAN FIRE ALARM TELEGRAPH.

Messrs. **GAMEWELL & CO.** are the owners of the original *FARMER & CHANNING PATENTS*, one of the most important of which has just been extended for seven years, and during the past seventeen years have spared no expense or effort to secure improvements, and the Systems are now covered by

MORE THAN TWENTY PATENTS.

The most important improvement which the Proprietors have adopted and introduced is the

AUTOMATIC SYSTEM,

the introduction and operation of which involves so little expense, compared to the benefit which it confers, that even small communities can profitably adopt and maintain it.

The American System of

FIRE ALARM AND POLICE TELEGRAPHS

has met with the universal approbation and commendation of the

People, Municipal Authorities,
AND THE
PRESS

throughout the UNITED STATES and CANADA.

NO EFFORT, TROUBLE OR EXPENSE

is spared by the Proprietors to obtain and secure ANY POSSIBLE IMPROVEMENT which shall increase the

EFFICIENCY,
RELIABILITY and
ECONOMY

of the system. They intend that, as far as possible, it shall be

ABSOLUTELY PERFECT!

The amount of property which has been saved from destruction, and the number of lives which have been preserved through the general adoption of this system, throughout the UNITED STATES and the DOMINION OF CANADA,

CANNOT EASILY BE ESTIMATED,

but that, in every community where it has been introduced for any considerable length of time, they have been enormous, **THREE CAN BE NO QUESTION.**

The cooperation of **TELEGRAPHERS** in securing its introduction into their localities is cordially invited, and their efforts will be duly appreciated and compensated.

Any information desired in regard to the above system will be cheerfully and promptly furnished upon application at the office.

A pamphlet, setting forth more fully its advantages and superiority, has been printed, and will be supplied to Municipal Authorities and others interested in Fire Alarm and Police Telegraphy, upon application as above.

CHARLES T. CHESTER,
104 Centre Street,
NEW YORK,

TELEGRAPH ENGINEER,

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INSTRUMENTS,

BATTERIES,

AND EVERY DESCRIPTION OF

TELEGRAPH SUPPLIES

BUNNELL'S PATENT REPEATER.

These instruments are now made in two different styles, at \$120 and \$135 a set, consisting of two Relays, two Sounders, two Keys and Governor.

JONES' LOCK SWITCH-BOARD,

a most compact and reliable Switch, forming a clean spring-locked connection between any number of wires, occupying for each different connection only one square inch of space, and though made of the largest size, not subject to the warp and contraction of wood-work.

EXCLUSIVE AGENTS OF

A. G. DAY'S

KERITE,

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COMPOUND RUBBER COVERED WIRE

SUBTERRANEAN & AERIAL WIRES,

OF THE

HIGHEST INSULATION.

We are now prepared to furnish, after an experience of three years, an Insulated Wire which can be buried in the earth or exposed to rain and sun, or to the vapor of acids, without injury. Professor SILLIMAN, who has exposed it to the most destructive agencies, finds that it remains uninjured in an atmosphere of ozone, which would destroy gutta-percha in a few hours. It exceeds glass or any other known substance as a non-conductor

We have made special arrangements to furnish this article for other purposes at a reduced rate.

ALSO, TO FURNISH

IRON CLAD CABLES

of the usual size, with KERITE COVER, believing that it will exceed, in insulation for submarine purposes, ANYTHING HITHERTO MANUFACTURED.

We shall be happy to furnish estimates for any amount and size of cable, which will be found to compete with any other construction, both in quality and price.

We manufacture the Genuine **ELECTROPOION BATTERY**, with Patent Platina Connection. Introduced by us eight years since; also, **THE ALPHABETICAL OR DIAL TELEGRAPH**, now extensively used in this and other cities for private lines being easily and quickly learned by any one.

We offer for sale, among other novelties, a **SOUNDER** that will work practically with a single DANIELL cell, a **BATTERY** that does not require to be taken down but once a year, and the very best **MAIN LINE SOUNDERS** made

Our **CATALOGUE**, embracing a large amount of new matter and description, is now ready for distribution.

THE TELEGRAPHER

A JOURNAL OF
ELECTRICAL PROGRESS.

J. N. ASHLEY, PUBLISHER.

SATURDAY, SEPTEMBER 11, 1875.

VOL. XI.

WHOLE No. 478.

Original Articles.

Catching a Tartar.

By DOUBLE SIX.

SOME years since there appeared in New York office one day a man "all tattered and torn," upon whose features were plainly visible the effects of a dissipated life; his garments hung about him almost literally in shreds; his shoes were in a sadly dilapidated condition, leaving his toes to battle with the outside world alone and unprotected; certainly a more unpromising looking specimen had never before found his way into a telegraph office. He was evidently laboring under a heavy burden of materialized spirits, yet the manner in which he bore it proved that it was not an unusual occurrence for him to carry it.

This was long before the time of duplexes and quads., and consequently those wires which did a heavy business were manned with "lightning" operators. Considerable rivalry existed as to who was not only the fastest receiver but the one who could hold out the longest without breaking. George W—, at that time well known for his expertness, had about established a reputation for being the longest winded man in the office; to prove this to the satisfaction of all, he happened on this particular morning, while in conversation with a number of operators, to offer to stake a certain sum that he could receive more messages without breaking than any other man in the office.

Our chance visitor overheard the remark, and seeing that no one seemed disposed to accept the challenge, staggered up to the group, saying, "See here (hic) mister, I han't got nary red (hic), but I'll try that thing with you." All ridiculed the idea and laughed at the presumption of the new comer, none suspecting him to be possessed of any ability as an operator. However, it would not do to refuse to make the trial before so many, so our friend W—, sure of an easy triumph, agreed to stake his money against nothing, as the affair would at least afford him an opportunity of showing off his talents, which, by the way, were really of a superior order.

The Pittsburg and New York circuit, which was at that time one of the liveliest, was selected as the scene of the trial. W— sat down and very confidently went to work, receiving some fifty messages in fine style, when he lost a word, and the game was up for him.

Our visitor, whom we will call Dick, for short, now sat down, and after fumbling around for a while, got hold of the key and greeted the Pittsburg man familiarly with "Hello, Jack, let's have 'em now." Back came the recognition "G. M.; is that you, Dick? guess you are good for 'em." The party who were crowded around the table, ready to see the greeny get rnsed out of his boots, began to smell a large sized *mice*, and to think that for once they had caught a Tartar, and were not going to have quite so much fun after all. Dick was at home now, as he knew the sender's writing by heart, having worked with him for months in another office before interpenance had lost him both friends and position. The messages came rattling in in true Pittsburg style, sounding to the uninitiated ear like Blind Tom's rain storm, still no breaks for Dick; pretty soon, as if impatient with the monotony of copying message after message in the usual way, he commenced executing a series of pen and ink gymnastics which rather astonished his audience; commencing at the period he would wait until four or five words (as many as he wished to put on one line) had been sent, and then begin copying them backward, writing the fourth word first, then the third, and so on through the message. This was one of Dick's peculiar accomplishments. After amusing himself in this way for a while he would copy as usual again. In this way he went on until some seventy messages had been received, when he got the "back-stroke" on a word and would have been obliged to break; to cover this he coolly threw open his key and got up, remarking, "What's the use of my working away here? I don't get any pay for this." His triumph was complete, but he refused to take the stakes, remarking, as he did so, "Here, take your money, I don't want it, but you musn't always take a man for a fool simply because his clothes are ragged

and his shirt isn't clean." He had won not only the wager but the hearts of the crowd, and none shook his hand more warmly than did his defeated opponent, who took him out and bought him a suit of clothes, set him on his feet (not barefoot now) and procured for him a position commensurate with his ability. Dick used often to say afterwards that he never had a warmer friend than George W—.

The above incident is not imaginary, but is one which actually took place in New York main office some years ago. Dick was one of the finest operators in the country, and it would be a difficult task to find his equal even at this time, but (and how often that little word *but* is placed before the secret of a misspent life) his dissipated habits, which had grown too strong to be conquered, brought him finally to an outcast's grave.

This example is but one of a hundred others. How many of our profession, whose talents are above the average, ruin their prospects, break the hearts of their loved ones, and send their own immortal souls down to perdition by their indulgence in intoxicating drinks! little by little they may have been led along the downward road; a glass of ale to-day, something stronger to-morrow, and slowly but surely they are bound by chains from which they are powerless to release themselves. "Touch not, taste not, handle not," is the only way in which we can elude this demon. As a class we are too self-indulgent and careless. We need to get more out of ourselves and to live with some higher, nobler end in view than the mere satisfying of the desires of our animal natures or the attainment of our own personal pleasure.

The Perils of Telegraphing in the Far West.

By BEN. BREESE.

SOME years ago, and during my early telegraphic career, I was employed as night operator at a small railway station in the interior of Massachusetts. My hours were exceedingly long, and, as I had but little to do, were very irksome to me, as they are to most young operators. I was, to a great degree, ambitious, and longed for a larger and better field. I was considered a tolerably good operator for one so young, for I was but in my sixteenth year. I had made several applications to the superintendent of telegraph for an office where I might work days and have more telegraphing to do, but with no avail. The only reply I received was "wait a while, you are young yet." My ideas did not exactly harmonize with his on this particular subject, and every day the position became more and more depressive.

It was when in one of these despondent moods a friend of mine at B— called me, and after conversing for a time, said, "Well, Ben, I'll have to say good bye, as I leave for the west next week. By the way, how would you like to go out on the Union Pacific? there's a party of us going; can get you a good place." I was not a moment making up my mind that I would go. My parents and friends were very much surprised when I made my intentions known, and were greatly opposed to my going. Notwithstanding, when the party were ready to start, I found myself one of the number, bound for the far West. We had a pleasant trip, and in a few days arrived at Omaha, where we reported for orders. I was to go to W—, about eight hundred miles west of Omaha.

After a long and tedious journey I arrived at my destination. The chief operator of the road had accompanied me to install me in my new quarters; the train only stopped a moment, and was soon out of sight. After giving me all the necessary instructions, and procuring me a boarding place, the best the town could boast of, the chief operator took the next train east.

The moment I stopped from the cars and surveyed the surroundings a sense of disappointment came over me, and I must confess I felt a little homesick. I said nothing to the chief operator, however, determined to keep my disappointment to myself. A description of the place would undoubtedly prove uninteresting, but I will endeavor to relate, as concisely as possible, my first impression the morning after my arrival. As I stood in the door of the rude shanty, which the residents had the audacity to call "the depot," the track was only visible for about a dozen rods, and was then lost from view in a dense forest; to the rear of the shanty rose high boulders of rock, extending as far as the eye could reach, and at its base ran a small stream. Two boards were stretched across this, to enable the villagers to reach the depot. The village, if such it could be called, was distant about half a mile, and contained three rude huts, occupied by two white families and a family of half breeds. I had had my choice of the three, and wisely chose a German family, named Heiners, with whom I was to take my meals, and sleep in the shanty—I should say *depot*! This was not just my idea of a sinecure; but I had only one thing to do, and that was to take it as cool and comfortable as possible.

What they wanted a telegraph office at W— for was a mystery to me. The only train that stopped was

a freight and emigrant train; and half the time that train forgot to stop, probably because they could not see the station. I was obliged to report every train that passed between the hours of 7 A. M. and 9 P. M. I had almost forgotten how a train order looked, and one day, when I received an order for a construction train, I placed it over the small mirror I had brought from the east, and which was of no value in that uncivilized country, for of course one was not particular about his appearance in such a locality. The order completely covered the glass, and I kept it there for nearly six months as a curiosity.

The Heiners were far from possessing any social qualities. They seemed to have a great dread or fear of Indians, and that was about the only subject they ever allowed their conversation to dwell upon. To tell the truth, I began to feel somewhat anxious about the matter myself, although I had not seen a dozen redskins since my arrival. The stories told of the maraudings and attacks by Indians in the adjacent counties so affected my thoughts of safety, that I finally sent to Laramie and purchased a seven shooter, which I always kept near at hand.

I had been at W— about eight months, when, one night, I was suddenly awakened by an unusual noise at the rear door of the depot. It was raining quite hard and was exceedingly dark. I had, as usual, left the light burning dimly. Reaching over to the table, I turned on the light—all was still. I listened for some time but heard nothing, turned the light down again, and was soon soundly sleeping. I must have slept half an hour when I was again awakened by a heavy rapping at the door, and looking in the direction from whence the sound came, saw two faces, which, by their dusky appearance, I readily recognized as redskins, gazing through the small window directly over the door. They made signs for me to open the door. I got up and partially dressed, and was particular to search the pocket in which I always carried my revolver, and found it safely in its place. I did not open the door as soon as they desired, for in a moment the door came in with a crash, and four as unctuous looking Indians as I ever beheld entered the room. They did not appear to be hostile, and after gazing about the room for some time, they began moving their hands to their mouths, as if in the act of drinking. I soon perceived what they wished; they expected to find some liquor. The previous day I had received a few pounds of smoking tobacco; thinking this might pacify them, I took the tobacco from one of the drawers of the table and handed it to the nearest Indian. He divided the tobacco with the three others, and then began searching the table drawers. While this was going on I stealthily approached the side door and quietly removed the bolt. They ransacked the closets, but finding nothing, began muttering to themselves. I closely scanned their persons and felt satisfied that they carried no shooting irons. I could discern by their actions that they were greatly incensed at not finding any liquor, and I momentarily expected an attack. I knew it would be useless for me to attempt to resist such odds. Now was my time for escape. I quickly threw open the door and in an instant dropped into the outer darkness; it was none so soon, for the moment I passed out of the door I saw the Indian nearest me in the act of raising a heavy club. I made my way along the banks of the stream, closely pursued by the redskins; it was intensely dark. Nearer, nearer came the pursuers; by the sound of their footsteps I judged that only two of the Indians had joined in the chase. They were rapidly gaining on me. Drawing my revolver I turned suddenly, and, when the foremost approached within a yard, I fired twice in rapid succession. He threw up his arms and fell helpless to the ground! The second Indian slackened his speed at the sudden fall of his companion, but only for a moment, and then dashed madly at me. I fired and only succeeded in wounding him—the bullet had taken effect in his right arm, which hung useless at his side. We clinched, and in the darkness I succeeded in breaking from him; he was entirely at my mercy. I was in the act of binding his arms when I discovered drops of blood coursing down my left arm. I had received a slight stab; the savage had undoubtedly aimed at my heart. My intention had been to bind him and leave him, but finding he had resorted to the knife, I loosened my hold, and the moment he regained his feet I sent a bullet through his brain. He never uttered another word but fell heavily to the earth.

Fearing the other Indians might follow after their companions, I hurriedly crossed the stream and concealed myself in a crevice of the rocks, where I remained until daybreak, and then made my way to the house, where my arm was bandaged, and with Mr. Heiners visited the depot, where we found everything demolished and several articles missing. We followed the stream for some distance and found the dead bodies of the two Indians, but a few yards apart. We buried their bodies near the bank of the small stream, leaving a large flat stone as the only monument to mark their resting place. No trace of the other two Indians could be discovered. That afternoon I took the first

train to Ogden, where I related the circumstance to the railroad officials, and most emphatically declined to again return to W—. The following day I left for home, completely satisfied that the far West was not a wholesome place for telegraph operators. My arm gave me some pain, but it was a satisfaction, even with that lame arm, to caress a sound scalp.

The Jovial Spirits in Hoboken.

THE announcement that a contest at the national game would take place on Thursday, Sept. 2d, at the Elysian Fields, Hoboken, N. J., between the Associated Press Nine, composed of Messrs. Degraw, Gore, Jones, Boileau, Meyers, Roberts, Mears, Fisher and Ellis, and The W. U. Invincibles, Messrs. McKeldin, Leslie, Sawyer, W. J. Landy, Ashhurst, McDermott, Richmond, Catlin and Welch, drew quite a concourse of interested spectators to witness it. The weather was all that could have been wished for, and everything pointed favorably towards a well contested game. At three o'clock, P. M., both nines were on the field, and the Press men winning the toss sent the Invincibles to the bat for the first inning. The game progressed uninterrupted up to the fifth inning, when Mr. Landy, being disabled, relinquished his position to Capt. Geo. Eitemiller, who deserves great commendation for the excellent manner in which he acquitted himself during the remainder of the game—not allowing a single ball to pass him, and displaying superior skill at the bat. Nothing further of interest occurred, and 5:50 o'clock, P. M., the ninth inning closed a hard fought battle, as the appended result shows:

	1	2	3	4	5	6	7	8	9	Total
Associated Press..	0	2	1	2	0	1	0	0	0	6
Invincibles.....	1	0	1	0	0	1	1	1	0	5

After the conclusion of the game a series of running matches was organized. The first, 100 yards, open to all the urhins upon the ground, was participated in by nineteen; and a sixteen year old, glorying in the high sounding cognomen of "Feet," carried off the prize, consisting of two bats. The second race was similar to the first, except that the winner of the first was barred the privilege of entrance. The victor, a sunny haired youth, giving his age as fourteen, and enjoying the aristocratic title of "Blubber," took away another pair of the bats. Capt. Eitemiller then proposed to run any man or boy in the crowd, the conditions being that his antagonist should run backwards. The challenge was accepted by Mr. Sawyer, and at the word a fair start was made, but the race was given up by Mr. Sawyer before half the distance (50 yards) was accomplished. The captain, however, succeeded in "hoopin' it up" to the end, obliging his opponent to do the segars. The last race was a 100 yards challenge race, between a little fellow twenty-eight years old and the winner of the first race, which was easily won by the latter, who added a prize of \$1 to the proceeds of his former triumph.

This concluded the field sports, but the crowning event was yet to come. The whole party, under the guidance of the courteous Mr. Mears, proceeded to Grove's, on Washington street, when they found a solid spread awaiting their arrival.

After entering the large hall connected with the establishment the doors were closed, and the party formed into a sort of "free and easy meeting," with Mr. D. W. McAneeny as chairman, who stated briefly that the object of the meeting was simply an evening's fun, and wished to see all enjoy themselves to the fullest extent. After an artistically performed overture on the piano by Mr. Jno. Ashhurst the first keg was tapped, and the good old lager began to flow freely. Messrs. Jones and Gore, who came over from Philadelphia to take part in the ball game, being the only strangers present, were made the special guests of the party, and appeared to enjoy themselves hugely. The first toast, "Our Quaker City guests," proposed by Mr. Ashhurst, was responded to in a very neat manner by Mr. Jones. Then in order "Our Texan brothers," ably but briefly responded to by Capt. Geo. Eitemiller, the latest arrival from Galveston.

"The New York office," responded to by Mr. J. H. Lyman. "The Associated Press Nine," responded to by Capt. Degraw. "The Invincible B. B. C. of 187," responded to by Capt. Sawyer, after which Chairman McAneeny, being called on to favor the company in a vocal way, rendered, in very effective style, "The Last Rose of Summer." Mac possesses a very sweet tenor voice and his audience showed its appreciation of his efforts by long and continued applause. Mr. McDermott being called for, appeared and sang an Irish localism, entitled "Since Terence Joined the Gang," and for an encore he and Mr. McAneeny dueted "Excelsior." Mr. Conly then appeared in "the Hamtown Students," and Mr. Mears followed in a very comic ditty. Waltzing was next in order, and the boys were soon whirling in pairs over the large smooth floor to Prof. Ashhurst's fine music. After dancing until all were pretty tired the vocalisms were resumed by Mr.

Fred Catlin, who sang with great taste "The Cottage by the Sea," succeeded by Mr. Singleton in a beautiful ballad. Somebody then yelled for "Terry Joined the Gang," and, after repeated calls, Messrs. McDermott and Landy rose to respond. They created much merriment by their imitations of the Hibernian element of Gotham. Mr. Jas. H. Lyman was then called for and favored his auditors with a pathetic ballad in good style. A quartette, "The Two Roses," by Messrs. McAneeny, Landy, Ashhurst and McDermott, "The Regular Army, Oh!" and "The Skidmore Guards," by the whole company, wound up the evening's festivities, and at midnight all hands took the boat for New York, where, after "one bumper at parting," each jovial spirit took up the uncertain tread to his dowry couch, vowing it was the grandest racket ever known.

Correspondence.

We do not hold ourselves responsible for the opinions of our Correspondents. Our columns are open to free discussions on all Telegraphic subjects, without distinction of person or opinion.

No notice will be taken of anonymous communications.

A Challenge from Mr. W. E. Kettles for a Trial of Skill and Speed in Transmitting Morse.

BOSTON, MASS., Sep. 6.

TO THE EDITOR OF THE TELEGRAPHER.

BELIEVING that the Philadelphia Centennial, bringing, as it were, the whole world to the great exposition in Philadelphia, in 1876, would offer grand facilities and an unprecedented opportunity to show the world what can be done in the way of rapid telegraphing by American operators, I hereby challenge any man in the world to compete with me in "sending" 25,000 words, solid matter, in Morse, against time, and for a prize, the selection and value of which to be hereafter considered, and for the

CHAMPIONSHIP OF THE WORLD.

The whole number of words to be sent at one continuous trial, and also to be "received" in good legible copy by a receiver, or receivers which will be hereafter agreed to.

I would, however, prefer Mr. Chas. D. Stanford, of Boston office, as my competitor, and I hereby give as my reasons for putting a challenge in this way for the championship, that Mr. Stanford's ability and record is far above the average, as is well known to eastern operators, and that it would be impossible for me to do otherwise than to select my man in such a case as this, and encourage starting a tournament, as undoubtedly such an interest would be manifested, and we have so many good men, that time would simply not allow more than two days' "sending."

Hoping that this will be followed by my brother operators in America and Europe with communications to the winner similar to this, enabling the telegraphers of both countries to unite their skill and talent in the various departments of the profession in a grand tournament, which will be an event of the Centennial, I am, very truly yours,
W. E. KETTLES.

Too Many Orders.—Tyranny and Oppression in Chicago Office.

CHICAGO, ILL., Aug. 29.

TO THE EDITOR OF THE TELEGRAPHER.

"For ways that are dark,
And tricks that are vain,
The chief operators of Chicago are peculiar."

How applicable the above is to the chief operators of Chicago office few persons outside of this city can have but the faintest conception. Go where you will, where can another such office be found? Is there another one like it? The new management have inaugurated a system that falls but little short of slavery for the operators, and the number of "orders," notices, etc., posted on the bulletin are perfectly astounding, so much so in fact that one is almost struck dumb with astonishment and wonders "what next?" You are told to do this and do that until you are almost lost in a perfect labyrinth of "doings." It seems as though every new idea that flashes through the mind of some "chief" is put in writing and "slap" she goes on the bulletin board. "Operators must not talk with each other while busy." "Operators must not go beyond hearing of their instruments," are two of the latest, and will show for themselves. It would appear as though the management did not think an "operator" capable of exercising the least judgment at all, and that it was necessary to stand over him with a lash at all times. I have yet to find another office where an operator who goes to the manager with a grievance can get no satisfaction, but is sent back to his instrument like some school boy, or, as was the case a few nights since,

told by the night manager, "I have no sympathy for you, and don't want to argue the matter. If you don't like it you can go home." How pleasant it is to receive such an answer as that from one high in authority, and of whom one would naturally expect something different! Again, we are told "you must do better; there are plenty of operators wanting work." Now I ask, "where are they?" Why don't they get them, and not press in men who have worked all day and make them stay until eleven or twelve o'clock at night, and night men, after working hard until one and two o'clock at night, make them come around at eight or nine the next morning? Why don't they get their men if there are so many idle? The truth of the matter is there are but very few first class men idle, and what few there are do not care to come here. It is only necessary to mention one fact to show the cause of such general dissatisfaction as at present exists among the "operatives of Chicago office." One year ago there was on the night force twenty-six men in what is known as the Ring. That is, one night you were "first" off, and so on through the entire list. Then there were also several twelve o'clock men. But how is it now? There are only nineteen men in the Ring and one twelve o'clock man, and as a consequence, day men are pressed in to work extra until late at night, and the regular night men suffer. Can you wonder at the general feeling of dissatisfaction? Business has not decreased, but on the contrary has increased fully one third. Operators never were worked so hard before, and for so small a salary. The management will probably find out their error after a number of their best men have left, and we can name fully a dozen that intend doing so as soon as circumstances will permit.

HARKAWAY.

A Reply by "John Sterling" to Criticism and Personalities.

BOSTON, MASS., August 31.

TO THE EDITOR OF THE TELEGRAPHER.

SOME writer has said that life is too short for us to notice all the unpleasant things said of us. I do not propose to notice all the malicious things that have appeared in your correspondence columns during the past summer about "John Sterling." About the worst thing a man can do is to allow himself to be drawn into a personal controversy during the "dog days." He is sure to get heated over it, and then he's liable to say things not strictly within the bounds of courtesy, especially if he says them in the columns of a journal under a *nom de plume*.

I do not object to criticism, so long as it is made in a courteous way, but when it degenerates into personal abuse and insult, it loses the name of criticism and sinks into libellous scurrility.

I have "taken in" all that has appeared in your columns, Mr. Editor, and noticed the last *post mortem* communication from "Nihil Nameless," in which I was sorry to see him spoil an otherwise well written and interesting article by a piece of coarse and insulting personality, which no gentleman would have indulged in. If the living should speak well of the dead, the dead should return the compliment when they descend to speak at all. I didn't know Nihil was dead when I wrote my last reply to him, or I wouldn't have written it.

It may be said that I provoked and deserved this abuse, yet none who will take the trouble to glance again over my first reply to Nihil can say there is anything in it inspired by malice. His opinions on the "woman question" seemed to me utterly ridiculous, and devoid of that common sense which should enter into a man's opinions on any subject, and the lack of which has ever been considered a fair ground for criticism. Added to this, I thought I detected in his article a shade of hypocrisy. Under the fair mask of a pretended solicitude for the moral welfare of the other sex I thought I saw the grinning skeleton of selfishness—a selfish fear of future encroachments by that sex upon our profession, a sordid fear of a future reduction in salaries in consequence of that encroachment. Had Nihil shown his true colors at the outset, and based his objection to the female element in our ranks upon its real grounds, while differing from his sentiments I should have respected him for his candor and honesty; and on those grounds he might have made a presentable case, for there can be no doubt that the large increase in the number of female operators has had a material effect on the standard of wages paid for our labor. Knowing, as they do, that women stand ready to perform for \$40 and \$50 per month work which they are paid \$60 and \$75 for doing, the large class of men who receive the latter salaries cannot hope for increased wages. The result of this is that these men, in their turn, are willing, for a small increase in wages, to perform the heavy work for which \$90 and \$100 have heretofore been paid, and thus we can account for the gradual decrease in the scale of prices paid for our labor. Yet it must be borne in mind that if this result

was not brought about by the increase of female operators, it would be, more slowly but none the less surely, by the increase in the number of operators of our own sex—an increase which has been greater for some time than the demands of the business can provide for. The consequence is that to-day not only are there large numbers of ladies who are willing and anxious to work at much lower than the lowest salaries paid to men in the past, but there are large numbers of men who have no choice but to accept low salaries or leave the business. The women, therefore, cannot justly be held responsible for the present state of things.

The high wages paid in the past have been a great inducement to young people to learn the business, and hardly a city of any importance in the land but has had its "telegraph institute," whose "professors" has thriven upon the credulity of those who were eager to learn telegraphy.

It is safe to say that no other profession ever existed in which a boy of sixteen could command the same wages as a man of forty, and high wages at that, as has frequently been the case in ours.

The active state of the telegraph business, and the rapid extension of lines, served to keep the hundreds of new recruits yearly added to our ranks in employment, and never until the panic of 1873 had a time been known when an operator of character and ability could not find employment at good wages. Since that time, however, a great change has occurred. The demand for operators has not been equal to the supply, and we must not be surprised to learn that our labor is governed by the same laws of supply and demand which govern all other labor. Corporations, proverbially, have no souls, and the question with most of them is not, "Can we not pay our employés a good salary, and still pay a fair dividend to our stockholders?" but "Can we not get our work done more cheaply and pay larger dividends?"

The Western Union Telegraph Co. has shown its ability to answer the first question affirmatively. Except by the recent equalization of salaries south, no direct reductions have been made, and let us hope such a policy will not be found necessary. There are many operators who have been in the employ of that company for from ten to twenty-five years. Their salaries are now none too large for men of their character and intelligence, and it would be unjust, after all those years devoted to the service of the Western Union and its predecessors, to reduce their salaries, unless the profits of the telegraph business should fall far below the present figures.

Your correspondent, "Ministro," of Montreal, is evidently laboring under a mental hallucination of the gravest kind in regard to that poem by "Tom Quad." I hardly think the author of that amusing imitation of Longfellow's style intended any reflection upon the operators, or upon any individual operator of Boston. By the way, if your readers will procure "Pluribus-tah," a satire by the late "Doesticks," they will find it a still more amusing parody on this style.

The personalities which your correspondent was pleased to address to me I can afford to pass over in silence, as they show the character of the man in stronger colors than I could portray it, even if I knew him personally, which I do not. J. S.

Important Meeting of the American Electrical Society.—Proposed Changes in the Constitution and By-Laws.—Mr. F. W. Jones's Paper on the Quadruplex.—Personal.

CHICAGO, ILL., Aug. 30.

TO THE EDITOR OF THE TELEGRAPHER.

THE adjourned meeting of the American Electrical Society, held last Wednesday afternoon, was a grand success in point of numbers present as well as in the importance of the business transacted; several important communications were read and appropriately referred.

Quite an animated discussion arose in regard to the feeling in certain parts of the Union in regard to the society being too local in its nature, and corresponding members not having the same opportunity to know of the deliberations of the society at its monthly meetings, nor the communications read before such meetings, as the resident members, although they paid as much for the society's support as did the resident members. Several letters from corresponding members in regard to the matter were read. There were present Col. J. S. Wilson, Mr. C. H. Summers, Manager Maynard, Assistant Managers F. W. Jones and Plann, and Board of Trade Manager Robinson, and Assistant Manager Pettit; also, Operators Lawson and W. C. Loug, of the Western Union; Wm. Henry Smith, General Manager of the Western Associated Press; Messrs. Bliss, Dr. Hill, Barton and Kellogg, of the Western Electric Manufacturing Co.; Messrs.

Chandler and Woodford, of the Fire Alarm; C. S. Jones, Supt. Ill. Central Lines; Supt. Thayer, of N. W. Lines; Supt. Merriweather, of the New Orleans Western Union; Supt. Diekey, of Omaha, and a number of others whose names I cannot recollect, knowing them but casually. The meeting was called to order with Col. Wilson in the chair, and C. S. Jones Secretary, who is always on hand, "like a finger nail." The session lasted two hours. The question of local organizations at different points, which should be auxiliary to the main organization, was rather unanimously agreed upon as being a necessary adjunct, and one which should do great good. In regard to the moving of the headquarters from one city to another (thus changing the headquarters from Chicago from time to time, to any other city which could, by a majority vote of its members, get possession of it), the members present were considerably divided; some thought monthly meetings too frequent to have them all interesting; some were in favor of quarterly meetings, some only yearly. Col. Wilson was in favor of opening the doors and being liberal in this matter; if enough members in any other city were to be found who could vote the headquarters there, why give them the chance, at the same time we would do all we could by fair means to keep it here; but we could afford to be liberal; we had the honor of originating the society, which was glory enough for one year for us, and we had taken good care of the society for one year; we had had interesting meetings and could still have them, so let us show the rest of the world that we were not going to pursue the niggardly policy of keeping the headquarters here, let come what may. Quite a number coincided with Mr. Wilson, while others were in favor of having an officer, such as a secretary and treasurer, permanently established with the headquarters of the society at Chicago, so as to give it a legal status, but to hold the annual meetings at different cities, each previous annual meeting electing officers who shall be residents of the city where the next annual meeting shall be held; and also appointing committees in those cities to arrange each time for the annual meetings.

Mr. Kellogg having presented a series of resolutions in effect pretty nearly as above, a resolution was passed directing the chair to appoint a committee of five to meet with as many members of the committee who originally framed the constitution and by-laws as could be got together, and draw up a set of resolutions embodying such changes as has heretofore been suggested, also changing the number necessary for a quorum to transact business at regular meetings to five instead of fifteen, and arrange regarding local societies, etc., and get them ready so as to have another special meeting before the next regular meeting, the third Wednesday of next month, so that the changes might be decided upon before that meeting, in order to give the secretary time to inform all the members, as required by the constitution and by-laws, thirty days previous to the annual meeting, at which time the proposed changes will be voted upon. Accordingly, the chair appointed Messrs. Kellogg, Maynard, Woodford, Chandler and Hill as such committee.

In the extract you make from *The Polytechnische Zeitung* in regard to the quadruplex, Prof. Dr. K. E. Zetsche handles Mr. F. W. Jones rather roughly because he did not more fully "explain in what manner Dr. Nicholson connects his keys," etc., rather giving the readers of that paper to infer that Mr. Jones did not know what he was talking about. Your editorial remarks as to why complete diagrams of the quadruplex were not published with the paper are equally applicable to Mr. Jones' case, as from his having materially assisted Dr. Nicholson in arranging circuits for experiments with his quadruplex, he probably knew more about it than any one else here in Chicago, unless probably Mr. Summers, who also assisted the Doctor. Those of us who were present at the meeting when Mr. Jones read his paper and explained the diagrams made for him (under his direction) by Mr. Lawson, will remember the numerous questions put to him about this quadruplex of Dr. Nicholson's by the different members, and how guarded his answers were. Mr. Jones referred to it more as a matter of placing it on record as a quadruplex invention than to give a detailed description of it, although he was fully able and competent at the time, had he deemed it prudent, to have given a detailed description of all its various points, and had he done so, I am of the opinion that the learned professor would hardly have ventured the assertion that "the three different strengths of current required for double speaking have the same relation to each other in Nicholson's method as in the plan of combining double and counter speaking, invented by Maron," etc.

Among the telegraphers who are at present taking a vacation from Chicago I clip the following notice of one of them from a paper printed at Galena, Ill.:

"Miss Lizzie Veasy, a prominent telegraph operator of Chicago, is the guest of Mrs. M. Dean in this city." Miss V. is the lady who works one side of the St. Louis duplex in the Western Union office, this city, Mrs. Dean being the manager of the W. U. telegraph office at Galena.

Dominion Telegraph.—News and Personals.—Bulls.

TORONTO, CANADA, Sept. 3.

TO THE EDITOR OF THE TELEGRAPHER.

NOTHING having appeared in THE TELEGRAPHER for some time past from Canada, and having heard a good deal of grumbling amongst your Canadian subscribers, I thought I would take it on myself to give you a few items. It's rumored here that the Dominion Company are to have a new office before long (but that's so old I hardly credit it); something however will have to be done shortly, as our present office is in a very bad state, and hardly large enough to accommodate the rapidly increasing business. Mr. Gibbs, our chief operator, returned last week from a short vacation in the States, looking as well and happy as ever. Mr. Snider, his assistant, left on Mr. Gibbs' return for a short vacation. Very few of the operators have as yet been away on holidays, but I believe two or three of them intend leaving at the end of this or next week for a short time.

A few weeks ago all the operators in this office, headed by Mr. Gibbs, called on Mr. Burke, our late night manager, while on duty, and presented him with an address, accompanied by an amethyst ring, set in gold, and a silver water piteber, on his leaving to take charge of our London office; Mr. L. B. McFarlane having resigned the management of that office. Mr. Burke made a short but appropriate reply, thanking them all and hoping to see them all soon again. Mr. Burke left on the following evening for his new home, carrying with him the best wishes of all. Mr. A. J. Pattison has been appointed his successor. Mr. S. E. Garvey, for a long time manager of our Montreal office, has resigned that position and has been appointed travelling inspector for this Co. Mr. J. Quelch, lately operator in Montreal, has been appointed his successor. Business has been very brisk here lately, and we have had all we could do to keep things clear, especially west, there having been a very heavy rush in that district. Our new arrivals are Miss E. McElroy, lately of Guelph (we have not such a prejudice against lady operators as "Nihil Nameless" has, and gladly welcome this addition to our staff); Mr. W. Manners, of Chicago (a very musical man, who sings over his work); Monsieur Vallean, of Brighton; Mr. F. Robertson, of Pt. Hope; Mr. J. Neilson, of St. Catharines; and Mr. A. C. Terry, of Montreal. Miss Schofield, "Jo;" Rattray, "R.;" Merryfield, "Rm.;" Bennett, "A.;" Pingle, "Pi.;" J. Wilson, "W.;" H. Wilson, "Wn.;" Anderson, "J.;" Stratton, "Ws.;" Knapp, "N.;" Raymond, "R.;" and Carlisle, "H.;" are still in this office.

He said he didn't drink, but I don't believe him. 'Twas he that copied "send one barrel of bottled ale" for one barrel of *boiled oil*—guess he was dreaming about Heintrod's lager. The same day he got "Birds-eye" for "Birdicks," and managed to make J. B. Bal engraver out of J. B. Bal, engraver. Oh! he's bad, but we forgive him. Weather very warm here just now. More anon. INFANT.

Not a Joke Towards the End.

A GRANGER from Macoupin County stepped into a local telegraph office at Nilwood the other day, and asked for the operator. A slim looking individual, of the pin-back order, without looking up from his instrument, informed him that he was the "wire jerker."

"Well," said the granger, "my name's Jerry Hogan, and you see—the fact is, my old woman's had another gal, and I want to despatch to Aunt Nancy, in Zanesville."

"Very well, sir," said the operator. "The rate is 30 and 3. Just write your message." The look on the granger's face was one of bewilderment. "Well," he said, "you see my larin' ain't—"

"Oh, I see. Can't write."

"Not exactly that, but Aunt Nancy's eyes are very—well, I reckon she could read your handwrite better'n mine."

"All right, sir; in that case I will send it by our 'Duplex,'" at the same time handing the granger the end of a wire. "Now, all you have to do is to wrap this wire around your hand, and take this in your mouth," and he handed him the end of the ground wire.

The granger wrapped the wire several times around his hand, and, leaning over the table, took the ground wire in his mouth, when—bif—one hundred and fifty cups of Callaud's battery went through him like hot grease through a gridiron, and in just twenty-eight seconds by the dial Mr. Hogan was monarch of all he surveyed.

Now that granger had been a granger, and had built hog-pens and planted corn all his life, and when he bought boots he always got the worth of his money, while the operator was an operator by birth, and when last seen was counting railroad ties between the Summit and Bridgeport, and feeling in his pocket for \$20 with which to take lessons on the health-lit.—*Chicago Tribune*.

OCCASIONAL.

THE TELEGRAPHER

DEVOTED TO THE INTERESTS
OF THE
TELEGRAPHIC FRATERNITY.

SATURDAY, SEPTEMBER 11, 1875.

THE TELEGRAPHER:

PUBLISHED EVERY SATURDAY at 38 VESEY ST.

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A Special Premium for Subscriptions to "The Telegrapher."

The summer season is about over, and we expect that the friends of THE TELEGRAPHER will now renew their efforts to increase its list of subscribers. The subscription list has been very well sustained during the summer, but as the days of vacations and excursions are over, we look for the usual increase of interest in the only truly independent telegraphic journal published.

It has been our custom for years past to share with those who kindly interest themselves in obtaining subscriptions by offering valuable premiums.

We propose this season to excel our former liberality in this direction. We desire to offer something of real and permanent value. We have accordingly made arrangements by which we are enabled to offer to the person obtaining 60 subscribers for one year, at the regular subscription price, \$2 per year, or their equivalent in shorter subscriptions, a

No. 1 WEEB SEWING MACHINE;

for 65 subscribers a

No. 2 WEEB SEWING MACHINE,

and for 70 subscribers a

No. 3 WEEB SEWING MACHINE.

The price of these machines is respectively \$60, \$65 and \$70.

The machines will be boxed and shipped without extra charge.

This affords an excellent opportunity for female telegraphers, or for telegraphers who have wives or relations that need these exceedingly useful machines, which are in every respect first class, to obtain them at comparatively little trouble or expense.

Send in subscriptions as obtained, and they will be credited until the necessary number to entitle the sender to the desired premium is obtained.

To prevent disappointment, should any canvasser eventually fail to obtain the requisite number for a machine, they will be allowed other premiums proportionate with the amount collected, or if preferred, 20 per cent. in cash on such amount. To whom shall we send the first machine?

Telegraphic Situation.

We recorded in THE TELEGRAPHER last week the fact that the negotiations for a practical consolidation of the Western Union and Atlantic and Pacific Telegraph Companies had been broken off, and that the chance of consolidation, if there ever was any, which is to say the least doubtful, was over for the present. We were in error in stating that the letter to Mr. ORTON, withdrawing all propositions for negotiations on the part of the Atlantic and Pacific Company, was from Mr. GOULD; it was from Mr. A. B. CHANDLER, the Secretary of the company. Since then a great calm has fallen upon the telegraphic interests, how long to continue remains to be seen. The new work and the repairs of lines, etc., of the A. & P. Company, which during the negotiations had been suspended, has been actively resumed, and is being pushed forward vigorously once more. The employés of the company are relieved from their anxiety and are happy again, and their faith, and the faith of the telegraphic public generally in THE TELEGRAPHER, has been increased, as our repeated predictions that there would be no consolidation have been verified by the result.

We are assured by a person who was in a position to know, and in whose statements we place credence so far as he speaks from his own knowledge, that we and the public have misapprehended Mr. GOULD's position and intention in this matter, and that he was sincerely in favor of consolidation, as advantageous to his personal interests and purposes, but that he was overruled by his associates in the management of the company. We do not desire to do injustice to any one, and we therefore give Mr. GOULD the benefit of this statement. The almost universal belief is, and in this as our readers know, we have shared, that it was merely a stock-jobbing operation of that gentleman to market his Western Union stocks.

Nothing further of a definite character has been heard from the California party, and the oft started Mr. COHEN has not yet made his appearance at the east.

The most important telegraphic event of the week is unquestionably the successful completion of the direct cable, of which we speak more at length elsewhere. This is undoubtedly a very important fact, not only to the cable company, which has suffered from hope deferred for so long a time, but especially to the companies competing with the Western Union, who will now in a few days have independent communication with Europe. It strengthens their position very much, and greatly lessens the danger of future success in attempted consolidations.

The Direct United States Cable in Operation.

The delays, blunders and misfortunes which have attended the laying of the Direct United States Cable have made it historical in the annals of cable telegraphy. They have done more than this, for they have

caused it to be regarded practically as a myth, and excited widespread distrust on both sides of the Atlantic in the good faith of the persons having the enterprise in charge. In this connection it should, in justice to the managers of the Direct United States Cable Company, be understood that the company is not responsible for either the blunders or delays which have occurred. The Cable Company had nothing to do with it until it was laid and turned over to them by the contractors, Messrs. SIEMENS BROS., of London. The long delay has of course greatly damaged the prestige of the company, besides necessitating large expenditures in maintaining for more than a year full corps of operators at the several stations, in addition to the loss caused by sacrifice of business which they would have had if the cable had been laid and delivered to them at the time anticipated.

The Faraday, on this last and successful trip, sailed from London on the 12th of August for the location of the fault in the cable. On the 22d of August, ten days after leaving London, she arrived on the ground, and up to Friday of last week had had only two days of moderate weather. On the 29th of August the eastern end of the cable was recovered from 2,500 fathoms of water, the fault cut out and the cable buoyed. The western end was raised from 1,800 fathoms of water and buoyed on Friday, September 2d. The two ends of the cable were connected and spliced at 7 o'clock A. M. on Sunday, the 5th inst., and the cable was completed.

The cable is now reported to be in perfect condition, the tests being most excellent. Messages have been passed through it constantly since, and a speed of transmission of fifteen words per minute between Balinaskellig Bay, Ireland, and Tor Bay, Nova Scotia, is reported to have been obtained.

On Wednesday last the following congratulatory message from Sir WM. THOMSON, the eminent electrician, to Professor PEIRCE, of the United States Coast Survey at Washington, was received:

"LONDON, Sept. 8, 1875.

PROFESSOR PEIRCE, United States Coast Survey, Washington, D. C.

Through the Direct United States Cable, now happily completed, I congratulate you on this new bond between the new and old countries, and express hope that it may be some time useful in communication of scientific results.

SIR WILLIAM THOMSON, University of Glasgow."

The new cable will probably be opened to the public on the 15th inst, although this has not been fully determined upon as we write.

President THOS. T. ECKERT, of the A. & P. Co., was at Rye Beach, New Hampshire, on Monday last, and inspected the working of the new cable, and expressed great pleasure that this important telegraphic enterprise had at last been successfully completed, and the competing telegraph organizations of the country likely to be put in communication with Europe, from which such important advantages might reasonably be expected.

Summer Recreation.

"JOHN OAKUM" has written so much of a peculiarly telegraphic nature for the delectation of our readers that we hope the appended sketch, though rather out of our line, will not be unacceptable. We clip it from *Hearth and Home*. Its appearance has elicited the following comment from ORPHEUS C. KERR: "The true bucolic flavor is in this cheery and natural sketch, and will be enjoyed even by the few city people who did not enjoy the ecstasy of being born in the rural districts." Another *litterateur* of acknowledged good taste, though scarcely so well known as the author of the "Mackerel Brigade," has written: "There isn't one single word in 'Summer Recreation' that I didn't fall straight in love with! I buckled over it heartily; its atmosphere was perfect. I almost caught my fingers combing for hay seed in my hair." Altogether, we think Mr. PHILLIPS may feel proud of his little pastoral:

It was a long, long time ago, perhaps; but you, my middle-aged friend, writing incessantly from morning until night, and you, my merchant prince, or Wall street man—and you, and you, and you—remember it; for, despite your city ways to-day, you are all country bred, and know something of cows and sheep, woods and glens, mountains and meadows; the music of birds and the fragrance of flowers and hay. One day you were playing “barn tick” with Sammy Smith, when your father came out and said: “Come, Henry, go and catch Jenny.” Jenny was the family horse. You threw down the bat regretfully, not so much because you were loath to give up your rums, technically speaking, as because it was so natural to fetch that old ball of stocking yarn, with a cork in the middle, a blow which would send it soaring into space and land it in the stubble field; and it gave you such unalloyed pleasure to see Smithy pick up his foot every few seconds, and nurse a toe with a big crevice underneath, which was sure to suffer as he went bonding into the rough field beyond. But you went into the barn, and found a peck measure and a few ears of corn, and proceeded over into the seven acre lot where the old mare was lazily grazing. You approached her cautiously, saying: “Kajock! Kajock!” And she took one of the ears of corn so confidently that a stranger to her idiosyncrasies might have inferred that she was perfectly enchanted with the idea of being caught. And when you attempted to engage her neck in the halter you thought you had accomplished it, when—pshaw! you never knew how she did it; but somehow she eluded you and went skipping over the hill, with you in hot pursuit. It was a sweltering July day, and at the end of a half hour spent in a useless chase you found yourself standing on a side-hill, with the perspiration starting from every pore, and the blood oozing from a slight bruise on the top of your sun browned foot, where the old mare had stepped on it a moment before. A mocking brook bubbled hard by, the tantalizing chirrup of birds was distinguishable from a clump of trees in the distance, and the light wind itself, which blew out your embryo overalls and played with your calico jacket, seemed to be whispering distracting things to a honey bee hovering near. Perhaps you cried a little at your ill success, for you were a little fellow then; and as you wondered what to do next, a well known voice was heard in the rear, and it said: “Well, Henry, ain’t you caught that mare yet? I want to use her to-day.” You had no heart to answer the sarcasm in the last sentence, and you yielded up the measure and the ear of corn passively to your sire, and he walked down to where Jenny was standing. She came up to the measure when your father said “Kajock,” because she, in common with your mother, yourself, and all other dwellers on that dear old farm, knew that when the old gentleman spoke he meant business. So you were not surprised a moment later when they passed by you, one dignified but triumphant, the other submissive. You were told, as you trotted along behind, that there was no trouble about catching a mare, and talked to in a manner prompting in your breast the wicked hope that Jenny would, some time in the near future, elevate the author of your being about seventy-five feet towards the blue canopy of heaven and take the conceit out of him! You stood around while she was being harnessed, intending to experiment further with Smithy, his toe and the stubble; but as the head of the house prepared to drive away he remarked: “Henry, you had better weed out that carrot bed this afternoon.” His word was law, and a law that no member of the family had ever defied; so you obeyed implicitly; but as you knelt between the rows angry tears were falling beneath a rude palm hat, and you offered a brief but vigorous prayer that your parent might ultimately be scalped by a Penimore Cooper red man; and then you went on weeding, and wishing that husbandry was not.

Bradley’s Electrical Apparatus and Helices.

THE decease of Dr. L. BRADLEY will not necessitate the closing out of the business which has been so successfully conducted by or for him at Jersey City. Those who have been associated with the Doctor in the business for some years past have become fully competent to conduct it, and furnish apparatus as perfect and reliable as when he personally superintended the business, which he has not been able to do for more than a year past. The business will be continued for the benefit and in the interest of his family, as heretofore.

Mr. Latimer Clark telegraphed through both Atlantic cables with a battery formed in a lady’s thimble, and Mr. Collett said, “I have just sent my compliments to Dr. Gould, of Cambridge, who is at Valencia, with a battery composed of a gun cap with a strip of zinc excited by a drop of water, the simple bulk of a tear.”

Personals.

Mr. F. B. RAE, of the W. U. office at Broadway and Dey streets, is quite an expert printing operator, and is, we understand, “solid” for the first vacancy in that direction.

Mr. CHARLES THOMAS has been transferred to the cable department from the night force of the Western Union building, in this city.

Mr. THOMAS J. TOBIN has returned from a “bumy tigg” in Central New York, looking as happy and contented as possible. He enjoyed himself hugely.

Mr. ROSCOE SPRAGUE, late of the cable department, W. U. building, is now working on the regular day force.

MESSRS. HURLEY and SMITH, of the W. U. night force, have resigned, to take effect shortly, when they will go south.

Mr. GEO. EITEMILLER, having finished his engagement as sub. for Kearney, will soon return westward to seek fields and pastures new. The W. U. officials should look to their interest and retain Mr. E., who has no superior, and few, if any, equals in the telegraph business.

Mr. T. H. O’REILLY is back from his Saratoga trip, looking well.

The Telegraph.

Gray’s Electric Telephone.

DURING the past week Mr. Elisha Gray, of Chicago, has had his telephone on exhibition in the Western Union building in this city, where it has been visited and examined by many prominent scientific men and telegraphers. Since Mr. Gray’s original discovery of the principal of this apparatus, some two years since, he has made many improvements in its details, and the results which he has exhibited during the past week are exceedingly curious and interesting. What is of more importance, these results seem likely to lead to practical applications of great value.

The most attractive and interesting part of the exhibition to the ordinary observer, is the process of transmitting musical sounds through a telegraphic wire from one part of the building to another, though it is by no means certain that this will be the most valuable application of the invention in practice. The transmitting apparatus consists of a piano key-board, each key being connected with a self-acting electrotone, the vibrations of which are so regulated as to produce a musical tone of a certain pitch, whenever the circuit is closed upon it. These different rates of vibration are of course transmitted in the form of electrical waves or pulsations to the distant end of the circuit. The receiving apparatus consists merely of an electro-magnet without an armature mounted upon a hollow sounding box. A molecular disturbance is set up in the cores of this magnet by the passage of the electrical waves through its helices, the effect of which is to lengthen and shorten the core with great rapidity. The vibrations of the core are thus communicated to the sounding box, producing corresponding musical tones. When the transmitting apparatus is well played the effect upon the receiving instrument is to produce music very similar to that of a violin. As several different tones, or sets of vibrations, can be simultaneously transmitted through a wire at the same time, it is easy to see that herein is a foundation for a system of multiple telegraphy. In fact, the experiment of sending three simultaneous messages in three different keys over one wire was tried the other day, and they were all copied from the same instrument at the same time by three different operators without difficulty. By means of an apparatus termed an “analyzer,” which takes the place of the ordinary relay, four, and even six different tones have been made to operate as many distinct sounders, as was satisfactorily demonstrated a few days since in the presence of Mr. Orton and a number of other telegraphic officials.

We shall at an early day give our readers a detailed description of this curious invention, together with the results of further experiments which are now going on in reference to its application to multiple transmission in telegraphy.

New York City Telegraphic Notes.

THE Duxbury cable to France is now working as usual.

The most interesting occurrence of the past week for all New York operators was pay day. The hot weather which has prevailed lately necessitated an unparalleled consumption of cooling draughts, and as beverages and wealth go hand in hand, nearly, if not quite all of the pocketbooks (and pockets without books) were as flat as Mrs. Mulligan’s foot. We can’t imagine how flat

that is, but if Mulligan is solid what must his wife be? The basement floor was filled with the company’s employes, all eager for a sight of the cherished greenback, and soon the average telegrapher might have been seen meandering forth with a smile upon his face, a pocket filled with rocks, and a strange light in his eyes, which shone perceptively upon a modest yet alluring sign reading “Beer;” only this and nothing more.

A few days since the battery on the Chicago quadruplex instrument at the W. U. operating room became short circuited through the double transmitter points, and in attempting to throw the battery off by means of the ground switch on the table, Chief S. S. Bogart had three fingers of his left hand quite badly burned. The whole power of the large battery of 300 cells was discharged through his hand, and as the switch touched the ground button a great amount of heat was generated, which ignited the gutta percha insulating button and wire covering, and in a moment more the under part of the table was all ablaze. Mr. Bogart’s hand had a sheathing of melted gutta percha as he hastily withdrew it, which he has an undimmed recollection of still. The fire was extinguished by the application of the contents of “the old water bucket” before mentioned in these columns, which, being strongly impregnated with tobacco expectorations, must have produced a perfume which grated unpleasantly upon the olfactories of those present.

Foreign Telegraphic Notes.

THE report of the Submarine Telegraph Company for the half year ended June 30th last, states the ordinary receipts at £54,122. This has enabled the directors to declare a dividend at the rate of 15½ per cent., and to add £2,251 to reserve, carrying £325 forward. A sum of £12,552, obtained from the Post-office, has been nearly all spent in laying twenty miles of new cable between Boiling Gap and Dieppe.

The estimated traffic receipts of the Anglo-American Telegraph Company for

August 18 amounted to	£1,230
“ 19 “	1,330
“ 20 “	1,450
“ 21 “	1,350
“ 22 “	260
“ 23 “	1,150

The directors’ report to the thirty-sixth ordinary meeting of the Mediterranean Extension Telegraph Company, stated that the Board have much pleasure in stating that the cables and land lines of the company continue in perfect working order, and they were enabled to recommend payment of the half yearly dividend on the eight per cent. preference stock, less income tax, as usual; and of a dividend at the rate of three per cent. per annum, free of income tax, on the ordinary share capital of the company, payable on and after September 1. There will remain a sum of £500 13s. 4d. to be carried to the reserve fund, which will then stand £7,848 7s. 7d. Mr. H. Moore, the chairman, in moving the usual formal resolution for the adoption of the report, said the receipts were about the same as last half year, whilst the expenditure was about £100 less—although they had during that time to supply new instruments.

Poisoning of Mr. Hiram Sibley.

ON Saturday last, at a party given in honor of Mr. Hiram Sibley, of Rochester, N. Y., at the house of Mr. Blackinton, in North Adams, Mass., among the dishes on the supper table was a custard, and all who partook of it, among whom was Mr. Sibley, were taken seriously ill. One of the party, Mr. Wm. S. Blackinton, one of the largest woollen manufacturers in the country, and son of the host, died shortly afterwards, and another of the party is so low that he is not expected to recover. Other cases are doubtful, but it is thought most of them, including Mr. Sibley, will eventually recover.

Quotations of Telegraph Stocks at N. Y. Stock Exchange.

Showing Lowest and Highest Prices each day during week.

Sept.	WESTERN UNION.	ATL. AND PAC.	AMER. DIST.		GOLD AND STOCK.	
			Bid.	Asked.	Bid.	Asked.
2	78½ ... 79½	19½ ... 20	..	.. 30	..	.. 69
3	78½ ... 79½	19½ ... 20½	..	.. 30	..	.. 69
4	78½ ... 79½	19½ ... 20½	..	.. 30	..	.. 69
6	78½ ... 79½	21 ... 21½	..	.. 30	..	.. 69
7	78½ ... 79½	20½ ... 20½	..	.. 30	..	.. 69
8	79 ... 79½	20½ ... 21½	..	.. 30	..	.. 69

New Patents.

OFFICIAL COPIES of any U. S. Patent issued since July 1st, 1871, including drawings, specifications and claims in full, sent free to any address for 25 cents each. Address F. L. POPE, Elizabeth, N. J.

For the week ended August 3, 1875, and bearing that date.

REISSUES.

6,576.—HOTEL ANNUNCIATORS AND FIRE ALARMS.—Edwin A. Hill, Chicago, Ill. Patent No. 114,007, dated April 25, 1871. [Filed July 19, 1875.]

1. The combination of the magnet A and shunt with the special magnets B' O', when so constructed and arranged that the electric circuit passes alternately through the magnet and shunt automatically, for the purpose of strengthening the currents to the magnets B' O' when the magnet A is shunted.

2. The permanent magnet K', in combination with the shunt circuit and the alarm bell, when constructed and arranged substantially as and for the purposes specified.

3. The combination of the permanent magnet K', the vibrating arms L', E', and A', when constructed and arranged substantially as described, for the purposes of opening and closing the circuit of the shunt.

6,578.—ELECTRIC SIGNALING APPARATUS FOR RAILWAYS.—Frank L. Pope, Elizabeth, assignor to himself, Jas. N. Ashley, Greenville, N. J., S. C. Hendrickson, Brooklyn, N. Y., and James D. Lincoln, Greenville, N. J. Patent No. 130,941, dated Aug. 27, 1872. [Filed July 23, 1875.]

1. A semaphoric signal constructed with disks or targets of alternate contrasting colors, in combination with an electro-magnet, substantially as specified.

2. An electro-magnet actuated partially or wholly by axial magnetism, in combination with a semaphoric signal, substantially as and for the purpose described.

3. An electro-magnet having an armature so arranged as to be held in contact with its poles by residual magnetism until released by an opposing or demagnetizing current emanating from any suitable apparatus for generating electricity, in combination with a semaphoric signaling apparatus or an alarm, substantially as specified.

4. The combination of a semaphoric signal operated by electro-magnetism, and a secondary signal actuated or controlled by said semaphoric signal, with a reversing or releasing apparatus so arranged that when the said signals have been set by an operator at one point or station they can only be reversed or released by an operator at another point or station, substantially as herein specified.

6,579.—ELECTRIC SIGNALING APPARATUS FOR RAILWAYS.—Frank L. Pope, Elizabeth, assignor to himself, Jas. N. Ashley, Greenville, N. J., S. C. Hendrickson, Brooklyn, N. Y., and James D. Lincoln, Greenville, N. J. Patent No. 130,941, dated Aug. 27, 1872. [Filed July 23, 1875.]

1. The combination, with a visual signal, of an electro-magnet and an armature operating to display the signal by direct magnetic attraction, and to hold the same displayed by residual magnetism, substantially as set forth.

2. The combination, with a visual signal, an electro-magnet, and armature operating to display the signal by magnetic attraction, and to hold the same displayed by residual magnetism, of a circuit closer and opposing circuit for throwing a releasing or demagnetizing current through the coil or coils of the actuating electro-magnet, substantially as set forth.

6,581.—ELECTRIC ANNUNCIATORS.—George W. Shawk, Cleveland, Ohio, assignor, by mesne assignments, of part interest to C. F. Uhl, John Gribben, H. A. Crossley, and W. H. Crowell. Patent No. 139,826, dated June 10, 1873. [Filed March 20, 1874.]

1. In an electric annunciator, the combination of an electro-magnet with an armature, which is actuated by magnetic attraction, and retained in direct contact with the cores of the electro-magnet by residual magnetism, in connection with independent mechanism, substantially as described, whereby the armature is forced from the cores by positive mechanical action, substantially as set forth.

2. In an electric annunciator, the combination of a numbered or lettered plate with the armature of an electro-magnet, the armature adapted to be retained in direct contact with the cores of the magnet by residual magnetism, substantially as described.

3. In an electric annunciator, the combination of a weighted arm with the armature of an electro-magnet, to which a lettered or numbered plate is secured for the purpose of counterbalancing the weight of the said plate, and thereby insure the attraction of the armature to the magnet by a light electric current, substantially as described.

4. In an electric annunciator, the combination of a crank shaft, having an arm secured thereto, with the armature of an electro-magnet, to which a lettered or numbered plate is secured, for the purpose of releasing the armature from the electro-magnet, and allow the letters or numbers to move away from view, substantially as described.

For the week ended Aug. 10, 1875, and bearing that date.

166,471.—GOVERNORS FOR ELECTRIC MOTORS.—Augustus McConnell, Cambridge, Mass. [Filed April 15, 1875.]

The combination of the rotatory electro-magnetic engine, the circuit closer K having projecting arms a, the slotted arm D upon the shaft S of the motor, and the conical petroleum H, constructed and operating substantially as and for the purpose set forth.

166,488.—INDUCTION COILS.—Jos. C. Vetter, New York, N. Y. [Filed August 27, 1874.]

1. The handles E E', constructed to telescope and to pass over the exterior of the induction coil through opening in the box, substantially as herein set forth.

2. The elastic bail like attachments F F', in combination with the handles E E' and conductors, substantially as and for the purpose specified.

Obituary.

DR. LEVERETT BRADLEY.

DR. LEVERETT BRADLEY died suddenly at his residence in Jersey City, N. J., on Monday afternoon last, in the 77th year of his age. The immediate cause of his death was probably an affection of the heart. He was in his usual health on Sunday, and attended church in the evening. On Monday he partook of breakfast and luncheon with his family as usual. Soon after the latter meal he complained of a burning sensation around his heart, laid down upon his bed, and in half an hour had entered upon his final rest.

For the last fifteen or sixteen years Dr. BRADLEY has been well known in this country and in Europe as an able electrician and an ingenious and skilful inventor of electrical and telegraphic apparatus of great utility and value. It is fitting that the decease of one who has held so prominent a place as an electrician and inventor should be appropriately noticed in the columns of THE TELEGRAPHER.

In February, 1861, an excellent likeness of Dr. BRADLEY, and a sketch of his biography and achievements in telegraphy up to that time, was published in the *Physiological Journal*, and to it we are mainly indebted for the facts in regard to his early history.

Dr. LEVERETT BRADLEY was born November 25, 1798, at Milton (now Genoa), Cayuga County, New York. His father, Milton Bradley, was a carpenter by trade, and also cultivated a small farm. It was necessary that the son should contribute by his labors, as soon as he was able, to the support of his father's family, and his early years were employed upon the farm. At fifteen years of age he commenced to learn the carpenter's trade with his father. His school opportunities were limited, and he was practically a self-taught man. From his boyhood he was, however, a student, investing his small means, from time to time, in books, which were thoroughly studied. The natural bent of his mind was to the investigation of mathematical and scientific truth, and this characteristic continued prominent until the end of his life. In addition to his other labors and studies, a small portion of his time was spent in teaching.

Being desirous of seeing something of the Western country, which then had been but partially developed, at the age of twenty he made a tour to what was then known as the "Far West," most of the journey both ways being made on foot. He travelled as far as Fort Stephenson, at Lower Sandusky (now Fremont, Ohio), which was then regarded as the extreme of civilization. His funds giving out he proposed to establish a school, which proposition was eagerly acceded to by the settlers. A log school house was speedily put up for him, and some months were passed in imparting the rudiments of education to their children. At the end of that time he returned to his home in New York State, having earned sufficient to return to his father the amount furnished by him for his journey, which was just seven dollars. Upon his return home he for a time resumed work at the bench. March 16, 1820, he married Miss Maria Sheldon, of Genoa, and in the fall of the same year, in company with his father-in-law, Joseph Sheldon, and a brother-in-law, he emigrated to the State of Ohio, finally settling in the township of Clinton, then practically a wilderness, but now the flourishing city of Tiffin. His excessive labors and the malarial climate so impaired his health that he returned to his native State, where he remained some months until it was restored.

In the fall of 1822, having taken two courses of study in medicine, he graduated with credit at the St. Louis University. In demonstrative anatomy especially he attained the highest honors of his class. He afterwards settled at Laporte, Ind., in the practice of his profession. He was successful as a physician, but the profession was distasteful to him, and in 1850 he emigrated to California, which was then the Mecca of those who were of an enterprising character and desirous of securing fortunes. His journey to California was made by the overland route, and he experienced the toils and privations inseparable to the journey at that early period, when no regular means of transportation had been provided. On his arrival at Sacramento he met his eldest son, Joseph F. Bradley, who had reached there by way of Mexico the previous year, and who was subsequently associated with and materially aided him in his enterprises. His first venture in California was in mercantile business with his son at Weberville, Eldorado County.

Soon after he engaged in civil engineering, and was a pioneer in the great work of conducting the waters of mountain streams by means of canals to the mines. The enterprise was successful, but in 1854 the stock of the "corporation of Bradley, Berdan & Co.," of which he was president and chief engineer, was ruinously depressed, and Dr. BRADLEY was obliged to go into liquidation. At this time he lost his most faithful and valued assistant by the death of his son.

In 1856, having purchased a press and types, he established the *Granite Journal* newspaper at Folsom, Cal., which was so successful that he was enabled a few months afterwards to sell it out at a handsome advance. Having by this and other enterprises acquired a moderate competence, the declining health of his wife induced him to retire from business and devote his personal attention to her care until her death.

About this time his attention was attracted to the electric telegraph, and with a view to increasing its speed of operation he studied electrical science and tried many experiments in electricity and electro-magnetism. He soon brought out a rudely constructed automatic instrument, by which he could transmit and legibly record, on short circuits, 7,000 to 8,000 words per hour; and in December, 1858, he came to New York to perfect and patent his instrument. In 1859 he secured a patent for an automatic telegraph apparatus, the transmitting devices of which consisted of metal type, representing the Morse characters, which were set up in a port rule similar to the original plan of Prof. Morse, and passed rapidly beneath a lever circuit closer. The recording apparatus consisted of a moving cylinder, around which a sheet of paper was wrapped, which being under a syphon pen, the movement of the latter being controlled by the receiving magnet. With this apparatus he succeeded in legibly recording 15,000 words per hour on short circuit, but on trial between New York and Washington its speed was found to be greatly reduced by the defective action of the relay. After many experiments he at length invented a new form of relay, having but one helix and double counteracting springs upon the armature, which recorded signals with remarkable rapidity, and was regarded by many of the best operators of that day as far superior to the ordinary relay in quickness of action and range of adjustment. He also devised a main line sander upon the same principle.

In 1865 Dr. BRADLEY patented a method of winding magnetic helices with naked or uninsulated wire—an invention which has proved to be of great practical value. For a number of years he carried on the business of manufacturing telegraphic instruments in Jersey City, N. J., in which his peculiar helices were employed. In 1868 or 1864 he invented a tangent galvanometer on an entirely new principle, to which he subsequently added a complete apparatus for electrical measurement. He was the first to establish the manufacture of this kind of apparatus in the United States, and the demand for it, and also for his patented helices, at length became so great that he relinquished the manufacture of other apparatus and devoted himself entirely to those two branches of his business, which he carried on until his decease.

Dr. BRADLEY was a man of the most sterling excellence of character. His honesty and integrity were proverbial. He scorned to wrong a fellow man in the smallest particular, nor did he willingly submit to anything of the kind from others. Tenacious of his own opinions, and even obstinate in a marked degree, he was a devout believer in the motto, "Be sure you are right, then go ahead," and when he had once decided upon his course, opposition only served to render him the more determined. It is only the few chosen friends who, like the writer, were privileged to know him in his every day life, that will ever be

able to realize what a kindly character was his, or how numerous were the unostentatious deeds of benevolence and charity which he performed.

On the 6th of April, 1868, Dr. BRADLEY married for his second wife Mrs. Jane A. Reed, of Jersey City—a most amiable lady, who survives him. Three children by his first wife also survive him.

Up to the end of his 75th year he retained his mental and physical vigor in a remarkable degree, but for the past year and a half he has been failing, and it was evident that the machinery of life was nearly worn out, although no one anticipated so sudden a termination to his earthly existence.

Dr. BRADLEY was a member of several of the leading scientific societies, and of the Masonic Order, in which he had attained the highest degree. He was a member of Varick Lodge of F. and A. M., by whom his funeral rites were conducted.

His funeral, which was largely attended, took place on Thursday last, at three o'clock P. M., at his late residence, No. 1385 Jersey Avenue, Jersey City, N. J.

Birth.

RILEY.—To Mr. GEORGE P. RILEY, cashier, Western Union Telegraph office, Albany, N. Y., August 21st, a daughter.

Died.

BRADLEY.—At Jersey City, N. Y., Monday, September 6th, 1875, very suddenly, Dr. LEVERETT BRADLEY.

DAWES.—At Saugerties, New York, Saturday, September 4, 1875, Mr. VAN ZANDT DAWES, of this city, was accidentally drowned while bathing in the river.

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NAKED WIRE HELICES, for Electro-Magnets, wound to any given size and resistance.

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"SAVE THE PIECES."

This HOLDER is intended to save the last half or third of the pencil.

DIRECTIONS.

When the pencil becomes too short to write with comfortably, shave down the butt and screw into the Holder. The screw makes its own thread and will hold the pencil perfectly firm.

Price, 10 cents each.

Sent by mail on receipt of price.

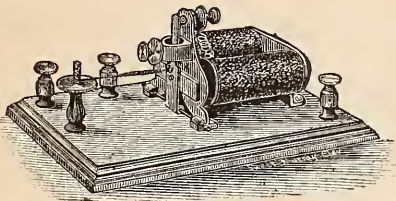
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Pony Relay, a superior inst. for lines of 15 miles or less. see above Ent.....	7 50	5 63
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No. 2 Key, improved standard size, heavy platinum, iron base.....	2 75	2 34
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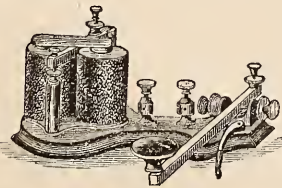
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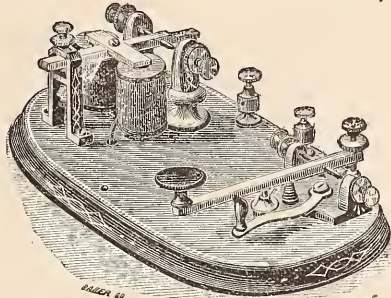
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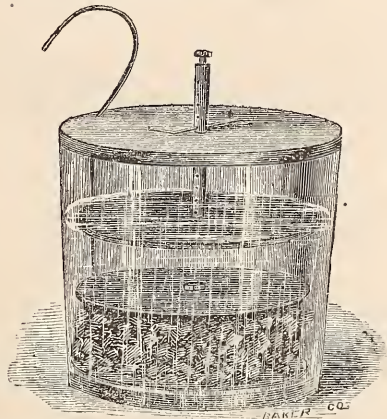
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is spared by the Proprietors to obtain and secure ANY POSSIBLE IMPROVEMENT which shall increase the

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ABSOLUTELY PERFECT!

The amount of property which has been saved from destruction, and the number of lives which have been preserved through the general adoption of this system, throughout the UNITED STATES and the DOMINION of CANADA,

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The cooperation of **TELEGRAPHERS** in securing its introduction into their localities is cordially invited, and their efforts will be duly appreciated and compensated.

Any information desired in regard to the above system will be cheerfully and promptly furnished upon application at the office.

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a most compact and reliable Switch, forming a clean spring-locked connection between any number of wires, occupying for each different connection only one square inch of space, and though made of the largest size, not subject to the warp and contraction of wood-work.

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SUBTERRANEAN & AERIAL WIRES,

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THE TELEGRAPHER

A JOURNAL OF
ELECTRICAL PROGRESS.

J. N. ASHLEY, PUBLISHER.

SATURDAY, SEPTEMBER 18, 1875.

VOL. XI.

WHOLE No. 479.

Original Articles.

Adventures of a Military Telegraph Operator in South Carolina.

By E. S. CAPE.

In the year 186-, during the rebellion, the following incident occurred in the department of South Carolina:

"Come, Joe, here are some important despatches to go North, don't you want to go up to Beaufort with them?" (Beaufort was a town some sixteen miles distant, where all despatches were sent by special messengers by a steamboat, by reason of defects in the Broad River Cable.)

"No, siree! I don't care to go down on the dock and receive any more of that harbor master's insolence."

"Fie, Joe, that is his way! Captain K. is a nice man, and will give you a boat immediately."

"Yes, I know," replied Joe. "He is an 'ice man,' apparently, toward me; I don't like him, and prefer remaining here with my old 'Cremoua.'"

"But," interrupted the first speaker, "the sail will do you good!"

"Perhaps it may," said Joe, "but if it's all the same to you I will stay here."

"Very well, let it be so. I will take them myself." And the elder left "Quarters," proceeding to the wharf where the dreadful harbor master presided.

Capt. K. soon espied and greeted him thusly: "Well, 'ole telergraf, I s'pose ye've come for a boat, but ye'll hev to wait er'while. Ye see ev'ry tug is engaged; take a seat and I'll histe a signurl." The "signurl" was soon answered by steam tug "Blanche Paige," Capt. Harding, who entered the office, and noting the lightning speculator, took in the situation at a glance. "So, so! its you that's here, is it? Well, I am not at all anxious to go to Beaufort to-night, 'cause we are going to have a big thunder storm in a few minutes, and it's not very pleasant to be caught in a narrow place like Beaufort River."

"Good evening, Cap.," said the chief, laughing, "I admit the prospect is not inviting, but important despatches from the general, you know, and 'Cap.' you and I have experienced some rough times within the past year."

"That's so. Well, come on; I see I can't scare ye," rejoined the good hearted captain, and the two jumped on board the tug, which proceeded at once toward St. Helena, distant some four miles, it being a convenient harbor, providing we could reach thus far before the storm. The chief took a position in the pilot house and endeavored to cheer up the captain.

"By George, 'Cap.,' we are going to have a blow 'look yonder, ain't that black?"

"Yes, sir" (ringing a small bell to inform the engineer to crowd her a little). You may depend upon it we won't reach Beaufort in a hurry."

"Why, do you really think the storm will last long?"

"Yes, sir, I think it will be very severe, and probably last two to three hours."

"Well, let it come, we will be near St. Helena, and that is a good harbor for us, besides we can go on shore and see some of our friends."

"Yes, if we can get on shore, but from present appearance I think we will be miles from there, and I begin to think we were foolish to start."

"Why, 'Cap.,' you are getting timid in your old days. I am sure the lightning will enable you to see your way."

And here let me mention that the captain began to give me very short answers to my inquiries, at last advising me to go to bed; as in all probability it would be near morning when we arrive at Beaufort, as he should run very slowly during the storm. So to please him I went in his "state room" and tumbled up the berth, but little sleep was enjoyed, as it was now blowing a gale and raining hard.

I could hear "Cap." scolding his assistants continually, with an occasional adjective addressed to "Govt. Telegraph." I had tried several times to go out but was prevented. So soon as the storm subsided,

which had lasted two hours, I walked to the pilot house, and addressing "Cap." said, "Hello! why we are near Beaufort!" "Yes, goll hang it; we are just opposite the Fort; we will probably have to remain up here till morning, for I wouldn't take the boat back through such a storm for all the money Government pays the owners, and I am pretty sure we will have more rain."

"I hope not, Cap.," said the chief, "and see, Cap., there-is the moon! Hooray! now we will be all right."

So as soon as the boat reached the Beaufort wharf I sprang ashore, telling Cap. I would be back soon as possible. It was near midnight, and all was still. I was challenged by guard on Post No. 2, a short distance from the landing. Being provided with passes I produced them, but the guard being an American of African descent, he could not read them. I was informed "dat I mus jess go to de gaard house." This was annoying, but he called for "De Corporal de Gaard," who also was mahogany, and I was marched to "De Gaard House." The officer on duty being white, quickly gave me an escort to the telegraph office, distant a mile, and, as I did not deem it necessary to keep the guard waiting at the telegraph office, I was particular to tell the posts as we passed that I should return alone in a short time, to note me well, so that I could pass direct to the boat.

I arrived at the office, dismissed the guard and entered; transacted the business, and was ready to return in an hour; after laughing heartily over my adventure, and remarking to the "operator" that the life of a "Telegrapher" was full of incidents, I bade him good night, and walked rapidly towards the steamboat landing. I passed three guards; was recognized, and was near the fourth and last, when I observed he was sitting down; did not receive the challenge, and knowing I was on dangerous ground, I stopped a moment. Perhaps the poor man, being fatigued, had fallen asleep! I was puzzled. He was in danger, so was I; should he open those Black eyes, and see a man so near him, he certainly would wing me.

It was necessary to act cautious but quickly, so I made a circuit around him, keeping an eye on him: fortunately for me there was considerable sand in the street, and I contrived to reach the top of the hill leading to the wharf; I went cautiously down a few yards and then took to my heels, running to the boat. I cried out to the captain thusly: "Cap." let her go, quick! He did not wait long; in a minute and a half we were clear of the wharf and speeding down the river. I then told the "Cap." my adventure, and we laughed loud and long over our midnight trip to Beaufort. To conclude, some of my readers will probably recognize a character introduced here. I respectfully submit this as a True incident of the rebellion.

Lovely Woman.—An Operator's Matrimonial Experience.—She ain't what she's cracked up to be.

By MEPHISTO.

My friend B—, a very nice young man, and a most eligible party, committed (not suicide but) matrimony; his too susceptible heart was captured by a fascinating lady operator, and he gave himself away! Poor B— was deserving of a better fate; as good an operator as ever pounded brass, and as genial a fellow as ever breathed, he believed all women were angels; that they could do no wrong; that they and they alone rendered this earth inhabitable. I had reasoned with him against this folly; I had endeavored to point out to him the rocks and shoals that studded the ocean of matrimony, but in vain; he rushed headlong to destruction and I was powerless to save him. "I love her," he said; "she is to me as the apple of my eye, the sunshine of my life! So good, so gentle, so kind;" and so on, *ad nauseam*; from which you will perceive, oh astute public, that he was very far gone—a hard case. Well, he married; and I saw him not again for two or three years—I met him one day quite accidentally, and asked him, of course, how he liked double harness. "Twas then he heaved a heavy sigh, and spake as follows:

"Oh! woman, in our hours of ease
Uncertain, coy, and hard to please;
But let dull pain assail our brow,
A ministering angel thou."

Thus the poet—I have no doubt that whoever he was he was a poet, because no one but a poet would have written such trash. The eternal truth of the first two lines is drowned in the utter falsity of the two last. The stanza should read thus:

O woman, e'en in hours of ease
Uncertain, coy, and hard to please,
And when grim pain assails our brow,
A harassing tormenting thou!

The uncertainty, the coyness, the hardness to please, and the cursedness generally of the miscalled softer

sex are too well known to you, friend Mephisto, to need much amplification at my hands. Did anybody ever know what it was to please a woman? If there be a man who has ever achieved this feat let him go and hire out to Barnum as a curiosity, and I'll pay fifty cents to see him. Please them! Just try it. The first time you have a hundred dollars to spare go and buy your wife a nice watch or a bracelet, or some other token of your undying and undiminished affection, and as you take it home hug yourself with the thought how pleased she will be with it; how she will smile, and frisk, and kiss you for it; think how it will call back to her the pleasant days of your courtship and honeymoon, when all was sunshine and flowers, and spooni-ness generally. Deluded wretch, think you she will be pleased? Present your offering, and I'll bet you a brown stone front on Calumet avenue against your old hat that she'll call you a fool for throwing away your money! Or, if your circumstances are such that a hundred dollars is but a bagatelle to you, she will grumble because it is not a stem-winder, or because she's sure it's some tumpetry plated thing you have been fooled into buying (men are so stupid, you know); she'll do anything in the world but thank you for it. Did you ever buy a suit of clothes, or a hat, or a pair of boots even for yourself, and, in the pride of your heart at having driven a good bargain, display your goods for her admiration, and was she ever one little bit pleased with them? Would she not turn and twist you round and round, and twitch your new vest one way, and the sleeves of your new coat another, and find as many flaws in them in five minutes as there are holes in a cullender?

Again, go home to her with a racking headache, and think upon those lines about "ministering angel." Think how she will soothe the aching head, and be a ministering angel in the paradise of whose presence no headache can live, and see if you don't find yourself a picture of misplaced confidence. She'll "minister," it is true, any amount. She'll tie up your head in an old handkerchief saturated with vinegar which is ice cold, and which trickles down your back, and percolates through your whiskers on to your shirt bosom, and which gets into your eyes to your great discomfort, the while she tells you she knew just how it would be: she knew very well you would have to come home and lose half a day's work, and wrorit her soul out of her; and did not she tell you only last night, when you would sit right in the draft of the kevhole of that horrid door at Mrs. Perkins', that you would get the rheumatics in the back of your neck, and the neuralgia in your teeth (from neither of which ailments, by the way, are you at present suffering), and is not she always saying how you'll go down to a premature grave because you won't take care of yourself like other people; won't put on an overcoat when the thermometer is 130° in the shade, and when you know very well you'll get a chill coming home in the night air and nothing on you (a statement which you vigorously but uselessly combat)? And is not she always in a constant worry and fidget about you lest you should catch your death of cold, or be run over by the cars (men *are* so venturesome), or leave your umbrella at the office and then walk home in the rain (men *are* so forgetful)? and so she will rattle on till you feel your hair standing on end, and your scalp lifting clean off your skull. And is not your last state worse than your first? You will go back to the comparative quiet of your office, and you will think about that poet fellow with feelings opposed to anything like friendliness, and wonder if he ever really had a "ministering angel" all to his own cheek!

Of course, there *was* a time when she would gently run her fingers through your hair, and with cool, soft coaxing hand soothe the dull, throbbing ache; when with much billing and cooing, and gentle fomentations of eau de cologne or rose water she would lull your vexed spirit to repose; but it did not come natural to her. She was acting a part. She was baiting her hook; and now that she has landed her fish she throws off the mask, and you need not go to her to be ministered to. And then these wretched poets rave about "lovely woman," and "ministering angels," and so forth, till it's enough to make a dog throw his father in the fire, or to make a man kind to his mother-in-law! Well, let them go ahead and spoon all they want to, but *I've been right there, and they can't fool me!*

From all which the intelligent reader will gather that the views of my friend B— had altered somewhat since he ventured on the thorny path of "domestic felicity."

THE telegraph editor of a Lexington (Ky.) paper got sleepy the other night and went home. A foreign despatch came just after his departure, and the intelligent compositor (of course he has to stand it) wrestled with it after this fashion: "Despatch from Vienna reports that radicles been victorious in elections in Seria Deutechez Sutizung States radicles will move in skuptchina hut Sevia send army to Herzogevina to assist in Sugenes."

Correspondence.

We do not hold ourselves responsible for the opinions of our Correspondents. Our columns are open to free discussions on all Telegraphic subjects, without distinction of person or opinion.

No notice will be taken of anonymous communications.

The Difficult Problem.—A Reply to "H. C. N."

CLEVELAND, O., Aug. 25.

TO THE EDITOR OF THE TELEGRAPHER.

YOUR correspondent "H. C. N.," Aug. 21st, 1875, in reply to "W. A. S.," July 24th, submits "a few thoughts on the chemical cause" of the development of electricity by chemical action, and "considers (?) the nature of the elements entering into the battery, or medium, as well as some of the properties of electricity," that we may "have an intelligent understanding."

Your correspondent "H. C. N.," in his reply to "W. A. S.," who asks *why* electricity is excited by chemical action, undertakes to show *why* by attempting to tell *how*, which require answers differing widely from each other.

Why electricity is excited by chemical action is not at present the question of vital importance, but *how* is what we need to investigate, that we may know the immediate cause and the laws by which it is governed.

To know that electricity is developed by chemical action is not enough, the inquiring mind goes further, and asks what chemical action develops it, and what the conditions necessary for its development. Do all chemical changes excite electrical action, or is there one certain condition necessary for its development? Then, if there is, after understanding the laws which govern this condition, we may then ask *why*.

Tyndall, in his "Heat as a Mode of Motion," shows *how* heat is produced by the chemical union of certain elements—by the clashing together of atoms—but that does not explain *why* the clashing together of atoms produces heat.

How solves the immediate problem, *why* goes beyond and gives us another more difficult. It leads us on step by step to the one great cause, and then, as if to show us our insignificance, gives the great and final problem *why*.

It is the first business of the scientist to solve the problem already at hand before attempting one more difficult. To first show *how* electricity is excited by chemical action, and then comes *why*.

Deep hidden and various as the causes may appear that disturb the electrical equilibrium, I believe that it has but one source in chemical action, and that is unchangeable and invariable in all the chemical changes that develop this condition of force.

It will be seen by the following that I have taken a few exceptions to the communication of your correspondent "H. C. N.," not intending, however, to excite a feeling of animosity, but to arouse the spirit of inquiry:

1st. Electricity does not emit heat or light, is not a material, and does not unite with elements to form compounds.

2d. The battery need not be composed of two metallic elements.

3d. The first action in the battery is not the decomposition of sulphate of copper.

4th. Sulphuric acid has no affinity for either zinc or copper, nor can it be made to combine with either of them.

5th. Neither the decomposition of sulphate of copper nor the formation of sulphate of zinc is the exciting cause of electrical action. A. W. D.

"Perilous, and Destructive, and Disastrous."

NEW YORK, Sept. 5.

TO THE EDITOR OF THE TELEGRAPHER.

SOME months ago the editor of the official *Journal* of the Western Union Co. put his steel-clad heel upon my modest advocacy of "express messages," and denounced the suggestion in the thrilling adjectives placed at the head of this letter.

Several weeks subsequently the official editor, having quieted his nerves, returned to the subject, and contented himself by denouncing my "express message" views as "dangerous and impracticable." And, in the *Journal* of September 1st, the editor again returns to the subject, and tells us, in that elegant and logical language for which that scientific paper has become famous, that there is no "danger connected with the telegraphic system of the world so utterly dangerous as the one of paid priority, and to which we objected." As I understand this lucid sentence, the editor asserts that there is no "danger so utterly dangerous as paid priority." There is such an oracular air about the editor's dictum upon this point that I cannot but feel extremely diffident in putting my

opinion on record against that of one who swings such cogent arguments, and fortifies them by such utterly incomprehensible language.

I regret that my own sense of what is due to the managers of the Western Union Co. does not justify me in speaking of them with the awe and reverence claimed for them by the editor of the official *Journal*. I must speak of them as their acts seem to merit—and I simply assert that I have never made a charge or insinuated a fault which I am not prepared to justify and sustain, without the least discount. For more than five years the managers of the Western Union Co., from the President down, have been constantly referring to me and to my business interests in language and by innuendo disgraceful to the intelligence of its authors.

Even within the last few days the President of that company publicly stated that the automatic system of telegraphy which I brought out in 1869-'70 was only a slight improvement on the old Bain system, whilst he knows that the Bain system was incapable of transmitting and recording over a wire 250 miles long more than about 60 words per minute; whilst 1,000 to 1,500 words per minute was entirely practicable by the system which I brought before the public; and there are several other differences quite as marked as in the speed of transmission. The managers of the Western Union Co., at that time, by bold assertions to their stockholders and the public, sought to strangle the new system at its birth. But the system was too good and had too much vitality in it to be crushed. It has been growing in importance every day since, until, as is well known, a large minority, if not a majority, of the directors of the Western Union Co. have become impressed with its importance, and admit the controlling power of the new system in the near future of telegraphy. Mr. Orton and his assistants might as well attempt to dam up the Hudson as to prevent the success of automatic telegraphy; and the automatic system of to-day is the identical system of 1869-'70, which the managers of the Western Union Company then asserted to be incapable of telegraphing over sixty words per minute, and which Mr. Orton still asserts to be valueless, as all telegraphic systems or improvements are valueless until the W. U. Co. possesses them.

There is proof that Mr. Orton estimated the value of the quadruplex system (by which, at the most, eight operators could telegraph over one wire as much as six operators could telegraph over three wires by the ordinary Morse system) as worth to the Western Union Co. \$1,000,000. But Mr. Orton asserts that the automatic system is valueless, though he knows that two operators with one wire can transmit more intelligence in ten hours than can be transmitted by the quadruplex system in sixty hours. In truth, telegraphing by quadruplex, or Morse, or combination printing (the three systems in use by the W. U. Co.), is simply highly educated hand labor competing against machine labor, of which automatic telegraphy consists. The contest between the two systems is aptly illustrated in the hand needle of the last generation and the sewing machine of the present. The executive managers of the Western Union Co. publicly proclaim their determination to crush out all opposition, and maintain a monopoly of the telegraph correspondence of this country; and they know very well that this will be easily accomplished if they can by any means, fair or foul, strangle automatic telegraphy. Singularly enough, even the Morse operators are aiding and abetting the great monopoly by joining in the opposition to the development of the automatic system, which, if they had a grain of common sense, they would recognize as the only possible barrier that now exists to one of the most corrupt and crushing monopolies of this or any other age—a monopoly which looks to low salaries and extra hours of service for the operators, and the instant adoption of the automatic system and every other possible device by which the cost of telegraphing can be reduced and the greatest possible profits can be extorted from the public necessities.

The early promoters of automatic telegraphy knew very well what they were about when, in 1869-'70, they entered the field of competition. Twenty years of active life in the telegraph and press business of the country taught them that successful competition upon an equality of telegraph facilities with the Western Union Company, aided by its twin monopolies, the Gold and Stock Telegraph Company and the seven leading newspapers of this city, whose close association, aided by the W. Company, has held the whole press of the country for twenty-five years by the throat, was utterly futile, and that it was useless to attempt to maintain a competing telegraph organization unless it possessed some special advantages. These advantages were found in 1869, in the Little system of fast telegraphy, which, as compared with the Morse system, possesses advantages fully equal to fifty per cent. for very large or for moderate traffic.

Unfortunately, after I had practically and fully demonstrated the success of the new system, I was induced, by the seductive statements of a former Assistant Secretary of the United States Treasury, to turn over to

him the power of putting the new system of telegraphing into practical operation, and for five years past he has been running the automatic machine for the sole purpose of advancing his own interests, and at last, after extorting from his associates, as I am told, over \$400,000, has secretly sold out his fictitious or fraudulent "improvements" to Mr. Jay Gould, and has left the country. As soon as the managers of the Western Union Company discovered that the bogus automatic improvements had fallen into Mr. Gould's hands, there commenced between Mr. Orton and Mr. Gould the extraordinary manipulations of which the whole city press has been filled for a month or two past, looking to the consolidation of Mr. Gould's A. & P. Telegraph Company with the W. U. Company; Mr. Orton's chief if not only motive being in that roundabout way to clutch enough of the automatic system to render it impossible to sustain an opposition telegraph organization. As soon as Mr. Orton ascertained, as he did by an official notice from the *bona fide* owners of the automatic and quadruplex systems, that Mr. Gould had no valid title to anything of importance in connection with those systems, the "consolidation" movement was quickly abandoned, and is not likely to be renewed, as, if Mr. Gould's company should ever obtain a valid title to automatic or quadruplex telegraphy, the title will be conveyed in such a form as to render a consolidation of the two companies impossible, except by the restoration of the automatic system to its present owners.

It just now occurs to me that I set out to write a brief reply to the editor of the official *Journal* in regard to "Express Messages," though I feel quite sure the readers of the controversy cannot need a word more of comment. The only shadow of an argument thus far adduced by the *Journal* is the intimation, very broadly and repeatedly made, to the effect that it would never do to trust to the Western Union Company to manage the express message business, for the reason that they would *purposely* hold back all ordinary or low priced messages, and thus force the public to do business under the "express" or high tariff plan.

The only other apology for an argument of the *Journal* is that the Western Union Company would never think of such a thing as to accept a message at 8 A. M. to be delivered at New Orleans within the ensuing ten hours. At a future time I will endeavor to sustain the opposite of these, as I believe, unreliable insinuations of the official *Journal*, my firm belief being that if the W. U. Company does any business between New York and New Orleans, a short time hence it will do ordinary messages of fifty words or less for ten to twenty-five cents each, and "express" messages of twenty-five words for about double these figures, day and night—the ordinary messages being delivered in one to five hours and the "express" messages in ten to thirty minutes. These rates are now entirely practicable with the present improvements—*properly utilized*—in telegraphy. D. H. CRAIG.

Desirability of Regular Correspondence.—Reflection, Determination and a Nom de Plume.

PHILADELPHIA, PA., Sept. 4.

TO THE EDITOR OF THE TELEGRAPHER.

IT has always seemed deplorable that somebody with lots of wind, and the happy faculty of blowing in just the right kind of way, did not come to Philadelphia and make it their object to inform THE TELEGRAPHER sudden and fitful gusts and demonstrative hurricanes, that come and go, and spend themselves and die away and rise up after they are lost to memory, and startle us with their sudden and unexpected reappearance, are not the desired thing. Something more volcaic, more constant—something that can flow on and on, is the requirement. For instance, Chicago has the right kind of wind. There is a steady onflowing (or should I say onblowing) current—and it is an easterly current, too—that wafts unceasingly in upon THE TELEGRAPHER, fraught with all the fragrances that Chicago intelligence affords, and never varies or seems to weary or grow less constant. Other places have in their time been similarly blessed. And I say I have always regretted that Philadelphia could not produce a correspondent who would keep us regularly informed. Philadelphia stands prominently among the cities of the United States, telegraphically speaking, and a correspondent here with the enterprising spirit of "Occasional," "Western Union," or many others who have favored us, would find a wide field and a fruitful one.

It never entered my mind that I was capable of a delivery every week, nor am I quite positive even now that I am. It never occurred to me that my mission might be to confer a benefit upon any reading public by placing before them, *regularly*, reliable communications of intelligence from any source, great or small, and even now I tremble with apprehension at my own suggestion to myself to constitute myself a weekly, or a bi-weekly or a tri-weekly correspondent to these columns, and yet I do not know but I shall

even attempt as vast a thing as this. Indeed, I have been thinking of this for a whole two hours and thirty minutes, off and on, and have almost resolved that I even will. The immediate prospect is good. There is the Western Union main office; I will tell you just where it is, and how high it is, and how wide; and there is the Atlantic and Pacific office, of which I can give similar information, even to the color of its walls. Then there is another place here that I shall be enabled to expose, and that is the office of the Philadelphia, Reading and Pottsville. Besides these there is a multitude of smaller objects, that might last me two weeks if I used them economically and sparingly, and I will try and learn to economize.

The next difficulty, then, is to select a suitable *nom de plume*. For thirty minutes more I have thumbed a superannuated spelling book for a name. Israel, and Jeremiah, and Ezekiel do not seem just in good keeping with the coming Centennial. Uriah has snap and vigor to it, and unquestionable vim, but I do not court too much vigor in my name, as I apprehend a possible lack of it in myself. Methusalem is spicy, but it likewise is vigorous. Hiawatha seems like a digression, for it is not my purpose to sentimentalize. What then of Micawber? That is it exactly. There is appropriateness in that. Like him I shall always look out for "something to turn up." I have known Dickens to help out those similarly circumstanced before. Well, then, it is all fixed, and I will next devote myself to searching for an air current that deviates a little from the main volume, and which will waft my profundity nor-east-by-east to the Grand Reflector, whose radiating light will diffuse it even to the ends of space, maybe. Oh, my!

Rapid Telegraphic Inventions.—Gray's Telephone Likely to Supersede the Quadruplex.—Rapid Transmitters, etc.

BOSTON, MASS., Sept. 13.

TO THE EDITOR OF THE TELEGRAPHER.

THE age we live in is eminently an inventive one. Mankind are following the advice of Bacon, and are delving deeper and deeper into the hidden mysteries of Nature, analyzing and appropriating her forces for the advancement and lasting benefit of the race. In no department of invention is this activity more apparent than in that of electricity, and its most beneficial application—telegraphy. The Duplex and Quadruplex have each in their turn been looked upon as wonderful inventions, and hardly have we become familiarized with their employment when a still more wondrous application of electrical discovery is announced, which, if successful, will throw in the shade all former inventions for increasing the carrying capacity of a single wire, leaving scarcely anything to be wished for in that direction.

Mr. Elisha Gray, of Chicago, a well known electrician, made the discovery that the vibrations of sound were transmissible by the electric current, and following up his discovery, he has found that by imparting sound vibrations of different pitch or velocity to electric currents, it is possible to send many distinct signals through one wire at the same time without interference; each receiving instrument responds to the current having a particular vibration, and to no other. It is said that as many as thirty-two distinct messages can be sent over a common conductor at the same time and in the same direction—the vibratory scale extending a distance of two octaves, and every half tone having a definite velocity of vibration of its own. If the hopes of the inventor are realized, as seems quite probable, all fast systems will necessarily be superseded.

In the course of the trials made last week under the auspices of the Western Union Co., between Boston and New York, four separate series of signals were sent from Boston and received in New York simultaneously. No doubt the system is still in its infancy, so to speak, and it will take much time and experimental research to develop it to a high degree of efficiency and reliability.

In the way of rapid Morse sending we have lately had a veritable "tempest in a teapot." An item appeared in the Boston and Portland papers, stating that Mr. C. D. Stanford, of Boston, had made the fastest time on record in the annals of telegraphing, having sent eighty-seven commercial messages, in the regular course of business, to Mr. D. C. Shaw, in Portland, in one hour. This statement was taken exception to by certain telegraphers, and another paragraph was published in the Boston papers to the effect that Mr. W. E. Kettles, formerly of Washington, D. C., had sent ninety-six messages, of twenty words each, exclusive of date, address and signature, from Washington to Plaister Cove, a distance of 1,000 miles, in an hour, thus eclipsing Mr. Stanford's very creditable achievement. It is proper to say in this connection that the former gentleman did not send regular, but business arranged for the occasion. Still another item in a Boston paper brought to mind the fact that Mr. Kettles

was once worsted in a friendly contest with the celebrated Pat Burns, the lightning sender of long ago, and consequently Mr. Kettles had no right to claim the championship.

There is some talk of a trial of speed between the two rivals for fame, and opinions are about equally divided as to the result. It is likely that the Boston telegraphers will have a tournament before long to settle the respective merits of aspirants for telegraphic laurels.

We have received an accession to the ranks of the operating force in the person of Mr. O'Connor, of Springfield. He works the second press wire to New Bedford.

I think the attack on "John Stirling" unmerited and extremely discourteous. He is a well educated gentleman, a fine telegrapher, and will doubtless give his cowardly opponent a severe drubbing if he considers him a foeman worthy of his steel. More anon.

A Pertinent Inquiry.

ERIE, PA., Sept. 10.

TO THE EDITOR OF THE TELEGRAPHER.

WHY is it that manufacturers of good lightning rods (if there are any such) do not advertise? I have been for months striving to add lightning rods to my other business, if I could get a good rod, such as common sense and some knowledge of electrical science shows to be a protection and not a fraud. Have hunted for such advertisements but find none. Have written several letters, and received answers from copper bot-tomed, double twisted frauds.

GEO. W. MOORE, Repairer, P. and E. R. R.

Opening of the Chicago Industrial Exhibition.—Telegraphers not Interested in the Business.—A Victorious Telegraphers' Base Ball Club.—Births.

CHICAGO, ILL., Sept. 8.

TO THE EDITOR OF THE TELEGRAPHER.

THE Exposition opened to-day with a great flourish of trumpets, etc., but I can only refer to it incidentally, as nothing, telegraphically speaking, has been arranged as yet except the opening of the branch offices of the different telegraph companies in the building—a description of which I hope to be able to furnish you in my next.

Very often in our wanderings we meet with men who can't take any interest in their business, or anything connected with it; and we think they should be known to the fraternity, so that they may not be disturbed in the even tenor of their way, but be allowed to pursue a business that has no attractions for them until, years hence, when in the sere and yellow leaf, they will still be found in the business; either not having the ambition to make an effort to get into other business, or else be satisfied to trot along behind the mass of energetic telegraphers who are ever striving to be up to their business. Such a gentleman is to be found at the Tremont House, in this city, in the person of Mr. Tracy. His segars are splendid, though, and in time, should he rise to a position of eminence, he will probably have for his coat of arms something that will designate what business he did become interested in (so as to rise above his fellows), that they may follow his example. The foregoing remarks are made in no spirit of unkindness, as the gentleman is one of our warmest personal friends; but we are meeting so many operators lately, who disclaim any interest in the business, that we have made up our minds to give their names to THE TELEGRAPHER and its readers as fast as we find them out. Mr. Harris, at the Commercial Hotel, continues to serve the patrons of the hotel and the business public in that locality to their satisfaction, as well as to the interest of the Western Union, his employers.

Mr. Paul Bossart, who came here to work on the extra force in the Western Union office, only remained a few days in that position. Being offered a regular position in the W. U. office he resigned and accepted.

Base Ball is still raging here, and if "Billy" McMillan's nine keep on improving they will soon be able to cope successfully with some of the professional clubs. They more than covered themselves with glory on the 29th ult., playing the Stock Yards nine (by whom they were beaten for the first time this season a short time ago), and beating them by a score of 16 to 36.

Their third game with the Tribune nine was played the 31st ult., on the grounds corner of 27th street and Wentworth avenue. The game was very interesting, the score standing at the end of ninth innings 10 to 10. Another inning was played to decide the victory, when the Telegraphers came off victorious, for the third time, by a score of 12 to 11. The catching of Furlong for the Telegraphers was noticeably fine, as was also the playing of Bliss for the Tribune. The following is the score:

TELEGRAPHERS.			TRIBUNES.		
	R.	O.		R.	O.
Furlong, c.	3	3	Ogden, c.	2	4
Kearns, l. f.	1	2	Bliss, s. s.	2	3
Ryan, s. s.	1	5	Householder, l. b.	1	3
Hart, 3 b.	0	4	Brock, 2 b.	0	4
Casey, 1 b.	2	4	Fallon, l. f.	1	3
Murphy, r. f.	2	3	Bamford, c. f.	0	6
Flanders, p.	1	5	Snow, r. f.	0	6
Birmingham, 2 b.	2	1	Sheildham, p.	5	0
Gallagher, c. f.	0	3	Kahler, 3 b.	0	2
Total	12	30	Totals	11	30

Left on bases—Telegraphers, 7; Tribunes, 5; double plays—tribunes, 1; Telegraphers, 1. Time of game—2 hours 40 minutes. Umpire, Mr. Eikins.

INNINGS:

	1	2	3	4	5	6	7	8	9	10
Telegraphers	0	0	2	0	0	5	0	1	2	2—12
Tribunes	0	0	2	3	0	1	2	2	0	1—11

Some unpronounceable and very hard words sometimes come across the cable, and are very long ones, also, but "Lebensfristwahrscheinlichkeit," which is actually said to have been in a cable message which passed through the Western Union office here, beats anything on record.

The population of this city was increased on the 6th instant by the presentation by Mrs. F. M. Crittenton to her husband (the assistant all night man "O," of the Western Union office of this city) of a fine ten pound daughter. "O" has two daughters now, and will soon be ready to start and stock a first class ladies' boarding school.

We omitted noticing at the time (five weeks ago) the birth of Mr. D. S. Foot's daughter, first edition. "Dell," being so bashful he did not mention it at the time. He still graces the Western Union night force here, I believe, when he is not obliged to hire a sub. on account of his extensive real estate transactions during the day. If you want to know what real estate is worth in and around Chicago, just ask "Dell."

OCCASIONAL.

The Management of Chicago Office Criticised.

CHICAGO, ILL., Aug. 30.

TO THE EDITOR OF THE TELEGRAPHER.

I AM averse to writing, but I cannot resist having a word to say as to how matters are managed in this office. There is undoubtedly cause for complaint, or else there would not be the grumbling there is under the present management. It no doubt takes a great deal of ability, etc., to manage an office like this, more especially the class of men that there is employed, but this can be done more beneficially to the company than it is at present. What I mean is to compare other large offices to this, and the method by which they are induced to appreciate those in charge. There is no existing doubt but what those in charge here are "smart," as far as electricity and the management of wires are concerned, but they show very poor judgment in regard to handling of the "operators." It speaks well for an office, no matter what the size, when a man can say, "They have the best men to work under there I ever saw." Take an office of this kind, and the changes that occur are very few, but I defy any one to say it of Chicago. Every one is discontented, not alone that they make no effort to remedy it, but say, "if you don't like it, leave." It is their prerogative to do this, and what is the consequence? They cannot get good men to stay here. Of course they have good men here, but how long do they stay?

Passing on to another matter, "The orders." I wonder if the executive in New York, or the General Supt. or Supt. of this district ever had the "temerity" while inspecting the office, to read them. If so, they would derive a great deal of benefit, more so than the employes. It would be folly to tell what these orders are, for they would be of no benefit to any one, and those who are in charge of other offices would only laugh at them as a good joke, and think how lucky they were in not having to issue any such under their management.

There is no denying the fact that operators as a class are a very shiftless set, but that should not debar them from having a little independence about them, and if they would show more of this spirit they would be better appreciated. The good old days of telegraphy are past, and the business is being managed by a set of men whose souls are like a sheep's tail in the crotch of an apple tree.

BEESSWAX.

Charitable and Creditable.

On Thursday of last week the expense of the excursion of the series which have been continued through the summer, under the management of Rev. Alvah Wiswall, of St. John's Guild, for the benefit of the poor sick women and children of this city, was defrayed by the contributions of the officials and employes of the Western Union Telegraph Company. Several hundred of this class participated in the excursion, which was in every respect a success.

All the officials and employes, from the President down to the messengers, contributed to the fund collected for this good work.

THE TELEGRAPHER

DEVOTED TO THE INTERESTS
OF THE
TELEGRAPHIC FRATERNITY.

SATURDAY, SEPTEMBER 18, 1875.

THE TELEGRAPHER:

PUBLISHED EVERY SATURDAY at 38 VESEY ST.

ELEVENTH VOLUME.

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INVARIABLY IN ADVANCE.

Single Copies Five Cents.

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Communications must be addressed to

J. N. ASHLEY, Publisher,

(P. O. Box 5503.) 38 VESEY ST., New York.

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A Special Premium for Subscriptions to "The Telegrapher."

THE summer season is about over, and we expect that the friends of THE TELEGRAPHER will now renew their efforts to increase its list of subscribers. The subscription list has been very well sustained during the summer, but as the days of vacations and excursions are over, we look for the usual increase of interest in the only truly independent telegraphic journal published.

It has been our custom for years past to share with those who kindly interest themselves in obtaining subscriptions by offering valuable premiums.

We propose this season to excel our former liberality in this direction. We desire to offer something of real and permanent value. We have accordingly made arrangements by which we are enabled to offer to the person obtaining 60 subscribers for one year, at the regular subscription price, \$2 per year, or their equivalent in shorter subscriptions, a

No. 1 WEED SEWING MACHINE;
for 65 subscribers a

No. 2 WEED SEWING MACHINE,
and for 70 subscribers a

No. 3 WEED SEWING MACHINE.

The price of these machines is respectively \$60, \$65 and \$70.

The machines will be boxed and shipped without extra charge.

This affords an excellent opportunity for female telegraphers, or for telegraphers who have wives or relatives that need these exceedingly useful machines which are in every respect first class, to obtain them at comparatively little trouble or expense.

Send in subscriptions as obtained, and they will be credited until the necessary number to entitle the sender to the desired premium is obtained.

To prevent disappointment, should any canvasser eventually fail to obtain the requisite number for a machine, they will be allowed other premiums proportionate with the amount collected, or, if preferred, 20 per cent. in cash on such amount. To whom shall we send the first machine?

Insular Egotism.

At the annual meeting of the British Association for the Advancement of Science, held at Bristol, on the 25th of August last, Sir JOHN HAWKSHAW, F. R. S., the newly elected President of the Association, as usual, delivered an address. In the course of this address he took occasion to review the history of the invention and progress of the electric telegraph. This portion of his speech is as perfect a specimen of the insular egotism for which his countrymen are noted as we have seen for some time. He completely ignores, in this connection, the discoveries and inventions made by Americans, merely incidentally referring, in a foot note, to the date of the first patent of Prof. MORSE, issued in October, 1837. With this exception no mention is made of any American, and so far as can be learned from his address, nothing has ever been done in this country for the development of electrical science or of the telegraph.

In view of the fact that the first practical telegraph line of any extent was built and operated in this country by Mr. HARRISON GRAY DYAR, in 1826, on Long Island, in this State, over which despatches were actually transmitted, and that most of the more important telegraphic inventions and improvements have been made here, and by Americans, this omission is discreditable either to the speaker's fairness or to his intelligence. While we have no disposition to withhold from the many eminent electricians and telegraphic inventors of great Britain the credit which is due them, we are certainly not willing to allow such a slight as that which President HAWKSHAW has shown to go unnoticed or unrebuked.

It is in this country that most of the useful improvements and new adaptations of the telegraph have been made, and these have been gradually adopted in Europe until most of their telegraphs are worked upon American systems.

The comparatively slow and inefficient needle telegraph of WILLIAM FOTHERGILL COOKE, not "WHEATSTONE and COOKE," as President HAWKSHAW has it, has been generally superseded, even in England, by the MORSE system, and this is supplemented to some extent by the printing telegraph of Prof. HUGHES, an American, which is also very extensively used on the continent of Europe. The duplex system of Mr. STEARNS, an American, is also being generally adopted on the English and Continental lines. The automatic system of Prof. WHEATSTONE, which is highly praised, is known to be as much behind the American automatic system of Mr. LITTLE, in successful operation in this country, as is the needle telegraph behind the Morse and printing telegraphs. The fire alarm telegraph system is the invention of Messrs. FARMER and CHANNING, both Americans; the quadruplex has been made practical by Americans; all the printing telegraph instruments which have proved of any value are the exclusive inventions of Americans; the quotation telegraph systems; the automatic fire telegraph system, by which instant notice is given of the commencement of fires, which has proved of great importance and value, is the invention of an American; the district telegraph system, by which messengers can be summoned, policemen called, etc., has been invented and perfected by Americans; and the harmonic electric system, by which not merely four, but there is every reason to believe at least sixteen communications can be simultaneously transmitted through a single wire, is the invention of Mr. ELISHA GRAY, of Chicago, also an American.

Some of the first electricians of the world are also

Americans. Prof. HENRY, of the Smithsonian Institute at Washington, an American, invented the intensity electro-magnet, by which the transmission of telegraphic signals on long circuits became practicable. Messrs. FARMER, CHANNING, HOUSE, PAGE, the latter the inventor of the so-called RUHMKORFF coil, and many others eminent for ability as electricians, are Americans; but these are all coolly ignored by the orator, who has never heard of any achievements in electrical science except those of certain British scientists whom he names, save by a few Germans, to whom he grudgingly accords some small credit.

In no other country has telegraphy acquired such perfection in actual use or been so universally adopted and used by the people as in the United States and Canadas. More actual business is transmitted daily on a single circuit by two operators in this country than by four operators on two circuits on the English lines. Business is dribbled over the English lines slowly by means of needle telegraphs or by Morse registers, the use of which is universal there but exceptional here; and the automatic telegraph of WHEATSTONE gives a speed of seventy to eighty words per minute in actual business against 1,200 to 1,500 words per minute by the American automatic system. Only in cable telegraphy can any practical superiority be shown on the part of British electricians and telegraphers, and this arises from the fact that in the United States we have had no long submarine cables to operate. We consider it quite probable, however, that if the speed of transmission is hereafter materially increased over such lines it will be through American inventions, and had the cable telegraphs of the world centered in New York, as they have in London, we believe that our electricians would, before this time, have devised some method of transmitting through long submarine cables more than seventeen words per minute.

Atlantic Telegraph Competition Inaugurated.— Great Reduction of Rates.

ON Thursday, the 15th inst., the Direct Cable was opened to public business, and for the first time in several years competition in Atlantic telegraphy has been established. We stated in the last number of THE TELEGRAPHER the date at which the new line would probably commence to take business, although it had not then been fully decided upon.

We understand that the new line is being liberally patronized, and has been fully occupied with business almost from the first hour its facilities were offered to the public. The cable and the lines connecting with it from London to Ballinskelleg Bay, in Ireland, and from Rye Beach, N. H., to New York, are all in the best order, and working as well as was expected or could be desired. The insulation of the cable is perfect since the fault was cut out and new cable substituted by the Faraday.

It has been stated by some of the daily newspapers in this city and elsewhere that messages were transmitted by this line direct from London to the office in this city, which is at No. 16 Broad street, and vice versa, inferentially without repetition. This is not exactly correct. Messages from London are sent first to the cable station at Ballinskelleg Bay, they are then repeated to Tor Bay, in Ireland, and from thence to Rye Beach, from whence they are sent to this city. The Direct Cable Company lease from the Franklin Telegraph Company two wires from Rye Beach to this city, and from the British post-office wires from London to Ballinskelleg Bay, Ireland, so that the whole system is worked by their own employes. In this city the Cable Company connect with the Atlantic and Pacific and the Southern and Atlantic Telegraph Companies, and through the Atlantic and Pacific with other lines competing with the Western Union.

The Anglo-American Telegraph Company anticipated the competition of the new company by the announcement of a further reduction of rates to one

shilling, English, or twenty-five cents per word, gold, which went into operation on the 15th inst.

Instructions have been issued to the Atlantic and Pacific and Franklin offices in Maryland, District of Columbia, Delaware, Pennsylvania, New Jersey, New York, and the New England States, to take cable messages at the following rates:

To Great Britain and Ireland, 25 cents, gold, per word—everything being counted except the name of place from.

Beyond Great Britain and Ireland the charge, in addition to the above rate, is as follows, for 20 words or fraction thereof, everything being counted, including the name of place from, for the following countries, is,

France.....	\$0 84	Alsace and Lorraine.	} \$1.50
Holland.....	0.94	Austria.....	
North Germany.	1.10	Baden.....	
Denmark.....	1.25	Bavaria.....	
		Wurtemberg.....	

The Western Union Telegraph Company announce the following reduction of rates:

	For each word.	
	IN GOLD.	
From Nova Scotia, New Brunswick, the New England States, New York, New Jersey, Pennsylvania, Delaware, Maryland, and District of Columbia.....	25 cents.	
From all points in Virginia, West Virginia, North Carolina, South Carolina, Georgia, Alabama, Mississippi, Louisiana, Tennessee, Kentucky, Ohio, Indiana, Illinois, Michigan, and Wisconsin, from St. Louis, Mo., and from Western Union Company's offices in Florida.....	35 cents.	
From all points in Texas, Arkansas, Missouri (except St. Louis), Kansas, Nebraska, Iowa, Minnesota, Colorado, Dakota, Wyoming, New Mexico, Utah, Idaho, Montana, Nevada, California, Arizona, Oregon, and Washington Territory.....	50 cents.	
British Columbia.....	60 cents.	

The name of the place at which messages for the Atlantic cable originates will in all cases be transmitted without charge.

Those who have been so persistently demanding cheap ocean telegraphy ought to be satisfied with these rates. The reduction from \$10 gold per word, in 1866, to 25 cts. gold per word in 1875, can scarcely be paralleled in telegraphic history. It remains to be seen whether sufficient business can be done over the cables to make them pay operating expenses and maintenance at this price. We do not believe that there can be, and so far as we are informed, no one connected with either company anticipates any profit to the stockholders. Undoubtedly the charge will have to be advanced eventually to at least fifty cents per word, and not improbably still higher, unless some means can be devised to greatly increase the capacity of the cables for transmission.

In the meantime the cable telegraph business will be greatly stimulated, and the public may profit by the low prices while they last.

Messages for the Direct Cable are received in this city at the office of the company, No. 16 Broad street, and at the offices of the Atlantic and Pacific Company.

The Harmonic-Electric Telegraph.

THE Harmonic-Electric Telegraph invention (now commonly known as the Telephone) of Mr. ELISHA GRAY, of Cleveland, is undoubtedly destined to prove a very useful and important one. On Friday of last week we saw four despatches transmitted simultaneously from Boston to this city, on one of the Western Union wires, as rapidly and distinctly as though sent on separate wires. It is believed, and with good reason, that at least sixteen messages can by this invention be transmitted simultaneously over a single wire, and with more ease and rapidity than by the much vaunted and oft sold quadruplex of the great professor of duplicity and quadruplicity. In fact, the quadruplex will be superseded by this invention. It has another

advantage over the quadruplex in that the messages can all be sent in one direction or in any proportion that the requirements of business may render desirable. Mr. GRAY has made a discovery and invention which will be likely eventually to revolutionize the present Morse telegraph system.

The Electric.

THIS sprightly little telegraphic journal is meeting with much approval among the telegraphic fraternity, especially in the section where it is published. It has been conducted in a gentlemanly and courteous spirit by Messrs. HAYES and MOXON, its publishers and editors.

We cheerfully call attention to the advertisement of the paper, which will be found in our advertising columns, and hope it will meet with generous support.

Worthy of Attention.

THE new advertisement of Mr. A. B. LYMAN, of Cleveland, Ohio, which will be found on our second advertising page, is worthy of attention. His prices are very reasonable, and the instruments and supplies furnished by him are of good quality. Those who may have occasion to purchase will do well to communicate with him, and favor him with their orders.

Personals.

MR. JOHN F. MILLS, train despatcher at Crestline, Ohio, on the Pittsburg, Fort Wayne and Chicago road, died at Crestline, September 4, from an overdose of morphine, taken to allay the pain of an acute attack of asthma from which he was suffering.

MR. R. E. FARRINGTON has been appointed Superintendent of Telegraph of the Atchison, Topeka and Santa Fe Railroad, in place of Mr. JAMES W. STACEY, resigned.

MR. W. E. SMITH has resigned the position of manager of Los Angeles, Cal., Atlantic and Pacific office, and goes to Prescott, Arizona Territory, to engage in mercantile business.

MR. JOHN CASSELMAN has been appointed night manager of the Los Angeles, Cal., office of the Atlantic and Pacific Company.

MR. F. A. TRABANT, formerly of the New Haven, Conn., Western Union office, has been appointed assistant day operator of the Los Angeles, Cal., Atlantic and Pacific office.

MR. R. F. WEISS has been appointed assistant operator, nights, of the Los Angeles, Cal., Atlantic and Pacific office.

MR. J. S. WILLIAMS, manager Union Depot office, East St. Louis, Ill., has resigned, and accepted a position on the night force of the St. Louis, Mo., Western Union office.

MR. C. H. WHITE, for the past two years night report man at Kansas City, Mo., Western Union office, has resigned, and goes to San Francisco, Cal.

MR. GEORGE MILLAR, of Toronto, Canada, has accepted a position with the Western Union Company at Omaha, Neb.

MR. HARRY BIRD, of Adrian, Mich., has returned to his first love and accepted a position with the O. & M. Company at Vincennes, Ind.

MR. J. H. SHRYOCK, manager of the Los Animas, Colorado, Western Union office, has resigned, and accepted a position with the same company at Kansas City, Mo.

MR. WALTER S. PIERSON, of the Denver, Colorado, Western Union office, has resigned, and retires from the telegraph business.

MR. JAMES C. DELONG, the bird of passage, has been transferred from the St. Louis, Mo., to the Denver, Colorado, Western Union office.

MR. SEP. STAUNSFER, of Montgomery, Ala., has accepted a position with the Western Union Co. at North Vernon, Indiana.

The present address of Mr. JOHN G. POLLOCK, telegraph operator, is wanted. Any reader of THE TELEGRAPHER who may know his address will confer a favor by answering through its columns, as some of his friends are very desirous of learning his whereabouts, having lost track of him.

MR. JAMES STARK, of Vincennes, Ind., has been transferred to the O. & M. R. R. transfer office at St. Louis, Mo.

MR. C. C. POFSONBY, Supt. of Telegraph, Central Branch U. P. R. R., Atchison, Kansas, has resigned, and accepted a position in the freight office of the Atchison and Nebraska Railway, same city.

MR. W. A. JOHNSON has been appointed Supt. of Telegraph, Central Branch, U. P. R. R., at Atchison, Kansas.

MR. J. W. HAIGHT, late of the Atlantic & Pacific Co. at Cincinnati, Ohio, has accepted a position with the Western Union Co. at Omaha, Neb.

MR. GEORGE W. WHELOCK, of Newport, R. I., and more recently of Saratoga, N. Y., office, has been appointed manager of the Parker House, Boston, Mass., Western Union office, vice Mr. COVEY, resigned. Mr. Wheelock's gentlemanly deportment, with his abilities as an operator, will make him a popular and efficient manager of this important office.

MR. HARRY J. NICHOLS, a well known operator in the West and South, has been appointed to a position in the Galveston, Texas, W. U. office.

MR. JOHN WILKIE, who has been waiting for something to turn up, in New Orleans, has secured a position as night operator at Canton, Miss.

The Telegraph.

By Cable.

DEFALCATION OF THE SECRETARY OF HOOPER'S TELEGRAPH WORKS.

LONDON, Sept. 11.—The *Times*, in its financial article this morning, has the following paragraph: "The defalcations of the Secretary of Hooper's Telegraphic Works, which were announced yesterday, consist in the forging and negotiation of a bill for \$35,000. This appears to have brought matters to a crisis. We believe an appeal will be at once made to the shareholders, there being no more capital to call up."

Western Union Quarterly Dividend and Annual Meeting.

AT a meeting of the Directors of the Western Union Telegraph Company held on Friday, Sept. 10, a dividend of two per cent. on the shares of the Company, for the quarter ending the 30th inst., was declared, payable Oct. 13th.

The annual meeting of the company will be held at the executive offices in this city on the 13th of October. The transfer books will close on the 20th inst., and will not be reopened until Oct. 15th.

Extension of the Atlantic and Pacific Lines.

THE Atlantic and Pacific Telegraph Company, in addition to the new lines previously under way, have commenced the construction of a line from Pittsburg, Pa., to Columbus, Ohio, some 200 miles in length. At Columbus it will connect with the existing lines of the company. This will complete the new route from Philadelphia via Pittsburg.

The new line will be built by the turnpike route, and will be pushed forward energetically, and is expected to be finished before cold weather sets in, as construction parties are working from each end. The material for the line has already been purchased.

New York City Telegraphic Notes.

IT occasionally happens that, by an unusual influx of business, the Phelps combination printing instruments are called upon to exert themselves to their full capacity of transmission. Monday, the 13th inst., was the date of such an occasion, when the four printing circuits, two to Boston and two to Philadelphia, sent and received, up to 5.30 P. M., 1858 messages, with a reserve appetite rapacious for more. The greater part of the work was done between the hours of eleven and three, the supply of messages not being sufficient to keep the instruments employed throughout the entire day.

Perhaps the most interesting feature of the performance was the sending by Mr. Fallon of 199 messages in two consecutive hours.

Foreign Telegraphic Notes.

MESSRS. MORTON ROSE & Co., of London, announce the payment on the 1st of September of the interest due on the 6 per cent. bonds of the Western Union Telegraph Co.

Mr. F. J. Scudamore, C. B., whose retirement from the office of Secretary to the Post-office of the United Kingdom, and management of the postal telegraphs, was recently announced, has ceased his duties, and shortly leaves for the East. A handsome testimonial—a purse of four hundred guineas—was presented to him by his brother officers. His vacancy as Secretary to the Post-office will not be filled.

Mr. F. E. Baines, well known to all telegraphists, Mr. Scudamore's chief assistant, has been appointed "Surveyor General for Telegraphs." Mr. C. H. B. Parry succeeds Mr. Baines as principal clerk of the telegraph branch.

The cable between Dartmouth and Guernsey has been repaired, and communication with the Channel Islands is now restored. It was found necessary to use a large amount of entirely new cable.

A new cable is now being manufactured at the Silvertown Works for the Isle of Man, and it is expected communication will be reopened in the early part of this month. The original cable, which was laid in 1859, was found to be so deteriorated that a complete renewal was necessary.

The manufacture of the New Zealand cable has been commenced at the works of the Telegraph Construction Company.

Telegraphic and Electrical Brevities.

Mr. STANFORD, an operator in the Boston, Mass., Western Union office, on Monday sent eighty-seven messages to Portland, Maine, in one hour, beating the best time yet made. They were received by Mr. Rand, of the Portland office. The feat will be better appreciated when it is known that the messages had to be translated instantly from the telegraphic alphabet, and written out in full at the rate of forty-two words per minute.—Boston Daily Advertiser.

The Military Telegraph Line from Brownsville, Texas, up the Rio Grande, has been completed, and is open for business as far as Rio Grande City, Texas. The construction party were frequently harassed by Mexican marauders.

A New Commissioner of Patents.

THE President has appointed Hon. R. Holland Duell, of Cortland Village, New York, Commissioner of Patents, vice Thatcher, resigned. The new commissioner entered upon the duties of his office on the 1st instant.

According to a recent estimate there are now 50,000 miles of submarine telegraph cables in working order, and 20,000 miles (belonging to 58 different cables) that are useless.

The Telegraphers' Mutual Benefit Association.

RECEIPT OF ASSESSMENTS.

NEW YORK, September 11, 1875.

ASSESSMENT No. 78.

- 4, 8, 16, 23, 28, 46, 52, 53, 55, 56, 58, 59, 60, 65, 77, 80, 86, 88, 90, 91, 100, 108, 136, 138, 139, 146, 157, 181, 183, 215, 235, 267, 269, 301, 323, 328, 332, 346, 349, 352, 353, 371, 372, 380, 383, 385, 391, 416, 426, 434, 438, 467, 476, 510, 516, 526, 532, 536, 547, 549, 553, 575, 576, 587, 590, 601, 659, 671, 690, 703, 721, 731, 740, 772, 787, 803, 804, 808, 812, 813, 830, 832, 839, 880, 901, 923, 931, 938, 992, 1011, 1013, 1039, 1081, 1099, 1126, 1147, 1148, 1154, 1167, 1169, 1175, 1183, 1194, 1199, 1208, 1252, 1260, 1266, 1277, 1282, 1292, 1294, 1298, 1300, 1303, 1306, 1345, 1353, 1354, 1355, 1356, 1376, 1394, 1398, 1409, 1484, 1485, 1508, 1517, 1532, 1568, 1569, 1571, 1579, 1626, 1630, 1632, 1658, 1729, 1735, 1809, 1831, 1862, 1881, 1894, 1900, 1906, 1919, 1944, 1950, 1965, 1970, 2021, 2029, 2030, 2036, 2049, 2050, 2069, 2082, 2097, 2120, 2133, 2135, 2142, 2162, 2174, 2178, 2190, 2202, 2228, 2229, 2233, 2239, 2241, 2244, 2254, 2259, 2287, 2337, 2340, 2343, 2363, 2371, 2386, 2396, 2397, 2400, 2412, 2413, 2414, 2419, 2421, 2423, 2424, 2427, 2429, 2432, 2433, 2434, 2437, 2444, 2445, 2450, 2455, 2468.

ASSESSMENT No. 77.

- 13, 22, 25, 26, 31, 70, 84, 89, 97, 98, 101, 112, 120, 145, 154, 156, 158, 160, 164, 176, 177, 189, 190, 191, 193, 197, 198, 201, 202, 206, 218, 227, 230, 240, 245, 252, 316, 334, 341, 342, 344, 350, 351, 356, 357, 362, 364, 366, 378, 382, 411, 412, 456, 478, 482, 552, 561, 566, 569, 574, 584, 586, 592, 617, 642, 648, 655, 662, 663, 664, 665, 669, 694, 717, 723, 724, 728, 729, 780, 790, 820, 823, 825, 842, 848, 870, 873, 897, 904, 927, 939, 942, 949, 954, 957, 959, 963, 964, 978, 979, 1030, 1031, 1033, 1034, 1038, 1046, 1047, 1050, 1057, 1058,

Table with 12 columns of numbers: 1063, 1080, 1105, 1106, 1107, 1108, 1109, 1110, 1112, 1113, 1115, 1117, 1119, 1120, 1122, 1123, 1125, 1131, 1144, 1149, 1157, 1160, 1164, 1177, 1190, 1191, 1210, 1211, 1234, 1237, 1238, 1241, 1268, 1269, 1270, 1288, 1290, 1295, 1307, 1309, 1311, 1312, 1313, 1314, 1315, 1317, 1318, 1319, 1320, 1321, 1322, 1372, 1406, 1412, 1417, 1426, 1438, 1454, 1455, 1456, 1457, 1458, 1498, 1500, 1505, 1506, 1507, 1515, 1522, 1528, 1529, 1530, 1542, 1580, 1590, 1597, 1652, 1660, 1661, 1662, 1665, 1667, 1684, 1687, 1688, 1696, 1701, 1708, 1709, 1710, 1713, 1724, 1733, 1750, 1751, 1753, 1754, 1755, 1756, 1757, 1758, 1759, 1760, 1765, 1766, 1767, 1769, 1771, 1789, 1790, 1795, 1796, 1797, 1804, 1813, 1818, 1823, 1824, 1837, 1838, 1839, 1840, 1841, 1844, 1845, 1857, 1858, 1859, 1860, 1869, 1874, 1876, 1877, 1889, 1895, 1953, 1958, 1991, 1992, 1993, 1997, 2005, 2007, 2010, 2012, 2025, 2028, 2033, 2035, 2040, 2041, 2044, 2053, 2065, 2072, 2074, 2075, 2084, 2092, 2108, 2113, 2119, 2123, 2125, 2131, 2136, 2137, 2143, 2145, 2154, 2156, 2157, 2167, 2169, 2171, 2172, 2180, 2183, 2184, 2185, 2187, 2192, 2225, 2226, 2234, 2237, 2238, 2243, 2245, 2246, 2252, 2257, 2258, 2266, 2267, 2271, 2273, 2280, 2288, 2289, 2291, 2304, 2307, 2309, 2313, 2314, 2316, 2317, 2318, 2321, 2327, 2341, 2342, 2344, 2348, 2357, 2358, 2361, 2372, 2388, 2422, 2438, 2451, 2452, 2454, 2465, 2466.

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New Patents.

OFFICIAL COPIES of any U. S. Patent issued since July 1st, 1871, including drawings, specifications and claims in full, sent free to any address for 25 cents each. Address F. L. POPE, Elizabeth, N. J.

For the week ended Aug. 10, 1875, and bearing that date.

166,527.—ELECTRO-MAGNETIC ENGINES. C. A. Hussey, New York, N. Y. [Filed May 15, 1875.]

- 1. In electro-magnetic engines, the stationary magnets having radial arms with T shaped ends, being arranged in alternating position, so that the pole ends of one face the intermediate space between the pole ends of the other, for the purpose set forth.
2. The other stationary magnets having widening pole ends of T shape at right angles to the arms, substantially as described.
3. The central revolving magnet provided with widening pole ends of double T shape at right angles to the radial arms of the same, as set forth.
4. The stationary and revolving magnets having radial arms and widening pole ends whose face width is somewhat larger than the distance between two adjoining pole extremities, so as to lap on the pole ends across the intermediate space, substantially as described.

166,557.—ELECTRIC RAILWAY SIGNALS.—David Rousseau, New York, N. Y., assignor, by mesne assignments, to William F. Smith and Samuel Samuels, same place. [Filed July 21, 1875.]

- 1. The combined index and clapper E, arranged between two gongs or sounders, F and G, substantially as and for the purpose herein shown and described.
2. The lever H, pivoted to the index clapper E, and combined with the armature lever, to transmit the motion of the armature to the index clapper, substantially as herein shown and described.
3. The pins or projections h and i, applied to the vibrating index clapper E, and combined with the springs j and k, substantially as herein shown and described.
4. The annunciator I, combined with the vibrating index clapper E, and with the gongs or sounders F G, substantially as herein shown and described.
5. In combination with the vibrating index clapper E, the insulated plate J and conductor prongs or springs r s u v, etc., substantially as herein shown and described.

166,558.—CIRCUIT CLOSERS FOR RAILROAD SIGNALS.—David Rousseau, New York, N. Y., assignor, by mesne assignments, to William F. Smith and Samuel Samuels, same place. [Filed July 21, 1875.]

- 1. The combination of the tube H, formed on the circuit closer, with the inner rings or plates h i, and with the sliding sleeve or plate L, substantially as described.
2. The rod I, placed within the cushion C, and through the rings i h, and combined with the sleeve l and plate B, substantially as and for the purpose specified.

- 3. The cushion C, flanged on top and bottom, and combined with the plates B and D, and screw rings E and G, substantially as set forth.
4. The conductor Fb, carrying the plate g, combined with the conductor Fa, carrying the plate p, and with the cushion r and screw s, substantially as and for the purpose specified.
5. The combination of the upper and lower movable plate h i with the intermediate plate or sleeve l, which is capable of motion, all arranged to constitute a circuit closer, substantially as specified.

166,559.—ELECTRIC RAILWAY SIGNAL.—David Rousseau, New York, N. Y., assignor, by mesne assignments, to William F. Smith and Samuel Samuels, same place. [Filed July 21, 1875.]

- Improvement on his patent No. 141,387.
1. The trigger f, pivoted to the armature lever F, and combined with the lug a, that projects from said armature lever, substantially as and for the purposes shown and described.
2. The projecting hook w, attached to the armature lever F, in combination with the projecting stop x on the arm b of the signal, substantially as and for the purpose specified.
3. The friction rollers u v, combined with the projecting arms g h of the signal shaft, and with the springs p q r s a, etc., substantially as and for the purpose specified.
4. The slide H, carrying the slotted arm y, and combined with the rope E, which has the knot z for the purpose of raising said slide, as specified.

166,606.—ELECTRO-PLATING GLASS, CHINA, ETC.—Eilev Hansen, Copenhagen, Denmark. [Filed Jan. 9, 1875.]

The herein described process of forming a metallic covering on glass and like substances, consisting in first painting the surface with a solution containing sulphur, then baking or burning the article to drive off the sulphur and other volatiles, and to fix the metallic base thereon, and finally making a deposit by the electro-chemical process, all substantially as specified.

166,616.—ELECTRIC TRAIN TELEGRAPHS.—H. C. Keyes and J. P. Clark, Philadelphia, Pa. [Filed June 9, 1875.]

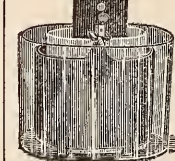
- 1. In an electric signal apparatus for railway trains consisting of an open metallic circuit, two wires and an interrupting bell magnet, the plate B, with post C, in combination with the arm a and link E, and with the eye F of the insulating cord, substantially as and for the purpose set forth.
2. In an electric signal apparatus for railway trains consisting of an open metallic circuit, two wires and an interrupting bell magnet, the hinged arm H and spring J, in combination with the plate f e, and with the eye G of the insulating cord.
3. In an electric signal apparatus for railway trains having an open metallic circuit, which, when the train is ruptured, will be closed, the hinged arm H, with point L, in combination with the plate B with point L', substantially as and for the purpose set forth.
4. The eye F of the insulating cord c, in combination with the link E and spring b, substantially as and for the purpose set forth.

Married.

KNOX—STEVENS.—At No. 22 Aberdeen street, Chicago, Ill., August 26, 1875, by the Rev. Dr. Charles H. Fowler, of Evanston, Mr. THOMAS R. KNOX, of the Western Union Telegraph office, to Miss M. ISADOR STEVENS, of Washington, D. C. California and Washington papers please copy.

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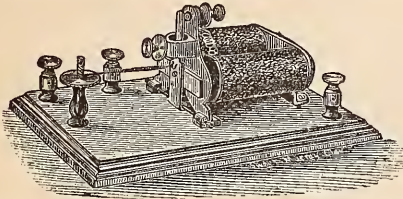
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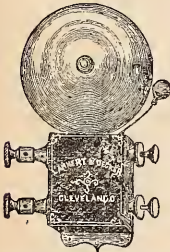
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No. 1 Alarm Bell, 3 1/4 inches in diameter (see cut), works well with one cell local; single stroke or continuous ringing, as desired, changed by lever; thumb-screws with check nuts, for adjusting spring and stroke, large and hard platinum connections; binding posts for holding wires; Bell finely polished, and base extra ornamented. Former price, \$4 50; reduced price, \$3 38.

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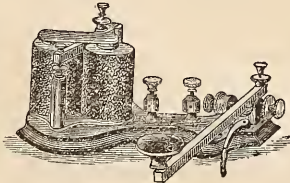
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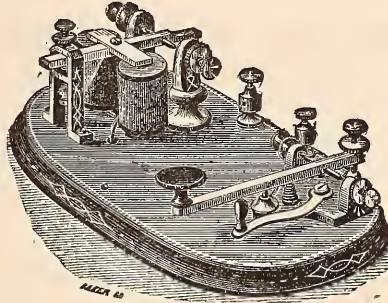
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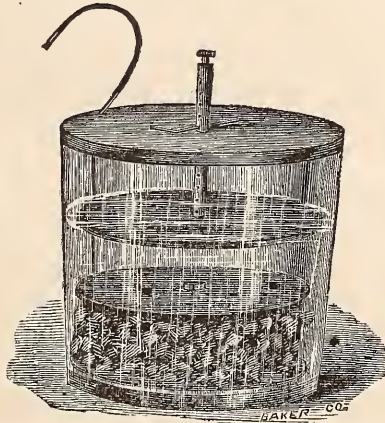
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Chicago, Ill.,	Newport, Ky.,
Cincinnati, Ohio,	Omaha, Neb.,
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is spared by the Proprietors to obtain and secure ANY POSSIBLE IMPROVEMENT which shall increase the

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The amount of property which has been saved from destruction, and the number of lives which have been preserved through the general adoption of this system, throughout the UNITED STATES and the DOMINION of CANADA,

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THE TELEGRAPHER
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ELECTRICAL PROGRESS.

J. N. ASHLEY, - - - - - PUBLISHER.

SATURDAY, SEPTEMBER 25, 1875.

VOL. XI. WHOLE No. 480.

Original Articles.

Smith's System of Duplex Telegraphy.

THE well known arrangement of circuits which was originally devised by Poggendorff for the comparison of electro-motive forces, and first described in his *Annalen*, vol. 54, page 161, has been ingeniously applied by Mr. Gerrit Smith, the Assistant Electrician of the Western Union Telegraph Company, to an improved system of duplex telegraphy. A set of apparatus upon this principle has been for some time in successful operation upon the circuit from New York to Buffalo *via* Albany, a distance by the line of 450 miles, and on a circuit of this length its operation is said to have been more satisfactory than that of any of the methods hitherto in use.

To those not familiar with Poggendorff's method of comparing electro-motive forces, a few words of explanation will be required. Fig. 1 represents the arrangement of circuits employed. Suppose E is the battery whose electro-motive force is to be measured, and E₁ is a standard battery whose electro-motive force is known. R and L are known resistances; L being greater than R. The currents of both batteries will obviously go in the same direction through the resistance L, which is then adjusted until no current passes through the galvanometer M. The electro-motive force of E is then found by the formula

$$E = E_1 \frac{L + R}{L} \quad (1)$$

in which the internal resistance of the battery E is included in R.

It is obvious that it is entirely immaterial whether the resistance of the battery E₁ or of the galvanometer M is greater or smaller, as it does not affect the balance of the system.

On the other hand, if the electro-motive forces of both E and E₁ are known, together with the resistance of L, it is easy to determine the resistance required in R to balance the needle. The formula in this case is

$$R = \frac{E L}{E_1} - L \quad (2)$$

The resistance of the battery E is included in R as before, and must be deducted therefrom to arrive at the rheostat resistance required.

In applying this arrangement of circuit to the duplex telegraph, Mr. Smith puts the line in place of the resistance L, a relay in place of the galvanometer M, and arranges both batteries E and E₁ so that they are simultaneously inserted into and withdrawn from their respective circuits, without interrupting the continuity of these circuits. This will be understood by reference to fig. 2, in which the corresponding parts are lettered as in fig. 1. A transmitter T, which may be operated in the customary manner by a local magnet, battery and key K, is provided with two insulated spring contacts s and s¹, which, when the key K is depressed, connect the batteries E and E₁ to the line through the wires 1, 2 and 3, 4, respectively. The receiving relay M is placed in the wire 4, between the battery E₁ and the line, and the rheostat R in the wire 2, between the battery E and the line. If, therefore, the resistance of the line is represented by L, and the battery E is greater than the battery E₁, the resistance R can be so adjusted that no current will pass through the relay M, even when both batteries are simultaneously connected to the line by the movement of the transmitter T. For example, suppose the battery E to consist of 175 cells, having an internal resistance of 350 ohms, and the battery E₁ of 125 similar cells. On a circuit like that from New York to Buffalo the resistance in good weather is not far from 6300 ohms. The resistance required in R to effect a balance would therefore be as follows: Suppose

$$L = 6300, \quad E = 175, \quad E_1 = 125,$$

substituting these values in formula (2) gives us

$$R = \frac{E L}{E_1} - L = \frac{175 \times 6300}{125} - 6300 = 2520$$

From which we deduct 350, the internal resistance of E, leaving a remainder of 2170 ohms, the resistance required in R to balance the line. Any variation in the resistance of the line from time to time is easily compensated for by a corresponding alteration in R, which should be increased as L decreases, in order to maintain the balance in M. The amount of current C, going out over the line in this arrangement, will be represented by the equation

$$C = \frac{E}{R + L}$$

and is, of course, entirely irrespective of the resistance of the receiving instrument M. This instrument may therefore be made of any sized wire or number of convolutions which produces the best effect with the current from the distant station. The relay which has been used in the circuit referred to has a resistance of about 300 ohms. In this case the resistance opposed to the incoming current will be the joint resistance of R and M, and of the batteries in their respective circuits

$$\frac{2520 \times 550}{2520 + 550} = 379$$

ohms. The incoming current will divide between the

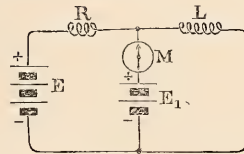


FIG. 1.

receiving instrument M and the resistance R in the proportion of 2520 to 550, so that the former gets nearly four fifths of the arriving current. When the key K is up the transmitter T is in the position shown in the diagram, both batteries being out of circuit. The arriving current then finds its way to the earth through the wire 5 and spark-coil r, the resistance of which should be equal to the joint internal resistance of batteries E and E₁.

So far as the operation of the duplex principle itself is concerned, nothing but an ordinary relay is needed at M, but Mr. Smith has found that in order to effectually compensate for the effects of the inductive discharge from the line after each signal, it is preferable to make use of

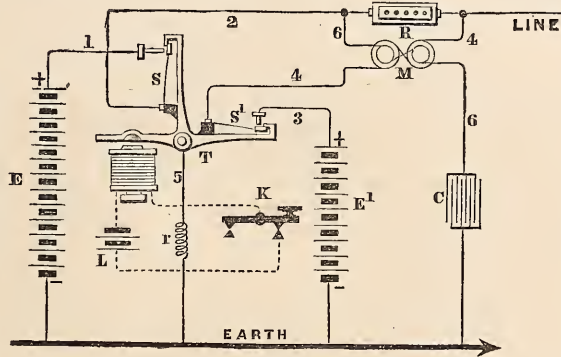


FIG. 2.

a differential relay wound with two equal wires, as shown in the figure. One of these is used for the working current and the other is connected in the circuit of the wire 6, which is attached to the main wire between the battery E and the rheostat R, and leads to one side of a condenser C, the other side of which is to the earth. When the current goes out to line the condenser is charged; when the return charge comes back from the line it passes through one wire of the relay M, and at the same instant the condenser discharges itself in the opposite direction through the other wire of the relay, and consequently the latter is not affected.

It is not absolutely necessary to use the continuity preserving transmitter, as shown in the diagram, as the same effect could be produced by keeping the batteries E and E₁ short circuited, when the key K is open, and breaking these short circuits by the depression of the key, thus allowing the current of both batteries to go to line.

Incidentally it may be mentioned that this arrangement also served to indicate the resistance of the line L. The resistance of E and of R, together with the electro-motive force of E and E₁ being known, the following equation gives the line resistance:

$$L = \frac{R E_1}{E - E_1} \quad (3)$$

Like all other systems of duplex telegraphy, it makes no difference theoretically whether the batteries at opposite ends of the line are arranged with like or unlike poles

towards each other. In practice it would probably be better to arrange them with unlike poles, in order to avoid the injurious effects of reversed currents upon the batteries.

The duplex system above described was patented by Mr. Smith on the 6th of July, 1875.

"Oh, That Ale!"

THEY called him "Towser," and he was making frantic efforts to get up a reputation for never breaking. One day as he was passing a certain desk he heard a call, and gracefully vaulted on to a high office stool to answer it. This is how he copied the message:

"To John Brown, wholesale druggist.—Please send per express one barrel bottled ale immediately. Seaton Bros."

Bottled ale was not in Mr. Brown's line of business, but Seaton Bros. were old customers of his, and so, willing to oblige them, he procured the ale and forwarded it without delay. Next day, in return for his kindness, they sent him the following message:

"To John Brown.—What do you mean by sending us ale? We refuse it. Hurry up our oil. Seaton Bros."

Surprised and indignant at their apparent ingratitude, he hastened to the office and wrathfully exclaimed: "What in thunder is the meaning of this? There's been a lovely blunder made somewhere! Get that message repeated quick!"

So they got it repeated, and it turned out that it was a barrel of *boiled oil* Seaton Bros. wanted, instead of bottled ale. When this was explained to Mr. Brown—they broke it to him as gently as possible—he did not fly into a rage with the long suffering manager, as they expected him to do. He merely remarked: "That operator must be pretty fond of ale when he takes to dragging it into messages so promiscuous like. However," he added grimly, "he shall have his fill of it for once, for he's got to take that barrel and pay for it, too. Yes, sir, pay for it!" he repeated, with savage emphasis.

So it came to pass that Towser found himself the happy possessor of a barrel of beer, and in consequence became the hero of the hour among those of the staff who worshipped Bacchus. But he did not seem to enjoy the honor much, and in response to the boys' oft repeated entreaties to "bring forth that bottled ale," he invariably growled out something that sounded like—well, not exactly a benediction, and since then he has given up the ambitious notion of becoming a second Bismarck.

Be Careful of Your Lightning Rods.

A FEW days since an inspector in the private line service of the Gold and Stock Telegraph Company in Chicago discovered a fault upon one of his lines. The fault seemed to be a cross with another private line. A repairer failing to find the trouble, the inspector made another test, which located the fault between the instrument at one end of the line and the ground connection at that end. Upon examination, it was found that the line took ground from a lightning rod at one end of the building. At the other end of the building was another lightning rod, which furnished ground for another line terminating in the same building.

The trouble was readily explained. The rods were parts of a system of rods, and this system had not, all together, sufficient connection with the earth to carry the current offered by the lines; therefore a round circuit was formed by the lines, through which a portion of the current flowed.

The lightning rod agent explained the *low conductivity* of the rod by saying that the men putting on the tar roof had smeared the rod, *where it ran over the roof*, with tar. The only way to remedy the trouble, in his opinion, was to put on between five and six hundred feet of new rod.

The owner of the building, at last accounts, was taking the testimony of experts on the subject.

Magnetic Railway Locomotives.

In an arrangement lately devised by M. Burgin, the entire axle, with its wheels, is made into one electro-magnet. The wire is wound with increasing thickness from the middle towards the wheels in the case of external cranks, but uniformly in the case of internal. With coupled wheels the wire is so arranged that there is an alternation of poles, the piece of rails between two poles forming the armature. A locomotive model (without engine or boiler), having three pair of wheels and internal cranks, was placed on a line with 30 per cent. incline. Five Bunsen elements supplied the force, and a weight of 25 lbs., with cord, passed round the

axles. The machine weighed 18 lbs., and, with no current flowing, the wheels merely slid on the rails in position; but when the circuit was closed, the model ran up the incline. When the brake was applied (and weight detached) the model could be held on the steep incline if the current were passing; but if not, the wheels began to slide and the locomotive went downwards with increasing pace; but this descent was promptly stopped when the current was made to flow again.

Correspondence.

We do not hold ourselves responsible for the opinions of our Correspondents. Our columns are open to free discussions on all Telegraphic subjects, without distinction of person or opinion.

No notice will be taken of anonymous communications.

A Cold Shake.—Chairs for Operators.—The Eastern Attraction for Knox.—The Chicago "Times" on the Atlantic and Pacific Company.—Holmes' Burglar Alarm Agency, etc.

CHICAGO, ILL., September 12.

TO THE EDITOR OF THE TELEGRAPHER.

THE telegraphers here think "Fatty" Gooding rather gave them the "cold shoulder" in going away out to Evanston, Wyoming, to practice law, and never even writing to one of them, although nearly six months have passed since his departure.

Your Albany, N. Y., correspondent, "Double Six," in his communication of the 24th ult., gives a telling home thrust at the kind of chairs generally used in operating rooms, and his remarks on the subject are very sensible and well timed. In a former article in this paper I had a few words to say on the same subject, and explained my ideas about the way the arms were placed on the chairs preventing operators from getting close enough to the table, so that they could rest their backs against the back of the chair; and also in regard to the way the chair was made to pitch, which was exactly the reverse of what it should be. The new management in both the Western Union and Atlantic and Pacific offices here, in purchasing new chairs, have corrected the matter of "pitching back," by getting chairs that are as near level on the seat as can be. Whether my suggestions had any weight I do not care to argue, but hope the ball in this matter will be kept rolling until the arms of the chair shall be arranged also in a sensible manner. The back of a chair can be made just as strong and secure with the arms reaching only from the rear to the middle of the seat as to come all the way front.

It is generally supposed that the climate of San Francisco is much better than Chicago or Washington, D. C., and when a person goes to the Pacific coast, gets well fixed in point of situation, etc., and then in a hasty manner leaves all and comes east again—especially the second time—it looks as if there was something more of an attraction than climatic or even monetary consideration. We have often wondered in this connection what brought Tommy Knox, of the Western Union day force, back to Chicago, but the announcement of his marriage to Miss M. Isador Stevens, of Washington, D. C., has explained satisfactorily the mystery. Mr. Knox and his beautiful and accomplished bride are now on their wedding tour; having visited Niagara Falls and other points of interest, they will visit some of the groom's relatives in the provinces, when they return to Chicago and settle down to the stern realities of life.

The Chicago *Times*, in its Sunday issue of the 20th ult., in speaking of the Major Block, southeast corner of La Salle and Madison streets, and the different banks, insurance companies, etc., which occupy the different rooms as their headquarters, mentions the Atlantic and Pacific Telegraph Company's office in flattering terms; and although quite an extended account of the location of the wires, officials, operators, etc., has been given recently in THE TELEGRAPHER, probably it will not be uninteresting to your readers to hear what the leading independent daily of Chicago has to say about it. It is as follows:

"ATLANTIC AND PACIFIC TELEGRAPH COMPANY.

"This is decidedly the most important interest that has its headquarters in this block. From this local point, as it were, its ramifications extend all through the country, or we might more properly say all over the world, as its pulse-beats are felt and bounded only within the compass of civilization. This is an important institution, and one whose influence upon commerce and commercial relations cannot be too highly appreciated, and although in the short space allotted for this article full and complete justice cannot be done its merits, yet a few words must be said in its favor. The lower office is situated in the corner, directly under the Bank of Montreal, and is

devoted exclusively to receiving and the delivery of messages.

"The book-keepers' rooms are on the fifth floor, as also are the battery and operating rooms, where may be seen, at any hour of the twenty-four, a large corps of experienced operators dealing out the forked lightning. On the fifth floor is also located the office of Mr. E. D. L. Sweet, the Vice-President, and Mr. J. N. Tower, the Superintendent.

"The wires of this company enter into a keen competition, at all leading points, with those of the Western Union. This company has just finished putting up a new line to Milwaukee, and another is in process of construction, which will be finished in a few days, from here to the village of Saint Louis. Another line has also just been completed from New York to Pittsburg, and is being rapidly pushed forward to Cincinnati and St. Louis, while other important extensions are in progress. The wires of this company reach from the Atlantic to the Pacific, from which fact it derives its name.

"To sum up, we may say that this company, for the efficient manner in which it conducts the business entrusted to it, as well as for its enterprise in the way of enlarging facilities, and building new lines, is entitled to much credit and great praise. As a sample of their progressiveness we may mention that they have introduced the automatic system between all principal points on their lines as far west as Omaha, and arrangements are being made for its introduction to the "far west" as fast as employes can be educated to its use. The wonderful improvements in the rapidity and precision of the telegraphic science that this invention has effected are incalculable. Between all automatic offices the increase in capacity over the Morse system is unlimited."

Mr. Edwin Spear, agent for Holmes' Burglar Alarm Telegraph, of whom a brief notice was badly "bulled" by your printer in a recent number of THE TELEGRAPHER, is also spoken of in the same issue as follows:

"HOLMES' BURGLAR ALARM TELEGRAPH.

"Mr. Edwin Spear, one of the first occupants of this block, is the agent for this ingenious contrivance, with his office in the basement of No. 141 La Salle street. This burglar alarm telegraph is no new and untried thing, but a machine of proved utility and character. Mr. Spear has been in this city for over eight years, during which period he has applied the alarm to hundreds of our best residences, and is now engaged putting it in many houses in process of construction in addition to those already built and occupied. In every case in which this invention has been tried it has proved a success; and during the past ten years experience has proved that in no case where it has been used, on house, bank, or store, has any burglary taken place. In fact it can be called a sure cure for burglars, and it will assure the inmates of a house to which it is applied from any fear or uncertainty about robbery or murder. The supplying of house and hotel annunciators, call-bells, etc., is also another important portion of Mr. Spear's business. The list of testimonials from institutions and private citizens who are using this burglar alarm telegraph is very long, and universally in its favor."

The telegraph repairer of to-day is so skilful in his movements that it rarely occurs that we have to record an accident to any of their number. The imminent danger they are hourly subjected to when at work was rather practically demonstrated on the 3d inst., by the seriously, if not fatally, injuring of one of Gilmartin's force of line men, named Isaac Hooper, at Stanwood, Mich. It seems the pole he had climbed where they were changing the wires broke while he was upon it, throwing him to the ground with such force as to injure his spine and hurt him internally. As he had to ride fifty miles to reach medical aid, his case was considered hopeless.

OCCASIONAL.

Fast Morse Telegraphers.—Mr. C. D. Stanford, the Champion Morse Transmitter.—Rumors of Removal of Boston Office.—A Birth, etc.

BOSTON, MASS., Sept. 22.

TO THE EDITOR OF THE TELEGRAPHER.

THE rivalry between Mr. C. D. Stanford and Mr. W. E. Kettles, of this office, has culminated in Mr. Stanford's accepting the latter's challenge, as published in THE TELEGRAPHER, and on the afternoon of Monday, the 20th instant, the trial took place, occasioning considerable excitement in telegraphic circles. The matter sent messages in the regular course of business, that had been sent to Portland in the early part of the day, averaging over ten words each in the body. Each operator sent for the space of one hour, Mr. D. E. Shaw, in Portland, doing the receiving. Mr. Stanford commenced sending at 1 o'clock P. M., and at the expiration of his hour was in the middle of his 106th message. Mr. Kettles started at

2.10 P. M., and at 3.10 P. M. stopped in his 102d message, Mr. Stanford thus winning a decided victory over his opponent and receiving the congratulations of his associates for the marvellous celerity of his sending. This remarkable feat, I think, is without a parallel in the history of Morse transmission, and with either of the contestants as the representative of Boston at the proposed centennial tournament, our interests will be well taken care of. It is proper to say that both gentlemen are very fine as well as rapid senders. In common with other telegraphers, I should like to see another trial of speed with solid printed matter, as it admits of no abbreviations, and, consequently, would give a more satisfactory result.

There are vague rumors afloat of a removal of the main office to a finer building in a more central location. It is whispered about that the late visit of Mr. Orton had some connection with a new telegraph building. Time alone will tell if there is anything in these rumors.

In the way of vital statistics I am pleased to record the birth of a 9½ lb. son to Mr. Frank T. Lemoine. Congratulations and so forth are in order.

We should like to hear from some of the fast senders in other parts of the country, claiming that, until satisfactorily disproven, the "Hub" has at least the two fastest Morse senders in the world. ARISTIDES.

A Disappointed Scribe.—Lively Telegraph Business.—Bulls.

ALBANY, N. Y., Sept. 21.

TO THE EDITOR OF THE TELEGRAPHER.

WE have been cruelly and shamefully disappointed. We expected to be able to furnish your readers with a first class sensation this week, but have been completely "slipped up" on it. Last Saturday evening, between nine and ten o'clock, we were sitting quietly under our own vine and fig tree, looking over the telegraphic literature of the week, when we heard an alarm of fire. Now, there is nothing so very unusual or interesting about that, but the fact of its coming from Station 9 was what gave it an unusual significance. Our head was out of the front window in about no time, and the sight which met our eyes sent us up on the roof with a rush which made our coat tails snap with unwonted vigor. Perched on the highest attainable point, regardless of soot, and turning our gaze eastward, like a true fire worshipper, a spectacle presented itself which filled your correspondent's heart with joy. From a point, as near as could be judged, about at the corner of Broadway and State street, arose a large volume of flame and smoke, carrying with it great clouds of sparks, and illuminating the whole neighborhood. Visions of a panic stricken night force, ruined switch, burning quads, and other calamities flashed through our mind, showing us *such* a chance for "copy" as was not to be lost. In the effort to catch a passing horse car we feel justified in saying that we made the fastest time on record—not even excepting that made by the famous "99" at Rochester this summer.

Arriving at the scene of the conflagration, we hurried down State street on the lookout for something startling, only to have our fond expectations dissipated as completely as were those of "Old Stox," when he bought Erie at 28 to sell at 50. The fire proved to be on the south side of State street, nearly a block from the Western Union office, hence, Mr. Editor, you see the "because why" of our present disappointed state of mind. We are not, however, entirely run ashore for items, but you see, of course, that what we *have* dwindles down to insignificance beside what we *expected* to send to you.

The amount of business done here this season has been largely in excess of that of any previous year. Even that well known individual, the oldest inhabitant, cannot remember another such continuous "roast" as we have had for the past few months. The boys are congratulating themselves on the prospect of having a "jotty dum" time for a couple months at least.

The doleful accounts of bad management, oppressive rules, etc., which we hear from Chicago and other cities, remind us of some of the good points which characterize the management of this office. Before we were installed in our new "apartments" there was considerable curiosity expressed as to the new rules which all expected would be put in force then, and be of the strictest kind. To the honor of the gentlemen who have charge of the Co.'s interests here, let me say, that not a single written rule of any kind has been bulletined.

The result has shown that their confidence was not misplaced, and that quite as good order can be maintained without rules as with them. Of course this system would not do in all offices, as it is a well established fact, that there is a class of operators whom it is necessary to keep in straight jackets, if we are to live with them at all, and the presence of this very class is what necessitates such orders as we have seen quoted in these columns. It's no use grumbling, boys, you might as well "grin and bear it;" you know we always have to suffer the consequences when we get caught in bad company.

Some of our artists have again been dealing in live stock, which they, no doubt, would be pleased to see in print, so here you have them.

"Regis Try Dept. N. Y. Post Office," is very easily made if you only "Try" hard enough.

"Piper Union" is the way it came on paper as sent by one of our "sudden" young men, original copy reading "Cooper Union." Still another by the same author; it came addressed to "J. J. Congen & Co., N. Y." New York reported couldn't find, and asked for better address, which was given in the shape of "J. J. Coneseo, N. Y. Stuffed club for one. DOUBLE SIX.

All About Stiffs.

NEW YORK, Aug. 31.

TO THE EDITOR OF THE TELEGRAPHIC.

"A STIFF! What is that?" asks some one unacquainted with the mysteries of the metropolis and the unique slang of the Gothamite telegraphic fraternity. By all means, my friends, do not go to a model New Yorker for information on this subject, or you will undoubtedly receive light in a way that you will not relish, and receive for an answer that "a stiff is a stiff, of course." Very lucid, isn't it? Well, it is the purpose of this paper to enlighten just such benighted heathen as you, my questioners, on this matter. A stiff is a joke, a hoax, and the more absurd and exaggerated it is the more it is worthy of the title. There are all kinds of stiffs. A "little stiff" is to attract some new man's attention by a cough, a clearing of the throat, or the exclamation "Say!" and then when he looks around to be vigorously declaiming to some friend near at hand. Another kind of "stiff" is to have a man answer on a wire that is cut in at the switch board, and get some expert to send him a heterogeneous mass of stuff, or perhaps a conglomeration of Bain and Continental. This is kept up, of course, until he "tumbles." You see those "stiffs" vary decidedly. Perhaps the most approved method now extant is to start some absurdity in the way of a supposititious bull, refer it to the next man for "investigation," be adding fuel to the flame, pastes on another blank; and so it goes the rounds until the incongruous mass of manuscript has assumed herculean proportions, made up of slang, "local gags," cartoons, "snide poetry," and what not. Now, gentlemen, is it not time to put a stop to this nonsense? Can't you quit being boys and try to be men? This sort of thing is too much like child's play; besides, it is cruel sport, which, like the old fable of the boys stoning the frogs, although fun for the thoughtless youths, is death to those who have to jump to get out of the way of your heartless shafts of very weak sarcasm. Now, I don't propose to be a champion for any one, but I appeal to you as men, as persons of sense, is it not about time you throw away this folly? Is it not about time for you to quit thus emulating village gossips? Is it not about time you stopped concocting absurd inventions for tormenting your fellow laborers? We will suppose the case of a young man who comes to you willing to be friendly and hail-fellow-well-met with you all, and just because he is a little self-conceited and somewhat ignorant of your ways, you say "He's too fresh!" "He's got too much chin!" etc., etc. Is self-conceit a sin? Is it necessarily coxcombry and snobbery? Did you ever ask yourself whether this brother of yours is worthy of your friendship? Did you ever try to get at a true conception of his character and try to find out his good qualities? Did you never reason that he must as necessarily have his faults as all the rest of us? Will you not try and make his stay with us more of sunshine and happiness than of bitterness and full of gall towards the members of the fraternity? This may all seem what I did not intend to make it, a special mission of protection for one individual. It is not so intended, but only to show how far you, as operators, fail in your duty towards your fellow men, and how little you aspire to be gentlemen in the true sense of the word. I have "been all through the mill" myself, and know whereof I speak. Shall it always be your highest aim and greatest ambition to trifle with and trample on the feelings of others?
CANDOR.

A Fast Receiver Comes to Grief.—Personals and Squibs.

CHICAGO, ILL., Aug. 23.

TO THE EDITOR OF THE TELEGRAPHIC.

"It was a party by the name of Johnson," and he hailed from Peoria; "he wanted a job;" he could take anything—that's the kind of a "hair pin" he was. Although Manager Maynard politely informed him he had no vacancy, he wanted to "try his hand;" he was aching for glory; he saw the Milwaukee Duplex working. "Oh, he could take that fast easy." New York Duplex was shown him, and "Curt" Messerve was turning out his copperplate message a minute, while "Jemmy" Meerneess was giving the feller in N. Y. some

good square Morse about as rapidly as it was comfortable for most any one to put it down.

"Those fellows take it very steady," he remarked. Armstrong and Miller were piled up on the Cincinnati Duplex, and they were just burning up spark coils by the dozen, more or less (less, I guess), they were going so fast. "Well, he'd just like to take all day at that gait."

Buffalo and Detroit on the Quad. were "very slow writers." St. Louis Duplex was very steady circuit, that's the reason they had a gal working on it." Buffalo Dock, "ah! that's the wire he'd like to try his hand on," so they let him sit down to it. Somebody told "Lapey" there was a fast mau at this end, and to get some fictitious messages and hurry him up a little. Well, Lapey just "ate him up;" Whitford says, out of six messages, "the party by the name of J." didn't get a word; he tried to break, but such a shower of dashes and dots as followed his breaks were enough to have terrified one of the boss osixerators, to say nothing about a novice. Well, he got up and blandly remarked, "he could take that fast mau they had at Chenoa, but he guessed that fellow was too much for him." We ain't seen him since.

I "Haight" to tell, but then I must. Business has increased so rapidly on the overland route since the Bank of California "busted," that Omaha had to have some extra men;" accordingly, Messrs. Haight and Muller will start to-morrow morning for that city to help the boys out. "Jake," Tollman is the only operator, so far as heard from yet, who lost by the failure of the Bank of California, and he withdrew his gold just before he came to Chicago and deposited here. Some of the other boys are losing (flesh) on account of the failure, being stuck till relieved by the day men in A. M., if they happen to be last or next to last man.

If somebody don't fix the roof to the building our office is in before the nicely frescoed ceiling of our room is spoiled entirely by its leakiness (that's original), why, I shall speak of it—I'll mention it in THE TELEGRAPHIC—but I won't speak of it now. Wasn't it cruel in that St. Louis man, when Mr. Gray and Jake Tollman were working the Duplex the other day, to say that "that wire worked mean enough to make even a "tollman gray?"

The latest addition to the "sub gang" is a Mr. Gould—no relation of Jay's, I believe. He looks rather sad, as if he'd had trouble. "Cheer him up boys."

A new order is about to go into effect, "that no one will be permitted to see an operator while on duty except by written permission of the Supt., and such permission will only be granted upon the most urgent business." This will save some of the boys a great deal of trouble who have been in the habit of getting "dunned" every pay day, and some of the newly made Benedicts will have to go a whole day without seeing those little angel wives of theirs, "from early morning till late at night," as the "dear creatures," will be too timid to bother the Supt. every day for a permit, and their business will hardly be considered as of the "most urgent" nature.

WESTERN UNION.

Telegraphic News Reporters.—Disappointed Expectations.

LOS ANGELES, CAL., Sept. 3.

TO THE EDITOR OF THE TELEGRAPHIC.

THE Western Union Telegraph Co. have for some time paid their managers on the Pacific Coast a quarterly salary for compiling "Press Despatches," allowing them about $\frac{1}{2}$ cent per word. They have also established "Associated Press" agencies at the principal towns, the compilers receiving $\frac{1}{2}$ cent per word. As the business is almost always new to the appointee they fall back on the stereotyped style, which the *Alta* of San Fran. "takes off" as follows. In many cases the would-be newspaper sharp takes the *Daily* or *Weekly Advertiser*, and sends enough of the local columns to "make up a dollar's worth," and then figures largely on what they will do with the "extra" or "perk," but is doomed to disappointment when the voucher comes, to find that some of his choicest effusions or selections have not been counted in, or else the "uncollectible dept." has cramped on the "perk," and they receive only what is squeezed out between the fingers of the sordid Executive of the "dept." They are willing to swear that whoever should credit them with those "extras" cannot appreciate goodness, or else has orders to allow no one, except specially favored ones, to exceed a certain benefit from their compilations.

The *Alta* thus discourses on the subject:

"The wild, untamed telegraph operator is having a splendid chance to display his enthusiasm in this campaign. Whenever a little crowd of people gather together in an interior town to listen to a fourth rate stamp speaker, no matter what the political com-

plexion of the meeting may be, the t. o. sits himself down and telegraphs to the *Call*: "The largest and most enthusiastic assemblage ever held in this county is now in progress in front of the Aureole Saloon. Anvil firing is incessant, and bonfires illuminate the Cross Roads. The Hon. Sol. McGeachy is now speaking to an audience wild with delight, and is to be followed by General Bradall." Every one of these despatches escapes the waste basket which yawns for it, and is religiously printed in the *Call*, for that paper believes that nothing but good can come from a Western Union operator. Some people complain that there is no enthusiasm in this canvass; but assuredly, if there be none elsewhere, there is an overflowing abundance in the 'interior telegrams' of the *Call*. The rural telegraph operator is chuck full of patriotism."
CLIX.

"Don't Give it Away."—Sunny Prospects.

CHICAGO, ILL., Sept. 6.

TO THE EDITOR OF THE TELEGRAPHIC.

WHEN in the course of human events it becomes necessary to admonish a confidential friend to secrecy, I advise everybody to avail themselves of Charlie Thomas' parting salute to the chief operator of the A. & P. in this city, viz: "Scobell—don't give it away." The efficacy of this injunction must be tested to be fully appreciated, and I assure you it never fails.

Scobell never gave anything away(?) since the receipt of the postal card bearing the above quotation upon it, and consequently the peanut stand will ever be a monument to his unexampled reticence.

I have a suggestion to make to printers of legal documents. Instead of commencing them as follows: "Know all men by these presents, etc.," which is the present form, make them read "Know one man (Scobell) by these presents, etc.," for if he knows it all men will.

In the communication from Mr. "Opposition," I noticed several omissions of "Minor" details pertaining to the A. & P. office here, but as he will probably take this hint, and embody them in his next epistle, I will not encroach further on your space.

As the "Cloud" of consolidation disappears below the horizon, we have every prospect of a "Sunny" future, and that this "Sweet" consolation may never be denied the hosts of Morse's votaries (not forgetting "Half Rate Chandler"), is the fervent prayer of all operators here, including yours Egg-otistically,
Zo-Zo-Zo-ALL OK.

Vacation Observations.—Bulls.

PHILADELPHIA, Sept. 21.

TO THE EDITOR OF THE TELEGRAPHIC.

AFTER enjoying a vacation of twelve days I am again in my accustomed place, listening to the familiar click of the "masheen," and trying to keep cool whenever there is a "rush."

During my vacation I had the pleasure of forming the acquaintance of several gentlemanly manipulators, amongst which are John J. Thomas, at Coal Dale, Pa., who bids fair to become an operator to meet the demand of the times. I here met an old schoolmate, by whom I was cordially received. Claude Whetstone, at Summit Hill, Pa., is getting to be quite an expert at the biz. Mr. Birch is still holding forth at Lansford, "K.," as also are Mr. Thibbitt at Hauto, "H. U.," Mr. Hagger, at Nesquehoning, "G.," and Mr. Reed at Manch Chunk, "D. X." The latter is also superintendent of the Tamaqua branch (over which I passed), in addition to being operator on that line at "D. X."—so I was informed by one of the operators on said line. Mr. Fulton, at Manch Chunk, L. V. R. depot, greets you with a smile and a "How are you?" At this place I enjoyed a ride over the famous Switchback R. R. John B. Shine still shines forth at Pittston, Pa., for the W. U. Tel. Co. I also made a "short stop" at Plymouth, Pa., where I went "down in the coal mines," examining them to my satisfaction, remaining underground for about an hour.

I suppose the register wouldn't work when Mike read and copied "Erio losed," when it should have been "closed;" nor was the message written plain when he sent the word "forwarded," which should have been "found." "Guy" proved to be "Geary." "Hellertown," after repetition, proved to be Heberton. Mike is not in fault for the two latter. I think he had better lay aside his centennial pipe when he works on the wire with the boys.

Business is getting to be brisk in this office. The company has kindly furnished us a messenger, whose name we find to be John Cooke. Next. Ex-Prof.

There are twenty-three miles length of pneumatic tubes now in use in London, used for transmitting telegraph messages.

THE TELEGRAPHER

DEVOTED TO THE INTERESTS
OF THE
TELEGRAPHIC FRATERNITY.

SATURDAY, SEPTEMBER 25, 1875.

THE TELEGRAPHER:

PUBLISHED EVERY SATURDAY at 38 VESEY ST.

ELEVENTH VOLUME.

TERMS OF SUBSCRIPTION.

One Copy, One Year, - - - - \$2.00.

INVARIABLY IN ADVANCE.

Single Copies Five Cents.

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Communications must be addressed to

J. N. ASHLEY, Publisher,

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A Special Premium for Subscriptions to "The Telegrapher."

THE summer season is about over, and we expect that the friends of THE TELEGRAPHER will now renew their efforts to increase its list of subscribers. The subscription list has been very well sustained during the summer, but as the days of vacations and excursions are over, we look for the usual increase of interest in the only truly independent telegraphic journal published.

It has been our custom for years past to share with those who kindly interest themselves in obtaining subscriptions by offering valuable premiums.

We propose this season to excel our former liberality in this direction. We desire to offer something of real and permanent value. We have accordingly made arrangements by which we are enabled to offer to the person obtaining 60 subscribers for one year, at the regular subscription price, \$2 per year, or their equivalent in shorter subscriptions, a

No. 1 WEEB SEWING MACHINE;
for 65 subscribers a

No. 2 WEEB SEWING MACHINE,
and for 70 subscribers a

No. 3 WEEB SEWING MACHINE.

The price of these machines is respectively \$60, \$65 and \$70.

The machines will be boxed and shipped without extra charge.

This affords an excellent opportunity for female telegraphers, or for telegraphers who have wives or relatives that need these exceedingly useful machines which are in every respect first class, to obtain them at comparatively little trouble or expense.

Send in subscriptions as obtained, and they will be credited until the necessary number to entitle the sender to the desired premium is obtained.

To prevent disappointment, should any canvasser eventually fail to obtain the requisite number for a machine, they will be allowed other premiums proportionate with the amount collected, or, if preferred, 20 per cent. in cash on such amount. To whom shall we send the first machine?

The Telegraphic Situation.

THERE is but little to be said in regard to the telegraphic situation which is not already known to our readers. Nothing more is heard at present in regard to consolidation, and the Atlantic and Pacific Telegraph Company is vigorously pushing forward its work of construction and reconstruction, and the officials of the company say that there will be no more shilly-shallying, but that their plans for making the company a real competitor for the telegraph business of the whole country are to be energetically carried out.

President ECKERT has returned to the city with greatly improved health, and has resumed the discharge of his official duties, which were suspended for several weeks, in consequence of his protracted and severe illness. He says he takes no stock in consolidation schemes, but aims to make his company a worthy and efficient competitor of the mammoth Western Union organization. There have been the usual street reports of what Mr. JAY GOULD intended or desired to do, but it is conceded that if he had any expectation or intention of controlling the Western Union election at the coming annual meeting they have been defeated and abandoned.

The completion and operation of the Direct Cable undoubtedly strengthens the position of the companies competing with the Western Union very materially, and renders less practicable or probable any project or scheme for a consolidation of interests in the future.

As it is conceded that the present managers of the Western Union Company will control the pending election, there is but little interest felt or expressed in regard to it. There is a curiosity to see Mr. ORTON's report to the stockholders, as it will doubtless give very full information in regard to the business of the company during the year ended June 30th last, and an insight into the present pecuniary standing and an idea of the future policy and prospects of the company.

Mr. ORTON's reports are always interesting and able, and if we cannot agree with all his conclusions, especially with regard to the practical importance and value of telegraphic systems and improvements, we are willing to concede the honesty with which they are held.

The telegraphic prospects generally, we think, are improving, and there is reason to believe that the business for the next year will be an improvement upon that of the year which has just passed. There is a gradual improvement in the general business of the country, which cannot but be beneficial to the telegraphic interests.

The Atlantic Cable Competition.

THE great reduction in charges upon messages by the Atlantic telegraph cables, consequent upon the completion of the Direct Cable and its opening for business, has resulted, as was anticipated, in an immediate and marked increase in the number of messages offered for transmission. Whether this reduction prove profitable to the cable companies or not, it is unquestionably very satisfactory to the public who have occasion to make use of cable telegraph facilities, and if the capacity of the cables could be increased, might be advantageously permanently maintained.

The Direct Cable Company have no occasion to complain of the amount of patronage bestowed, so far at least as the number of their patrons and messages are concerned. From the first day on which the doors were opened for the reception of public business the cable has been kept fully occupied day and night, and their patrons express themselves as well pleased at the correctness and promptness with which business is done. The en-

tire service between London and New York being under the sole management and control of the Direct Cable Company, is unquestionably an advantage.

The numerous messengers employed by the Direct Cable Company in this city make quite a noticeable display in their peculiar uniforms, and attract much attention.

The business of the line is being thoroughly organized and systematized, and such improvements as may be available to increase the capacity of the line, and expedite business, will be adopted from time to time. The representatives of the company in this city are courteous gentlemen, and afford all requisite or desired information to their patrons and others who call upon them.

In another column will be found a detailed tariff list for European, Eastern and South American stations, which will prove of value to the public as well as to offices which are likely to have cable business to transmit, and should be carefully preserved for future reference.

The peculiar form of conductor used in the cables of this company, although it has been ignorantly criticised heretofore by some parties, is proving to be scientifically and practically correct and successful, and it is believed facilitates the transmission of signals, especially through the very long cable between Ireland and Nova Scotia. The tests of the cables, we are informed, are perfect, and the insulation and conductivity all that could be expected or desired.

The company and the contractors are to be heartily congratulated upon the success which has crowned their efforts after so many damaging and discouraging misfortunes and delays. Probably when they come to lay a second cable, which we understand is to be done next season, the experience gained in this initial enterprise will enable them to do it promptly and advantageously.

We understand that the Anglo-American cables are experiencing a considerable increase of business, also, as a consequence of the reduction of rates. If the low rates can be made profitable and continued, the increase of business would doubtless necessitate the laying of several additional cables within a comparatively short time.

The Western Union Telegraph Co. have fitted up and opened a new office, especially for cable business, at No. 14 Broad street.

The Resignation of Mr. Wm. E. Smith, Manager of Los Angeles, Cal., Atlantic and Pacific Office.

THE "Personal" column of THE TELEGRAPHER last week contained the announcement of the resignation of Mr. WM. E. SMITH, Manager of the Los Angeles, Cal., office of the Atlantic and Pacific Telegraph Company, and his proposed retirement from the telegraph business, to engage in mercantile pursuits at Prescott, Arizona.

Mr. SMITH has been long and favorably known to the readers of THE TELEGRAPHER, through his interesting communications over the *nom de plume* of "Clix," and has exhibited a lively personal and practical interest in the success of the telegraphers' newspaper, which we are happy to acknowledge.

He has occupied several important telegraphic positions, which he has filled with advantage to his employers, satisfaction to the public and credit to himself.

A few months since, upon the extension of the Atlantic and Pacific lines to Southern California, Mr. SMITH resigned his position with the Western Union Company at San Francisco, and was appointed Manager of the Los Angeles office of that company. He entered upon his new position with his customary zeal, energy and ability, and in a very brief time has built up and organized an excellent business for the new lines.

Very advantageous offers to engage in mercantile business at Prescott, Arizona, have induced him to resign his connection with telegraphy, and although we regret to lose him from the telegraphic ranks, yet we congratulate him on his excellent prospects and wish him abundant success.

In regard to the success of the Atlantic and Pacific

office at Los Angeles, under Mr. SMITH's administration, the *Herald* of that city says:

"The Atlantic and Pacific Telegraph line has done a fine business since it reached this city. On the first of this month the office here transmitted ninety-three messages and sent and received eight thousand words of news report for the *Herald* and *Express*, the San Bernardino *Guardian* and *Argus*, and the Anaheim *Gazette*. All this work was done by two men. The business of the office averages three hundred dollars per week. This is a flattering appreciation of low rates and prompt despatch. The people of Southern California have reason to rejoice at their release from the meshes of that grasping old monopoly, the Western Union, which, prior to the opening of the opposition, kept up the rates and furnished despatches as often behind as ahead of the railroad and stage."

Of Mr. SMITH's resignation the Los Angeles *Evening Express* remarks:

"Mr. Smith, Manager of the Atlantic and Pacific Telegraph Company in this city, is about to remove to Prescott, to engage in the mercantile business. If Mr. Smith proves as successful as a merchant as he has as a telegraph manager, he and his friends will have grounds for rejoicing. We wish him success in his new line of business."

The French Telegraph Service.

A STATEMENT is travelling the rounds of the press in this country that in France the telegraphic service has yielded in the past year a surplus of \$400,000 over expenses. The previous year receipts and expenses balanced, but always before there was a deficit. This is cited as a demonstration of the fact that cheap Government telegraphy will ultimately pay.

The actual state of the case in France, as elsewhere, is, that Government administration of the telegraphs at low rates was financially a failure. After the war with Germany the immense losses consequent thereupon compelled the Government of France to utilize every possible source of revenue. It was decided to be impracticable and inadvisable to continue the telegraph administration at a loss. Under these circumstances telegraph rates in that country were advanced forty per cent. on messages between stations in separate departments (which correspond to our States), and sixty per cent. on messages between two stations in the same department. With this advance the deficiency in the telegraph receipts has been overcome, and last year a small surplus over actual expenses realized.

We do not see much encouragement for the advocates of Government telegraphy in this country from these facts.

Personals.

Miss E. D. MOORE, of Quincy, Ill., and MICHAEL FULLY, of New Orleans, La., have been appointed to positions on the night force of the St. Louis, Mo., Western Union office.

Mr. JACK MAGILL is the "night press" man at Kansas City, Mo., Western Union office.

Mr. W. P. DINSLEY has accepted a position with the Western Union Co. at St. Joseph, Mo.

Mr. GEO. M. MYERS, of Toledo, Ohio, has been appointed to a position in the Kansas City, Mo., Western Union office.

Mr. GEO. R. BICKNELL is "Micawbering" in St. Louis, Mo., like a great many others.

Mr. FRANKIE FARLEY, late of Chicago, Ill., has gone to San Francisco, Cal.

Mr. J. H. MCGUIRE, of the St. Joseph, Mo., Western Union office, has resigned, and accepted a position with the same company at Omaha, Neb.

Mr. J. CASSELL, formerly of Louisville, Ky., Western Union office, has accepted a position as night operator, Union Depot, East St. Louis, Mo.

Mr. SYLVESTER STOUT, formerly assistant agent and operator, No. Penn. R. R. Co., at North Wales, Pa., has been promoted to a similar position with that company at Abington, Montgomery Co., Pa., vice "H." resigned.

Mr. WM. THOMAS has been appointed assistant agent and operator for the N. P. R. R. Co., at North Wales, Pa., vice Mr. S. STOUT, promoted.

The Telegraph.

The Franklin Telegraph Company.—Adjourned Annual Meeting.

AN adjourned annual meeting of the Franklin Telegraph Company was held on Wednesday, September 15th, at room 41, Sears' Building, Boston, Mass. Ten gentlemen were present. General T. T. Eckert, President, presided.

The President said that by reason of sickness he was not able to present such a report as he desired, but his assistant, Mr. Chandler, had prepared a memorandum which he would read.

The memorandum stated that the receipts for the year ending April 30, 1875, were \$290,156; that additions made to the company's lines aggregated \$26,652; purchase of the Fall River line, \$4,500; construction of the Springfield and Athol line, \$1,981; construction of the Rye Beach line, to connect with the cable, \$18,996; sundry loops, chiefly in New York City, \$1,173; making a total expenditure of \$26,652. Since April the Atlantic and Pacific Company had advanced an additional sum of \$24,733.08 for improvements and new lines. In concluding the memorandum stated that the prospects for the company were more favorable than at any time heretofore, notwithstanding the loss of Government business and an indebtedness to the Atlantic and Pacific, which has now to be provided for.

On motion of Mr. Bullard, representing the minority, Messrs. Horace B. Wilbur and George Holbrook were appointed and authorized to audit the treasurer's accounts, and also to examine into the relations with the Atlantic and Pacific Company and report upon the same.

On motion of Mr. Bullard the report of Messrs. Greenough and Wilbur on the late treasurer's account was taken from the table and accepted. Adjourned.

Mr. W. C. Barney's System of Rapid Telegraphy.

THE following account of trials of Major W. C. Barney's system of rapid telegraphy has been translated for THE TELEGRAPHER from the *Independence Belge*, published at Brussels.

In our number of 16th of April last we made mention of a new system of rapid and simultaneous telegraphy, invented by an American engineer, Major Barney, and which had been tried on the Government lines.

The results of trials made since then have been very satisfactory. Since that time, with the consent of Mr. Barney, modifications have been made in the system by a Frenchman, M. Godenor, a pupil of Breguet, and the experiments since have given still more satisfactory promise than those previously made.

The following are some of the results obtained: On the 1st of July a despatch was transmitted by single transmitter from Brussels to Ostend, and to Antwerp at the same time, with a speed of 600 words per minute. These trials took place on the wires connecting Ostend and Antwerp, in order to lengthen the lines, the first of which was 153 miles, the second 57 miles.

On the 17th of July messages were sent from Ostend to Brussels at a speed of 1,092 words per minute. The despatches as received were easily read by all the telegraph employés present.

On the 25th of August despatches were sent from Brussels, via Arlau and back—a distance of about 235 miles—with a speed of 600 words per minute, and were read by all the employés in the office.

The Key West and Punta Rasa Cables.

THE cable of the International Ocean Telegraph Company, between Key West and Punta Rasa, Fla., has not worked well of late, the borers having impaired the insulation. The new cable for this section, which was ordered by Mr. Orton during his late visit to England, has been manufactured and forwarded to Key West, and is now being laid, and in a few days communication will be fully restored.

Foreign Telegraphic Notes.

DURING the meeting of the British Association for the Advancement of Science, at Bristol, there were two soirées in the Colston Hall. At the second several electrical inventions were exhibited. The display of telegraphic apparatus, which to a certain extent was a historical one, contained the original instrument of Cooke and Wheatstone, which was used on the first telegraphic circuit, viz., that between Paddington and Slough.

It is proposed in France by the telegraphic administration to encourage the introduction of private wires, and to offer such inducements that no great factory and no rich man's house in the country will be without its wire.

The Eastern Company's traffic receipts for the month of August show a decrease of £1,260.

Telegraphic and Electrical Brevities.

THE Nevada and North Telegraph Company have completed their lines to Boise City, Idaho.

The annual break in the French cable between Duxbury, Mass., and St. Pierre, has been repaired, and the line is working as usual.

Recently a chimney fell on a city line in Montreal, Canada, breaking it. The operator at a suburban office fixed it up, but as the line didn't work, the repairer went out from the main office to investigate. He found the wire mended with a piece of string. The difficulty was explained, and the substitution of a piece of wire for the string had a beneficial effect.

The Board of Police Commissioners in this city have ordered the Sup't of Police Telegraph to connect the Chambers street Hospital by telegraph with the Fifth Precinct Station House.

Mr. D. O. Mills, of San Francisco, Cal., has been elected a director of the Western Union Telegraph Company.

The system of cables *via* the West Indies, connecting South America directly with the United States, is now complete and open to the public. There are now two routes of telegraphic communication with South America, the other being *via* the Atlantic and the Brazilian cables.

The Sword of Washington.—How a Rural Agent and Telegrapher Obeys Orders from the Commander.

SOME time ago there was an order issued from the General Superintendent's office of the Chicago and Alton* railroad, requiring all agents and other employés connected with the trains upon that road to wear badges when upon duty, designating the position they have, that the travelling public might, without mistake, know who to apply to for any information or protection required. This order in due time was sent to the different agents along the line of the road, together with the badge they were to wear.

Among the agents that received this order and badge was Mr. J. R. Madison, at Washington, upon the western division of the road, who immediately carried out the order. He was very much pleased with the badge, as it was quite ornamental, and showed to every one the position held. He thought it would save many questions as to the rank he held upon the staff of this large corporation, so he wore it continually—not only around the town, but to church and other places of amusement—and when he took off his hat he would place it in a very conspicuous position, that it might draw attention.

The young men of Washington began to feel quite taken aback by the attention given the young railroad agent; therefore they set their heads together to get a rig on him, which they saw fully carried out yesterday to the delight of all the citizens of the above named city. They purchased a very fine sword and belt down the road somewhere, and then wrote a letter purporting to come from the General Superintendent, informing all agents that in future they would be required to wear the sword and belt, as it would add greatly to the appearance of the leading official at the station, as well as giving him something with which to defend the patrons of the road from the confidence men and pickpockets that are always to be found at a railroad station. This was taken up and given to the train men, who, on the arrival of the train at Washington, delivered it to Mr. Madison, who promptly put it on; and yesterday he was seen promenading the streets in full dress, strutting about as proud as a major general. The novelty of the thing created considerable laughter among the citizens, who began to ask him about the cause of all this display, whereupon he showed the instructions. Some one told him that the whole thing was a joke put upon him, and that he had better see if the thing was general throughout the line; so he repaired to the office and by telegraph asked the agents at Lacon and Wenaona if they had got their swords, etc., to which they replied they had, that they were the laughing-stock of every one, but that they did not mind it, as they would soon become used to it. Getting the assurance that there was no joke about it, he resumed his business without any further trouble.

Before night the joke had gone the length of the wires on every division of the road, and a ripple of laughter was continuous from Chicago, Louisiana and Washington to Chicago, and probably has spread by this time to every telegraph line in the Union. If Mr. Madison ever hears the end of it he may bless his lucky stars.—*Bloomington (Ill.) Pantagraph.*

A lightning rod man named Ira Smith, aged seventy, received a mortal kick from a mule last week in the stomach—also in the Pan Handle region of Virginia. *Dies Ira.* Whom the gods love die young.

"A very capable lightning slinger and a good fellow generally," is the graceful compliment paid a telegraph operator by the Newburg Journal.

FRANKLIN imagined electricity to be an element of glass—remove electricity and glass would lose its virtues and properties!

Quotations of Telegraph Stocks at N. Y. Stock Exchange.

Showing Lowest and Highest Prices each day during week.

Sept.	WESTERN UNION.		ATL. AND PAO.		AMER. DIST.		GOLD AND STOCK.	
	Bid.	Asked.	Bid.	Asked.	Bid.	Asked.	Bid.	Asked.
16	78 3/4	79 3/4	20 1/4	21	30	30	69	
17	78 3/4	79 3/4	20 1/2	21	30	30	70	
18	77 1/2	79	20 1/2	21 1/2	30	30	70	
20	76 3/4	78 3/4	20 1/2	21	30	30	70	
21	76	77	20 1/4	20 1/2	30	30	70	
22	75 3/4	76 3/4	20 1/4	20 1/2	30	30	70	

Married.

KURTZ—KNOFF.—Tuesday evening, September 14th, at the residence of the bride's parents, 260 Perry street, Cleveland, Ohio, by the Rev. C. F. Paulus, assisted by Rev. J. S. Broadw-ll, Mr. JOHN C. KURTZ, manager of the Western Union Telegraph Company's office, Berea, Ohio, to Miss ANNIE M. C. KNOFF, of Cleveland.

HENRICI—IRONS.—At Indiana, Pa., Thursday, September 16th, 1875, by the Rev. A. C. Ehrenfeld, JACOB F. HENRICI, late of the Western Union office, Pittsburg, and Miss VIOLA IRONS, of the Western Union office, McKeesport, Pa.

DIRECT UNITED STATES CABLE COMPANY.

TARIFF for transmission of Telegrams via DIRECT CABLE to Great Britain and Ireland, the Continent of Europe, Turkey, Egypt, Persia, India, Penang, Singapore, Cochin China, China, Japan, Java, Australia, New Zealand and the East generally.

The name of place from which messages originate is transmitted free of charge.

Messages will be received at the Company's offices, 16 Broad street, New York (always open), or at any of the offices of the Atlantic and Pacific and Franklin Telegraph Companies throughout the United States, and at any of the offices of the Dominion Telegraph Company of Canada.

The word system of charging is adopted for all messages.

All messages to be prepaid by sender.

This Company will register the names of firms in Great Britain and Ireland free of charge. By this arrangement the sender of a message is only required to use two words for the address—for instance, a party cabling to "James Smith & Sons, 126 Bishopsgate street, within, London," can address his message to "Volo, London." These addresses will be registered at any of the above mentioned offices on application.

The Direct Cable rate in gold between New York city and Great Britain or Ireland is 25 cents per word.

1. The rate from and to Great Britain or Ireland and points in New York, New Jersey, Pennsylvania, Delaware, Maryland, District of Columbia, New England States and Dominion of Canada is 25 cents per word, gold.

2. Virginia, West Virginia, North Carolina, South Carolina, Georgia, Alabama, Mississippi, Louisiana, Tennessee, Kentucky, Ohio, Indiana, Illinois, Michigan, Wisconsin, St. Louis (Missouri) and Florida—35 cents per word, gold.

3. Texas, Arkansas, Minnesota, Dacotah, New Mexico, Idaho, Montana, Arizona, Oregon, Washington Territory, Missouri (except St. Louis), Kansas, Nebraska, Iowa, Colorado, Wyoming, Utah, Nevada and California—50 cents per word, gold.

British Columbia—60 cents per word, gold.

The list below contains the tariffs in GOLD from London only, therefore, in reckoning the charges on telegrams, the DIRECT CABLE TOLLS above must be ADDED to these rates.

ADEN.	(Special rate) ten words.....	\$10 00
	The first additional ten words or less, up to twenty words.....	5 00
	For each additional ten words or less, above twenty words.....	7 50
	For twenty words or less add as follows, and for each ten or fraction of ten words above twenty, charge in addition one half of these rates.	
ALGERIA AND TUNIS	(via Marseilles).....	2 08
	(via Malta).....	3 62
ALSACE AND LORRAINE.	(Germany).....	1 50
ARGENTINE REPUBLIC.	(See South America.)	
AUSTRALIA	(via Falmouth or Teheran).	
	Port Darwin.....	46 62
	South Australia.....	46 62
	Victoria.....	47 12
	New South Wales.....	47 88
	Queensland and Tasmania.....	49 12
AUSTRIA AND HUNGARY.....		1 50
BADEN AND BAVARIA.....		1 50
BELGIUM.....		0 62
BALOUCHISTAN.....		18 00

BENGHAZI.	(Messages can be posted at Malta; the words "post Malta" must be inserted after the address).....	\$2 88
BRAZIL.	(See South America.)	
BUSHIRE	(via Teheran).....	6 12
	(via Turkey).....	7 38
CEYLON	(via Teheran or Falmouth.)	
	For ten words or less.....	10 50
	For each additional word.....	1 05
CHANNEL ISLANDS.....		0 25
CHILL	(See South America.)	
CHINA.	Hong Kong, } Amoy, } Shanghai, } Messages for other places in China can be posted at Hong Kong or Shanghai without extra charge.	30 00
COCHIN CHINA.	Saigon (via Falmouth or Teheran).....	28 50
CORSICA.....		1 04
DENMARK.....		1 25
EGYPT	(via Malta.)	
	Alexandria, ten words (special rate).....	5 00
	" for the first additional ten words or less, up to twenty words.....	2 50
	" for each additional ten words or less, above twenty words.....	3 75
	Cairo.....	5 62
	Suez, } " Canal..... } " Isthmus..... }	5 62
	" for the first additional ten words or less, up to twenty words.....	2 88
	" for each additional ten words or less, above twenty words.....	4 25
FRANCE.....		0 84
GERMANY	(except Baden, Wurtemberg, Alsace and Lorraine)	1 10
GIBRALTAR	(via Falmouth).....	2 75
	(via submarine).....	2 00
	(via Marseilles and Barcelona).....	2 84
GREECE	(via Valo or Zante, direct).....	2 25
	(via Corfu).....	3 34
	(via Malta and Zante).....	4 62
GREEK ISLANDS.	Corfu (via Otranto, direct).....	2 50
	(via Otranto, direct, Eastern Co.).....	4 38
	Ithaca, } Cephalonia, } Santaur, } Zante, } Spezzia, }	2 62
	(via Valo or Zante, direct).....	3 66
	(via Corfu).....	5 00
	(via Malta and Zante).....	5 00
	Candia or Crete, } Candia, } Canea, } Retrimo, }	4 80
	(via Constantinople).....	6 25
	(via Valo).....	5 00
	(via Zante, direct).....	7 08
	(via Corfu).....	7 00
	(via Malta and Zante).....	7 00
Syria	(via Valo or Zante, direct).....	2 88
	(via Corfu).....	3 96
	(via Malta and Zante).....	5 25
Sitia	(via Zante, direct).....	5 00
Cyprus and Ostia	(via Constantinople).....	4 16
	(via Valo).....	5 62
	(via Corfu).....	6 45
	(via Zante, direct).....	5 00
	(via Malta and Miant).....	6 00
Mytelene, } Rhodes, } Samos, }	(via Constantinople).....	3 96
	(via Valo).....	5 42
	(via Corfu).....	6 25
	(via Zante, direct).....	4 88
	(via Malta and Zante).....	8 00
Scio	(via Constantinople or Valo).....	3 96
	(via Corfu).....	4 58
	(via Zante, direct).....	3 88
	(via Malta and Zante).....	5 12
ANDROS, Kythnos, Tinos	(via Malta and Zante).....	5 00
HELGOLAND.....		2 00
HOHENZOLLERN.....		1 10
HOLLAND.....		0 94
HUNGARY.....		1 50
INDIA	(via Teheran or Falmouth).	
	West of Chittagong, including Kurrachee, for ten words.....	10 00
	for each additional word.....	1 00
	East of Chittagong, for ten words.....	10 50
	for each additional word.....	1 05
ITALY AND SICILY.....		1 88

JAPAN.	Nagasaki	
	(via Teheran or Falmouth).....	\$40 38
	(via Siberia).....	30 00
	Hiogo, } Osaka, } Simosaki, } Yeddo, } Yokohama, }	42 62
	(via Teheran or Falmouth).....	32 25
	(via Siberia).....	44 62
	Hakodadi	34 25
	(via Teheran or Falmouth).....	
	(via Siberia).....	
JAVA	(via Teheran or Falmouth).	
	Batavia and } Wellervreden } West of Samarang } East of Samarang.....	29 88
		30 12
		30 62
LUXEMBURG.....		1 50
MADEIRA.....		5 38
MALTA.....		2 50
MAURITIUS.	Messages are posted at Aden. The words "post Aden" must be inserted.	
NEW ZEALAND	(via Teheran or Falmouth).	
	Messages are posted at Melbourne or Sidney, at the option of the sender.	
		1 10
NORTH GERMANY.....		1 25
NORWAY.....		1 25
ORKNEY AND SHETLAND ISLANDS.	Mossbank, } Culla, } Uya Sound, } Balta Sound, } Shetland, }	1 75
	For every additional five words.....	44
	All other stations.....	1 50
	For every additional five words.....	38
PENANG	(via Teheran or Falmouth).....	23 50
PERSIA	(via Teheran).....	6 12
	(via Falmouth).....	9 00
	(via Turkey).....	7 08
PORTUGAL	(via Submarine Co.).....	2 00
	(via Marseilles and Barcelona).....	2 84
	(via Falmouth).....	2 12
	(via Santander).....	2 25
PRUSSIA.....		1 10
ROUMANIA.....		1 88
RUSSIA (in Europe).....		2 50
	(in Caucasus).....	3 12
	(in Asia, west of Tomsk).....	4 16
	(in Asia, east of Tomsk).....	5 84
	(in Siberia, 3d region).....	9 16
ST. VINCENT (Cape de Verde Islands).....		14 38
SCILLY ISLANDS.....		88
	For every additional five words.....	18
SERVIA.....		1 88
SINGAPORE	(via Teheran or Falmouth).....	27 50
SOUTH AMERICA.	Argentine Republic:	
	Buenos Ayres.....	54 38
	All other stations.....	56 00
	Brazils:	
	Para and } Bahia, } Pernambuco.....	41 38
	Rio de Janeiro.....	30 50
	Santos.....	46 75
	Santa Catarina } Rio Grande do Sol } All other stations.....	52 25
	Uruguay:	
	Monte Video.....	52 25
	All other stations.....	53 88
SPAIN	(via Submarine Co.).....	1 75
	(via Falmouth or Santander).....	2 00
	(via Marseilles or Barcelona).....	2 62
SWEDEN.....		1 75
SWITZERLAND.....		1 46
TRIPOLI (see Benghazi)		
TURKEY (in Europe, via Submarine Co.).....		2 25
	(via Falmouth).....	4 50
	Constantinople (via Liban and Odessa).....	4 38
	(In Asia, seaports):	
	(via Constantinople).....	3 12
	(via Valo).....	5 00
	(via Corfu).....	5 84
	(via Falmouth).....	5 75
	(via Zante, direct).....	4 38
	Inland:	
	(via Constantinople).....	3 96
	(via Valo).....	5 84
	(via Corfu).....	6 66
	(via Falmouth).....	6 50
	(via Zante, direct).....	5 25
URUGUAY (see South America.)		
WURTEMBERG.....		1 50

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	20 words or less.	10 word or less.
Simonstown.....	\$0.75	\$0 20
Caledon.....	88	25
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Riversdale.....	1.00	30
Mosselbay.....	1.10	35
George.....	1.25	38
Avontuur.....	1.38	38
Hamansdorp.....	1.50	46
Uitenhage.....	1.50	46
Port Elizabeth.....	1.75	54
Grahamstown.....	2.12	66
Fort Beaufort.....	2.25	70
Lovedale.....	2.25	70
King Williamstown.....	2.38	96
East London.....	2.50	80
Diamond Fields (including Bloemfontein, Klipdrift, Pnel, Victoria, Jacobdahl, Butt- fontain, and Fauresmith.....)	3.75	1.20
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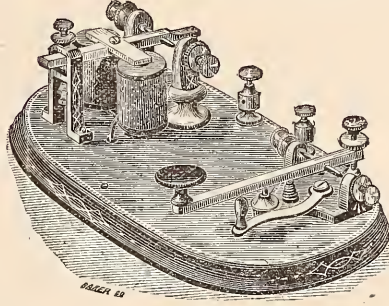
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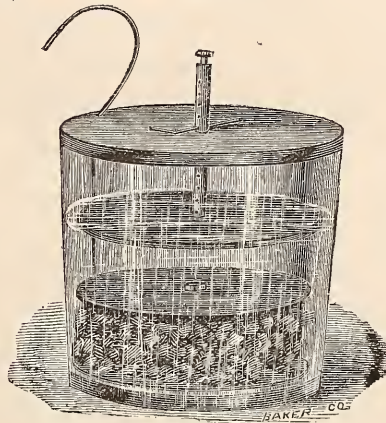
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THE TELEGRAPHER

A JOURNAL OF
ELECTRICAL PROGRESS.

J. N. ASHLEY, - - - - - PUBLISHER.

SATURDAY, OCTOBER 2, 1875.

VOL. XI. WHOLE No. 481.

The Ownership of the Fast Telegraphic Systems.

A REPORTER of the *Graphic* recently interviewed R. W. Russell, Esq., who claims to represent the owners of the Automatic and Quadruplex Systems of Telegraphy, and the report of the interview, as published in that newspaper, is given below.

It is stated in the *Graphic* that "A short time ago it was announced that the Atlantic and Pacific Telegraph Company had purchased or obtained the control of the chemical automatic telegraph system, founded on the inventions of Mr. Edison and Mr. Little, and which system, it was claimed, had recently been perfected so that from three to five hundred words per minute were transmitted regularly over circuits of 250 miles.

It was confidently predicted that with this system the public would be enabled to send long messages by telegraph at very low rates.

It appears that the right of the Atlantic and Pacific Company to use this system is now denied. We have ascertained the facts of the case from the representative of the parties claiming the patent rights, and have at the same time obtained from him several interesting items of information respecting the automatic and other systems of telegraphy.

Formal notices have been served upon the directors and officers of the Atlantic and Pacific Company and others, and circulated in printed form, to the effect that the Atlantic and Pacific Company having failed to comply with the terms of the contract entered into with them for the sale to them of the said inventions, they must discontinue the use of them. These notices having been given by Mr. R. W. Russell, on behalf of the owners of the patents, our reporter applied to him for an explanation of the matter, which he gave to the following effect:

A few months ago an arrangement was entered into by Mr. Jay Gould on behalf of the Atlantic and Pacific, and Mr. Reiff and Mr. McManus on behalf of the owners of the patents, for the sale of the latter to the company for a proportion of the capital stock of the Atlantic and Pacific.

In the expectation that this sale would be consummated, the Atlantic and Pacific were put in possession of the telegraph line from New York to Washington, which had been worked by the Automatic Telegraph Company, and were allowed to use the automatic system of telegraphy on all their lines, and they have continued to exercise that right up to this time. Deeds of transfer of the patents agreed to be sold were executed by Mr. George Harrington, in whose hands the patents were placed on behalf of Mr. Edison, and of Messrs. Reiff, McManus and others who had supplied the funds for the development of the inventions. These deeds were put in the hands of Mr. Jay Gould, with written instructions to deliver them to the Atlantic and Pacific on payment of the consideration to the parties named in the instructions and in the shares, and proportions therein specified. Mr. Harrington's name is in that list, and he sold to Mr. Gould the individual share of the proceeds coming to him (Harrington) under that sale, which was all that he could convey.

The Atlantic and Pacific now deny that they are bound by Mr. Gould's bargain with Mr. Reiff and Mr. McManus (which was confirmed by Mr. Harrington).

The Atlantic and Pacific are reported also to claim that Mr. Gould can give them all they want in disregard of the instructions accompanying the delivery of the deeds to him and without paying the consideration agreed upon. And furthermore, they allege that the vendors have failed to perform a portion of the bargain relating to certain railroad contracts. That allegation is denied by the patent owners.

As to the claim said to have been set up that Mr. Gould has the legal title, Mr. Russell stated to our reporter that he did not believe such a claim had been advanced; that the transfers to the Atlantic and Pacific were wholly inoperative by reason of the failure to comply with the conditions upon the performance of which—and not before—those transfers were to take effect, and consequently, that the owners of the patents can dispose of them to other parties.

Our reporter availed himself of the opportunity to elicit the following information:

Q. The President of the Western Union Company insists that the quadruplex system is better than the automatic, and he claims that the former system is owned or controlled by the Western Union. Do you consider those statements to be correct?

A. By the quadruplex they can make, as they say, one wire do the work of three. By the automatic one wire does the work of twenty or more. Very skillful operators are required for the quadruplex, but ordinary operators suffice for the automatic. The Western Union do not own the patents for the quadruplex; they are owned by the parties whom I represent. They would be very valuable if we had not got the automatic system. The Western Union are using the quadruplex with printing telegraph machinery quite successfully. Mr. Orton claims that the invention is of immense value to his company because of the saving of wires effected by it, and yet assumes that the greater saving of wires effected by the automatic system is of no consequence. He argues in that way because the Western Union have no claim of title to the automatic system but do set up a claim to the quadruplex. When Mr. Orton discovers that his company has no title to the quadruplex I think he will announce to the public that there are no real merits in that system.

Q. I understand that the Atlantic and Pacific Company promised to give the public cheap telegraphing with the automatic system. Do you consider they have finally abandoned that idea? They have recently revoked their action in reducing the tariff.

A. I do not know what the Atlantic and Pacific Company propose to do. They are now using the automatic system on their lines, but the parties interested in that system have no voice in the management of the affairs of the company. That system has in fact been placed in the hands of lukewarm friends. They might have used it to revolutionize the telegraph business, but have merely used it as an auxiliary on their routes where there is a deficiency of wires. And it has encountered the opposition of the skilled Morse operators, who, of course, do all they can to prevent the introduction of machinery to supersede their hand work. The automatic system is of comparatively small value if the old telegraph companies desire to continue the telegraph business on the old basis—ten-word messages and high prices. But sooner or later the automatic system will be established to give the public the advantages both of long messages and low rates. Before long it will become a general practice for newspaper correspondents and others to prepare long messages on perforated paper, to be sent to the telegraph offices to be run off by the automatic machinery at so much per 1,000 words. By no other system can the business be done in this way. Many parties are desirous of having the exclusive use of wires for private lines. The automatic system supersedes the necessity for private lines. As to way offices, one wire will suffice for a great number of way offices. Each office being allowed the use of the wire at fixed periods for a few minutes can write off all its business. The operator is engaged in preparing his messages whilst the wire is being used at other offices. All the business of the country can be done by this system upon inexpensive lines, and the old companies will be unable to stand up against this competition. It is machinery against hand labor.

Q. Mr. Orton is reported to have said that his company could not be persuaded to use the automatic system; that it is inferior to the Morse system, and moreover, that there is no novelty in the automatic system—that it is public property.

A. The courts are not likely to sustain that proposition. More than fifty patents have been recently issued at Washington for improvements on the automatic system, all of which are owned or controlled by my clients. As to the comparative merits of the Morse and the automatic systems, I may observe that I have for a long time past held that hand telegraphy would be superseded by automatic telegraphy. I often discussed the subject with Professor Morse when we were together in the Board of Directors of the American Telegraph Company. I was the standing counsel of that company and a member of the Executive Committee of Three by which the business of the company was managed. It was mainly through my efforts that the consolidation of the Morse House and Bain lines, from Maine to Texas, was effected. In the West I caused the Morse and House patents to be united, and the Western Union Company was founded on that action, the nucleus being the New York and Mississippi Valley Printing Telegraph Company. The automatic system would, I think, have been established on the lines of the American Telegraph Company if I had remained on the Executive Committee. But as my policy in regard to the New York Associated Press was not sustained by the Board of Directors, and I was deserted by those who had agreed to act with me in breaking up the monopoly of that association, I became disgusted and left the destinies of the company to the control of others. Since that time I have repeatedly ad-

vised parties who were desirous of going into the telegraph business that the fortress already built was too strong to be successfully assailed until the assailants could perfect and control the automatic system. Professor House, the inventor of the printing telegraph, became convinced that automatic telegraphy would supersede all other systems, and consequently refused to continue his efforts to improve his printing telegraph, for which improvements I and my colleagues had paid him several thousand dollars. Professor Morse recognized the importance of the automatic system, and looked forward to its development and adoption. Before Mr. Orton took the presidency of the United States Telegraph Company it was offered to me, and I declined on the ground that the automatic system was not then sufficiently developed to be run in opposition to the Western Union Company. I considered that the great monopoly held by that company could not be subverted except by the introduction of the automatic system. Mr. Orton took the presidency of the United States Company, and soon afterwards turned the concern over to the Western Union. I did not choose to be the medium of such a transaction. Subsequently Mr. Orton became the President of the Western Union.

Q. If the automatic system has the merits you claim for it, is it not strange that the Western Union have not tried to purchase the patents? What do you consider to be the special advantages of the automatic system over all others?

A. Some of the patents for the automatic system were for a considerable period controlled by Mr. Craig and other parties, who were so opposed to the Western Union that it would have been impossible for that company to acquire those patents. Hence the Western Union took the position that they were of no account. Having taken that position, they have felt bound to adhere to it, and they have undertaken to magnify the importance of the quadruplex as a rival of the automatic. As to that rivalry, you might as well compare a stage coach with a locomotive and train of cars. An operator who transmits a message by the Morse system which is used for the quadruplex has to touch the finger key nearly four times to make each letter, and he must carefully distinguish each time the dot from the dash, allowing a longer time for the latter than the former. The operation is slow, and the operator is, of course, liable to make mistakes, and so also is the operator who receives the message by sound. To send twenty words in a minute the operator must manipulate the keys six times in a second.

By the automatic system, instead of breaking and closing the circuit with a finger key worked by the hand of an operator, the pulsations are regulated by mechanical action, the speed of which is practically unlimited. The circuit has been broken and closed more than 70,000 times in a minute.

It is now the common practice to send from three to five hundred words per minute between New York and Boston. This result was not obtained at once. Many ingenious devices and contrivances, means and appliances, had to be invented and discovered, and conflicting claims of inventors had to be adjusted; but at last all the difficulties have been remedied, and now the public may be assured that within the next two years, unless the automatic system shall be throttled by the Western Union Company, the telegraph rates will be reduced more than fifty per cent, and the business more than quadrupled.

A Slight Mistake.

FUNNY things often happen in printing and telegraph offices, and the editor or operator who keeps his eyes and ears open can store up a never failing fund of story and anecdote to draw upon in his leisure moments for the amusement of his friends. As for instance:

One night last week T. Dixfield Maguire, an operator in the Western Union office, was busily engaged in receiving a "special" from Pascoag, and wishing for shutting up time to come. The streets were still and deserted. The largest sized hour on the dial had been passed, and the heavy, monotonous tick of the office clock alternated with the sharp click of the instrument—the only sounds that broke the silence. Slowly the time went on. At last a shuffling, unsteady footstep was heard on the sidewalk, the door was pushed open hesitatingly, and a human head poked inside. After a moment's delay, as if for the purpose of surveying the premises, it was followed by a body and the legs belonging to it. Takou altogether they went to make up an individual of about fifty summers. From a cursory glance one might easily have mistakou him for a near relative of the famous "bully boy with the glass eye," for not only one, but both his visual organs wore that shiny look peculiar to that condition which results from a too frequent indulgence in a bad quality of fire water. His nose was of a fine strawberry color, and as he approached the desk with devious steps, the gas-light falling full upon it, it irresistibly reminded the operator of the headlight of an engine. Placing both hands—in one of which he held a piece of scrip—upon

the edge of the counter, which reached nearly to his chin, and fixing his glassy orbs upon Dixfield, he ejaculated:

"Whisky—glasher whisky."

"What?" said the operator, not understanding for a moment the request.

"Whisky—gimme glasher whisky. Fill 'er up. Tend to your bishness and pash on 'er bottle. Heresher money," and he deposited the piece of scrip on the counter.

The operator saw through the mistake in a moment, but without undeceiving him, gravely assured him that they were not allowed to sell after that hour of the night. This explanation was not received with a very good grace by the thirsty applicant, who, nevertheless, could do no better than gather up his scrip again, and turn his face downward.

"Seems'er me you have thundrin' high counters here'n Providence. Why don't you eut'm down? Little cuss like you can't reach'er bottles. No whisky! Providence great place!" and he meandered out with a dignified stagger, while Maguire went back to his instrument, reflecting on the many weaknesses to which humanity is heir.—*Providence Paper.*

Correspondence.

We do not hold ourselves responsible for the opinions of our Correspondents. Our columns are open to free discussions on all Telegraphic subjects, without distinction of person or opinion.

No notice will be taken of anonymous communications.

The Foote and Randall Improved Automatic Telegraph System.

NEW YORK, Sept. 27.

TO THE EDITOR OF THE TELEGRAPHER.

IN THE TELEGRAPHER of Sept. 18th I noticed an article in relation to the invention of Mr. Elisha Gray, of Chicago, called the Telephone, or Electro-Harmonic telegraph, in which you say, "It is believed, and with good reason, that at least sixteen messages can be by this invention be transmitted simultaneously over a single wire," etc., etc.

THE TELEGRAPHER has also been running over with descriptive articles relating to the Little-Edison automatic system, the quadruplex, etc., setting forth their great respective merits, giving the facts in regard to the speed obtained, which, I must say, differs materially with different writers. With regard to the Little-Edison automatic system, it is generally admitted that a speed of from 200 to 300 words per minute on 500 mile circuits, and 500 words per minute on 250 mile circuits, is practically accomplished.

In your article on the Telephone, or Electro-Harmonic, you do not state the speed or any of the details of the system, such as the expense of sending and receiving, apparatus, amount of battery, class of operators required, etc., etc.

Leaving, however, the matter of expense out of the question, as that is a matter of detail, and, excepting "Morse, simple," quite as expensive in the main, perhaps, in one system as another, I desire to make a few comparisons of the different systems as regards the actual speed obtained by them, and their capability of utilizing a single wire, which seems to me to be the great consideration for telegraph companies and for cheap telegraphy.

Now, in the Electro-Harmonic telegraph, the receiving is by sound, and therefore limited, let us say, to 30 words per minute, as a maximum, which, for 16 simultaneously transmitted messages, would make 480 words per minute, on one wire, by the employment, I presume, of 16 sending operators and instruments, and 16 receiving operators and instruments. Now, pray tell me how this invention "will be likely eventually to revolutionize the present Morse telegraph system" when its record of speed is not equal to the automatic, and certainly not less expensive? But omitting all details and comment, the record is:

Morse.....	35 to 40 words per minute.
" duplex.....	60 to 70 " "
" quadruplex.....	90 to 100 " "
" Electro-Harmonic . . .	480 " "

(allowing for 16 simultaneous messages.)

Little-Edison Automatic 500 words per minute, and there is claimed for it from 800 to 1,000 words per minute on 250 mile circuits.

Now I am quite familiar with all the telegraph systems except the Electro-Harmonic, and as a practical electrician and mechanic, familiar with all the details, and I cannot see why the automatic is not the system for telegraph stockholders and the public.

But I digress, and as my communication is intended to be mainly in relation to speed of transmission (everything else being presumed to be equal), allow me to give you a few points in relation to the Foote and Randall automatic system, and the speed obtained thereon.

Their system differs from the Little-Edison system in an open and closed circuit, while the Foote and Randall system is worked by polarity or alternating currents and consists—

- 1st. In the method of using the battery.
- 2d. In the specially perforated paper.
- 3d. In a new chemical paper.
- 4th. In the perforator.
- 5th. In the automatically governed sending and receiving apparatus.

As regards the speed, at a test made in April, 1875, between New York and Boston, of the Little-Edison and Foote and Randall automatic systems, the former obtained a speed of 340 words per minute, and the Foote and Randall 480 words per minute.

Since that test was made, and while the Western Union Company have been trying to secure the "much sold" quadruplex, which has no particular value if obtained, as compared to a decent automatic system, and while the "professor of dupliety and quadrupliety" has been seeking new fields to develop his wonderful "will you walk into my parlor" powers, and actually inveighing those who ought by this time to know him thoroughly, Messrs. Foote and Randall have not been idle, and they now represent that by an invention and discovery they have made in automatic telegraphy, they can actually and practically double the speed obtained in the test above mentioned, without any increase of operating or other expense, and under a similar condition of circuits as before (which was very bad, there being but one wire out of thirty or more between New York and Boston in operation), making 960 words per minute to 340 by the Little-Edison system.

They further represent that they have improved the system, so that in the receiving there is no "tailing" or running together of the characters, nor can there be except, perhaps, on very long circuits.

They further represent that they have improved and simplified the perforator—a vital feature in automatic telegraphy—and that they can work longer circuits than are now worked automatically; and that they can work any circuit worked by the Little-Edison system two or more times as rapidly, so that if by that system 1,000 or more words per minute can be transmitted, by the Foote and Randall system 2,000 words can be transmitted per minute.

Now, with your knowledge of the details connected with the Quadruplex, the Electro-Harmonic, and the automatic, does it not seem to you a waste of time and money working circuits at from 90 to 100 words per minute when they can and should be worked at 1,000 or more?

Our friend Craig is greatly exercised on "express messages," and, as usual, he is about right; but by a good automatic system, properly utilized, why may not all messages be express messages, and a cent a word at that?

C. A. RANDALL.

A Reply to Mr. D. H. Craig and Defence of the Morse System and Operators.

TO THE EDITOR OF THE TELEGRAPHER.

IT IS NOT MY purpose to reopen a useless discussion of the relative merits of automatic and quadruplex telegraphy. I am constrained to write you, simply to record my protest against a libel upon the intelligence and independence of "Morse operators."

IN THE TELEGRAPHER of September 18th appears a letter from the pen of Mr. D. H. Craig, the well known advocate of automatic telegraphy against the world! In this communication he asserts that "telegraphing by quadruplex, Morse, or combination printing (the three systems in use by the Western Union Co.) is simply highly educated hand labor competing against machine labor, of which automatic telegraphy consists." So far, so good; but he also says, "The contest between the two systems is aptly illustrated in the hand needle of the last generation and the sewing machine of the present!" Here I beg to differ materially with him. The sewing machine is entirely made up of a positive motion, when one part works all work; not necessarily so with automatic telegraphy, because the apparatus will work right on when the wire (a part of the whole machine) has given out. Again, the operator of a sewing machine can see stitch by stitch if the work is progressing satisfactorily. Not so with the operator of the automatic. He must trust to luck until the communication is received entire, as it is utterly impossible for him to distinguish the words, as the machine writes them, upon the receiving strip, because of the rapidity with which it is drawn through the instrument. It might better have been likened to a locomotive running at a high rate of speed at night without a head light. If the track is clear the passage will be made as safely as it could be with a head light. If an obstruction should occur the injury is irreparable, should there be lives lost; but in automatic telegraphy, if the track (or wire) becomes obstructed during the transmission the injury is merely loss of time; not

irreparable, perhaps; but then the public have a harsh way of judging a delay by the telegraph.

But I am wandering from my subject, as much perhaps as my friend Craig did in the letter referred to on express messages.

After making the statement that Morse and printing telegraphy is educated labor against machine work, he says:

"Singularly enough even the Morse operators are aiding and abetting the great monopoly by joining in the opposition to the development of the automatic system, which, if they had a grain of common sense, they would recognize as the only possible barrier to a monopoly that looks to low salaries," etc.

With all due respect to Mr. Craig, I beg to ask, who advocates low salaries now? Could his ideas be carried out, or were they practical to any extent, he would (by his own statements) have the telegraph business of the country transacted by children, at baby wages! No, Mr. Craig, it is simply the presence of common sense, and more than one grain at that, that causes intelligent Morse operators to oppose the introduction of machine labor against their own educated hand labor.

With no desire to advocate monopoly I must in justice say, that the Western Union Company have paid, and do pay as good salaries as any company ever did. Their good, reliable men are kept as long as they wish to stay, and if their services are no longer needed at a given point, an effort is generally made to provide for them somewhere else. Mr. Craig should, "after twenty years' experience in telegraphy and press business," respect the ability of Morse telegraphers better than his assertions seem to indicate.

In closing, I cannot refrain from making a prediction, and that is this: should the practical workings of Gray's Telephone prove satisfactory (now highly probable), it will knock the automatic system so high that there will not be enough of it left to make even a smoke!

The automatic is a beautiful toy—but it is only in theory that its value is found—practically it is a failure, and must prove so except in instances where the wire can be crowded at its highest rate of speed continuously (a thing that never occurs except after a prostration of lines), and cannot be figured upon in regular business, no matter how heavy it is, as every practical telegrapher knows.

It disappointed the Atlantic and Pacific Company so much that, after reducing rates with a flourish on account of automatic telegraphy, they were glad to confer with the Western Union and restore the old figures again, because reduction did not pay!

I have merely written this letter to protest against Mr. Craig's libel (for such I consider it) upon Morse telegraphers, and for nothing else. If I have wandered somewhat, pardon me. I came to the conclusion, nearly a year ago that the discussion of the merits and demerits of automatic telegraphy through the papers was useless. It is easy to claim superiority or make wild statements without accompanying them with proof! MORSEITE.

The Philadelphia, Reading and Pottsville Telegraph.

PHILADELPHIA, PA., Sept. 19.

TO THE EDITOR OF THE TELEGRAPHER.

THE PHILADELPHIA, Reading and Pottsville Telegraph Company is probably third in importance among those represented here, but I will speak of it first, as I am better prepared to tell you about it now than I am of any of the others. The lines of this company, as they are traced upon the map, resemble a huge spatter. They include most of the Schuylkill mining region, and comprise a most complete tangle and labyrinth of loops and branches. The longest circuit owned by this company is the wires from here to Williamsport, which is some two hundred miles. Then there are several wires to Reading and to Pottsville, and two to Harrisburg. A line has recently been constructed to Easton, which loops up to Catasauqua, and takes in Allentown and Bethlehem. The total number of miles of wire owned is 1,925, the number of miles of poles 880, and the number of offices 286. I do not know whether this includes the eastern line or not. Number 34 has also been extended to Chester, and an office opened there for public business. Mr. C. T. Sellers is the Superintendent of these lines, assisted by Mr. H. W. Spang, with headquarters at Reading. Mr. Sellers has the reputation of being an efficient and able official, and he is a truly excellent man.

The main office of this company in this city is at 204 South Fourth street. It is very attractive in appearance and a model of neatness. The instruments are arranged on four tables of Western Union pattern, i. e., quartered with plate glass partitions, are of black walnut, and of very handsome and serviceable design. The switch board is constructed after a plan of Mr. Sellers', and is conveniently arranged for the accommodation of loops. Mr. O. W. Stager is manager, and Mr. F. W. Griffin chief operator. And I will pause here a moment to say

that the Philadelphia, Reading and Pottsville have exercised good judgment in the selection of their chief operator at this place. First, he understands and is eminently fitted to discharge his duties, and second, and of by no means least importance, he is in the fullest sense of the word a gentleman. He is quite as well pleased with accomplishing a desired thing by requesting it quietly and pleasantly, as he is if he is required to speak more decidedly. His pleasant and kindly manner gives an air to the whole room, for it is not lost upon his men. I wish there were more chief operators of this kind. At present, during a short absence of Mr. Stager, he is acting manager, assisted by Mr. Mayer.

The office has two drawbacks, otherwise it would be the most complete and nicest in the city. It is a long room, with windows only at each end, and those at the rear shaded by brick walls rising above them at the distance of only a few feet; so that it is only when these walls and the pavement in front are glaring in the sun that the room is sufficiently lighted, but so that the strain upon the optics is painful; and if the day is cloudy the gas is indispensable. Another trouble arises from the selection of instruments. The sounders are of the Partrick and Bunnell design, and the sound is so sharp, aided by the plate glass, that it seems that the inevitable result of a day's work among them must be to have one's head torn to atoms. Besides, it is very hard to distinguish the one particular instrument before you from the din and clatter of the rest. For instance, you give your sounder more stroke, deluded by the belief that you cannot hear it. The racket becomes deafening, and you find that you have been hearing it all the time, but it is so precisely like all the rest that you are unable to distinguish a dot from a dash or a space. The Phelps instruments used by the Western Union Company are undoubtedly the most suitable kind for large offices. Indeed, almost anything would be preferable to these, which were calculated for railroad offices where there is a great deal of other noise.

The force here consists of, besides those already mentioned, five operators, a delivery and a receiving clerk, an office boy and seven or eight messengers.

There are some eight branch offices in the city, besides numerous coal offices at which only the business of the company is done. As I have forgotten to say it before, I will conclude by saying now that the Philadelphia, Reading and Pottsville Telegraph Company and the Philadelphia and Reading Railroad Company are very near and dear kin; and then the Philadelphia and Reading Coal and Iron Company, not being farther removed than second cousin, at the farthest, makes it quite a strong and solid little corporation. MICAWBER.

Monthly Meeting of the American Electrical Society.—Proposed Amendments to the Constitution.—The Chicago Industrial Exposition.—F. W. Jones' New and Improved Quadruplex.

CHICAGO, ILL., Sept. 22.

TO THE EDITOR OF THE TELEGRAPHER.

THE regular monthly meeting of the American Electrical Society was adjourned this evening over until the third Wednesday in October, when the annual meeting takes place. There was no business transacted, as there were but three members present. There seemed to be a misunderstanding as to the time of the meeting. Nothing official was said or done at the preceding meeting in regard to having the meetings in the afternoon hereafter, instead of the evening, but a number of the members left the preceding meeting under that impression. Again, it seemed to be understood that a notice of the meeting would be given in some way, although this would, of course, seem unnecessary, and a number were expecting a meeting to be called previous to the regular meeting, for the purpose of deciding on what changes should be made in the constitution and by-laws at the annual meeting in October; but no special meeting was called, as it was probably thought unnecessary. This will explain the slim attendance at the regular meeting, and the failure to transact any business on account of not having sufficient members to form a quorum. The special committee, however, to whom was entrusted the arranging of the proposed changes in the constitution and by-laws for presentation to the society, to be acted upon at the regular annual meeting in October, have not been idle, but have gotten up the constitution and by-laws in the proposed revised form, and forwarded a copy to every member by mail, in order to prepare them in time to come to the annual meeting intelligently prepared to act on the proposed changes.

The proposed amendments provide for holding the annual meetings of the society at other places than Chicago each year (the place of holding the meetings to be decided upon from time to time at each annual meeting), the

formation of local or auxiliary societies at any point where three or more persons can be found sufficiently interested in the matter to form such societies; papers read before these societies to be forwarded to the main society. The local society to frame a constitution and by-laws in harmony with the main society. The headquarters of the society are still to remain at Chicago, the secretary and treasurer to be stationed here permanently, so that the society can have a legal standing, etc. All the other officers can be residents of other places. No doubt the society will aim, should these amendments be adopted, to have the President or a Vice-President elected in the locality where the next annual meeting shall be held; also the Board of Directors, or trustees, as the amendment calls them. It is thought by the members here that should the proposed amendments be adopted, it will be the means of greatly benefiting the society. No doubt a large local organization will be immediately formed here as soon as the changes are made.

As I promised your readers an account of the Exposition in this letter, I will have to keep my promise; but there is very little to write about, telegraphically speaking. There is not a single telegraph instrument manufactory represented in the building. Why this is I am at a loss to know, unless that the premiums have not been arranged so as to include this class of goods, or it may be proprietors of electrical machinery manufactories may consider the cost and labor, etc., not sufficiently remunerated in the advertisement their goods would get at such a place. The Western Union have a branch office at the grand entrance, just inside the doors; and the proprietors of the *Exposition Daily News* have a branch line run into the building to their printing press, from the A. & P. city wire, where they get copies of the American Press Association's despatches for their different issues. Mr. T. G. Rowan, formerly of the "floating gang" in the Western Union office here, is the operator for Messrs. Simms & McCormick, the proprietors of the spicy little *News*. They give the daily markets and all the leading news, and furnish quite a readable paper.

Outside of telegraphic and electrical apparatus the Exposition is a grand success, much better this year than any year heretofore.

"Tall oaks from little acorns grow," is a saying that is being verified from year to year (I believe the acorns ripen every year). You will doubtless remember that in your issue of February 27th, 1875, under date of February 8th, after speaking of a drawing made of the Prescott-Edison "Quad," to be explained by Mr. F. W. Jones (now the ass't manager of the W. U. office in this city) before the American Electrical Society, I remarked, "It is also expected that Mr. Jones will explain a new system of "Quad," his own invention, which I understand worked very satisfactorily in the Western Union office here on the evening of the 6th. I hope to be able to give you all the essential electrical points of this new "Quad," shortly, and probably a wood cut, by which it can be fully explained to the readers of THE TELEGRAPHER." After a few experiments, Mr. Jones became dissatisfied with the working of his "Quad," and began making improvements on it. Just about this time some different arrangement of the wires and switch board in the office were deemed necessary (an account of which I gave your readers at the time), which took up Mr. Jones' time entirely. Almost immediately following the completion of the office arrangements came the sudden changes in the management of the Chicago office; so that Mr. Jones had no time to devote to the improvement of his "Quad," until about two months ago, when he again went energetically to work. As the result of his labors he has mastered every obstacle, and has now one of the simplest and yet most perfect "Quadruplex" ever invented. For the past three weeks it has been worked almost every day in the Western Union office here on all four sides; Chicago working with Buffalo on one side, while Detroit and Chicago worked the other end as a local wire to Buffalo, having a repeater in at that point—Detroit. Thus one wire has been made to do the work of six Morse circuits between Chicago and Buffalo by the insertion of a repeater at Detroit. The circuits thus arranged have not taken as much balancing as a duplex generally does, very seldom having to be balanced after being started working in the morning, and sometimes not for several days. *It is without doubt a perfect "Quad."* Some of our best electricians in this vicinity, who have seen it work, have pronounced it such. Mr. Jones has great reason to be proud of his success. I am not at liberty at present to give your readers the electrical points of this "Quad," but will do so as soon as I am at liberty, and they can rest assured that they will get them through the columns of THE TELEGRAPHER before any other publication, as they have been accustomed to getting all important telegraph news heretofore. OCCASIONAL.

New and Unpopular Regulations.

CHICAGO, ILL., Sept. 23.

TO THE EDITOR OF THE TELEGRAPHER.

"It's nice to be a father;" yes, it is nice; and as to us

who are blessed with those little responsibilities, we can say so with a decided relish; but never, until the 17th day of September, 1875, did we know how peculiarly happy we were; oh, it is nice. It is also nice to be told by the management that they are doing all they can to effect a change in the workings of the office that will benefit the men; and after having this "stuffed" into you for two or three weeks, just when one might hope that there was to be some change for the better, to have the following "order" posted on the bulletin board:

"Notice.

"Hereafter seven hours will constitute a night's work. Operators will be credited with any excess of, or debited with any less than that at the rate of their present salaries.

"For the present the noon hour will be continued and paid for the same as though it was put in at night."

There, sir, you have the matter in a nutshell. The deed is done; the night force are captured, "rag-tag and bobtail;" the egg is laid, and when hatched, found to contain—nothing. The oldest men in the business have had the wool pulled over their eyes, and succumbed to the "superior wisdom" of the management. But the above order does not tell all the story; it doesn't say that the night men are to have their Sunday night "off" deducted—that must necessarily be omitted, to see if some one with an inquiring mind would not ask about it. Bah! Out upon such penuriousness. Now, it would seem as though the W. U. Company might allow the night men to have one Sunday off in five or six without deducting it, especially so, when the day men are off every Sunday, and Sunday day work paid extra for. It was amusing to see with what various feelings the night men read the notice. Beidler actually laughed until he dislocated one of his eye teeth; Cushing resembled a Dutch segar sign; Sam Wallace gave us the "French shrug," and said, "See them kick in a month or two;" Stoner, "that man of money," executed a flip-flap and stood on his ear at the idea of making fifty cents extra during the month; Root mimicked the management, and said "I've caught them again;" Fatty Stewart didn't want any extra, had no use for any since that tailor came from Elgin; Tallman said, "They were always kicking and will now;" Jake has good clothes and don't want any extra; Stevenson immediately squandered ten cents and had his boots blacked; Dorval said, "It won't help me get an overcoat; guess I don't want one any way, got used to doing without in Texas;" Goodrich felt his prospects "loom up," and immediately began telling us about "that girl;" Weller wanted to bet any man in the office a month's salary he could beat them a game of billiards; Austin increased the amount of tobacco in his mouth, and lectured us in the Sioux language; Kemp made arrangements to sell a corner lot, but has concluded to wait and see how the extra pans out; MacRobie takes one side of N. Y. duplex with Sam Wallace—Mac always has money, and, therefore, doesn't want the extra; Bracken looked serious, and has thoughts of engaging as clerk for a "three ball" friend on Madison street.

No one questions but what this "new departure" would have been a good one had it been taken early in the season; but coming as it does just when the dull part of the year is before us, and when the men expect to get off early, it is considered no more nor less than a piece of foolishness, and one that will be annulled early next year, as soon as business opens, when there would be some slight chance for the men to make something extra.

Now here is where the "kick" came in the first night: Kemp didn't believe he was off at 11:20; Cushing was frantically answering every call in the office in his efforts to stay until one o'clock; Beidler didn't want to go home, and asked to be kept till his seven hours were up. It is perfectly safe to say that the saloons will be none the richer at the end of the year if they depend on the extra money of the operators. Some one has said, "The longer you live the more you will find out;" whoever it was he spoke the truth, and we see it illustrated right here. The management have adopted a general system of espionage; they have placed in position and thorough working order one of the regular, old fashioned threshing machines, that is to say, registers, with all the necessary papers, etc., etc. The instrument is switched on some wire, and the mill set in motion to see what kind of Morse some unlucky artist is making in his endeavors to get off business. The next move in this childish game is for some chief to come over and tell you to "spaco your letters more," etc., etc., etc. The above arrangements are on a par with every other move of the manager towards benefiting the operators in this office. Will it hereafter be written of him that he, like Icarus, sought to fly too high, and had the wax which cemented his wings melted, causing him to fall a mass on the earth beneath. HARKAWAY.

THE TELEGRAPHER

DEVOTED TO THE INTERESTS
OF THE
TELEGRAPHIC FRATERNITY.

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A Special Premium for Subscriptions to "The Telegrapher."

THE summer season is about over, and we expect that the friends of THE TELEGRAPHER will now renew their efforts to increase its list of subscribers. The subscription list has been very well sustained during the summer, but as the days of vacations and excursions are over, we look for the usual increase of interest in the only truly independent telegraphic journal published.

It has been our custom for years past to share with those who kindly interest themselves in obtaining subscriptions by offering valuable premiums.

We propose this season to excel our former liberality in this direction. We desire to offer something of real and permanent value. We have accordingly made arrangements by which we are enabled to offer to the person obtaining 60 subscribers for one year, at the regular subscription price, \$2 per year, or their equivalent in shorter subscriptions, a

No. 1 WEED SEWING MACHINE;

for 65 subscribers a

No. 2 WEED SEWING MACHINE,

and for 70 subscribers a

No. 3 WEED SEWING MACHINE.

The price of these machines is respectively \$60, \$65 and \$70.

The machines will be boxed and shipped without extra charge.

This affords an excellent opportunity for female telegraphers, or for telegraphers who have wives or relatives that need these exceedingly useful machines which are in every respect first class, to obtain them at comparatively little trouble or expense.

Send in subscriptions as obtained, and they will be credited until the necessary number to entitle the sender to the desired premium is obtained.

To prevent disappointment, should any canvasser eventually fail to obtain the requisite number for a machine, they will be allowed other premiums proportionate with the amount collected, or, if preferred, 20 per cent. in cash on such amount. To whom shall we send the first machine?

Dominion Telegraphic Legislation.

WE have received a pamphlet entitled *A Review of Recent Telegraphic Legislation in Canada*, by Mr. F. W. CHESSEON, of London. It is a review of the recent telegraphic legislation of the Parliament of the Dominion of Canada, which is intended to force the surrender by the Anglo-American Telegraph Company of the monopoly which it holds, as the assignee of the New York, Newfoundland and London, and the Atlantic Telegraph Companies, of a monopoly of landing and maintaining telegraph cables upon the coast of Newfoundland. This is attempted in the interest of the Direct United States Cable Company, which also desires to land its cables and maintain stations in Newfoundland. The grant to the New York, Newfoundland and London Telegraph Company was made in 1854 for fifty years, but terminable at the end of twenty years by the Newfoundland Government upon a purchase of the property of the company. This the Newfoundland Government was not in a condition financially to make, and it is sought to force an abandonment of the exclusive right aforesaid, by withdrawing from the Anglo-American Company the right which it had acquired under an arrangement with the Nova Scotia Telegraph Company to land its cables and maintain its stations in the province of Nova Scotia.

An act for this purpose was passed by the Dominion Parliament in 1874, which was reserved for the Royal assent before it should become a law. The Royal assent was not given, however, on the ground that the subject of the bill was "one of those with which the Dominion Legislature has been, under the 91st and 92d sections of the Imperial 'British North America Act, 1867,' expressly empowered to deal." The subject was, therefore, relegated to the Dominion Parliament for further consideration. On February 8th, 1875, a new bill was introduced in the Dominion House of Commons, and although strenuously opposed by the representatives of the Anglo-American Company, was finally passed.

This is ostensibly a general act, and intended to establish and determine the formation and government of all telegraphs and telegraph companies within the Dominion. The provision to which special objection is made is as follows: "But no such letters patent or grant of corporate powers, to be exercised within the jurisdiction of Canada, shall be made to or conferred upon any company or association which possesses any exclusive privilege of landing wire or cable for a marine telegraph in or upon the coast of any State, Province or County in America, Europe or elsewhere, unless an equal or reciprocal right or privilege of landing wire or cable, and establishing a marine telegraph upon the same coast, is conceded to any and each of the companies in the first section of this act mentioned, or which may become incorporated in Canada under this section of the act, so that any company, incorporated or to be incorporated in Canada, may enjoy the same advantages in maintaining its marine telegraph line in and upon the same coast as the said company, which may possess such exclusive privilege."

Mr. CHESSEON sets forth at length the injustice which is done by this legislation to the Anglo-American Company, as the assignee of the original cable companies, who established Atlantic telegraphy at great risk, labor and expense, and which is now to be forcibly deprived of its only valuable exclusive privilege, that of landing its cables upon the coast of Newfoundland.

He makes out a strong case, and we have never been able, from such consideration as we have been able to bestow upon the subject, to see the justice of such legislation. It may be that the Dominion of Canada has the

legal right to thus nullify the grants of a province not included in the Dominion Confederation, without which it is doubtful whether, even to the present day, ocean telegraphy would have been established, but it certainly does not seem to us to be either just or equitable.

While we are not advocates of telegraphic monopoly, and are in favor of telegraphic competition, we certainly do not believe in forcibly depriving the Anglo-American Company of vested rights, which, originally of little value, have in the course of time become of great value, merely because it is convenient to do so.

The experience in working the Direct Cable has already demonstrated the fact that this injustice is not essential (however convenient it might be) to competition in Atlantic telegraphy.

We have not space to treat of this subject at the length it merits. The case is very clearly and forcibly set forth in Mr. CHESSEON's pamphlet, and it should be generally read by those who are interested in the matter.

New City and Executive Offices for the Atlantic and Pacific Company.

SINCE the consolidation humbug was disposed of the Atlantic and Pacific Telegraph Company is manifesting renewed energy and vigor, which is gratifying to all who deem telegraphic competition desirable.

It has for some time been evident that the accommodations at present occupied for the main and executive offices of the company in this city, at 198 Broadway, were unsuitable and inadequate, and the present management of the company have for some months been looking for better quarters. These they have at last secured, and the basement, first floor and upper story of the building No. 145 Broadway, corner of Liberty street, so long occupied by the Western Union Company, together with half of the second story of the two buildings on Liberty street, in the rear of 145 Broadway, have been leased, and will be immediately fitted up for occupancy. Since the Western Union Company vacated the premises they have been entirely remodelled—in fact, rebuilt internally—handsomely painted, wide staircases substituted for the dark and dingy ones previously in use, and the buildings put in first class condition in every respect, and they now are as light and handsome as any similar business edifices in that vicinity.

The location is an excellent one for telegraph business, and the Atlantic and Pacific Company will at once proceed to fit up the premises in first rate style for the accommodation of the several departments of their business and of their numerous customers. The premises leased will afford ample room for the accommodation of the telegraphic and executive departments, and additional room can be had in the buildings as the increase of the business shall demand it. The officers and employes of the company, and the customers of the line are to be congratulated upon the improvement in their accommodations, which will be made as soon as the premises can be properly fitted up. The offices of the American Press Association will also be moved to new quarters in the same building.

Practical Suggestions.

THE opening of the Autumn season is bringing in a very satisfactory increase of our advertising patronage, in fact crowding our advertising columns to their full capacity. This is gratifying, not only to us pecuniarily but as affording renewed evidence that THE TELEGRAPHER is a good and paying advertising medium. We are also liberally supplied with correspondence and contributions to its reading pages, which is also gratifying as showing that the paper is appreciated, and that the number of those who are desirous of addressing its readers is increasing.

Its circulation is also increasing, but not as rapidly as could be desired. At this season there should be a very material increase of subscribers, and we hope that every friend of an independent telegraphic journal will aid us as much as possible in adding to its list of subscribers

and readers. The pressure of advertising patronage and of reading matter make it desirable, and almost essential, that the size of the paper should be increased, and this we are ready to do whenever the number of subscribers will warrant the additional expense.

Will not our friends without delay engage in obtaining additional subscribers, and forward them to us? We offer liberal premiums and commissions to those who desire them, and hope to receive speedily a liberal response. The more general the circulation of THE TELEGRAPHER, and the more numerous its readers, the more beneficial and influential will it be.

The Proposed Centennial Telegraph Tournament.

THE proposition for a Telegraph Tournament, to take place during the Centennial exhibition at Philadelphia, which has appeared in THE TELEGRAPHER and *Electric*, appears to have met with much favor from the fraternity, and we hope to see it carried out. Such a trial of speed and proficiency of leading telegraphers would be very interesting, and the honor conferred upon the successful contestants of being acknowledged the most expert members of their profession, well worth striving for.

We hope soon to see some steps taken to give practical effect to the proposition, and would like to hear from those who have any suggestions of a practical nature to make in this direction.

Personals.

Mr. ERASTUS D. MOORE has been transferred from the St. Louis to the Kansas City, Mo., Western Union office.

Mr. CHARLES E. SMALLS, of St. Louis, Mo., has been appointed to a position in Galveston, Texas, Western Union office.

Mr. SAMUEL M. ALLEN, a well known telegrapher, was married to Miss MAY GOODING, at Lockport, Ill., on the 16th of September.

Mr. J. W. SHRYOCK, of the Kansas City, Mo., Western Union office, has resigned.

Mr. ALFRED BREWER has been appointed to a position in the Western Union office at Denison, Texas.

Mr. A. E. TOWSLEE, of Ashland, Ohio, has accepted a position in train despatcher's office of the Atlantic and Pacific R. R., at St. Louis, Mo.

The Telegraph.

By Cable.

TEMPORARY TELEGRAPHIC INTERRUPTION.

LONDON, Sept. 27, 5 A. M.—The weather has been tempestuous, and the storm has deranged temporarily the telegraph wires in the North, and the communication of the Direct United States Cable Company's lines with the Ballinskelligs is interrupted.

THE LAND CONNECTION OF THE DIRECT CABLE AGAIN WORKING.

LONDON, Sept. 27.—The land lines connecting with the Direct United States Cable, which were temporarily interrupted yesterday, are again in good working order.

The Direct United States Cable Broken.

AT one o'clock P. M., on Monday last, the long section of the Direct United States Cable was broken, and the business of the line, which had exceeded the most sanguine anticipations of the company from the first day it was opened to the public, for the present suspended. This new misfortune is greatly to be regretted, but it will be only temporary, as the cable will be repaired as soon as a repair steamer, which has probably been despatched from London before this time, can reach the locality.

The Faraday, having completed the laying of the cable, and finding everything in first rate condition, had returned home, or the interruption would not have continued for more than three or four days.

The break in the cable has been located near the entrance to Placentia Bay, about fifty miles from Cape Race, where the water is shallow, and where little difficulty will be experienced in raising and repairing it. The French cable has been broken two or three times in this vicinity. The water is so shallow here that vessels frequently anchor on this ground, and it is supposed that

the damage was caused in that way. As only twenty-two of the thirty days for which the contractors guarantee the cable after its completion, had elapsed, the expense of repairing the break comes upon Messrs. Siemens Brothers, but the loss of business falls upon the Cable Company.

The section of the cable upon which the break has occurred had been laid fifteen months, and had been in perfect order during all that time, and the present difficulty is the more annoying on that account.

Up to the occurrence of this difficulty the entire system had worked as well as could be desired, and the tests of the cables were entirely satisfactory.

This interruption will no doubt demonstrate to the Direct United States Cable Company the absolute necessity of laying a second cable at the earliest possible time, and also of keeping a repair steamer on this side of the Atlantic ready to remedy any difficulty which may arise without damaging delay.

The International Ocean (Cuba) Telegraph Company's Cables.

AS was stated in THE TELEGRAPHER last week, a new cable is being laid between Key West and Punta Rasa, Florida, to replace present cables, which have been seriously damaged by the borers, an insect which is very troublesome to telegraph cables, especially in tropical regions. If from untwisting of the outer wires of the armor of the cable the smallest portion of the core is exposed, these borers soon eat away the insulation, and either entirely destroy or greatly impair the conductivity of the insulated conductor. The cables heretofore laid between Key West and Punta Rasa have been thus damaged, and the new cable has been specially manufactured by the India Rubber and Gutta Percha Co., at the Silvertown Works, near London, with a view to overcoming this difficulty, it being a compromise between the ordinary deep sea and shore end cable. The main body of the cable weighs four tons, and the shore ends twelve tons to the mile. It is 126 miles in length, and was shipped last June in the Western Union Co.'s steamship Prof. Morse, and arrived at Key West on the 25th of July last. On account of the prevalence of yellow fever at that port, it was not deemed safe or proper to expose the officers, crew and cable employes to the epidemic, and the steamer was, therefore, ordered temporarily to Port Royal, where she remained until about two weeks ago. In a few days it is expected the new cable will be laid, and reliable telegraphic communication reestablished. It should be understood that electrical communication between Key West and Punta Rasa has not been at any time entirely suspended, but the escape on the cable, from the cause mentioned, has rendered communication difficult to maintain.

The International Ocean Telegraph Company, in addition to the Key West and Punta Rasa Cables, which connect its system with that of the Western Union Company, have laid three cables between Key West and Havana. The first, which was laid in 1867, and which continued in operation for three or four years, has been entirely abandoned. The second was laid in 1870, and until recently has been working well, but is now out of order. The Prof. Morse, after laying the Punta Rasa cable, is to grapple for and repair this. The third and last was laid in 1873, and is in good condition. When the present Punta Rasa and Key West cable is laid, and the second Havana and Key West one is repaired, the system between these latter points will be duplicated, as it has been with the West India system to Demerara and other points. Beyond Demerara the cables are open for public business to Para, and from thence to Peruambuco, communicating with the Brazilian telegraph system, and also with the Brazilian cable across the Atlantic. Thus there is a perfect telegraphic circle between Europe and North and South America.

Annual Meeting of the Gold and Stock Telegraph Company.

THE annual meeting of the Gold and Stock Telegraph Company was held at the Executive office of the company, in this city, on Tuesday last. The following gentlemen were elected directors of the company for the ensuing year: William Orton, Norvin Green, T. R. Edson, J. H. Banker, Marshall Leferts, A. B. Cornell, H. R. Pierson, G. B. Prescott and Augustus Schell. The following inspectors of election were also chosen: C. Livingston, J. H. Fisher, S. M. Taylor.

After the election the new Board of Directors held a meeting, and elected Marshall Leferts, President; Geo. B. Prescott, Vice-President; Henry H. Ward, Secretary and Treasurer. The President's annual report, which was read to the meeting, stated the company to be in a satisfactory and flourishing condition, and its prospects for the future excellent. During the past year a dividend of three per cent. had been declared, although for a large part of the time, owing to competition in this city, a por-

tion of the business had been done at very low rates. Remunerative prices have been reestablished, and there is every reason to believe that hereafter the company will be able to declare regular semi-annual dividends of 3 per cent.

The service of the company is in excellent condition, its business large and increasing.

The old Board of Directors was reelected with the exception of George H. Mumford, deceased—Mr. Schell taking his place. The Executive officers of the company were reelected by the directors without opposition, the excellent condition and prospects of the company being their best recommendation and endorsement.

The Telegraph in Central and South America.

By a letter from Mr. S. McNider, dated at Guatamala, Sept. 8, information is received that he is still engaged in the construction of telegraph lines for the Government, but expects to conclude existing contracts within the present year. There will be about thirty offices on the line, and he expects to have new contracts as soon as the present one is completed. The work of telegraph construction is steadily proceeding in the Central and South American States, and they are being covered with a network of wires, which are owned and operated by the governments.

The Government of Nicaragua made a contract on the first of September for the construction of 200 miles of telegraph line to connect the two Pacific ports, Corinto and San Juan del Sur, with a dozen offices, including the principal towns.

Mr. McNider writes that the Guatamala lines have done well, better than could have been expected in a country not more fully developed, and accustomed to use telegraphic facilities. The tariff is low—25 cents. The receipts of the Guatamala office is \$600 per month in cash, in addition to which the Government messages amount to from \$300 to \$400 per month.

By advices from Panama to the 17th Sept., information is received that the submarine cable has been laid as far as Caldera, whence inland communication is established with Buenos Ayres and Rio Janeiro.

The Presidents of Peru and Chili have exchanged congratulations with the Emperor of Brazil and the President of the Argentine Confederation on the completion of the new link between the countries.

Foreign Telegraphic Notes.

THE receipts of the Submarine Telegraph Company for the month of August last amounted to £9,864. The receipts for the corresponding month last year amounted to £9,195.

The traffic receipts of the Eastern Extension, Australasia and China Telegraph Company, for the month of August last amounted to £20,072, and for the corresponding month of 1874 to £19,697.

The traffic receipts of the Brazilian Submarine Telegraph Company for the month of August last amounted to £10,032, as against £9,761 for the corresponding month of 1874.

The traffic receipts of the Eastern Telegraph Company for the month of August last amounted to £30,005, and for the corresponding month of 1874 to £31,265.

The directors of Hooper's Telegraph Company have notified the Stock Exchange that they have discovered certain defalcations on the part of their secretary, but they do not state to what extent his defalcations have been carried.

The number of messages sent over the lines of the Cuba Submarine Telegraph Company during the month of August was 2,279, estimated to produce £2,200, against 1,750 messages, producing £1,622 in the corresponding month of last year.

The traffic receipts of the Direct Spanish Telegraph Company for the month of August last amounted to £1,773, against £1,282 in the corresponding period of last year. The average time occupied in the transmission of telegrams between Madrid and England via Santander during the month of August was 3 hours 4 minutes, including transmission over Spanish land lines.

The average time which the messages occupied in transit from Calcutta was 66 minutes, and from Bombay 56 minutes; the average time in transit of outward messages between London and India for the week ending the 1st of August, 1 hour 23 minutes; week ending the 8th of August, 1 hour 26 minutes; week ending 21st, 1 hour 18 minutes; and week ending the 28th of August, 1 hour 22 minutes.

The directors of the Indo-European Telegraph Company, at their Board meeting, September 7th, declared an interim dividend for the six months ending the 30th of June last, at the rate of five per cent. per annum, payable on and after October 1st.

The traffic receipts of the Western and Brazilian Telegraph Company, telegraphed from Brazil for the four weeks ending the 27th of August, were £8,543 4s. 5d.

The traffic receipts of the Anglo-American Telegraph Company,

Table with columns for month (August, Sept.), day, and amount in pounds and shillings.

In a paper read before the Auckland Institute, on the best route for a submarine cable between Australia and New Zealand, Dr. Purchas gives a preference to the route from Botany Bay to Ahipara Bay, near the North Cape, Auckland.

Negotiations are said to have been opened between France and England for reducing the telegraphic rate between the two countries.

Telegraphic communication has been opened with Gladstone, in the northern agricultural regions of South Australia.

The number of messages despatched by the Great Northern Telegraph Company, in the first seven months of this year, was 416,468, as compared with 458,134 in the corresponding period of 1874, showing a decrease this year of 43,486 messages.

The Central American Telegraph Company announce that the cable between Para and Demerara, touching at Cayenne, is now open for public messages, thereby giving direct communication between North and South America.

Quadruplex telegraphy has very recently been accomplished on the Madras Railway Telegraph. The system which Mr. G. K. Winter, the telegraph engineer, invented in March last, proved perfectly successful on 80 miles of line, and its extension to lines of greater length is simply a question of additional condensers and battery power.

Direct communication has been effected between Continental Italy and the Island of Sardinia, by means of the new submarine cable laid between Orbetello and Terranova. The nucleus of the cable consists of seven copper wires, covered with thin layers of gutta percha, alternating with thin layers of Chatterton's composition.

The traffic receipts of the West India and Panama Telegraph Company amounted in June, 1875, to £3,482, as compared with £2,865 in the corresponding period of 1874.

It is stated that in consequence of a forged bill for £7,000 having been negotiated, the directors of Hooper's Telegraph works intend to appeal at once to the shareholders, there being no more capital to call up.

The Western and Brazilian Telegraph Company announce that messages for Valparaiso and Chili can again be accepted by the Eastern Company, or any postal telegraph office, if addressed and prepaid to their destination.

Telegraphic and Electrical Brevities.

St. Louis, Mo., Western Union office, is happy in the possession of five sets of duplex, which are kept in constant use on New York, Cincinnati, Kansas City, and two on Chicago circuits.

The Telegraphers' Mutual Benefit Association.

RECEIPT OF ASSESSMENTS.

NEW YORK, September 29, 1875.

ASSESSMENT No. 79.

Table listing assessment numbers and amounts for New York, Sept 29, 1875.

ASSESSMENT No. 78.

Table listing assessment numbers and amounts for New York, Sept 29, 1875.

ASSESSMENT No. 77.

Table listing assessment numbers and amounts for New York, Sept 29, 1875.

Members of the Association who look to THE TELEGRAPHIC for receipt of assessments paid will please take notice that an acknowledgment of the receipt of one assessment should be taken as a receipt for all previous assessments.

Quotations of Telegraph Stocks at N. Y. Stock Exchange.

Showing Lowest and Highest Prices each day during week.

Table with columns for Sept., Western Union, Atl. and Pac., Amer. Dist., and Gold and Stock, showing bid and asked prices.

New Patents.

OFFICIAL COPIES of any U. S. Patent issued since July 1st, 1871, including drawings, specifications and claims in full, sent free to any address for 25 cents each. Address F. L. POPE, Elizabeth, N. J.

For the week ended Aug. 17, 1875, and bearing that date.

166,712.—TELEGRAPH TRANSMITTERS.—H. Middleton, Charleston, S. C. [Filed June 10, 1875.]

1. The finger springs a2, in combination with the finger keys K and K' and insulated core; a1, substantially as and for the purpose described.

2. The finger keys K and K', having springs g applied thereto; as shown, in combination with the metallic letters V4, substantially as and for the purpose described.

166,859.—CHEMICAL TELEGRAPHY.—Thomas A. Edison, Newark, N. J., assignor to himself and George Harrington, Washington, D. C. [Filed July 25, 1874.]

Current passing through moistened paper causes evolution of hydrogen, which, uniting with tellurium of stylus, forms hydro-telluric acid, leaving red mark on paper.

1. The method of recording telegraph or other signals by the electro decomposition upon moistened paper or other material of a stylus tellurium.

2. A paper moistened with hydrates of lime, potash, or the cyanides of potassium, for use with a tellurium stylus, for the purpose set forth.

166,861.—CHEMICAL TELEGRAPHY.—Thomas A. Edison, Newark, N. J., assignor to himself and George Harrington, Washington, D. C. [Filed July 25, 1874.]

Oxygen evolved at stylus raises protoxide to a sesqui or peroxide, which combines with the sulpho-cyanide of potassium, to form red sulpho-cyanide of iron.

The combination of a protosalt of iron, sulpho-cyanide of potassium, and a non-oxidizable stylus, for the purposes set forth.

166,876.—COMPOUND TELEGRAPH KEYS.—Marcus L. M. Hussey, Menlo Park, assignor of one half his right to George W. Barker and William Ettinger, Jersey City, N. J. [Filed Aug. 5, 1875.]

In base of key is formed a switch board, so that by revolving the key it may be thrown into any desired one of the circuits connected thereto.

1. The combination, with a single key, of one or more anvils, each representing a different wire or circuit, and all so arranged that the movement of said key or its support serves to bring said key into suitable connection with any desired one of said wires or circuits, substantially as described.

2. The combination of a single key lever, contact point, and anvils, as described, with a connector and local contact, so arranged that upon the movement of said key to connect with any one of the line circuits the local battery and proper sounder connections are simultaneously made, substantially as and for the purposes set forth.

3. The combination, with the main or operative lever, of an auxiliary or spring lever, adapted to hold the main circuit closed when such circuit is not in use, whereby but a single contact point is needed, substantially as and for the purposes set forth.

4. The combination of two discs or plates, one provided with a single key lever and the other provided with one or more contact points, through which various telegraphic circuits pass, one plate being movable in relation to the other, whereby the movement of one plate upon the other brings the key lever into position to operate any desired circuit of the series, substantially as set forth.

5. The combination of the key, the table C, and spring O with posts M, circle connector M', and post N, substantially as and for the purposes set forth.

6. The combination of the key A and latch spring A' a with the circuit plate G, posts K and I, substantially as and for the purposes set forth.

166,877.—ELECTRIC LIGHTS.—Steven Alexandrovitch Kosloff, Paris, France. [Filed June 23, 1875.]

1. The carbon electrodes provided with insulated supports independent of the metallic conductor, substantially as herein described.

2. The combination of the carbon pins f, having the enlarged ends d, with the metal conductors e, inserted into the said enlarged ends of the carbons, substantially as shown and described, for the object specified.

3. The combination of the carbon pins f, having the enlarged ends d, the wires z, and the links a, flexibly connecting the said wires and the principal conductors, as herein shown and described.

4. The supporting column h, arranged within and filling a portion of the globe or cover k, substantially as and for the purpose herein specified.

166,911.—PRINTING TELEGRAPHS.—Alois Wirsching, Brooklyn, E. D., N. Y. [Filed Apr. 29, 1875.]

Circuit to printing magnet is through a metallic pin upon escapement wheel, and a metallic pin attached to insulated collar upon type wheel shaft, the two being brought together by the stopping of the escapement wheel. When the wheel begins to revolve the pin upon it is carried forward by the stress of the coiled spring against a non-conducting pin projecting from the insulated collar.

In combination with the escapement wheel, mounted loosely on the type wheel shaft of a printing telegraph, and connected to the same by a spiral spring, and with the armature of the line magnet, the pins g h k, insulated metallic collar j, spring m, and printing magnet C, substantially as and for the purpose set forth.

6,599.—ELECTRO-MAGNETIC HOUSE ALARMS.—Wm. G. Russell and Abraham Firth, Boston, Mass., executors of William Whiting, deceased, assignors to Edwin T. Holmes. Patent No. 20,970, dated July 20, 1853; extended seven years. [Filed July 23, 1875.]

1. The improved house alarm, substantially as hereinbefore described, consisting of the combination of the following elements, viz: First, a series of electro-magnetic circuits; second, an indicator to designate the respective circuits; third, an alarm apparatus common to all the circuits of the series; fourth, the window or door springs—the whole operating, as set forth, to put in operation the alarm apparatus that is common to all the circuits of the series, and to indicate the particular circuit of the series which is attacked.

2. The combination, substantially as before set forth, of the following devices, viz: the series of magnetic circuits, the alarm apparatus common to all the circuits of the series, and the switch for disconnecting a particular circuit of the series of circuits from the alarm apparatus without disconnecting the remainder of the series of circuits from the apparatus.

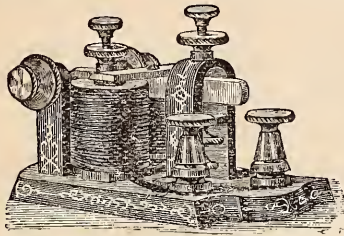
Born.

POPE.—At New York, Sept. 29, 1875, to the wife of Mr. H. W. POPE, Superintendent American District Telegraph Co., a son.

THOMPSON.—At San Diego, Cal., Sept. 9th, 1875, to the wife of Mr. J. W. THOMPSON, Manager of the Western Union Telegraph office, a daughter.

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I am now making a speciality of my PHIL. SHERIDAN SOUNDER AND KEY, and am manufacturing them in large quantities, so that I am able to offer them to the public at a very low figure.



PHIL. SHERIDAN, \$4.00.

The above cut represents a beautiful little Sounder. It is made of the best material and highly finished. It has a heavy lever, full sized magnets, and altogether is a first class instrument. The magnets are wound with green silk insulated wire.

A PHIL. SHERIDAN KEY TO MATCH,

PRICE, \$2.00,

is a first class Key in every respect. It is highly finished, has large platinum points, strong lever, friction circuit closer, spring adjustments, etc., etc. As a Learner's set they have no equal, as they are regular Telegraph Instruments, same as are used on all railroad and commercial lines.

And I will sell the Key, Sounder, 1 full sized Callaud Battery, 1lb. Blue Vitriol, 1 Double Connector, 1 Book of Instructions, 15 feet Connection Wire, etc., making a complete outfit for office use, for only \$7.50. These instruments will be made to work on a circuit from a few feet to five miles at the same price, and will be sent to any address on receipt of price, or will be sent C.O.D., subject to inspection. Don't fail to send for my Descriptive Circular and Prices. Address,

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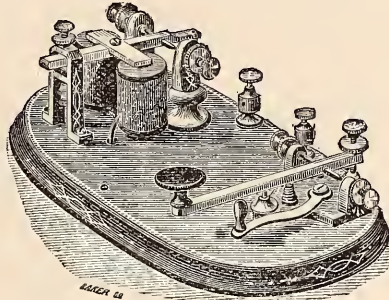
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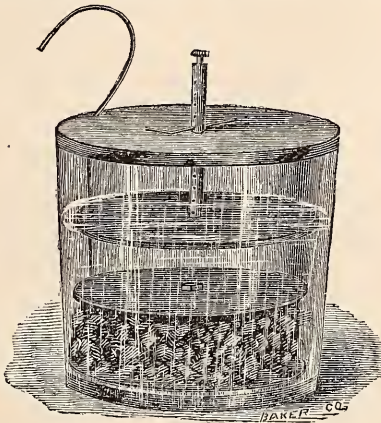
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This battery took the first premium and a silver medal for force, constancy and economy at the Cincinnati Exposition.

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PRICES.

Private Line Outfit, complete.....\$10 00
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A discount of twenty per cent. will be allowed when remittance accompanies the order. Remit by express, registered letter, postal order or draft.

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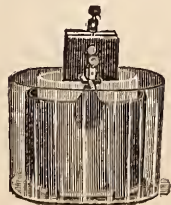
is the most powerful, constant and durable power in the market; never crystallizes in the porous cup. This Battery, and Electrical Fluid to charge the same, is only sold at our store.

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THIS SYSTEM OF
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WITH A CENTRAL OFFICE,
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is now in operation in the following Cities, to which references made for evidence of its great
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| Bridgeport, Conn., | Newark, N. J., |
| Buffalo, N. Y., | Nashville, Tenn., |
| Baltimore, Md., | Newton, Mass., |
| Chicago, Ill., | Newport, Ky., |
| Cincinnati, Ohio, | Omaha, Neb., |
| Columbus, Ohio, | Philadelphia, Pa., |
| Cambridge, Mass., | Pittsburg, Pa., |
| Charlestown, Mass., | Portland, Maine, |
| Chelsea, Mass., | Peoria, Ill., |
| Covington, Ky., | Providence, R. I., |
| Detroit, Mich., | Portland, Oregon, |
| Dayton, Ohio, | Paterson, N. J., |
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| Fitchburg, Mass., | Reading, Pa., |
| Fond du Lac, Wis., | Rochester, N. Y., |
| Harrisburg, Penn., | Richmond, Va., |
| Hartford, Conn., | St. Louis, Mo., |
| Halifax, N. S., | St. John, N. B., |
| Hyde Park, Ill., | St. Paul, Minn., |
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| Lawrence, Mass., | Troy, N. Y., |
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| Minneapolis, Minn., | Worcester, Mass., |
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The Distinctive Features of these Systems of

Fire Alarm and Police Telegraphs

ARE,

- First*—The **Automatic Repeater**, through which the apparatus may be distributed in a combination of circuits, and the entire system successfully worked, without the constant personal attention of either operators or watchmen.
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These Features combined form the

Only **PERFECT, COMPLETE** and **RELIABLE** System
OF
FIRE ALARM TELEGRAPH
IN THE WORLD.

It is a sufficient vindication of the claims which are made by the Proprietors of these systems of

FIRE ALARM AND POLICE TELEGRAPHS,

that they have sustained the test of more than twenty years of practical use, and that the efforts which have been repeatedly made to supplant them by other inventions have

COMPLETELY FAILED;

the few instances in which municipalities have been induced to adopt other systems having demonstrated their insufficiency and unreliability, and resulted in their abandonment, and substitution thereof of the

AMERICAN FIRE ALARM TELEGRAPH.

Messrs. **GAMEWELL & CO.** are the owners of the original *FARMER & CHANNING PATENTS*, one of the most important of which has just been extended for seven years, and during the past seventeen years have spared no expense or effort to secure improvements, and the Systems are now covered by

MORE THAN TWENTY PATENTS.

The most important improvement which the Proprietors have adopted and introduced is the

AUTOMATIC SYSTEM,

the introduction and operation of which involves so little expense, compared to the benefit which it confers, that even small communities can profitably adopt and maintain it.

The American System of

FIRE ALARM AND POLICE TELEGRAPHS

has met with the universal approbation and commendation of the **People, Municipal Authorities,**

AND THE
PRESS

throughout the **UNITED STATES** and **CANADA.**

NO EFFORT, TROUBLE OR EXPENSE

is spared by the Proprietors to obtain and secure **ANY POSSIBLE IMPROVEMENT** which shall increase the

EFFICIENCY, RELIABILITY and **ECONOMY**

of the system. They intend that, as far as possible, it shall be

ABSOLUTELY PERFECT!

The amount of property which has been saved from destruction, and the number of lives which have been preserved through the general adoption of this system, throughout the **UNITED STATES** and the **DOMINION OF CANADA,**

CANNOT EASILY BE ESTIMATED,

but that, in every community where it has been introduced for any considerable length of time, they have been enormous, **THREE CAN BE NO QUESTION.**

The cooperation of TELEGRAPHERS in securing its introduction into their localities is cordially invited, and their efforts will be duly appreciated and compensated.

Any information desired in regard to the above system will be cheerfully and promptly furnished upon application at the office.

A pamphlet, setting forth more fully its advantages and superiority, has been printed, and will be supplied to Municipal Authorities and others interested in Fire Alarm and Police Telegraphy, upon application as above.

C HARLES T. CHESTER,
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These Instruments are now made in two different styles, at \$120 and \$135 a set, consisting of two Relays, two Sounders, two Keys and Governor.

JONES' LOCK SWITCH-BOARD,

a most compact and reliable Switch, forming a clean spring-locked connection between any number of wires, occupying for each different connection only one square inch of space, and though made of the largest size, not subject to the warp and contraction of wood-work.

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COMPOUND RUBBER COVERED WIRE.

SUBTERRANEAN & AERIAL WIRES,

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We are now prepared to furnish, after an experience of three years, an Insulated Wire which can be buried in the earth or exposed to rain and sun, or to the vapor of acids, without injury. Professor **SILLIMAN**, who has exposed it to the most destructive agencies, finds that it remains uninjured in an atmosphere of ozone, which would destroy gutta-percha in a few hours. It exceeds glass or any other known substance as a non-conductor

We have made special arrangements to furnish this article or other purposes at a reduced rate.

ALSO, TO FURNISH

IRON CLAD CABLES

of the usual size, with **KERITE COVER**, believing that it will exceed, in insulation for submarine purposes, ANYTHING HITHERTO MANUFACTURED.

We shall be happy to furnish estimates for any amount and size of cable, which will be found to compete with any other construction, both in quality and price.

We manufacture the Genuine **ELECTROPOION BATTERY**, with Patent Platina Connection, introduced by us eight years since; also, the **ALPHABETICAL OR DIAL TELEGRAPH**, now extensively used in this and other cities for private lines, being easily and quickly learned by any one.

We offer for sale, among other novelties, a **SOUNDER** that will work practically with a single **DANIELL** cell, a **BATTERY** that does not require to be taken down but once a year, and the very best **MAIN LINE SOUNDERS** made

Our **CATALOGUE**, embracing a large amount of new matter and description, is now ready for distribution.

THE TELEGRAPHER

A JOURNAL OF
ELECTRICAL PROGRESS.

J. N. ASHLEY, PUBLISHER.

SATURDAY, OCTOBER 9, 1875.

VOL. XI.

WHOLE No. 482.

Original Articles.

The American District Telegraph Company.

ONE of the greatest, if not the greatest desideratum in a city of such peculiar topographical conformation as New York, is a quick and certain system of intercommunication, by which term is not merely included the "rapid transit" of passengers, but, in a still greater degree, a means of rapidly forwarding communications of every nature. Five years ago a business man who desired to send an important communication to a distant part of New York, Jersey City or Brooklyn, and receive a reply thereto, had several courses open to him. First, he could write a letter and deposit it in the post-office or a lamp-post box. If he had ordinarily good luck, he might reckon upon receiving an answer nearly as soon as if his correspondent resided in Boston or Buffalo—say the next day, or perchance the day after. Secondly, he might have had recourse to the local telegraph lines. In this case the time required to procure an answer from any part of New York or the surrounding cities, would perhaps not exceed that required to accomplish the same feat with a correspondent in San Francisco or London—say from three to twelve hours—with a moral certainty that either the message or the reply would have suffered some extraordinary transformation, either ludicrous or exasperating, as the case might be, but in most cases tending to defeat the entire object of the communication. Thirdly, he could send his errand boy. It would be superfluous to enlarge upon the little idiosyncrasies of the average errand boy. Who has not seen his package, or what not, stowed carefully away on the steps of some house, while he pitched pennies or played marbles and leap-frog with his numerous companions, with a charming sense of utter freedom and lack of responsibility? Full well this experienced youth knows that his employer could not tell, very likely within two hours, how long the trip ought to take him, and even if he did, that in the multiplicity of his cares he is probably wholly un mindful of the flight of time. If this interesting juvenile is called to account for the delay, he is always ready with plausible excuses, as plenty as blackberries, which cannot be proved invalid without the expediture of more time and trouble than any one can afford to devote to it, and so he usually escapes detection and punishment. Fourthly, he might adopt Dr. Franklin's rule, that "if you want your business done, go yourself;" and in matters of immediate and pressing importance, this was really the only resource. No matter how valuable a person's time might be, or how great an amount of trouble it might involve, he was frequently obliged to sacrifice a considerable portion of a day in attending to some errand, trifling in itself, but which could not from its nature be entrusted to any one except a messenger who could be depended upon to perform it with promptness and accuracy. It is almost needless to say that messengers having these qualifications are not usually to be found at a moment's notice.

This great want of a city like New York is now completely supplied by the messenger corps of the American District Telegraph Company. The service is performed by them in a manner so thoroughly efficient, expeditious and cheap, as to have given, during the three years or more that it has been in operation, the most entire satisfaction in every respect to its patrons. The messenger service, although the principal part of the business of the company, by no means comprises the whole of it. The police, watch and fire service forms an important branch of the service, as will hereafter appear.

The general plan upon which the business of the company is organized is very simple. The city is divided into geographical districts, and in each district is located a central office, the arrangement being such that any point within the district may be reached by a messenger from the central office within three minutes. The telegraphic system of each district is complete in itself, and is very similar to that of a city provided with Channing and Farmer's fire alarm telegraph. Each subscriber within the district has a signal box placed in his house, and connected with an electric circuit, both ends of which are at the central office. The signal box consists merely of a small iron box, not larger than a coffee cup, with a

crank on the outside, which is capable of being moved so as to point to either one of three indications, viz., "Messenger," "Police," and "Fire." Each signal box is known at the central office by a designating number. When any box is pulled, a clock-work within the box is wound up, and in running down causes a break wheel to revolve, which inevitably transmits that particular number and no other to the central office, simply by breaking the circuit a proper number of times in succession.

This being understood, we will now glance at the arrangement in one of the district offices. This is almost precisely the same in all the offices, the only essential difference being in the amount of business transacted, which is, of course, much greater in some parts of the city than in others. A railing in the front part of the office encloses the manager and his clerks, together with the instruments. At the rear are provided accommodations for the messenger boys. These are under the charge of a sergeant, who for ability and good conduct has been promoted from the ranks. It is his duty to preserve order and to indicate to the boys their respective turns for answering calls. Upon the counter within the railing are placed several recording instruments, corresponding in number to the number of circuits connecting with the office. Each circuit starts from the office, takes in a certain portion of the territory covered by the district, including not more than 75 or 80 instruments, returning by a different route, so that both ends of the wire are attached to the two poles of the battery in the office. Each circuit is provided with its own battery, recording instrument and signal bell, and also with a case of small drawers, the latter corresponding in number to the signal boxes in the circuit to which it belongs. In each of these drawers are placed a quantity of small printed tickets, upon which is printed the address of the subscriber, the number of the city fire alarm station nearest thereto, etc.

The process of receiving and answering a call is as follows:

John Smith, of 147 Broadway, wants a messenger; he pulls the lever of the signal box to the corresponding indication. Instantly the bell connected with circuit No. 3 in the district office strikes *ting, ting, ting—ting, ting*, and simultaneously a corresponding indication is made upon a strip of paper by the recorder thus: — — — —

The manager instantly refers to the paper and reads the above indication, meaning "32." He then pulls out drawer 32 in case No. 3, taking therefrom a ticket, upon which is legibly printed "John Smith, 147 Broadway." The clerk announces the hour, say 10:15, and the number of the messenger, say 75. These figures are quickly written upon the ticket, and away goes messenger No. 75 with a rush, ticket in hand. The sergeant calls "next," and another messenger takes his place in the seat of the departed 75. Within three minutes the latter reports himself at the office of Mr. Smith, with a military salute, and presents his ticket. Mr. Smith orders him, perhaps, to take a package to some place in Brooklyn, and writes upon the ticket where the boy was sent. The recipient of the package is also required to sign a receipt on the ticket, and, when the errand has been satisfactorily performed, Mr. Smith countersigns the ticket, the boy returns to the office and delivers it up to the clerk, who marks the time of return and charges "No. 32," by which designation Mr. Smith is known in the office, at the rate of thirty cents an hour for the time occupied.

A "police" call gives precisely the same number as the messenger call, except that the signal box is so arranged as to repeat it twice, both on the bell and the register, while a "fire" call in like manner is denoted by three repetitions of the signal. When a "fire" call is received, a policeman, armed with a fire extinguisher, starts at once for the scene of trouble, while, if necessary, a messenger, provided with a red flag or signal lantern, goes at once to the nearest city fire alarm box, turns in an alarm to the department, and stands by the box ready to direct the fire department instantly to the point where they are needed, as soon as they arrive, so that no time is lost.

One of the most valuable adjuncts of the system is the patrol or private police service. The patrol force of the company is required to inspect the houses of the subscribers at stated hours during the night, not merely passing by and casually glancing up at the windows, but making a thorough investigation, to be certain that everything is secure. At each end of every patrolman's beat, and if necessary, at intermediate points, signal boxes are placed, from each of which a signal must be sent in by the patrolman at specified intervals. If any trouble is discovered assistance can be summoned from the district office instantly. Arrangements have also been made by which any subscriber is promptly notified by telegraph, at any hour of the night, of any occurrence in or about their place of business which it is desirable that they should know.

Another arrangement, which has been adopted by many large establishments, is that of placing a signal box within their building, from which the night watchman is

required to send in a signal to the district office at stated intervals during the night. In case any signal is not promptly received when due, a proper person is at once despatched from the office to ascertain the cause of the delay. A report signed by the manager is sent to the firm every morning, showing the time each signal was received, which serves as a perfect check upon the faithfulness of the watchman.

The ordinary domestic burglar alarm, which is now so extensively used, is often connected with the American District system, so that if any attempt is made to enter the house thus protected, whether occupied or unoccupied, an alarm is instantly sounded and recorded at the district office by the ever vigilant sentinel.

Thus we have briefly indicated the general nature of the service performed by the American District Company, but it is almost beyond the power of words to convey an adequate idea of the thorough system, order and promptness which distinguishes every department. Everything is carried out with military precision and accuracy. For example, when a new subscriber is placed in connection with the system, a form is required to be filled out, in which it is stated by whom the outside and inside wires were run, by whom the instrument was connected, number of the instrument, number of the signal, and many other details, including a diagram of the block in which the house is situated, showing the exact location of the wires, etc. This, after having been signed and approved by the proper officials, is placed on file, and the diagram transferred to the general map. A record is also kept of all interferences with the wires, defects in instruments, etc., showing the time reported, time remedied, and nature of the trouble, by reference to which the difficulties most liable to occur can be ascertained and provided against.

One of the most interesting features of the organization is the messenger department at 62 Broadway. All applicants for positions in the messenger corps are required to fill out a form, stating their name, age, birthplace and residence, where last employed, and references, together with a specimen of their handwriting. The ages are required to be between 14 and 16, and the references must be to well known and responsible parties. If accepted, they are equipped with a handsome uniform, consisting of a dark blue cap, coat and trousers; the two latter are neatly trimmed with red cord, and the cap bears a badge lettered "A. D. T. Co.," together with the messenger's number. A complete waterproof suit is also provided for wet weather. After having received his uniform the new messenger is assigned to duty in one of the district offices, and is sent out for a few days in company with an experienced one, until he becomes somewhat familiar with his duties. Each boy receives a salary of \$4 per week. If he is faithful, industrious and intelligent, he will probably, after a time, be promoted to the position of sergeant, clerk or assistant manager, with a considerable increase of pay. Each district manager is required to make a weekly report of the general conduct of the boys under his charge. This is arrived at by a system of marks, ranging from 1, "best," to 7, "intolerable," in each of the following particulars: Promptness, conduct, industry, obedience, cleanliness and dress. Each boy's record is entered up in a book at the superintendent's office, and if he falls below a certain standard, his services are dispensed with. This rigid and impartial system of discipline furnishes the best possible training for boys, and as an evidence of its great practical value, it may be mentioned that of the whole number of boys employed since the company commenced operations in 1872, numbering 3,300, the records show that not less than 70 per cent. have resigned in order to accept better positions with private parties and business firms, who had become acquainted with their good qualities while they were employed in the American district messenger service. Another remarkable evidence is in the fact that although the company has constantly in the service nearly 500 boys, who are being employed on all sorts of errands of trust and responsibility, the total amount of losses paid by them during the past year, arising from accident, negligence, incapacity, and dishonesty on the part of messengers, have amounted to only about \$100. The average length of service of each boy is found to be six months. None are ever discharged for any cause except incapacity or bad conduct. Those who resign to accept higher positions with private parties are always furnished with suitable recommendations. The system of supervision is so complete and effective, that the dishonest, indolent and incapable are quickly weeded out, and the result is that it would be hard to find a more active, intelligent, gentlemanly and generally well-behaved community of boys in any position in the world than those engaged in the service of this company.

The services which these messengers are set to perform are so numerous as to almost defy classification. They are frequently sent on errands to neighboring cities, even as far away as Philadelphia. In case of a run on a bank or a rush for concert tickets, they are often employed to keep a place in the line for some one. Frequently they are employed by the week to escort young girls to school

and home again; to take children to the park for an airing; as guides to show strangers about the city; and as detectives or "spotters" on stage or horse car lines. A prominent firm on Broadway has called in a boy for several days in succession to act as cashier; editors of morning papers frequently employ them at night to carry copy to the office. It is said that P. T. Baruum once signalled at eleven o'clock P. M. for somebody to play euchre with him; and that at another time a boy was called in to rock the cradle, and again to play the fiddle. Not long since one of these boys discovered a noted forger in a restaurant in the Bowery, who was "wanted" by the police. He quietly notified a detective and the criminal was arrested. It would require too much space to relate a tithe of the curious and amusing incidents that have occurred from time to time in connection with the messenger service of the company. One important branch of business that is carried on by means of the messenger corps deserves special mention, and this is the arrangement for delivering circulars, cards, etc., addressed and unaddressed. It will be obvious that when boys are employed by the week their time must be paid for whether they are busy or not.

Now it happens that the business fluctuates greatly, not only from day to day but more especially at different hours of each day. For example, the most active period in each day is probably from eleven to twelve or one o'clock, after which the business gradually diminishes till between five and six P. M., when there is comparatively little doing. Between six and eight P. M. it revives again, and then gradually falls to its minimum, which is from four to five A. M. By taking advantage of those periods during the day, when experience shows that few calls may be expected, a large portion of the force may be set to distributing circulars, wedding cards, advertisements, etc., at little or no extra cost to the company, which is thus enabled to do the work at very low rates.

During the past year more than two millions of these documents have been delivered by the force, of which 288,000 were delivered to parties addressed and duly receipted for. On one occasion 148,000 addressed circulars were delivered in a single day by the company's messengers, in addition to the regular business. The company have so organized their corps that, if required, they can deliver 50,000 unaddressed circulars in an hour's time, or, if necessary, can put one into every house in the city of New York. When delivered in this way they are sure to reach their intended destination, as any attempt by the messengers to evade their duty, by throwing away the circulars or otherwise, is morally certain to be detected and punished.

This company occupies sixteen offices in different parts of the city, in connection with the Western Union Company, and by a special arrangement with the latter, delivers all its messages from these points. The records show that the average time occupied in the delivery is but a little over seven minutes, which is remarkably quick work.

The offices and battery rooms of the American District Company are models of neatness, good taste and thorough workmanship. The office wires are strung as accurately and systematically as the wires of a grand piano; the batteries are of the unequalled spiral pattern, known as the Lockwood, which in endurance and economy is far in advance of any other in use, and they are not only beautifully arranged, but are kept in splendid condition.

The American District Company commenced operations in the spring of 1872. The telegraphic system employed, which is based upon the well known Channing and Farmer fire alarm, was originated by Edward A. Calahan. Many subsequent improvements have been made in it, especially by William H. Sawyer, a former superintendent. The present officers of the company are as follows: President, E. W. Andrews; Vice-Presidents, A. B. Cornell, J. N. Gamewell; Secretary, C. B. Hotchkiss; Treasurer, A. W. Greenleaf. H. W. Pope, a young but experienced telegrapher, is Superintendent, and F. D. Farrington, Assistant Superintendent. J. S. Ashhurst is Superintendent of the messenger service.

The company have 25 district offices and over 3,500 signal boxes in the city of New York, and employs in all about 550 persons. The American district system is rapidly becoming one of the most indispensable adjuncts of modern life, and before the lapse of many years a telegraphic signal box and burglar alarm will be as much a part of the regular equipment of an ordinary residence as the gas and water fixtures are at the present day.

The district telegraph system has been introduced in a number of other cities of the United States, although, as might be expected, the New York organization is much the largest and most complete of any. An inspection of its workings, at any of the different district offices, will well repay the curious visitor.

THE Signal Service Telegraph Line from Wilmington to Southville, N. C., authorized by the last Congress, is completed and ready for business. A cautionary signal station has been already established at the latter point for the benefit of the coast shipping interests.

Correspondence.

We do not hold ourselves responsible for the opinions of our Correspondent. Our columns are open to free discussions on all Telegraphic subjects, without distinction of person or opinion.

No notice will be taken of anonymous communications.

Night Scenes in Chicago Office. — The Black Book.—Personals.—Bulls.—Poetry.

CHICAGO, ILL., Sept. 25.

TO THE EDITOR OF THE TELEGRAPHER.

It was night; the peaceful denizens of the west side who had no better accommodations had retired to their peaceful slumbers on the curbstones; south-siders, especially those nearest Bridgeport, had sturated their little sponges with Hoy's German Cologne, and fastened them to their olefactory organs, preparatory to being embraced in the arms of Morpheus. The "nord site" Dutchman had drank his fifty-sixth glass of lager, and had "yoost start home to Katrina," full of beer—well slightly—but it don't intoxicate, oh, no! it just makes you see three lamp posts when there's one, and makes out of every pigmy a giant. Well, it was about one o'clock "G. M." when "Wn." was "sushing" old "Crary," at Dubuque, with the worst dose of Morse that ever was forced through a man's ears. "Crary" stood it awhile, then kicked like a circus mule. "See, here, young fellow," says "C.," gently, "you must improve on that or I can't stand it." "4," "4," replies "Wn." Now, the regular route to D. was busted by the storm, and he was on by a long and circuitous route, but the idea of his "kicking" at "Wu's" sending! Well, "C." stood it awhile longer, then asked for the chief, but was denied an interview with that gentleman. A little struggling for circuit ensues. Wire opens in "Ch." End of scene 1st.

Scene 2d.—Circuit closes. Key rattles. Some one calls "D.," who responds quickly. A few exclamation points are made by "Ch.," then a few interrogation points; then the question is asked, "What's the row here?" "X.," "Ch.," "Who's 'X.,' D.?" "It's Duke, Ch." Now, thereby hangs a tale. "C." at D. knew that "X." in "Ch." was "Billy" Walsh, and "Billy" wasn't that kind of a fellow, so he says "G. A." The would-be "X." goes ahead manipulating in the disguised hand of "Wn." until out of copy. "Now," says "X.," "that was me all the time, and I know you could get me if you tried, 'Wn.'" "That's all right, boss." "Here's six hundred words of special," replied "C." "Let her come," says "Wu.," and "C." did "let her come," as he only knows how when he's waked up. No breaks occur, no shears went down stairs till it was all in, then there was a little by play not generally enacted by the stars. It was, "Say about fifty words from the first, what word's after so and so? Now, down about twenty words farther, is that 'granger's meeting' etc.; and down about fifty words farther, is—" "Oh, say, Jim," coolly remarked "C.," "I'll repeat it over for you. I'd just as soon. I'm not tired." "Just give me a few words more, 'Wn.'" After sundry repetitions the 3d scene ended, and this one serio-comical play was off the boards. As this is one of the many that are being nightly enacted in our office, I thought to begin the elucidation thereof with this one, while it was fresh. Others will follow as they occur, provided you can stand it. Let me know if your subscription list shows a falling off before I write again.

The "boys" are doing their best to be good now-a-days, since they ascertained that all their little errors, mistakes, etc., such as forgetting the rules, "speaking to operators when busy," "neglecting to time a message," or "having wrong check," was kept an account of in the little black book. No doubt this will have a salutary effect, and the result will be that Chicago operators will be so perfect they will never wait for a situation, and their only recommendation will be that they worked in Chicago office. "Let me alone, Jim, I ain't joking at all."

Miss "Lizzie" Vesey, of the day force, who has been taking several weeks' vacation, has returned, but looks very little better for her visit. Something has taken the bloom off "Lizzie's" cheeks. She don't seem as "Strong" as she might be. Her physician has forbidden her working so steadily at the key, and the management have kindly taken her off the St. Louis duplex and placed her on the "W." local wire.

Our friend Lester, who came back September 1st, expecting to work steadily, was only able to work a few days. "Charlie" Robinson was only with us a few days again.

Mr. Whitcomb, of the Dubuque wire (day), has been taking a vacation of a few weeks, and returns "stout as a buck." Kemp and Amsden have been "mashing" country girls' hearts and croquet mallets, and return sun-browned and happy.

On Miss Musgrove's return, Mr. Frank Cashill subbed

it on the Metropolitan lines in the main office, while Miss Snell took a few days' rest. Upon her return Miss Jennie Fox left for two weeks' vacation, Mr. Cashill also relieving her.

It's singular how soon some of these new men learn. One of them taking a special a few nights ago came running with it half finished to the chief, saying his wire was in trouble east of Laporte; he thought "it must be 'duplexed' with something there."

"Stoner," the moneyed man of the office, is still projecting railroads (in his mind). "Jr." says there's a hitch, "Zs," in the ditching machine, the rheostat or overflow dam being too voluminous for the electrical commutator to act in unison with the condenser in maintaining the equilibrium to sustain the retrospective motion of the cog wheel supporting the rotary upheaval on the off side of the cheese box, like— (Oh! thank you, Jim. That thump on the back has saved my life, but don't strike so hard next time.)

"Sig. D. A. P. Pleton & Co." looked decidedly too much initiated, and so it was when repeated, as it came the next time, "D. Appleton & Co." (You're another; 'twasn't me.) If he had ever "bin" there, then it would have been all right to make it Ingraham & Co. Cor Bin & May St., but he had no business to add "St." and "Co." to make it read right when it was "Ingraham, Corbin & May." Moral: Don't get too far behind.

I've found out something. There's a "poet" or some "poets" on the force here. I have acquired the habit of examining paper balls scattered over the floor and tables, and from among them I decipher a verse or two, the purport of which I can't interpret, but it's kind of highfalutin like, maybe some fellow writing to his inamorata. This is the way it reads:

"To be brief, and also to begin,
'Tis granted that those who care to trace
Their original (?) sentiments within,
Will bear in mind this is not fit place
For the presence of original sin;
And whether they do express in sighs,
In friendly lines, or in love for thee,
They cannot sigh for a brighter prize."

Underneath these lines some of the boys got off the following little bit of sentimental flattery:

"There are rich gems beneath the sea,
But the light that beams in beauty's eyes
Is far more sweet and dear to me
Than all the precious things that others prize."

The next paper ball unrolled was more of the obituary stamp, and read as follows:

"'Tis ever thus; in childhood's happy hours
Life seems to be a pleasant dream;
We, like sweet warblers 'mongst the flowers,
Ne'er think of wintry storm or blast,
Till manhood drifts us down the stream
To Death—our final rest at last."

I'll swear it's all original, and that it came from the

WESTERN UNION.

The Philadelphia, Atlantic and Pacific Offices and Employes.

PHILADELPHIA, PA., Sept. 24.

TO THE EDITOR OF THE TELEGRAPHER.

MY letter this week must necessarily be brief, and I am afraid, uninteresting. The trouble is, I haven't matter enough in available shape. As I pass up and down town, to and from the office, I observe, "Well, here is something that I will acquaint myself with when I get time, and I can make at least two inches of solid prut out of it; and over there is an inch and a half, and up here, two squares further, is an object of interest that I can throw in by way of a diversion, and turn to account some time when I am inclined to be unusually monotonous." But up to now I have not had time to any more than hastily glance at anything; hence my embarrassment.

I did drop in at the Atlantic and Pacific main office the other day and saw what it was like. Did I say I "dropped"? I will retract that, for I did not drop at all, I climbed up three flights of stairs (or four, I don't remember which), and found it perched in the top story of their building, upon the northeast corner of Third and Chestnut streets. The place is not particularly cheerful in aspect, but the low ceilings give it a rather dingy appearance, perhaps. However, it is well lighted, and I presume it is quite comfortable. Mr. J. T. Maxwell is manager, and Mr. Shain chief operator. Mr. D. M. Gibbs is night manager, and Mr. J. M. Sailer, cashier. The force consists of eight Morse operators, three of whom are ladies, a day and a night receiving clerk, a delivery clerk, and a dozen boys. Then the automatic employs an operator, Mr. B. F. Johnson; a copyist and two perforators. To just what extent the automatic is worked here I don't know, but I think only upon two circuits—one from New York to Washington, and another from here to Pittsburg.

It is of course understood that the A. and P. and the Franklin work in conjunction with each other, and they are domiciled together within these walls, and are as congenial and happy as two little birds. And a branch office of the one claims to be also a representative of the other, so that the city wires of both make them convenient to almost all parts of town. And if there chances to be a gap of a few dozen squares, the Reading folks generally have an office or two thrown in just here, and business for distribution to these places is generously turned over to them. I should have said, last week, that the Reading connects with the A. and P. and the Franklin companies, and *pro rates* with them to compete with the Western Union. As I forgot to mention it, I will say now that the A. and P. and the Franklin connect with the Reading, and *pro rates* with them to the disadvantage of their more formidable adversary.

It is late. The striking of a clock in a tower hard by, the strokes of which I count as I pause for a suitable idea with which to close, reminds me that time is even now fleeting—that even here, in the gloom and solitude of this chamber, so lofty that I often reflect that I am nearer heaven, up here, than I am anywhere else—even here Time does not pass me by. Bye bye.

MICAWBER.

The Buffalo Atlantic and Pacific Office and Force.

BUFFALO, N. Y., September 22.

TO THE EDITOR OF THE TELEGRAPHER.

THIS city and the resident fraternity are so seldom heard of through your columns that I volunteer the task of a few random remarks, hoping thereby to increase your subscription list in this vicinity, and at the same time put upon record the doings and whereabouts of some of the "old timers," who rarely give Buffalo the "cold shake."

The Atlantic and Pacific being the most prominent office here, has lately been putting on a new dress of red paint and other gorgeous colors, and making needful improvements, very gratifying and attractive to all concerned. They occupy the entire first floor and basement of the large four story brick building No. 222 Main street. The receiving and delivery departments, Morse operating room, and the automatic transmitting and perforating departments occupy the first floor, and battery facilities are provided in the basement.

Mr. M. A. McCoy, manager, always manages to have money for the boys on Saturday night, but will shortly remove to Omaha, Nebraska.

Mr. H. M. Scott goes "scott free" of night and Sunday duty by acting as chief operator.

Mr. W. W. Mead acts as night manager, when not attending church or studying Latin.

Mr. T. P. Dudley works the "Cx" Chicago wire, and does more work than any man in the office.

Mr. George A. Newton works the "Ax" New York wire, and does less.

Mr. C. F. Brown works the Cleveland wire, when he isn't grumbling at the difficulty of raising Dunkirk.

Mr. F. S. Vanvalkenburgh works the Syracuse and Rochester way wire, and at the same time cracks his South American jokes with Miss A. M. Mackenroth, directly in front, who works the city line.

Mr. Jack Spalding turns crank on the New York automatic, and wants money every night.

John H. Crane copies automatic, as does William H. Stanton.

George W. Mitchell and Frank Wilson do the perforating.

Robert Helm keeps the number sheets—grinds automatic to Detroit and Cleveland, and won't lend money to Jack Spalding or Fatty Stewart any more.

Mr. George H. Bowker is manager of the dock office, with John Bradt as assistant.

Mr. Timotheus Collins is counter man, and M. A. Strevor book-keeper.

Mr. M. G. Chipman "chips one" on the night force, and helps out on the automatic at noon.

This will strike any one that's posted as a good force, and competent to handle the large and increasing business promptly and correctly. More again. GLUEY.

Southern Telegraphic News and Personals.

MOBILE, ALA., Sept. 25.

TO THE EDITOR OF THE TELEGRAPHER.

WITH grief I confess it and with shame I write it, THE TELEGRAPHER has not fallen under my eyes for many a day. I hope, however, that this sin of neglect on my part may, like Uncle Toby's oath, be forgiven, and that the recording angel will blot it out with a tear. If I have not subscribed for our organ I have not borrowed it, and this I consider a point in my favor—a mitigating fact. I trust that you will not measure my interest in your success by my enthusiasm, for in that case I should stand below zero. I am ready now to enter the ranks again, and draw my pencil in the cause of right. You

will hardly be surprised to learn that telegraphic matters are dull down here. Now and then we feel a little wave of excitement, caused by some rumor of consolidation, or of grand enterprises in the way of new companies. The recent reduction in cable charges has brought a smile of astonishment to the faces of our large shippers, who find it hard to realize that messages which used to cost such enormous prices can now be sent almost as cheaply as ordinary New York business. The signs are more encouraging for opposition companies in this section than they have ever been, I think, and with good luck in keeping wires up this winter, they will begin to reap the reward of their efforts. It is a little remarkable that the wires of the Southern and Atlantic Company between Mobile and New Orleans withstood the shock of the recent severe storm, and were not interrupted a minute—very much to the surprise and chagrin of the W. U. people, who gleefully predicted "awful times" for them.

The American District Company has about completed its lines in New Orleans, and will open for business on the 1st of October. The Western Union Company will change offices in this city on the 1st proximo, leaving a stand, which they have held for many years, for one only a few doors off. The change is made, I understand, on account of the high rent demanded for their former office. Sam. Hoffman, the chief operator of the W. U. Union office, who has spent all this summer in Virginia, returns in a few days very much improved in health. Ed. Leloup is still managing for the Southern and Atlantic in New Orleans, with success. Barnes, the Western Union manager there, is an old time operator and manager in the South. He was the first manager the W. U. ever had in Mobile. After working many years, marrying and amassing a considerable fortune, he went to England (his native country) and invested his money in sheep. By one of those misfortunes which will come to the best of us, he lost everything, and about three years ago came back to America with a large family and no money. He took a place at Norfolk as manager for the Southern and Atlantic. In March, 1874, he accepted the management of Monroe, La., W. U. office, and from there he came to New Orleans last spring. Altogether he has been a lucky fellow, though he deserves to succeed. He is a fine manager and a clever gentleman.

Mobile is now represented by Wm. Sandford, W. U.; and K. C. Murray, S. & A. The robustness, rotundity, and general healthiness and good looks of the fraternity here is monopolized by the amiable and energetic Supt. of the W. U., Mr. Chas. G. Meriweather, who is "no shadder." J. G. Thornton, Supt. of the S. & A., keeps his headquarters at Macon, Ga. So far we have escaped yellow fever this year, and there is strong hopes of entire exemption.

Dr. Harvey Brown, of the U. S. Service, is now on a tour of inspection through this region, in the interest of a national quarantine system, suggested in Congress by our Mr. Bromberg.

MURAT.

An Absconding Telegraph Operator.

CHICAGO, ILL., Sept. 26.

TO THE EDITOR OF THE TELEGRAPHER.

LEWIS D. McADAMS, an operator employed at Aurora, Ill., on the Great Western line, absconded the other day, taking off with him about twenty dollars of the company's money, and leaving unsettled a board bill of forty dollars. Lewis is a tricky one. Superintendents look out for him.

PERI.

Another Richmond in the Field.

NEWARK, Oct. 5.

TO THE EDITOR OF THE TELEGRAPHER.

It seems almost cruel to prick the bubble which oozed from one of your correspondent's pens last week, relative to the Foote & Randall automatic system. Your correspondent must have been badly "sold" by somebody, as I am reliably assured that in a recent exhaustive test of the capabilities of the Foote & Randall system over the W. U. Co.'s wires, in the interest of D. H. Craig, their system was found to be greatly inferior to the "Edison," "Grace" or "Little" systems of fast telegraphy, except over very short circuits—but the fatal thing which was developed by the tests referred to was the fact, which was communicated to me by an eminent legal gentleman, who had critically examined their patents and system, who found no important novelty in their invention, and no novelty whatever not covered or coverable by legitimate reissues of several of the early patents belonging to the Automatic Telegraph Co.

As to the F. & R. Perforator, that is, I am creditably informed, a mere vision of the future visionary hopes of those inflated gentlemen, and your correspondent, in claiming a special chemical paper for his friends, claimed something which they never possessed of their own.

I will also say, on respectable rumor, that F. & R.'s

patent agent in Washington only succeeded in getting their patents allowed (with but very slight examination) by assuring the examiner that the patent was already owned by parties connected with the Automatic Co., with whose patents F. & R.'s alleged invention is believed to be glaringly in conflict.

ANTI HUMBUG.

The Difficult Problem,—Reply to "A. W. D."

KENTON, KY., Sept. 25.

TO THE EDITOR OF THE TELEGRAPHER.

I AM pleased with the reply of "A. W. D." to my article, Aug. 21. I will endeavor to meet him in the spirit manifested by him, and hope that we may arouse a spirit of inquiry that may prove profitable, although the question of "W. A. S." is somewhat difficult to answer.

I admit the difference between the "how" and the "why?" The dog is killed, why? Bad dog. How? with a bullet, which is a very different thing.

"A. W. D." says: "electricity does not emit heat or light." I said, under certain conditions, it did emit heat and light. I can prove it by the lightning rod man; he says it illuminates the earth and sky, burns houses, and I have felt the calorific effects myself from large batteries.

He says it is not a material, and does not unite with elements to form compounds. I think electricity is something; if so, it must have some of the properties of matter; if it is nothing, then there is no electricity—and our argument about why is electricity excited? is all about nothing. Electricity does exist, and is either an element or a compound. I prefer to believe it an element, because we have no evidence to the contrary.

It may be an element and not unite with other elements singly to form new bodies, as electricity and oxygen to form an oxide of electricity—but it does unite with oxygen and hydrogen to form water, and certainly does perform an important part in all compound bodies, directing their affinities and producing chemical union among the atoms of matter; and we are induced to believe it pervades the universe of God so as to control and regulate the entire system of His wonderful creation.

2d. He says "the battery need not be composed of two metallic elements." Grove's gas battery may be constructed without two metallic elements, but you cannot make a Callaud battery without copper and zinc.

3d. "The first action in the battery is not the decomposition of sulphate of copper." I think it is because the zinc has been oxidized before the circuit is closed.

4th "Sulph. acid has no affinity for either zinc or copper, nor can it be made to combine with either of them." Yes, it can be done; just oxygenate them and you will have no trouble.

5th "Neither the decomposition of sulphate of copper nor the formation of the sulphate of zinc is the exciting cause of electrical action." If not, what is the cause? I say that the electricity gives polarity to the electrodes, and that they excite by attraction and repulsion the atoms of electricity in the circuit, and that is why we have the current.

H. C. N.

Extraordinary Telegraphing.

BOSTON, MASS., Oct. 2.

TO THE EDITOR OF THE TELEGRAPHER.

THE Boston Herald of Oct. 5 contains the following item:

"TELEGRAPHING EXTRAORDINARY.

The dissatisfaction which prevailed among the Kettles men, with the result of the recent Stanford-Kettles contest, culminated last week in the signing of articles by these two gentlemen, whereby they agreed to send 'regular business,' averaging ten words in the body of each message, exclusive of date, address and signature, to Portland, Me., on a single wire for two consecutive hours; the usual technicalities, viz., 'from,' 'to,' 'period' and 'sig.' to be omitted; D. Devereaux and J. B. Griffith to act as judges. Yesterday morning at 9.30 Mr. Kettles grasped the 'key' and began. When 'time' was called it was ascertained that he had accomplished the almost incredible feat of transmitting 251½ messages in the allotted time—an average of 2.1 messages—or, counting addresses and signatures, 57.5 words per minute; which, it is needless to state, has no parallel in the annals of Morse telegraphy.

Mr. Stanford, who, owing to a 'base ball finger' on his dexter manus, cannot perform his part of the contest for several days, is confident of at least tying his formidable opponent; but sceptics are numerous even among his most ardent supporters, and it is not expected that he will far exceed his last creditable achievement.

In my opinion it is premature to say that Mr. Stanford will not equal this latest achievement of Mr. Kettles. The former gentleman has shown himself to be a very fast sender, and it is by no means improbable that he will even exceed Kettles' latest time.

ARISTIDES.

THE TELEGRAPHER

DEVOTED TO THE INTERESTS
OF THE
TELEGRAPHIC FRATERNITY.

SATURDAY, OCTOBER 9, 1875.

THE TELEGRAPHER:

PUBLISHED EVERY SATURDAY at 38 VESEY ST.

ELEVENTH VOLUME.

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A Special Premium for Subscriptions to "The Telegrapher."

The summer season is about over, and we expect that the friends of THE TELEGRAPHER will now renew their efforts to increase its list of subscribers. The subscription list has been very well sustained during the summer, but as the days of vacations and excursions are over, we look for the usual increase of interest in the only truly independent telegraphic journal published.

It has been our custom for years past to share with those who kindly interest themselves in obtaining subscriptions by offering valuable premiums.

We propose this season to excel our former liberality in this direction. We desire to offer something of real and permanent value. We have accordingly made arrangements by which we are enabled to offer to the person obtaining 60 subscribers for one year, at the regular subscription price, \$2 per year, or their equivalent in shorter subscriptions, a

No. 1 WEED SEWING MACHINE;

for 65 subscribers a

No. 2 WEED SEWING MACHINE,

and for 70 subscribers a

No. 3 WEED SEWING MACHINE.

The price of these machines is respectively \$60, \$65 and \$70.

The machines will be boxed and shipped without extra charge.

This affords an excellent opportunity for female telegraphers, or for telegraphers who have wives or relatives that need these exceedingly useful machines, which are in every respect first class, to obtain them at comparatively little trouble or expense.

Send in subscriptions as obtained, and they will be credited until the necessary number to entitle the sender to the desired premium is obtained.

To prevent disappointment, should any canvasser eventually fail to obtain the requisite number for a machine, they will be allowed other premiums proportionate with the amount collected, or, if preferred, 20 per cent. in cash on such amount. To whom shall we send the first machine?

Telegraph Operators.

THERE is a tendency, which becomes more marked as the telegraph business is extended and developed, for telegraph operators to become divided into classes or divisions, which are becoming as distinctly defined as though established by authority. This was not the case in the earlier days of telegraphy, when an operator was expected to be proficient not only in the manipulation of the key and the reading of signals, but also in the running of circuits, making batteries, the management of offices, and the repair of lines when temporarily interrupted.

Of late years these duties have been more and more subdivided. Operators are no longer expected to go out and repair broken wires or take out crosses. At all the large offices, and at convenient stations along the lines, repairmen are kept, whose duty it is to attend to this business. This may be regarded as an improvement and an economical one, for only in an emergency which will admit of no delay should operators be taken from their legitimate duty for outside work. In all but the smallest offices battery men are employed to take care of the batteries, and thus the operators are relieved of what used to be another unpleasant duty.

The lowest class of operators are those who merely learn to manipulate the key and read telegraphic signals. From this class the staffs of the railroad lines are mainly supplied and the salaries paid are low. This class takes no interest in the business further than to get their salaries for as little work as possible. They learn to manipulate the instruments because it is easier than manual labor. This class is not confined to railroad lines, but many of them may be found on commercial lines as well. They have little or no ambition to rise above their subordinate positions, and but a small percentage of them ever do rise.

We do not wish to be understood as expressing the opinion that all railroad telegraph operators are of this class. There are many good and capable telegraphers working upon railroad telegraph lines, but they are in a decided minority.

There is a class above this of expert manipulators who command better salaries, but who have but little higher aim than the others, to get their pay for the least possible work.

Probably for ordinary railroad telegraphing these operators are just as good as a better informed class would be. In such positions they are not wanted to exercise any judgment, but to do just what they are told, and one of the best railroad telegraph Superintendents says, "we find the less operators known the better they mind." The higher class of telegraph talent is found in the despatchers of chief operators on such lines, and of course has to be paid for at higher rates.

In commercial telegraphy a higher grade of talent and ability is required, and, of course, is better compensated, but only a small percentage of those occupying positions on commercial lines are qualified for anything more than sending and receiving. They know but little, if anything, of the electrical science on which the telegraphic art is based, and what is worse, but few seem to care to learn. The truth of this is demonstrated constantly in the experience of managers of telegraph lines, who find it difficult to fill satisfactorily the positions requiring some electrical knowledge and ability, while there is a surplus of mere telegraph manipulators. In the telegraph, as in other business, knowledge is power and profit, and those who look beyond the present moment will seek to advance themselves in the science and art.

The telegraph business is constantly increasing in extent and importance, and it offers chances and positions

worth striving for. It should be the aim of every person who engages in telegraphic pursuits to make himself or herself master of it in all its branches, so that if opportunity offers, advancement may be secured. The world is always well supplied with hewers of wood and drawers of water, and those who desire to rise from the ranks of these and become something more, must do so by industry, study and application.

It is not to be expected that every telegrapher shall be a first rate electrician, but they should understand the rudiments of the science upon the practical application of which they depend for a livelihood.

The American District Telegraph Company.

WE devote considerable space in the present number of THE TELEGRAPHER to a very full and interesting account of the American District Telegraph, and the manner in which its business in this city is conducted. This organization, although less than four years have elapsed since it first commenced operations, has reached an extent of development, and a degree of efficiency and reliability in its daily workings, that is truly marvelous. The District Telegraph is a thoroughly and characteristically American enterprise. Nothing like it, or even comparable to it, is in existence in any other country, and it is hardly too much to say that the degree of despatch and celerity which is realized in its every day workings would be almost impossible of attainment elsewhere. Unquestionably, one great reason of the practical success of this enterprise is due to the fact that its administration is in the hands of young men instead of old ones. This may seem, at first sight, a somewhat singular assertion, but experience has repeatedly shown that, in undertakings of this kind, youthful ambition, energy and enthusiasm, if accompanied, as they not unfrequently are, with real organizing talent and executive ability, are the very qualities of all others needed to ensure success. Young men, and even mere boys, have always played an important part in the development of the telegraphic system of America; in fact, some of the most important telegraphic positions in the country are held to-day by men not over twenty-five years of age. It is a business peculiarly well calculated to give the most valuable faculties of a young man a chance to display themselves to advantage, and the practical success of the American telegraphic system is a triumphant vindication of the wisdom of the policy to which we have alluded.

Atlantic Telegraphs.—Advance in Tariff by the Anglo-American Telegraph Company.

IMMEDIATELY following the interruption of the direct cable, of which an account was given in THE TELEGRAPHER last week, the Anglo-American Co. announced an increase of the tariff from 25 cents to one dollar per word in gold. This is double the tariff which has been in operation since last May, and naturally the advance, coming as it does immediately upon the temporary cessation of competition, excites a good deal of indignation on the part of customers of the company.

The reduction to 25 cents a word was too radical to prove profitable, and probably the Anglo-American Company desire to make up the loss consequent upon that reduction while they have a monopoly of the business. The managers of that company probably understand their business, but this action has brought much opprobrium upon the company, and the newspapers in this city and elsewhere have denounced them indignantly for what is termed an imposition upon the public.

We think now, as we have always thought, that while capitalists in this country are unwilling to invest money in cable telegraph enterprises, and are content that foreign capital should own and control the cable telegraphs connecting us with the telegraph systems of Europe and the world, the violent denunciation of the so-called monopoly does not come with a very good grace from the press or public of this country. As we have before stated, and as is generally well known, all attempts hereto-

fore to induce American capitalists to invest in Atlantic cable telegraph enterprises have been futile, and even the Pacific cable, to connect the Pacific coast with the Sandwich Islands, Japan and China, and complete the telegraphic circle round the world, if laid at all, will be laid by foreign capital, and owned and controlled in Europe. This is not a creditable record or state of things for this country, and under the circumstances it seems to us that it would be rather more modest to moderate our denunciations of foreign companies for alleged monopoly and extortion.

It appears to us that the managers of the Anglo-American Company have made a mistake in quadrupling the rate, as they did in the other direction when they reduced it below a paying price. We do not know that there is any remedy for it, however, until the direct cable is again in working order, when the rate will go down again, though probably not to the former figures.

The representatives of the Direct Cable Company in this city assure us that there is no truth in the stories that a working arrangement and agreement between that company and the Anglo-American, for maintaining the cable tariff at one dollar per word, has been made. It is so far as they are informed, intended to maintain the independence of that company and fix the tariff at a reasonable figure upon the reopening of communication, which it is not anticipated will be long delayed.

The Faraday was to leave England on Wednesday last to repair the broken cable, and as the break is in shallow water and not far from land, no special difficulty or delay is anticipated. Unless the weather shall prove exceptionally unfavorable, we believe that within two or three weeks the direct cable will again be in operation.

Personals.

S. S. SCHROFF has been transferred to the night force, Mr. C. H. DAVIS taking his place upon the twelve to nine trick. DAVE MITCHELL, of New Orleans, is working in the W. U. Telegraph office night force.

The Telegraph.

By Cable.

ADVANCE IN CABLE TARIFF.

LONDON, Sept. 30.—The Anglo-American Telegraph Company announce that on and after Monday next the tariff will be raised to four shillings (one dollar) gold per word.

New York City Telegraph Notes.

SUNDAY last four elegant new electric clocks were placed in position in the Western Union operating room. They are larger than the old ones, and have cases made of cherry, and carved to match the general woodwork of the room. As yet, they have maintained a bugless regularity, which causes rejoicing and a better feeling between the collecting boys and the operators.

Hank Cowan is in town. Gib. Merrill hooped Wallace in Chicago eighty-six messages in an hour one night last week, on the first duplex, and it wasn't Gib's good day for sending either. The messages were unusually long, and partly ciphers and cables, and were all received and sent out by Wallace without a break. Considering the great length of the circuit, and about a dozen breaks by New York's receiving man, causing some loss of time, we think this compares favorably with the Boston feat, where the messages averaged but ten words, and were picked from old business. Though we do not like to brag, yet we believe there are several men in the Western Union office who can equal, if not excel, under similar circumstances, the speed accomplished by Stanford or Kettles, of the "Hub."

Protection of Telegraphic Lines from Lightning.

Supt C. G. MERRIWEATHER, of the fourth district in the Southern division, reports that the experience of the past season has proved conclusively that the application of lightning rods to telegraph poles is a matter whose importance should lead it to receive careful attention. On many routes under his charge, where a large number of poles were formerly destroyed by lightning every year, a dozen or more being sometimes shattered in a single day, the attachment of lightning rods has resulted most favorably, not a single pole having been damaged during

the present season. He also states that no trouble has been experienced from accidental contact between the lightning rods and the line wires, although serious apprehensions were entertained that this would prove an obstacle to their successful use. The rods were placed on every tenth pole, and also on the nearest pole on each side of every office.—*Journal of the Telegraph.*

Telegraph Extension in New Hampshire.

A NEW telegraph company was organized at Manchester, N. H., on the 5th inst., under the charter of the Northern Telegraph Company, to construct a line between that city and Goffstown. The line will be built at once, and there is a prospect of extension to Ware in the early spring. It will connect with the Atlantic and Pacific Company at Manchester.

Quadruplex Telegraphy in India.

IT will interest our readers, says the *Indian Daily News*, to learn that "Quadruplex Telegraphy" (that is, the art of sending four messages, two in each direction, simultaneously, by means of one wire) has this week been accomplished on the Madras Railway Telegraph. The system which Mr. G. K. Winter, the Telegraph Engineer, invented in March last, proved perfectly successful on eighty miles of line, and its extension to lines of greater length is simply a question of additional condensers and battery power. The first successful experiment on a public line was made on the 16th of April, 1875.

An Old Swindle Revived.

A BALTIMORE swindler went to a near-sighted merchant in the guise of a telegraph messenger, and got him to put his name in two places in what purported to be a receipt book. Really the fellow had got him to sign his name on a blank leaf in such a way that a note could be written with a genuine signature and endorsement. The profit to the swindler was \$223, and the merchant and the bank that paid the money are quarrelling about which shall lose.

Foreign Telegraphic Notes.

THE *Electrical News* says: "The iron telegraph poles in Persia are put to a novel use. A friend who has lately returned from that country informs us that between Teheran and Shiraz it is the common custom of the inhabitants to use the poles as targets for rifle shooting. Standing at one post and shooting at another, the people find the telegraph poles most convenient institutions for gun practice, and no doubt many believe that it is their proper and legitimate use. The poles are made of sheet iron, and the natives test their guns by trying whether the bullet will pierce the post. Some posts are thus riddled with holes, and some give way altogether. The reason why telegraph posts in Persia require frequent renewal is no longer a mystery."

The traffic receipts of the Anglo-American Telegraph Company,

Sept. 15, amounted to.....	£1,020
" 16, "	890
" 17, "	790
" 18, "	780
" 19, "	270
" 20, "	690
" 21, "	880

The report of the Direct Spanish Telegraph Company shows a balance of £6,118, which, after payment of the dividend on the preference shares, will be sufficient to allow of a dividend on the ordinary shares at the rate of four per cent. per annum, leaving the reserve fund standing at £1,011.

The Indo-European Telegraph Company have issued a circular giving the new rules and regulations affecting the transmission of messages, which, having been adopted at the conference held in St. Petersburg, will come into force from the first of January next. From and after that date messages of any number of words may be sent, the charge per word being uniform between India and all stations in Europe, except the Shetland and Orkney Islands and Russia. The same system has been adopted for messages originating in, or destined for countries beyond India and Europe. The length of a word has been limited to a *maximum* of ten letters. Code words are not to contain more than a maximum of ten characters, in lieu of seven syllables as at present, and any excess will be charged for at the rate of one word for every ten letters or fraction of ten letters. Artificially constructed words, not appearing in a dictionary, will not in future be admitted. Each group of figures will be charged as one word if containing five figures or less; groups of more

than five will be charged as so many words as they contain five figures, plus one word for the remainder, if any; but groups of figures, if manifestly used for code purposes, will cause the telegram to come under the heading of "secret messages," and subject it to compulsory registration. Groups of letters may be refused altogether by any administration, but if admitted they will be charged the same as groups of figures. Any combination of code employing in the same message groups of figures and letters is strictly prohibited, and telegrams so composed cannot be accepted. Addresses may be written in code at sender's risk, under arrangements with the administrations concerned. The signature may also be a code word, or the last word of the message may replace it. Abbreviated forms for expressing "reply paid," "acknowledgment of receipt," of "registration," "telegram to follow," &c., have been agreed to, so that only one word need be paid for to convey these instructions. The *via* or indication of route will be sent free of all charge.

Telegraphic and Electrical Brevities.

GOV. SHUNK, of Pennsylvania, vetoed the first bill that came before him for the incorporation of a telegraph company, on the ground that "it would interfere with the business of the United States mails."

The construction of a telegraph line between Prince Edward's Island, Magellan Island and Bird Rocks is in contemplation by the Canadian Government. The line, when completed, is expected to be of great service in saving life, and assisting shipwrecked vessels.

Charles H. Vawter, agent and operator at Smmer, Ill., while attempting to board a morning freight train, August 14, received injuries which resulted in his death two days later.

The Annual Meeting of the Telegraphers' Mutual Benefit Association.

THE annual meeting of the Telegraphers' Mutual Benefit Association will be held on Wednesday, November 10, 1875, at 7:30 o'clock P. M., at the general office of the Western Union Telegraph Company, corner of Broadway and Dey Streets, New York.

It is desirable that there should be as full an attendance of the members as possible, and it is hoped that those who cannot personally attend will be represented by delegates.

The Coming Telegraphers' Ball.

A MEETING of those interested in the great event of the season—the Telegraphers' Ball—was held at No. 66 Cortlandt street, on Monday evening last, for the election of officers for the ensuing year. The list of subscribers, which now numbers 106 names, having reached the number decided sufficient to insure success, those having the matter in charge called the meeting to order, and, on motion of Mr. Bolieu, Mr. J. A. Ashurst was chosen temporary chairman, with Mr. Roberts for secretary. Mr. Ashurst, taking the chair, thanked the meeting for the honor conferred, and stated the object of the meeting in a few brief sentences. Mr. Gordon followed with a few pertinent and brief remarks, and closed by asking the meeting to support the same ticket which was so successful last year, saying the opposition to the ball was so great that they had encountered many difficulties, but by perseverance and earnest cooperation had succeeded in making the affair a grand success. With so many drawbacks and obstacles the glory of the thing amounted to small wool last year, and he thought it was no more than right that the old officers should be given all honor possible this year, and allowed to bask in the glory which would certainly follow the perfect arrangements about to be made. He hoped none would weaken.

On motion of Mr. Lyman the meeting proceeded to the nomination of permanent officers by ballot. The two names having the most votes to be declared the candidates, and be balloted for in the regular manner. Adopted.

Messrs. Beard and Lyman being appointed tellers, the votes were collected and found to name D. W. McAnecny and J. A. Ashurst as the candidates for President, with a few scattering.

The meeting at once proceeded to ballot, but failed to make a choice between the two gentlemen, both being decidedly popular and fit men for the position. The second ballot was again a tie, but upon the third, after a good deal of electioneering all around, Mr. McAnecny came out ahead, with a slight majority, and favored the company with a neat speech upon taking the chair.

Then followed the election of the lesser officers, J. H. Edwards, of the opposition, being unanimously elected to the office of Vice-President; T. J. Singleton, and J. H. Lyman, Secretaries, and Jno. H. Dwight, Treasurer.

President McAneeny then announced the Committee of Arrangements as follows:

- J. A. Asburst, *Chairman.*
- Geo. H. Roberts.
- L. R. Hallock.
- W. H. McEnroe.
- Geo. Sawyer.
- Deunis Harmon.
- W. J. Landy.
- W. S. Williams.
- L. B. McCarthy.

The meeting then adjourned to Monday, October 11, at the Auditor's office, Western Union Telegraph building.

[From the American Journal of Science and Arts.]

Images Produced by Lightning.

A LETTER of Professor W. L. Brown, of the University of Georgia, to one of the editors, calls attention to a remarkable instance of the formation of impressions upon the human body by a lightning stroke, and encloses letters of Messrs. E. G. Simmons and T. N. Hawkes, of Americus, Ga., where the occurrence took place, describing the circumstances and some of the details of the phenomenon.

On the 12th of July, 1875, at about four P. M., as Mr. Simmons states, a stroke of lightning fell upon a house in Americus, rendering insensible for a time four persons who were seated in one of the rooms. The two outer sides of this room, which was at a corner of the house, had each one window, and nearly opposite these on the two other sides were the chimney and the door respectively. Outside, a tree stood in front of each of the windows, and about twelve feet from the house. A third tree, a locust, stood opposite the outer corner of the room and about the same distance from the house as the others. This tree was severed by the lightning, but the other two were not affected. A young child was sitting near the centre of the room, while the mother and a young lady were seated not far from the chimney, near which, and close to the wall, was another child.

All these persons were rendered insensible for a time by the stroke which severed the tree, and on their recovery there were found impressed upon the bodies of them all more or less distinct images of this tree. It was most distinct in the case of the child near the centre of the room. Mr. Simmons says, "the child is impressed upon its back and exactly opposite upon its stomach. The entire tree is plain, and perfect in *toto* ; every limb, branch and leaf, and even the severed part, is plainly perceptible. It is a perfect photograph of the tree, and could not have been made more perfect by a painter's brush. It impressed the young lady upon the left hip and right leg," the mark being quite as perfect as that upon the body of the child. The mother and other child also bore less distinct impressions upon the leg. Mr. Hawkes says, "I saw the youngest child and the marks upon it. The marks on the lower part of the spine are exactly of the shape of a branch of the locust tree. Where the leaves are, on the branch, the mark does not take the shape of the entire leaf, but only of the skeleton of a leaf. The mark was about twelve inches long, and had a fork, exactly like the locust limb. It looked as though the blood was drawn to the skin along the marked part." The marks were not permanent, as Prof. Brown, in his letter dated August 7, adds, "a recent letter informs me that the impressions are no longer distinct."

Although many similar cases have been reported, the phenomenon described is rare enough to make a well marked instance like this worthy of record. The formation of the images in all such cases is readily explained by a peculiarity in the mode of the electric discharge under certain conditions, by imitating which it is possible to produce similar figures artificially with an electrical machine, such as the Holtz machine, capable of giving electricity of very high tension. When the poles of the latter are strongly charged and are separated to the distance of a few inches, the discharge, instead of producing a spark or brush, sometimes consists of a very small jet upon the negative, and a sort of phosphorescent glow upon the positive. The space between them, though not luminous, is the seat of a discharging action which appears to take place along definite lines, like a stream or current, and is sometimes called the dark discharge. An object placed between the poles, and in the path of the discharge, interrupts this, and destroys the glow upon the positive pole in points corresponding to the lines thus broken; and in this way there is produced an image or shadow of the interposed object, which is often strikingly distinct and perfect.

In the case above described the phenomena are readily accounted for, if we suppose the thunder cloud to have been negatively charged, and the tree to have stood in the path of the dark discharge which preceded or accompanied the lightning stroke, the action having been sufficiently intense, and the quantity of electricity great enough to produce a visible impression upon the delicate tissues of the skin.

A more particular account of the subject may be found in two articles published in this Journal, May, 1870, page 381, and June, 1871, page 437. A. W. W.

Fishing with the Electric Light.

IN the Paris International Maritime Exhibition there is a small object deserving of notice. It is a platinum wire placed in a bottle and ignited by electricity from a bichromate battery. It is intended to be immersed in the sea, and the light emanating from it is said to attract an immense number of fishes. Experiments have been tried lately on the coast of the Cotes du Nord Department with a fishing boat, and have proved very satisfactory on a bank of sardines. The glass must be green or black, otherwise the fish are frightened by the glare, and do not follow the submarine light.

Improvement in the Mariner's Compass.

Mr. GEORGE ILES, of Montreal, has invented an ingenious improvement of the ordinary compass, by which its variation from the true north, from whatever cause, can be immediately detected and the amount of deviation accurately calculated. Mr. Iles's compass consists of a light bar of aluminium, nicely pivoted on the centre, having a number of minute magnets attached longitudinally. Of course this bar, when uninfluenced by other than natural causes, will point north and south. Above this bar is suspended another of similar construction, but with the small magnets arranged latitudinally. The effect is to cause the upper bar to point east and west, or, under normal conditions, at right angles with the lower. When the two bars are found varying from this right angle, local influences are indicated, and the amount of variation from the true north is determined by a comparison of the variation of the two bars. The invention has been patented in the United States, Canada, France, and England, and has received high commendation from such experts as have examined it.

Miscellaneous.

ELECTRICAL LIGHT IN SOLID BODIES.—Cadogan Morgan, in 1785, was the first experimenter who produced the electrical light in the interior of solid bodies. He inserted two wires in wood and caused the spark to pass between them. The wood was illuminated with blood-red or with yellow light, according as the depth at which the spark was produced was greater or less. Many of our readers have doubtless seen an egg or a series of eggs lighted up by being placed in the line of discharge of a Leyden jar. An ivory ball, an orange, or an apple may be illuminated in a similar way. According to Tyndall, a lemon is especially suited to this experiment, "flashing forth at every spark as a spheroid of brilliant golden light." The wires used for the discharge should be brought within about half an inch of each other inside the lemon.

ELECTRICITY vs. IRON ARMOR FOR SHIPS OF WAR.—There are persons sanguine enough of the near approach of the era of universal peace to hail the introduction of electricity into the domain of artillery practice as one of the heralding signs of the millennium. The simultaneous discharge of four Krupp's guns by electricity, the balls all hitting the same mark, has been found by repeated experiments to bring a force to bear upon the object of attack sufficient to break through the heaviest iron armor in which ships of war are ever clad. This fact will result, according to the arguments of the enthusiasts, in doing away with iron ships, and introducing wooden ones again into naval warfare. The withdrawal of iron ships from service will render the immensely heavy and destructive guns now manufactured in Europe quite useless, and cause their ultimate disappearance also.

Quotations of Telegraph Stocks at N. Y. Stock Exchange.

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Sept.	WESTERN UNION.	ATL. AND PAC.	AMER. DIST.		GOLD AND STOCK.	
			Int.	Asked.	Int.	Asked.
30	75 3/4 ... 76 1/4	19 1/2 ... 20	..	.. 30	..	.. 70
Oct. 1	76 ... 76 3/4	19 1/2 ... 20	..	.. 29	..	.. 70
2	76 1/2 ... 76 3/4	19 1/2 ... 20	..	.. 30	..	.. 70
4	76 ... 76 1/2	18 1/2 ... 19 1/2	..	.. 30	..	.. 70
5	76 ... 76 1/2	17 1/2 ... 18	..	.. 30	..	.. 70
6	76 1/2 ... 76 3/4	18 ... 18 1/2	..	.. 30	..	.. 70

New Patents.

OFFICIAL COPIES of any U. S. Patent issued since July 1st, 1871, including drawings, specifications and claims in full, sent free to any address for 25 cents each. Address F. L. POPE, Elizabeth, N. J.

For the week ended Aug. 17, 1875, and bearing that date.

166,860.—CHEMICAL TELEGRAPHY.—Thomas A. Edison, Newark N. J., assignor to himself and George Harrington, Washington, D. C. [Filed July 25, 1874.]

Oxygen evolved at tin stylos forms protoxide of tin, which reduces the sesqui to a prout salt of iron, which combines with the ferrocyanide of potassium to form Prussian blue.

The combination of a sesqui salt of iron with the ferrocyanide of potassium, and a tin stylos, for the purpose set forth.

For week ending Aug. 31, 1875, and bearing that date.

167,162.—ELECTRO-THERAPEUTIC APPLIANCES.—Elizabeth J. French, Philadelphia, Pa. [Filed July 9, 1875.]

1. The galvanic element consisting of the triple strip A', formed of strips of zinc, copper and brass, substantially as and for the purpose set forth.

2. The triple-strip A', consisting of strips of zinc, copper and brass, combined at one end and formed into the shape of a horseshoe magnet at the other end, substantially as and for the purpose set forth.

3. The triple strip A, in combination with the eye E, substantially as and for the purpose set forth.

4. The triple strip A', consisting of strips of zinc, copper and brass, one of the strips being formed with the laps or folds a, holding or securing together all the strips, substantially as and for the purpose set forth.

167,173.—GALVANIC BATTERIES.—Edward A. Hill, Chicago, Ill. [Filed July 20, 1875.]

Prevents the flow of the sulphate of copper to the zinc by means of a tube and plate of lead suspended above the sulphate of copper. While finishing a plate upon which the copper will be deposited if the sulphate of copper solution rises too high, the tube and plate prevent also a convenient means for the introduction of the fresh sulphate of copper.

1. The device B, constructed of lead or other incorrodible metal, when supported above the bottom of the containing cell, substantially as and for the purpose herein specified.

2. The combination of the device B with the copper or — plate, having supports fixed or resting thereon, substantially as and for the purpose specified.

167,242.—AUTOMATIC TELEGRAPH APPARATUS.—Otto Heikel, Jersey City, N. J. [Filed June 5, 1875.]

1. The rollers 3 3 upon the wires 2 2, and within the grooved wheel or bar, in combination with the cord d and circuit closing mechanism, substantially as set forth.

2. The swinging circuit changer or needle e within the helix p, and the permanent magnets r and s, arranged as set forth, in combination with the bar x, that connects the said magnets r s and the helix w, surrounding such bar, as set forth.

3. The polarized roller l and ink roller z, operated by the magnets n n' and electric circuits, in combination with the blade m and rollers m', for moving a strip of paper in contact with such blade and contiguous to the ink roller, for the purposes set forth.

4. The combination, in a telegraph transmitting instrument, of movable circuit closing rollers or blocks, a key, a magneto-electric machine, and gearing connecting the parts, substantially as specified, for transmitting reverse currents alternately and at intervals, to form the message as set forth.

5. The combination of the globe k, the column h, and the valve n, surrounding said column between it and the globe, and constructed to permit the escape of the diluted air from the globe, and prevent the entrance of the external air, substantially as shown and described.

6. The combination of the thin sticks of carbon f, their enlarged ends d, the wires e, inserted in said enlarged ends, the flexible connections o, the insulating plate c, the plates r, screw pins p washers q, and nuts b, substantially as and for the purpose described.

7. The combination, with the series of carbon electrodes, and a flexible connection communicating with the electric conductors, and constructed to automatically pass the electric current from one carbon electrode to the other in case of the breakage of either, as set forth.

For the week ended Sept. 7, 1875, and bearing that date.

167,415.—LIGHTNING RODS.—H. W. Spang, Reading, Pa. [Filed Oct. 29, 1874.]

For the purpose of making good earth connection. The combination of pipe A with drain or gutter B and perforated pipe D, all electrically connected, and forming a lightning conductor, substantially as described.

167,510.—GALVANIC BATTERIES.—Benjamin F. Dawson, New York, N. Y. [Filed July 24, 1875.]

For the purpose of keeping fresh fluid in contact with the plates, and preventing the collection of effete matter.

The combination of the perforated positive plate A, negative plate B, and agitating device arranged between the same, substantially as described, whereby, when the agitator is operated, it will act to draw the fluid through and force it out of the perforations in the positive plate, as and for the purpose specified.

For the week ended Sept. 14, 1875, and bearing that date.

167,685.—ELECTRO-MAGNETIC TELEGRAPHS.—Jos. Olmsted, Providence, R. I., assignor of one half his right to Chas. G. McKnight and Geo. Chatterton, same place. [Filed May 15, 1875.]

The combination, with a telegraph line, of a commutator, charging the line with alternating currents, a pair or series of pairs of keys, and a pair or series of pairs of relays, one of the keys of a pair acting to cut off from the line the — currents only, the other to cut off the — currents, and one relay of each pair being arranged so as to vibrate by the passage there-through of + currents, and the other by the — currents, and both relays arranged to give a signal or close a local circuit upon the cutting off from the line of the currents affecting it, substantially as and for the purposes described.

Married.

ROSS—HUFF.—At Columbus, Ohio, at the residence of the bride's father, Tuesday, Sept. 21, 1875, by Rev. S. A. Keen, Mr. CHARLES W. ROSS, of the Western Union Telegraph office, to Miss CLARA HUFF.

New Motive Power.

It is announced in the newspapers that Chief Engineer Wood, of the Navy Department, has invented a new motive power, which he will exhibit at the Centennial. The power consists of carbonic acid gas, which is generated by means of electricity and galvanism. A caveat has already been filed. Meanwhile no application has been made for a patent for the Keely motor.

Are Beech Trees Lightning Proof?

It is a popular belief that lightning will not strike a beech tree. In a recent thunder shower at Goshen, Mass., a beech and maple standing near together, with branches interlocking each other, received the electric bolt, which shattered the maple and passed into the earth through a prostrate hemlock tree lying near, which was stripped of its bark nearly the whole length. No trace of the lightning was left upon the beech.

**DOMINION TELEGRAPH COMPANY.
TENDERS FOR WIRE.**

Sealed Tenders, addressed to the undersigned, and marked "Tenders for Wire," will be received until the 1st of December next, for a supply of Two Thousand Miles of No. 9 Birmingham Gauge, Best. Best Galvanized Patent Jointed Telegraph Wire, put up in half mile bundles, and delivered during the spring of 1876 at Halifax, Nova Scotia, St. John, New Brunswick, and Quebec, at the Company's option. Terms of payment to be specified in Tender.
The Company do not bind themselves to accept the lowest or any Tender. By order.

THOS. SWINYARD.

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DOMINION TELEGRAPH CO.,
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NO SULPHATE OF COPPER!
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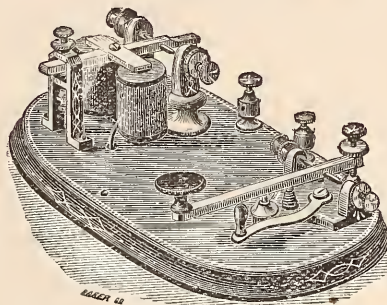
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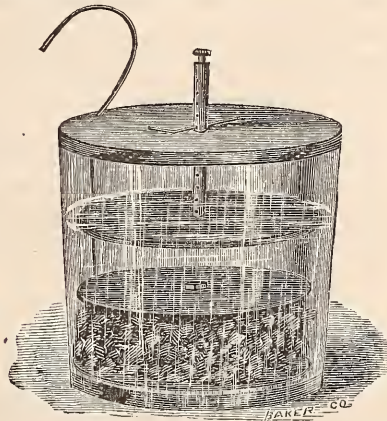
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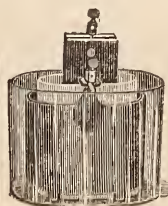
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NEW AND ENLARGED EDITION OF

**SMITH'S
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Complete Directions for Self-Instruction in Telegraphy,
Instructions for Building and Operating

SHORT LINES OF TELEGRAPH,

Diagrams showing the manner of connecting wires, batteries instruments, &c.

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Cuts, descriptions and prices of the

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SHORT LINE INSTRUMENTS;

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GAMEWELL & CO., Proprietors,
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THIS SYSTEM OF

FIRE ALARM & POLICE TELEGRAPH

WITH A CENTRAL OFFICE,

OR

UPON THE AUTOMATIC PLAN,

is now in operation in the following Cities, to which reference is
made for evidence of its great

SUPERIORITY, VALUE

AND

UNIFORM RELIABILITY.

Albany, N. Y.,
Alleghany, Pa.,
Boston, Mass.,
Bridgeport, Conn.,
Buffalo, N. Y.,
Baltimore, Md.,
Chicago, Ill.,
Cincinnati, Ohio,
Columbus, Ohio,
Cambridge, Mass.,
Charlestown, Mass.,
Chelsea, Mass.,
Covington, Ky.,
Detroit, Mich.,
Dayton, Ohio,
Elizabeth, N. J.,
Fall River, Mass.,
Fitchburg, Mass.,
Fond du Lac, Wis.,
Harrisburg, Penn.,
Hartford, Conn.,
Halifax, N. S.,
Hyde Park, Ill.,
Indianapolis, Ind.,
Jersey City, N. J.,
Kalamazoo, Mich.,
Lansingburg, N. Y.,
Louisville, Ky.,
Lowell, Mass.,
Lawrence, Mass.,
Lynn, Mass.,
Manchester, N. H.,
Mobile, Ala.,
Montreal, Canada,
Milwaukee, Wis.,
Minneapolis, Minn.,
New York City,

New Orleans, La.,
New Bedford, Mass.,
New Haven, Conn.,
Newark, N. J.,
Nashville, Tenn.,
Newton, Mass.,
Newport, Ky.,
Omaha, Neb.,
Philadelphia, Pa.,
Pittsburg, Pa.,
Portland, Maine,
Peoria, Ill.,
Providence, R. I.,
Portland, Oregon,
Paterson, N. J.,
Pawtucket, R. I.,
Quebec, L. C.,
Reading, Pa.,
Rochester, N. Y.,
Richmond, Va.,
St. Louis, Mo.,
St. John, N. B.,
St. Paul, Minn.,
Springfield, Mass.,
San Francisco, Cal.,
Savannah, Ga.,
Syracuse, N. Y.,
Somerville, Miss.,
Terre Haute, Ind.,
Troy, N. Y.,
Taunton, Mass.,
Toledo, Ohio,
Toronto, Canada,
West Roxbury, Mass.,
Washington, D. C.,
Worcester, Mass.

The Distinctive Features of these Systems of

Fire Alarm and Police Telegraphs

ARE,

First—The Automatic Repeater, through which the apparatus may be distributed in a combination of circuits, and the entire system successfully worked, without the constant personal attention of either operators or watchmen.

Second—The Automatic Signal Boxes.

Third—The Electro-Mechanical Bell Strikers, adapted to produce the full tone of the largest church or tower bells.

Fourth—The Electro-Mechanical Gong Striker, for hose and engine houses, by means of which the location of the fire is instantaneously communicated to the members of each fire company.

These Features combined form the

Only PERFECT, COMPLETE and RELIABLE System

OF

FIRE ALARM TELEGRAPH IN THE WORLD.

It is a sufficient vindication of the claims which are made by the Proprietors of these systems of

FIRE ALARM

AND

POLICE TELEGRAPHS,

that they have sustained the test of more than twenty years of practical use, and that the efforts which have been repeatedly made to supplant them by other inventions have

COMPLETELY FAILED;

the few instances in which municipalities have been induced to adopt other systems having demonstrated their insufficiency and unreliability, and resulted in their abandonment, and substitution thereof of the

AMERICAN FIRE ALARM TELEGRAPH.

Messrs. GAMEWELL & CO. are the owners of the original *FARMER & CHANNING PATENTS*, one of the most important of which has just been extended for seven years, and during the past seventeen years have spared no expense or effort to secure improvements, and the Systems are now covered by **MORE THAN TWENTY PATENTS.**

The most important improvement which the Proprietors have adopted and introduced is the

AUTOMATIC SYSTEM,

the introduction and operation of which involves so little expense, compared to the benefit which it confers, that even small communities can profitably adopt and maintain it.

The American System of

FIRE ALARM AND POLICE TELEGRAPHS

has met with the universal approbation and commendation of the

People, Municipal Authorities,

AND THE
PRESS

throughout the UNITED STATES and CANADA.

NO EFFORT, TROUBLE OR EXPENSE

is spared by the Proprietors to obtain and secure ANY POSSIBLE IMPROVEMENT which shall increase the

EFFICIENCY,
RELIABILITY and
ECONOMY

of the system. They intend that, as far as possible, it shall be

ABSOLUTELY PERFECT!

The amount of property which has been saved from destruction, and the number of lives which have been preserved through the general adoption of this system, throughout the UNITED STATES and the DOMINION OF CANADA,

CANNOT EASILY BE ESTIMATED,

but that, in every community where it has been introduced for any considerable length of time, they have been enormous, **THEIR CAN BE NO QUESTION.**

The cooperation of TELEGRAPHERS in securing its introduction into their localities is cordially invited, and their efforts will be duly appreciated and compensated.

Any information desired in regard to the above system will be cheerfully and promptly furnished upon application at the office.

A pamphlet, setting forth more fully its advantages and superiority, has been printed, and will be supplied to Municipal Authorities and others interested in Fire Alarm and Police Telegraphy, upon application as above.

CHARLES T. CHESTER,

104 Centre Street,

NEW YORK,

TELEGRAPH ENGINEER,

AND MANUFACTURER OF

INSTRUMENTS,
BATTERIES,

AND EVERY DESCRIPTION OF

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BUNNELL'S PATENT REPEATER.

These instruments are now made in two different styles, at \$120 and \$135 a set, consisting of two Relays, two Sounders, two Keys and Governor.

JONES' LOCK SWITCH-BOARD,

a most compact and reliable Switch, forming a clean spring-locked connection between any number of wires, occupying for each different connection only one square inch of space, and though made of the largest size, not subject to the warp and contraction of wood-work.

EXCLUSIVE AGENTS OF

A. G. DAY'S

KERITE,

OR

COMPOUND RUBBER COVERED WIRE.

SUBTERRANEAN & AERIAL WIRES,

OF THE

HIGHEST INSULATION.

We are now prepared to furnish, after an experience of three years, an insulated Wire which can be buried in the earth or exposed to rain and sun, or to the vapor of acids, without injury. Professor SILLIMAN, who has exposed it to the most destructive agencies, finds that it remains uninjured in an atmosphere of ozone, which would destroy gutta-percha in a few hours. It exceeds glass or any other known substance as a non-conductor.

We have made special arrangements to furnish this article for office purposes at a reduced rate.

ALSO, TO FURNISH

IRON CLAD CABLES

of the usual size, with KERITE COVER, believing that it will exceed, in insulation for submarine purposes, ANYTHING HITHERTO MANUFACTURED.

We shall be happy to furnish estimates for any amount and size of cable, which will be found to compete with any other construction, both in quality and price.

We manufacture the Genuine ELECTROPOION BATTERY, with Patent Platina Connection, introduced by us eight years since; also, THE ALPHABETICAL OR DIAL TELEGRAPH, now extensively used in this and other cities for private lines, being easily and quickly learned by any one.

We offer for sale, among other novelties, a SOUNDER that will work practically with a single DANIELL cell, a BATTERY that does not require to be taken down but once a year, and the very best MAIN LINE SOUNDERS made.

Our CATALOGUE, embracing a large amount of new matter and description, is now ready for distribution.

THE TELEGRAPHER

A JOURNAL OF
ELECTRICAL PROGRESS.

J. N. ASHLEY, PUBLISHER.

SATURDAY, OCTOBER 16, 1875.

VOL. XI. WHOLE No. 483.

Annual Report of the President of the Western Union Telegraph Company.

To the Stockholders of the Western Union Telegraph Company.

The following report of the operations of the company for the fiscal year ended June 30, 1875, is submitted pursuant to the requirements of the by-laws.

The gross receipts for the year from all sources, except proceeds of bonds, were \$9,564,574.60; the gross expenses were \$6,335,414.77; the difference \$3,229,159.83 being net profit. All sums paid as rental for leased lines are included in the gross expenses.

Compared with the preceding fiscal year, there was an increase in the gross receipts of \$301,920.62; a decrease in the expenses of \$420,319.06; and an increase in the net profit of \$722,239.68.

There were in operation at the end of the year 72,833 miles of line, 179,294 miles of wire, and 6,565 offices.

The number of messages transmitted during the year were 17,153,710—being an increase of 824,454 over the preceding year.

The capital stock of the company is \$41,073,410, of which the company owns, and now has in the treasury, \$7,285,935. The difference, \$33,787,475, is the amount of the capital stock outstanding, which has been increased \$1,800 during the year by the issue of 18 shares in exchange for the stock of companies leased to the Western Union, and which have small amounts of capital outstanding on which interest is paid as rental.

The bonded debt of the Company, July 1, 1874, was \$5,946,900, of which \$1,498,000 is the seven per cent. gold building bonds, and \$4,448,900, seven per cent. currency bonds, which mature November 1, 1875.

To provide for the redemption of the bonds falling due in November 1875, it was decided, in January last, to issue sterling bonds bearing six per cent. interest in gold, to an amount which would produce about \$5,000,000 in currency, and arrangements were made for the sale of these bonds at 95, which, it was confidently expected, would result in disposing of the entire loan in Europe. But after purchasing these bonds, amounting to \$1,001,160, the parties with whom the arrangement had been made, availed themselves of an option in the agreement to cancel it. Subsequently it was decided to offer the remainder of the issue in seven per cent. currency bonds at 95, and the whole amount was subscribed for within a few days. The entire issue of new bonds will amount to \$5,001,160, and the product to \$4,751,102 in currency, of which sum \$4,448,900 will be applied, so far as it has not been done already, to the redemption of the bonds, amounting to that sum, which mature November 1st next, and the balance, \$302,202, will go to income account to restore a portion of the disbursements on that account, for the new building, in excess of the loan. As the bonds maturing on the 1st of November are now in process of redemption, and the subscriptions to the new bonds are payable at the option of the subscriber at any time before November 1st, it is difficult to state the exact present condition of the bonded debt account. But when the pending transactions are completed, the whole bonded debt will stand as follows:

Seven per cent. gold (dollar) building bonds, due May 1, 1902.....	\$1,498,000 00
Six per cent. sterling bonds, due March 1, 1900.....	1,001,160 00
Seven per cent. currency bonds, due May 1, 1900.....	4,000,000 00
	\$6,499,360 00

Less amount of sinking fund held by the Union Trust Company, trustees.....	87,800 00
Total funded debt.....	\$6,411,360 00

The net profit of the year.....	\$3,229,159 83
has been applied as follows:	
For four quarterly dividends of 2 per cent. each on capital stock outstanding inclusive of that payable July 15, 1875.....	\$2,702,354 00
For interest on bonds.....	424,334 18
	3,126,688 18
Leaving a surplus for the year of.....	\$102,471 65

From which an additional appropriation of \$30,000 has been paid to the Union Trust Company as Trustees for account of the Sinking Fund.

The following statements show the profits and dis-

bursements of the Company for nine years, from the date of consolidation:

The surplus of Income Account July 1, 1866, was.....	\$275,357 24
The net profits for nine years, from July 1, 1866, to June 30, 1875, were.....	26,068,698 79
Making an aggregate, June 30, 1875, of.....	\$26,344,056 03
During which period there was disbursed:	
For dividends of stockholders (including dividend payable July 15, 1875).....	\$8,235,167 34
For interest on the Company's bonds.....	3,159,851 18

The balance.....	\$11,394,098 52
is represented as follows:	\$14,949,057 51
Construction of new lines, erection of additional wires, etc.....	\$5,973,143 45
Purchase of Telegraph lines and of the stock of companies controlled by the Western Union Co. on which interest or dividend are paid as rental.....	1,394,185 85
Western Union Stock (72,859 shares).....	4,054,483 07
Gold and Stock Telegraph Co.'s Stock (47,710 shares).....	1,173,509 00
International Ocean Telegraph Co.'s Stock (10,384 shares).....	961,556 42
Anglo-American Telegraph Company's Stock (£1,308).....	10,000 00
Central District and Printing Telegraph Co.'s Stock (200 shares).....	10,000 00
Western Electric Manufacturing Co.'s Stock (500 shares).....	39,000 00
Western Union Bonds (redeemed and cancelled).....	1,072,345 00
Sinking Fund—Broadway and Dey Street Mortgage Bonds (amount not yet used for redemption of bonds).....	87,800 00
Real Estate (New York City and elsewhere).....	\$2,544,887 75
Less amount provided from the proceeds of bonds.....	1,802,202 00
	742,685 75
Miscellaneous.....	90,348 94
	\$14,949,057 51

THE INTERNATIONAL OCEAN TELEGRAPH COMPANY.

The capital stock of this company is \$1,500,000, represented by 6,500 shares of preferred stock, entitled to dividends at the rate of 15 per cent. per annum, and 8,500 shares of common stock. The Western Union Company own \$499,900 of the preferred stock, and \$478,500 of the common stock. Total, \$978,400.

The I. O. T. Co. also has the following liabilities outstanding:

BONDS.	
Bonds of 1873, issued July 1st, 1873, 5 years, interest 7 per cent. gold, due semi-annually.....	\$184,000
Bonds of 1879, issued April 1st, 1869, interest 7 per cent. gold, payable November 1st and April 1st.....	73,900

SCRIP.	
No. 1. Scrip Dividend to Common Stockholders issued May 1st, 1869, interest 7 per cent. gold per annum, payable April 1st and October 1st, redeemable at thirty days' notice. (Notice issued August 27th).....	56,000
No. 2. Scrip Dividend to Common Stockholders, issued April 13, 1870, interest 7 per cent. currency, payable yearly, October 1st; redeemable October 1st, 1879.....	68,000

The operations of the I. O. T. Company for the year ended June 30, 1875, have been as follows:

Receipts.....	\$298,932 83
Ordinary expenses.....	\$81,918 07
Reconstruction of Cables.....	53,150 43
	135,068 50
Net profit.....	\$163,864 33

which has been appropriated as follows:

Balance of loan from Western Union Telegraph Co. repaid.....	\$50,000 00
Interest on debt.....	27,831 78
Bonds purchased for Sinking Fund.....	9,400 00
Construction of new lines.....	4,642 40
Concession for Cable from Cuba and Porto Rico to the Bahama and Bermuda Islands.....	1,000 00
Expenditure on steamship "Prof. Morse".....	7,019 76
Payments on account of new Cable between Key West and Punta Rasa.....	27,921 84
	127,815 78
	\$36,048 55

The balance, together with the surplus of the previous year, is on hand in the treasury of the company.

A portion of the surplus has been recently used to purchase and cancel the \$56,000 of gold interest-bearing scrip, and it is in contemplation to retire the currency scrip also.

In my last Annual Report reference was made to the possible necessity of putting down a new cable between Key West and Punta Rasa. That necessity became so pressing that in March last, at the request of the Directors of the I. O. T. Co., I proceeded to London mainly for the purpose of contracting for the construction and shipment of a new cable for that line, superior in quality to any that had been previously provided.

A satisfactory contract for the manufacture of the cable was made with the India Rubber, Gutta Percha and Telegraph Works Company of Silvertown, according to specifications prepared by Sir Samuel Canning, under whose supervision the work was carried on, and in June

last the completed cable was put on board the I. O. T. Co.'s steamer "Professor Morse," which had been ordered to London for the purpose of receiving it. The steamer sailed direct for Key West, but during her voyage the yellow fever broke out at that and other gulf ports, and, believing it unsafe to permit the vessel to go to Key West at that time, she was met on her arrival at the outer bar by an agent of the company, with instructions to proceed to Port Royal, where she remained until a few days ago.

The Punta Rasa cable, which had been interrupted several times during the summer, involving a considerable loss of revenue and extra expenses for temporary repairs, gave out entirely a few weeks ago, since when communication has been maintained by steamer. While this is being written, information has been received that the "Morse" has successfully laid the new cable, which is working perfectly, and that telegraphic communication with Key West and Havana has been restored.

A fault has been discovered in the cable of 1869 between Key West and Havana, and although the use of this cable is not required for the present volume of traffic, the new and better cable of 1873 being capable of passing double the present number of messages, the "Morse" will proceed at once to discover and repair the fault. When this has been done, the other cable between Key West and Punta Rasa will be repaired, and when this is done the company will then have two lines of cable from Punta Rasa to Havana.

Although the development of telegraphic business with Cuba has been greatly retarded by the condition of affairs on that island, the extension of the West India and Panama Company's cable system to a connection with the cables to Brazil, and the recent establishment of cables along the coast of Chili and Peru, is bringing a handsome increase of traffic to the I. O. T. Co.'s lines, and the prospects for the future are most encouraging.

MONEY TRANSFER SERVICE.

The number of telegraphic money orders received during the year was 34,853. The amount transferred thereby was \$1,963,247.06, and the revenue accruing to the company was \$87,219.40—being an increase over the revenue received during the preceding year of \$6,889.54, or about 8½ per cent.

The increase in the number of transfers was about 11 per cent., but the average amount transferred in each case was but \$56.33, against \$61.83 during the preceding year. For the first six months of the year the increase in revenue was only 6 per cent.; but during the six months ended June 30, the increase was about 12 per cent., and there are indications of a much larger growth during the present fiscal year, the returns for July showing an increase of 13 per cent., and for August, of 16 per cent. over the corresponding period of the preceding year. The receipt at a large number of offices of small sums aggregating about \$2,000,000, and the payment of the same at other offices, has been accomplished without the loss of a dollar.

GENERAL REVIEW.

The growth of the company's property and business during the nine years which have passed since the consolidation with the other principal telegraph lines, is shown by the following statistics:

From 1867 to 1875, the extent of line has increased from 46,270 to 72,833 miles, and the wires from 85,290 to 179,294 miles—being an increase of 57 per cent. of line, and 110 per cent. of wire. The number of offices and stations has increased from 2,565 to 6,565—equal to 156 per cent. During the same time the number of messages transmitted has increased 192 per cent., the rate of tolls has decreased 51 per cent., and the gross receipts have increased 46 per cent. The average cost per message, during the same time, has been reduced from 67 to 37 cents, or about 45 per cent. The increase of 192 per cent. in the number of messages transmitted annually, while the mileage of wire has increased but 110 per cent., is explained by the fact that the number of messages transmitted per mile of wire has been increased 41 per cent.

The ability to make so large an increase in the carrying capacity of the wires, is due in part to improvement in their conductivity and insulation, and in part to the introduction of the duplex and quadruplex apparatus, by means of which one wire is made to do the ordinary work of two, three, or four wires. By means of this apparatus, during the past year, the company has had the use of more than 30,000 miles of what may be called "phantom wire," which has cost nothing to provide, repair and maintain, except the cost of the new apparatus, which is but little more expensive than that in general use, and is adapted to all the ordinary requirements.

THE TARIFF OF MESSAGE RATES.

No general change has been made in message rates during the year. In February last, pursuant to previous public announcement, the rates on the lines of the Atlantic and Pacific Telegraph Company between Boston,

Albany and Washington, and intermediate stations, were reduced to a uniform rate of twenty-five cents. A corresponding reduction was made by this company, which took effect on the same day. The reduced rates, after having been in operation about six months, were abandoned by an arrangement between the companies, and the former rates restored.

The fact that at the end of nine years, during which time the number of messages has increased 192 per cent., and the average cost per message has been reduced 45 per cent., it now costs this company an average of 37 cents per message for more than 17,000,000 messages, must be accepted as conclusive proof that a company possessing small facilities compared with ours cannot realize profit from transmitting messages at the rate of twenty-five cents each. It undoubtedly proves more than this—in view of the further fact that the cost to this company during the past year for operators and messengers' wages was an average of twenty-one cents per message, and the repair and maintenance of lines cost five cents per message—and that is, that the Western Union Company derives no profit from the transmission of messages at the rate of twenty-five cents, even within the short distance of twenty-five miles, which is the limit of that rate.

Previous to 1869 but little effort had been made to introduce order and system into the rates charged for messages. In October of that year a system was inaugurated for the computation of rates by air-line distances. But these rates were different for like distances in different sections of the country.

In May, 1871, all charges above \$5.00 were discontinued, and that sum was made the maximum rate for the greatest distances. Although some of the rates previously in force were as high as \$10 per message, and the average rate between the Atlantic and Pacific coasts was over \$6.00, the reduction of the maximum rate to \$5.00 was not followed by any apparent loss of revenue. On the contrary, it was evident that the increase in the number of messages more than made up for the reduction in rates. But whether this increase resulted more from the reduction than from the natural tendency of the business to increase, cannot be positively stated. Subsequent investigation developed the fact that about 90 per cent. of the revenue from messages was derived from rates not exceeding \$2.50 per message, and in February, 1873, the maximum rate was reduced from \$5.00 to \$2.50. On July 1, 1873, the rates were still further reduced, and the tariff system simplified by making the rate uniform for like distances in all sections of the country, and by reducing the number of rates to ten (25, 30, 40, 50, 75, \$1.00, 1.25, 1.50, 2.00, 2.50).

The reductions in message rates made by this company during the past nine years have been greater in the aggregate than have ever been made upon the entire traffic of any other telegraph system, private or governmental, in the same period of time.

When, nearly six years ago, the British Government acquired possession of the telegraphs, a uniform rate of one shilling sterling was established. This was equivalent to an average reduction of about thirty-three per cent. of the rate previously in force, and the present rate is not materially less for like average distances than the rate now charged by this company.

Under the energetic management of Frank Ives Scudamore, Esq., C. B., extensive additions were made to the British telegraph lines, the most approved apparatus was introduced, and every department of the service was increased in efficiency. The result has been an enormous increase in the number of messages and a corresponding increase of revenue. But the expenses have increased in a still greater ratio, so that at the end of the last fiscal year, March 31, 1875, the deficiency in the sum required for the expenses of the year, including interest at the rate of three per cent. per annum upon the capital, was more than one million dollars.

The following table is taken from the report of a Special Commission appointed by the British Treasury to investigate the Postal Telegraph accounts, dated July 17, 1875:

Year ended—	Number of Messages.	Surplus of Income over Working Expenses.
March 31, 1871.....	9,850,177	£ 303,456 13 5
" 1872.....	12,473,796	159,834 12 8½
" 1873.....	15,535,780	103,120 2 8¾
" 1874.....	17,821,530	90,083 6 11¾
" 1875.....	19,253,120	36,725 0 0

As much stress has been laid upon the fact that the English rate is for a message of twenty words, instead of ten, as in this country (date, address and signature are sent free in both countries), it is proper to take notice of it in this connection. It appears, however, from the official report from which the above exhibit is taken, that, although the British public have the privilege of sending twenty words, this privilege is only par-

tially availed of, for, in an aggregate of more than eighteen millions of messages per annum, the average number of words per message was but seventeen. The inference is plain—that if the inducement to send so many words without extra charge had not been presented to every customer, by the twenty vacant spaces on the blank form on which every message was required to be written, the average number of words per message sent would have fallen below seventeen.

The result of Governmental operation of the telegraph in England does not differ essentially in results from Governmental management of other kinds of business, as compared with private; Governmental management of telegraphs, railways, canals, ship building, manufacturing and other kinds of business, is invariably more expensive and rarely more satisfactory in any respect.

THE ATLANTIC CABLES.

During the year covered by this report, the United States Direct Cable Company has continued its efforts to establish telegraphic communication by an independent line between Great Britain and the United States, and although these efforts were not successful until after the close of the fiscal year, the completion of the new line had been accomplished before the preparation of this report commenced.

In May last the Anglo-American Telegraph Company, owning three cables between Valencia, Ireland, and Sidney, N. S., via Newfoundland, and one between Falmouth, England, via Brest, France, and the Island of St. Pierre and Duxbury, Mass., reduced the rate for transatlantic messages from four shillings to two shillings sterling per word. When the United States Direct Company's cable was opened for business in September last, the rate was fixed by both companies at one shilling (twenty-five cents coin) per word.

During the period of about four months, while the two shilling rate was in force, the number of cable messages increased about thirty-five per cent. over the number transmitted during the corresponding period of the preceding year. The shilling rate had been in operation less than a month when the new cable failed; thereupon the Anglo-American Company restored the four shilling rate, in force prior to the reduction which it had made in May last.

Although, by the terms of a contract entered into five years ago, the cables of the Anglo-American Company connect exclusively with the lines of the Western Union Company, the latter has no voice in deciding what the rates for transatlantic messages shall be. This company receives a portion of the tolls on cable messages between New York and European stations, which tolls are fixed by the Anglo-American Company.

As the Western Union Company has been severely censured on account of the advance in cable rates, justice seems to require this statement of the facts. This company has no more power to fix the rate for a cable message to Europe than we have to fix the rate for passage by steamer across the Atlantic. It is proper to add, however, that, on receipt of notice of the intention to advance the rate from one shilling to four shillings per word, an earnest request was sent to the Manager of the Anglo Company in London to have their action reconsidered, and the rate fixed at two shillings a word. Our request was declined on the ground that the revenue at the reduced rates had proved entirely inadequate to insure the permanent maintenance of the cables and the expense of operating them, and afford the proprietors any return upon their investment.

IMPROVED APPARATUS.

It has been known for years all over the world that signals could be transmitted through a wire much more rapidly by machinery than by hand, but the attempt to utilize this fact by the substitution of machinery in the transmission of messages, for the key in the hand of the operator, has never been successful, for the reason that the process is not economical either in respect to time or labor. A single message can be transmitted and copied in less time by the hand (Morse) process than by any other (except by the printing telegraph, which, for well understood reasons, is not adapted to general use). What the public requires is that each message shall have immediate despatch, and they have no other interest in knowing that, by waiting a while, the mere act of transmitting the signals which represent their messages can be performed by a beautiful process at an extraordinary rate of speed, except to know what to avoid.

The transmission and copying of a message at the other end of the circuit by the hand (Morse) process are simultaneous acts, both of which can be accomplished in as short time as a message can be prepared for transmission by the so-called automatic process, and both of which can be performed in less time than a message can be translated after it has been transmitted by the automatic process. So that, when the admirers of this mode have proved conclusively that the act of transmission by their process takes no time at all, they prove too much, because even then the time during which a message must inevitably remain in their hands is twice as

long as is necessary with the other process. We have, therefore, declined to introduce processes, whatever their advantages otherwise might be, the substitution of which for those we now use would inevitably increase the time required for the delivery of a message at its destination.

The duplex and quadruplex apparatus, of which previous mention has been made herein, are fully realizing the expectations formed a year ago and set forth in my last annual report.

As the assertion has been frequently published that this company does not control the patents for the quadruplex apparatus, it is proper to state here that the process known by that name was developed by Thomas A. Edison, assisted by George B. Prescott, the electrician of the company, while Edison was fulfilling an agreement made with me to perfect improvements upon the Stearns duplex apparatus owned by this company; and that subsequently a written contract for the sale of the quadruplex patents to this company was executed by both inventors, and the sum of ten thousand dollars paid thereon.

It is true that, in face of these facts, one of the parties deliberately undertook to deprive the company of that which he had sold to it, by giving subsequently a pretended title to another party; but the right of this company to own and control exclusively that which it has purchased in good faith and partly paid for, will not, we think, be seriously disputed to the extent of a legal trial.

On account of the conflicting claims which have been set up, no patents covering the quadruplex apparatus have yet been issued in this country; but it is believed that such issue must take place during the coming season, and the control by this company of the quadruplex method be thereby made complete. Careful attention is constantly being given to the subject of improvement in telegraphic modes and apparatus, and neither pains nor expense will be spared to secure for the company the use of whatever will tend to promote the efficiency of the service.

Respectfully submitted,
WILLIAM ORTON, President.

Correspondence.

We do not hold ourselves responsible for the opinions of our Correspondents. Our columns are open to free discussions on all Telegraphic subjects, without distinction of person or opinion.

No notice will be taken of anonymous communications.

Destruction of the Virginia, Nev., W. U. Office.—Personals.—Bulls.

SAN FRANCISCO, CAL., Sept. 27.

TO THE EDITOR OF THE TELEGRAPHER.

ON the morning of Sept. 3d a fire at Virginia City, Nev., destroyed the Odd Fellows' building, a portion of which was occupied by the Western Union Telegraph Office, interrupting all eastern wires for several hours. Virginia being a repeating point, and as no suitable location could be procured for an office, the operators were transferred to Reno, where the repeating was formerly done; Geo. Senf, manager, Davy Crawford and McPhee remaining at Virginia to look after the business of that office, which was soon reopened in the Douglas building on C street. The operating room is on the third floor, and the receiving department on the first floor, business being carried back and forth between the two rooms by messengers. The Company loses about \$2,000 by the fire. All the repeaters and duplex instruments having been destroyed, necessitated the relaying of all eastern business at Reno for two or three days, until instruments could be forwarded from this city.

During the recent panic business was very heavy on all the lines, especially the Overland—eight hundred messages having been sent and received in one day on that wire. The election, coming as it did right on the heels of the panic, made it very lively for the boys (and girls), and, as we are not used to hard work out here, was not very highly appreciated.

I neglected in my last to mention the appointment of Mr. Len. W. Storrer as cashier W. U. Telegraph office, vice H. C. Lee, resigned; a deserved promotion, Len. having worked long and faithfully for the company. Mr. F. Drake takes Mr. Storrer's former position as secretary to Genl. Supt. James Gamble. Mr. C. B. Lamb, formerly of Cincinnati, has accepted a situation in the W. U. office, and it is understood he is to be appointed night chief operator about October first, Mr. A. Venton returning to his old place on the day force. Mr. M. S. Bacon is working for the A. & P. at Winnemucca, Nevada. Harry M. Bennett, one of the boys who struck the bonanza last winter, and let it go again, is also working in the same office. The irrepressible Ned Pierson is working for the A. & P. at Ogden, and sends the night report way through to Los Angeles in his usual inimitable style. On the first of October *The Telegraph*, a local paper, prin-

cipally devoted to the interest of the American District Telegraph Co., will make its first appearance. It will be under the management of, and edited by Mr. B. R. Bates, manager W. U. Telegraph office, Oakland, Cal.

The Electrical Construction and Maintenance Co. have a fine assortment of telegraphic and other electrical instruments on exhibition at the Mechanics' Fair now being held in this city. The W. U. have opened a branch office in the Pavilion, Miss Eliza Brodie being in charge, and the way she gets after the "S. F." operators for not answering up promptly is a caution.

Salaries are on the decline in California, the supply of operators being greatly in excess of the demand; \$110 being now the standard in the W. U. office, instead of \$120 as formerly; the last of the \$120 men being reduced on the first of September. You have our sympathy, "Stanley," and we think it's a "very small salary for a very large family."

Your correspondent, "Ben Broese," has a very exciting story in THE TELEGRAPHER of September 11th. Any one who has read it will see at once that "Ben" has travelled. For instance, he says, "The track was only visible for about a dozen rods, and was then lost from view in a dense forest." Now this is very rich, and can be appreciated by any one who has ever crossed the plains. Now, "Ben" give us a rest on the dime novel romances, and take that great and good man's advice, and "Go West" before attempting any more of the same sort.

Here are the very latest from the W. U.: Col. U. S. A. Co. Bank, for Coluso Co. Bank, and E. C. Lipsie, Windmill Co., which needs no explanation; and coming as it does so soon after the E. C. Tipz, Windmill Co. of Chicago notoriety, which appeared in THE TELEGRAPHER, is a terrible warning to all the boys to subscribe for our paper and keep posted.

ROMEIO.

The Chicago Western Union Office Management.—The Other Side of the Story.

CHICAGO, ILL., Oct. 6.

TO THE EDITOR OF THE TELEGRAPHER.

"THERE is always two sides to a story." For some time past your paper has contained communications from several correspondents (purporting to represent the majority of the telegraph fraternity here who labor for the Western Union Company), who have endeavored to make it appear that widespread dissatisfaction exists with the new management of the Western Union office. Such is not the case, and from personal knowledge and intimate relations, coupled with numerous conversations with at least nine tenths of the employés here, I am prepared to say that the fraternity hailed with delight the change, as from *serfdom* to manhood, at the time it took place, and have had no cause to regret it. Because the old management was never attacked, you must not suppose that everything was pleasant for the employés under the old regime. Men were called up at that time and reprimanded for the slightest offences, not in well chosen words by those in charge, but *with oaths!* It was a difficult matter to get permission to hire a substitute on any occasion then unless "you were in the ring." I distinctly remember the case of a young man who wanted to accompany his cousin (a little girl too young to travel alone) to her dying mother, and presented a substitute in every way qualified to do his work, who, even after explaining the urgency of the case, was refused permission to leave, and had to appeal to the Superintendent of the District for relief.

A certain set of men could always get relief without substitutes even, and not only have their regular time go on but their extra also. The majority of the employés under the management then were treated more like dogs, or mere machines, than like human beings. Now the change from that management to the present was like that of Egyptian night to noonday's sun, and the only ones who find fault with the present management are a few sore heads, who either belong to "the old ring" or their allies, which are very few in number.

No doubt your readers will say, Why this tirade upon the old management now? Why was the matter not ventilated then? Because, first, a change was expected soon by those who were willing to expose such things, and again, because the majority were afraid to do anything of the kind. The nearest any correspondent came to attempting it being "Occasional," in his communication entitled, "Are Rules made for the Observance of all Employés, or only for those beneath a certain rank?" There is no such petty tyranny existing as your correspondents, "Harkaway" and "Beeswax," would have your readers believe; and you cannot find a single operator in this Western Union office who can truthfully say that they are treated as they were by the former management. It is necessary to make these comparisons to inform your readers just how we were treated previously; and show also that some men really don't know when they are well treated. The rigor and severity with which we were previously treated was such that it

created a feeling of downright insubordination, and, as soon as the new management was inaugurated, like a lot of school children, we all tried to see how far we could go without being punished. The result was that we had to be reminded of our duties, and it was done without oaths or insult. There are a set of men in every large office like this that always know more than their superiors. When a new order is promulgated they read and study it, not to learn and obey, but to find fault with it, and those who were obliged, in obedience to their superiors' orders, to have it posted up. They try to ridicule the grammatical construction; they mark the large words, "one word;" talk boldly of what they would do if they were managers, etc.

Such men will shirk work and stoop to little tricks, inside as well as outside the office, which should make any honest man blush. It is just on account of such men that orders have to be originated, and those of us who do engage with the company to earn our bread and butter honestly, have to obey rules that were never made on our account, just because we are associated in business with such fellows. What is the duty now of order-loving, law-abiding men in such a case? Would it not be far better to seek to elevate those who cause such orders to be originated, so that there would be no necessity for them, than to join the mob and cry, down the management?

Let us look at these orders that seem to be troubling "Harkaway." The "perfect labyrinth of doings," as far as concerns the new manager's orders, or those posted since his advent, are nine in number:

- 1st. Regarding copying through messages on city blanks.
 - 2d. Sending business direct on certain lines.
 - 3d. Specials received at a repeating office for Chicago must be taken by Chicago office regardless of the time of day it is offered by the repeating office.
 - 4th. B. C. & U. report received after 30 must be manifolded and sent to the different papers.
 - 5th. Figures in R. R. messages of which no account is kept need not be written out.
 - 6th. Operators must keep in hearing of their instruments.
 - 7th. Instead of copying a cable when repeated back, underscore the words carefully and put the time on the back.
 - 8th. Seven hours to constitute a night's work hereafter; and,
 - 9th. Operators cannot be seen during business hours, except in urgent cases, by permission from the Superintendent's office.
- No. 2 don't concern operators at all. All the other orders on the bulletin board were there before, and have simply been taken down, condensed, and printed over with the type-writer, with the new manager's name attached.
- Orders are never promulgated unless there is a necessity for them. No. 7 has lessened the operators' work on a repeated cable, from having to write out every word on a separate sheet and keep his eye on the original at the same time, to that of underscoring the words and timing it on the back.

There are not half a dozen night men who did not hail with delight the posting of order I call the 8th, and they haven't changed their mind—several day men have changed off with night men. I have made two hours extra when third from last on nights when there was no stick at all. No. 9 is signed by Col. Wilson, District Superintendent, and the new management cannot properly be blamed for that. I fail to see "the system that falls but little short of slavery inaugurated by the new management."

After cause for the dissatisfaction mentioned in the latter part of "Harkaway's" first letter was removed, he then makes that fact the basis of his remarks for his next letter, seemingly not willing to be satisfied with anything. The night men now get paid for *forty-nine* hours' work during the week, the same that the day men have to work *fifty-seven* hours for! This concession being made them on account of having to perform service after night, and every night, while the day men perform theirs in six days in daylight. In view of that fact "Harkaway" would have your readers think that we are ungrateful enough to be dissatisfied, and ask pay for the Sunday night we get off when we don't work. I suppose he would "kick" if he was obliged to come around every Sunday and get off soon as we could be spared, as was the case a few years ago, and want pay for the whole night or seven hours. "What's the sauce for the goose is sauce for the gander." If the company will pay us extra when we get stuck, we have no right to expect them to pay us when we don't work, or by courtesy are given a night off for rest and recreation, whether it is Sunday or not. There is no justice in asking such a concession. The Morse register was not set up as a part of the system of espionage, as he would have us suppose, but merely for the purpose of ascertaining how the fast writing of today carried and printed on a register, as compared with the old fashioned heavy writing that was in vogue in the

days of registers and paper operators. Every operator of experience is aware that no fast writing, although easy to read and copy by sound, no matter how perfect the characters, will copy perfect on a Morse register. It was never designed for such work, and the only way it can be made to copy such writing, so as to be read at all, is to assist the action of the register by hurrying the paper through at a faster rate than the momentum of the weight and machinery would carry it of its own accord.

It would have been much better to have waited until some chief did try his writing, and request him to "space his letters more," etc., etc., and then record it as a matter of fact, than to surmise that such would be the case.

His concluding paragraph savors so much of prejudice that it needs but a passing glance to understand the motive that prompted its inception. "Beeswax's" communication is rather a rehash of "Harkaway's," and looks as if the same author had a hand in its make up; but if he really don't know that managers only carry out the orders of their superiors, he should be informed that it is not necessary for them to have "temerity" enough to read them over when they come into the operating room, as they know their contents before the operators know of their existence. In conclusion, I don't believe the facts exist to warrant such a sweeping denunciation of the whole management of this office, as has been made by these correspondents. There may be individual cases where operators have had differences with the chiefs or assistants, that in some cases amounted to a suspension for the time being of the operator, but such differences so far have been adjusted without, in a single instance to my knowledge, the operator having to lower himself in any degree from the standard of manhood.

FAIR PLAY.

The Official Journal Criticised.

MITCHELL, IOWA, Oct. 9.

TO THE EDITOR OF THE TELEGRAPHER.

In the *Journal of the Telegraph*, Sept. 15th, is described a duplex system, in which occurs: "Now instead of of the wire *a*, if a second battery of 100 cells is connected between the point *a* and the ground, with its positive pole likewise to the line, its current will exactly neutralize that of the battery *E*" (of same number cells, "in the short circuit, etc.") Now how is it that only about one year ago, in a somewhat similar arrangement, the relay received the full force of the second battery in the short circuit, according to the *Journal*, while we are now told by the same authority that "this circuit may be neutralized as in the former case," etc., and that "precisely the same result will follow as in the first instance" (first above quoted), "there will be no current whatever in the wire *b*, and a relay inserted in it would remain entirely unaffected," etc.? I have the temerity to believe that, arranged as the *Journal* describes it, a current will flow to the point *a* from the second battery in the first instance; and in the second case *too*, currents of equal effect upon relay, flow through wire between *b* and earth in *opposite* directions, and therefore do not move relay armature; but I do not have the presumption to say the system lately described is "totally unoperative," simply because I differ with some of the theories advanced in its description.

S. J. M. BEAR.

Personals.

Mr. WILL B. RICE, chief operator of the O. & C. R. R., Albany, Oregon, wishes to be informed through the columns of THE TELEGRAPHER of the present address of Mr. Charles Utley, who two years ago was operator at St. Mary's, on the P. & E. R. R.

Mr. ROBERT LIVINGSTON has resigned his position in the Kansas City, Mo., Western Union office, and is visiting at Cherry Valley, N. Y.

Mr. CHARLES H. PATCH, who recently accepted a position with the Western Union Co. at Kansas City, Mo., has resigned on account of ill health, and returned to Des Moines, Iowa.

Mr. C. D. HAY, late of Austin, Texas, has accepted a position on the night force of the St. Louis, Mo., Western Union office.

Mr. R. J. NICOD, of the St. Louis, Mo., Western Union office, has resigned, and returns to Milwaukee, Wis.

Mr. GEORGE MILLER, late of Omaha, Neb., has been appointed extra operator on the St. Louis, Iron Mountain and Southern R. R., St. Louis, Mo.

Mr. W. B. JONES, late of the H. & St. Jos. R. R. office at Palmyra, Mo., has accepted a position with the Western Union Company at Quincy, Ill.

THE TELEGRAPHER

DEVOTED TO THE INTERESTS OF THE TELEGRAPHIC FRATERNITY.

SATURDAY, OCTOBER 16, 1875.

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A Special Premium for Subscribers to "The Telegrapher."

THE summer season is about over, and we expect that the friends of THE TELEGRAPHER will now renew their efforts to increase its list of subscribers.

It has been our custom for years past to share with those who kindly interest themselves in obtaining subscriptions by offering valuable premiums.

We propose this season to excel our former liberality in this direction. We desire to offer something of real and permanent value. We have accordingly made arrangements by which we are enabled to offer to the person obtaining 60 subscribers for one year, at the regular subscription price, \$2 per year, or their equivalent in shorter subscriptions, a

No. 1 WEED SEWING MACHINE; for 65 subscribers a

No. 2 WEED SEWING MACHINE, and for 70 subscribers a

No. 3 WEED SEWING MACHINE.

The price of these machines is respectively \$60, \$65 and \$70.

The machines will be boxed and shipped without extra charge.

This affords an excellent opportunity for female telegraphers, or for telegraphers who have wives or relatives that need these exceedingly useful machines, which are in every respect first class, to obtain them at comparatively little trouble or expense.

Send in subscriptions as obtained, and they will be credited until the necessary number to entitle the sender to the desired premium is obtained.

To prevent disappointment, should any canvasser eventually fail to obtain the requisite number for a machine, they will be allowed other premiums proportionate with the amount collected, or, if preferred, 20 per cent. in cash on such amount. To whom shall we send the first machine?

Atlantic Cable Tariffs.—Why the Recent Advance was Unavoidable.

In writing last week of the recent advance of the Atlantic Cable tariff from one shilling to four shillings per word, we spoke of the reduction to one shilling as too radical to prove profitable. We felt it to be our duty to say what we did in reply to the indignant comments of many newspapers upon this action of the Anglo-American Company, and the denunciations of that company as unscrupulous monopolists, who eagerly embraced the opportunity afforded by a temporary suspension of competition to practice an unjustifiable imposition upon the public.

We are not the special advocates or defenders of the Anglo-American Company, or in fact of any other telegraph company—THE TELEGRAPHER occupying an entirely independent position, and favoring telegraphic competition, whether in land or ocean telegraphs. It is, however, absurd and unjust that any telegraph company should be required or expected to engage permanently in the business at unremunerative rates. Telegraphy, like other business, is entered into to make money, and if this cannot be done at one rate or price, it is inevitable that that it shall be increased sooner or later.

It should be borne in mind, also, that there is very little analogy or comparison between cable and land lines, as regards their respective cost or tariffs. If, for instance, a line is constructed between two points on land, the cost of construction will include the price of poles and wire. If in process of time another line is required to accommodate an increase of business, it can be put upon the same poles at a comparatively small additional expense, and so on for a considerable number of wires. The original cost of such a line is small compared to the expense of manufacturing and laying a cable, and the amount of business which can be transmitted over it, even with the ordinary apparatus, is from four to six times that which can be sent over a long ocean telegraph cable.

An automatic telegraph cable, which accommodates but one wire, laid and in working order, costs from five millions to seven millions of dollars. If the business increases beyond the capacity of the single wire, a new cable must be laid, at very nearly if not quite as great a cost as the first, and so on indefinitely as the business is developed. In the matter of maintenance, also, the same disparity is realized. If a land line is broken it can be speedily repaired at a comparatively small expense. If a cable is broken, or interrupted from any cause, it can only be repaired at a large expense, and after a suspension of its use for weeks and sometimes months—and a steamer fitted up with costly appliances has to be employed for its recovery and repair. It will thus be understood that very low cable tariffs, such as were temporarily established as an experiment, are impracticable unless the stockholders are prepared with a self-sacrificing spirit, which is not to be expected, to defray a portion of the expenses of the business out of their own pockets.

Another factor enters into this calculation, which should not be lost sight of, and that is, the perishable and uncertain character of cable telegraph property. From the very nature of such property, sunk, as it is, in the bottom of the ocean, and recoverable and repairable only at large expense, a considerable reserve must be provided for maintenance and depreciation. The Anglo-American Company has four live cables, besides one which has been broken for a long time—but which it is hoped may ultimately be recovered—and the 1858 cable, which has been definitely abandoned. These cables more than suffice for the business offering, and conse-

quently, even if one or two of them are temporarily interrupted, the public generally hear nothing about it. The Direct Cable Company having but one cable, when that was broken, was obliged to suspend business and notify the public of the misfortune. One or more of the Anglo-American cables are interrupted every year, and the company is compelled to keep repair steamers in constant readiness to recover and repair the broken cables; and this is a large item in its annual budget of expenses.

It has also been thoroughly demonstrated that very low rates for cable messages does not develop the business as rapidly as upon internal lines. Sir JAMES ANDERSON, two or three years ago, prepared tables, which were reprinted in THE TELEGRAPHER at the time, showing the different rates of tariff which had been established on the principal cable telegraph lines and their result, which proved that very low rates for such business were impracticable, if it was to be remunerative, and also that the increase of cable messages from a reduction of tariff was not commensurate with such reduction. The recent experience of the Anglo-American Company has further demonstrated the correctness of Sir JAMES ANDERSON'S tables and conclusions. Some figures in this connection will be found instructive and interesting. The accounts of the Anglo-American Company show that the daily average of traffic receipts for the last week of the two shilling tariff was £1,233.

For the last seven days of the one shilling tariff, in competition with the Direct Cable, £754.

For the six days after the competing cable was broken, when it had the entire business between Europe and America, £978.

For the first week after the return to the four shilling tariff, £2,234.

The increase of messages upon the reduction from four to two shillings was 35 per cent.; and upon the further reduction to one shilling 49 per cent. over the four shilling rate.

These figures are suggestive, and for practical value are worth more than columns of vituperation and denunciation of alleged monopolies.

Cable telegraph business should pay, in addition to operating expenses, 10 per cent., as a reserve fund for maintenance and depreciation; and in view of the uncertain and perishable nature of the property, 10 per cent. dividends to the shareholders cannot be regarded as more than reasonable. As a matter of fact, the Anglo-American paid but 5 per cent. dividends last year without competition, and its prospects are certainly not improved for the present year. It has sunk a half million of dollars at least in its experiments with reduced tariffs, and it has competition with the Direct Cable to encounter, although for the present temporarily suspended through the misfortune of the Direct United States Cable Company.

A consideration of the facts above stated will show the unreasonable character of the assaults which have been made upon the management of the Anglo-American Company for the recent advance of its rates, and the impracticability of profitable maintenance of the reduced rates. Whether the present tariff is as low as can be profitably maintained we are not prepared to say, but that the permanent maintenance of the one shilling rate would prove unprofitable and ruinous to both companies we have always felt assured.

We hope that the Direct Cable will soon be in working order again, and the public have the benefit of reasonable competition, and such a tariff as experience has shown to be just and equitable to the investors in ocean telegraph property and the public.

The Western Electric Manufacturing Co.'s New Advertisement.

In our advertising columns will be found a new advertisement of the Western Electric Manufacturing Company, to which we call attention with much pleasure.

This Company has acquired a prominence in the manufacture of electrical and telegraphic apparatus of every description in the West, by the excellence of its work and the extent and completeness of its manufactory and

machinery. It is probably the largest manufacturing company in this specialty in the country, and its works are excelled only by the shop of the Western Union Telegraph Company in this city. Those who are in want of any description of electrical or telegraphic apparatus or supplies will do well to send for their new catalogue and price list.

The Western Union Annual Report.

We print this week, in full, the Annual Report of President ORTON to the stockholders of the Western Union Telegraph Company, submitted to them at the meeting held on Wednesday, the 13th inst., for the election of directors for the ensuing year.

This is one of the most important and interesting telegraphic documents of the year, and our readers will require no excuse from us for occupying so much of the present issue of THE TELEGRAPHER in presenting it to them promptly. We have not space to comment upon or review the report this week, but shall probably have something to say about it in our next issue. In the meantime the statements, suggestions and arguments contained in the report are worthy of careful consideration from all who are interested in telegraphy either as stockholders, employés or patrons.

In consequence of so much of our space being occupied by Mr. ORTON'S report, we are compelled to omit several columns of correspondence, besides other interesting matter intended for publication this week. We will give place to the favors of our correspondents and contributors as speedily as possible, and in the meantime they must exercise patience, as we are obliged to do in regard to our own matter, which is unavoidably postponed.

The Telegraph.

Annual Meeting of the Western Union Telegraph Company.

The annual meeting of the Western Union Telegraph Company was held at noon on Wednesday last, the 13th inst., at the Executive office of the Company in this city, the President, Mr. ORTON, presiding. The report of the President, which will be found in full elsewhere was read and received, and ordered to be printed.

The Board of Directors for the ensuing year was elected without opposition, as follows: (\$25,800,000 of the stock of the company being polled:)

Messrs. William Orton, James H. Banker, Alonzo B. Cornell, Harrison Durkee, Norvin Green, Joseph Harker, Edwin D. Morgan, Augustus Schell, W. R. Thorn, C. Vanderbilt, Frank Work, Chester W. Chapin, Wilson G. Hunt, David Jones, C. Livingston, James Milliken, Levi P. Morton, John Duff, O. H. Palmer, Geo. M. Pullman, E. S. Sanford, John Steward, Moses Taylor, Daniel Torrance, W. H. Vanderbilt, W. B. Vermilye, E. S. Wesley, D. O. Mills, E. D. Worcester.

Inspectors of Election.—Geo. B. Prescott, Leonard Cox, Wm. Arnoux.

The American District Telegraph Company.

The annual meeting of the American District Telegraph Company was held at the executive office of the company, No. 62 Broadway, on Tuesday, the 12th inst. Forty-two thousand and eighty-eight shares were voted on, and the following gentlemen elected directors for the ensuing year: Messrs. E. W. Andrews, A. B. Cornell, Townsend Cox, A. W. Greenleaf, John N. Gamewell, H. L. Hotchkiss, Charles Lawson, A. H. Laffin, and H. T. Jenkins.

The annual report of the President, Mr. E. W. Andrews, was read, which showed the company to be in an increasingly prosperous condition, and its prospects for the future excellent. The business of the company is constantly increasing, and the ratio of cost of operating to gross receipts diminishing, as the organization of its system is such as to make it relatively less expensive to do an increased business. There has been during the past year an increase of instruments over the previous year of 793. On the 1st inst. there were in actual use 3,517 instruments, against 2,724 last year. The average increase of earnings has been 227 per cent., against an increase of expense of 103 per cent. The company operate twenty-three district offices, and experience has demonstrated that there is a steady increase of the business of a district the longer it is in operation. The increase of earnings per instrument per annum was reported as follows: 1873, \$64.66; 1874, \$73.19; 1875, \$83.18. As the public become accustomed to the use of

the system and aware of its advantages and convenience, they use it more frequently, and the result is an increased average of earnings per instrument.

In addition to its system and property in this city, the company holds a large amount of stock in companies organized for its introduction elsewhere, which has been received as a royalty for the use of the patents held by the company, and which it is confidently believed will, at a not distant day, become a source of revenue from dividends and very valuable.

The National Telegraph Company.

BUT little has been heard recently in regard to the new National Telegraph Company, whose organization at San Francisco, Cal., and announcement of its intention to construct a telegraph system which should cover the country, caused quite a sensation in telegraphic and business circles. It was even reported that the financial difficulties of California had caused the abandonment of the project, and the return to the stockholders of the ten per cent. paid in on their subscriptions.

The arrival of Mr. A. A. COHEN, the President of the Company, in this city on Thursday of last week, however, has revived the public interest in the enterprise.

Mr. COHEN states that the enterprise has not been abandoned, but is certainly to be carried out as originally proposed. It is, he says, too late to begin the work of construction the present season, as was intended when the company was organized the first of July last. The fall and winter season will be utilized in preparing for the commencement of operations in the spring, which will be made as early as practicable. The full detail of the work has not yet been determined upon. Much of this has to be settled before commencing the work of construction, so that it may be done systematically and economically. He states, however, that much has already been done toward the arrangement of the several departments and the transportation of the requisite supplies over the railroads.

The delay which has been experienced was caused by the financial derangements in California, and but for this the work would have been well under way by this time. The company suffered no pecuniary loss, the \$750,000 which was placed in the hands of the late Mr. RALSTON as Treasurer of the company having been made a special deposit in the Bank of California to the credit of the company.

In reference to a purchase of the Atlantic and Pacific lines as the nucleus of the system of the National Company, Mr. COHEN states that last spring he made an offer to purchase the wires of that company. His offer was to buy the entire property of the company at a rate 20 per cent. in advance of that at which, at that time, the stock was held on the street, to be paid for in money, and within five days, providing the stock was placed in the possession of the purchasing party. This offer was refused. The National Company is yet ready to purchase the property of the A. and P. Co. for what it is worth.

Mr. COHEN speaks highly of the fidelity of the management of the Western Union Telegraph Company, of which he has long been a heavy stockholder, but he and his associates think the time for doing business as they have done it has passed away; and that the public have now arrived at an era when cheap telegraphy is as much a necessity as cheap postage, and it is proposed to start the new enterprise upon that basis.

In regard to the rates to be charged, he says that these have not yet been fully determined upon. At any rate, a ten word message across the continent will not cost more than \$1; and the new company have views on this matter tending far below the now existing rates. With the present improvement in telegraphy—and the new company hope to secure such as may prove adaptable—the capacity of the telegraph line and of the telegraph operators will be largely increased, and the rate at which both may be worked to their fullest capacity is the rate that must prove the most profitable to the telegraph company to charge. They will proceed upon the principle that while the expenses will not be materially increased, the low rate will be the one to bring the company the greatest net receipts. This is now the general basis of business in California—low rates and a large amount of business.

Mr. COHEN expects to remain in this section of the country for two or three weeks, and while here will make such arrangements as may facilitate the enterprise in which he is pre-eminently engaged.

Foreign Telegraphic Notes.

THE West India and Panama Telegraph Company's Santiago-Jamaica cable has been repaired. Telegrams may, therefore, again be sent to the Isthmus of Panama, the West Indies, British Guiana, and Cayenne, via New York, instead of via Lisbon and Pernambuco.

The India Rubber, Gutta Percha and Telegraph Works

Company have received a message from Mr. Gray, announcing the successful completion of the Iquique-Caldera section of their West Coast of South America cables. This places Peru in telegraphic communication with Europe.

An important question as to the law of copyright in newspaper telegrams has lately been debated in the Supreme Court of Melbourne. The proprietors of the *Argus* pay a large sum for the purpose of obtaining the latest telegrams from Europe. Any newspaper proprietors who may wish to publish the telegrams so obtained can do so by paying a contribution towards the expenses incurred. The proprietor (Mr. Luke) of the *Gipps Land Mercury* made an agreement to pay for the right of republishing the telegrams. This agreement was carried out for several months, when Mr. Luke cancelled it. The European telegrams received by the *Argus* were however, republished in another form, as from a Melbourne correspondent of the *Mercury*, with the preliminary words "It is reported," "The news about town is." This was considered a breach of the copyright which the proprietors of the *Argus* possessed in the telegrams, and as there was another newspaper at Sale that did contribute towards the expenses of the receipt of the telegrams, a suit was instituted in the Equity Court to restrain Mr. Luke from republishing the telegrams. It was argued for the defendant that as the telegrams were matters of news any one could republish them without breach of the Copyright Act. Mr. Justice Molesworth held, however, that the plaintiffs had a property in the telegrams, and that no one could republish them without the permission of the persons to whom they had been sent in the first instance. An injunction was therefore granted to restrain the defendant from publishing the telegrams.

The Isle of Man Cable was successfully laid on the 19th September, between the old landing place at St. Bees, near Whitehaven, and near Ramsay, in the Isle of Man. Communication was reestablished on the 20th ult., after many months' interruption.

The manufacture of the New Zealand Cable is steadily progressing, and arrangements are being made for its shipment; the *Hibernia* and *Edinburgh* will be employed on this work. The first vessel will be dispatched early in October, whilst the second will follow early in November. The total length of cable being manufactured is 1,370 knots. The core consists of 107 lbs. copper, and 140 lbs. gutta percha, of Willoughby Smith's improved manufacture. There are four types of cable—10 miles of shore end, 59 miles of intermediate, 300 miles of deep sea of the Mediterranean type—a solid covering of No. 13 galvanized homogenous iron wire, protected with yarn and compound—and 1,000 miles of special deep sea cable; this type consisting of 9 strands of hemp, alternating with 9 No. 13 galvanized homogenous iron wires, the whole being well protected with compound.

At a meeting of the Board of the Anglo-American Telegraph Company held lately, it was resolved to pay an interim dividend of £1 per cent., free of income tax, for the quarter ending the 30th of September, payable on 1st of November, leaving an estimated cash balance of £13,000, in addition to £25,000 placed to reserve.

The Indo-European Telegraph Company notify that the Singapore-Batavia cable is restored, and that messages for Java and Australia are accepted as usual, via Teheran.

The Postal Telegraph Scheme.

THE Cincinnati delegates to the National Board of Trade in their Report to the Chamber of Commerce, recommend the Chamber to use whatever influence it might have with members of Congress to the end that the General Government may purchase the existing lines, and manage the whole telegraph business of the country. A resolution was offered, in opposition to this, declaring that the Chamber does not commit itself in favor of the project of a national postal telegraph.

The Bastet Magnetic Engine and Battery.

FOR many years scientific men have known that mechanical power could be derived from the agency of electricity, and have anticipated the development and utilization of electricity as a motive-power. Although some discredit has been thrown upon this field of engineering through the many failures of honest experimentors, but more through the absurd pretensions of men whose desire was solely to deceive the public and so obtain money from deluded purchasers of shares in their enterprises, others, who are both scientific and practical, as well as honest, have still labored on in full faith that the time would come when a practical, cheap, and effective electromagnetic engine would be produced, certain that when this desideratum was secured the public would not be slow in giving it their patronage.

While a fair measure of economy in the consumption of materials during the time of working has been sought

for this class of engine, this has not been the chief consideration. The fact that consumption ceases immediately when electric engines are stopped, and only begins again when they recommence running, enables them to compete in economy with small steam-engines employed for intermittent work, under the boilers of which consumption must progress more or less during intervals of working. The principal benefit secured by the use of electricity as a motor is its convenience. With such excellent batteries as are now constructed, all the attention needed to run an electro-magnetic engine for from two weeks to three months is simply the turning of a button or switch by which the electric circuit is made or broken.

In Mr. Bastet's invention both the engine and battery have received attention, and both have been simplified to an extent which seems to meet all requirements. Each cell consists of an external glass vessel, the horizontal cross-section of which is oval, an interior porous vessel of corresponding form, a zinc plate bent into the proper form to be placed in the space between the internal porous cup and the external glass vessel, two carbon plates placed in the porous cup, and dilute sulphuric acid in both the porous cups and the glass vessel, there being added subsequently in the porous cup about four ounces of a peculiar liquid compounded by Mr. Bastet, and sold to consumers. Four of these cells thus made up form a battery sufficient to drive an engine having a power equal to the propulsion of a sewing-machine doing ordinary work. Such a battery will require a renewal of zincs once in about six months.

The magnets are made of flat bars with broad poles, and are so arranged that an equal number of them are always acting upon the rotating-wheel. This wheel is composed of spokes radiating from a central hub or shaft. To the outer ends of the spokes armatures are attached, placed at right angles with the spokes and parallel with the axis of the wheel. To the shaft of this wheel is attached a circuit-breaker of peculiar construction. It is a wheel made of wood, with copper pieces inserted at intervals in its perimetry; these copper pieces are connected with the ends of the wires which form the helices surrounding the electro-magnets, so that the circuits are made or broken at proper intervals. Upon the surface of the circuit-breaker wheel roll small brass wheels, which are pressed down by coiled springs; the wires forming the continuation of the circuit are connected with the metallic bearings of the brass wheels. Whenever the wheel rolls over the wooden surface the circuit is broken; whenever they roll over the copper surface the circuit is closed. There are no fine adjustments necessary, and no complications calculated to puzzle even the most ignorant operator. If the directions given for the renewal of the battery be observed, it is difficult to see in what way the machine could become inoperative except through breakage in some part, which could not occur in the proper working of the machine. No skill or practical knowledge which cannot be imparted in a few minutes is required to successfully run one of these engines. The battery can be placed in a small box in the cellar or closet, or wherever it is most convenient to have it. A small brake, or button, is attached to the sewing machine at any convenient place for the operator, and by simply moving this so as to close the circuit, the machine starts, and it is stopped by simply turning the button back again. The machine can also be given a fast or slow motion, perfectly under the control of the operator.

The connections are made as follows: one wire connects the zincs in the battery to the motor, two wires connect the carbons in the battery to the brake, and the brake-wire goes back to the motor. There is no possible danger connected with the use of this machine, and one supply of the acid solution will, it is claimed, do the work of a family on a sewing-machine from one to four weeks without the necessity of renewal. The cost of renewing is only twenty-five cents.

Dr. Rich, a prominent dentist of this city, informs us that he has used one of these electro-magnetic engines for three months without having to renew his battery for that time. He considers it indispensable for dentists' use, and says it is just what they have been wanting for years. The engine has also been applied to many other kinds of work. Messrs. Mason & Hamlin, well-known manufacturers of reed organs in this city, have one of these motors attached to a parlor-organ at their warehouses, where we had the pleasure of seeing it perform its work admirably. Its size is only 18 inches in diameter, and it is attached directly to the handle of the organ, so that by simply moving the button the player can start, stop, and regulate the wind without any inconvenience. In this application there seems to be nothing objectionable, while there must be an additional charm to the practice of the instrument. The engine can be made an ornament to the parlor, can be kept in order for a merely nominal expense, and is highly recommended by the above well-known firm for this purpose.

On a visit to the extensive organ manufactory of Messrs. Jardine & Son, of this city, we found that the Bastet magnetic engine had been applied there to blow a church organ, and it demonstrated that it has sufficient power for the purpose. This engine works automatically.

When the bellows is full it stops working; when the wind becomes in a measure exhausted, it starts itself, so as to keep a full supply of wind at all times. The machine is started and stopped in the same way as with the sewing machine and parlor organ. Messrs. Jardine & Son have given this motor a fair trial, and are prepared to recommend it to the public.

Having thoroughly examined the working of the engine, we believe it to be efficient, economical, practical, and durable, and the best motor yet offered to the public for most of the purposes to which it is applied. It requires no engineer, there are no fire risks in connection with its use, and no danger of explosions. The power is steady, reliable, and instantaneously put in operation. It may be successfully applied not only for purposes already described, but for running lathes, printing presses, fans, &c.—*American Artisan.*

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11	74 3/4 ... 75 3/4	17 3/4 ... 18 1/4	68
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New Patents.

OFFICIAL COPIES of any U. S. Patent issued since July 1st, 1871, including drawings, specifications and claims in full, sent free to any address for 25 cents each. Address F. L. POPE, Elizabeth, N. J.

For the week ended Sept. 21, 1875, and bearing that date.

168,004.—**PRINTING TELEGRAPHS.**—Thomas E. Edison, Newark, N. J., assignor to the Gold and Stock Telegraph Company, New York, N. Y. [Filed June 1, 1874.]

1. Two electro magnets in the electric circuit, with an armature moved between their cores in consequence of reversing the polarity of the pulsations, such armature actuating the lever and type wheel, in combination with the lateral cores of the electro-magnet and the armature that operates the printing lever, as set forth.

2. The arrangement of the type wheel lever and armature between two electro magnets, and an armature and lever at one side of the type wheel, operating an impression pad at the opposite side of the type wheel, substantially as set forth.

168,059.—**ELECTRIC RAILWAY SIGNALS.**—H. W. Spang, Reading, Pa. [Filed Mar. 17, 1875.]

1. The combination of one or more insulated sections of railway track, a main or primary battery and commutator, circuit changing relay magnets, and local or secondary batteries, an electric signaling apparatus, and intermediate conductors between the foregoing, arranged and operated for producing a series of signals in said signaling apparatus, or a single signal by a series of reverse currents, substantially as described.

2. The combination of insulated section A of railway track, battery B, commutator C, relay magnet M, levers l l', metallic points p p', p² p², battery B', wires 5, 6, 9, 10, 11, 12, 8, and L, and electric signaling apparatus H, arranged and operated substantially as described.

3. The combination of two insulated sections of railway track, A A', main or primary battery B, commutator C, relay magnet M, levers l l', metallic points p p', p² p², battery B', wires 5, 6, 9, 10, 11, 12, 13, 14, 8, and L, electric signaling apparatus H, and relay magnet M', battery B', ground plates G G', and intermediate conductors connecting the two sections A A', all arranged and operated substantially as shown and described.

4. The combination of signal disk X, shaft oz, toothed wheel Z, escapement j, lever J, and poles i i' of an electro magnet, substantially as described.

5. Relay magnet M, having levers l l', which are insulated from each other and vibrate respectively between metallic points p p', p² p², in combination with battery B', signaling apparatus H, and intermediate conductors of a local or secondary circuit, substantially as described.

6. Magneto-electric inductor B', the armature D' of which and wire coil are vibrated by lever L' between magnets S N, in combination with the rails of a railway track, substantially as and for the purpose set forth.

7. Geissler tube U, in combination with an induction coil, in which the primary current of battery B' is opened and closed by lever l' of relay M', oscillating between metallic points p p', as described.

8. An insulated section of single track railway, having arranged at each end thereof a main or primary battery and commutator connected with a polarized relay magnet at the end of section opposite the end where the battery is, each of said relays controlling an electric signal at a distance from it, substantially as described.

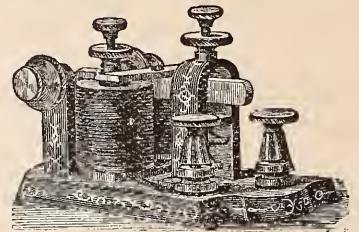
Married.

WEEKS—ASHLEY.—At Greenville, N. J., Oct. 12, 1875, at Grace Church, by the Rector, Rev. James M. Coe, Mr. HARVEY KELSEY WEEKS, of Danville, Vermont, to Miss ELSIE ELIZABETH, youngest daughter of Mr. J. N. Ashley.

BOGART—SMYTHE.—At the residence of the bride's parents, corner Thirty-first street and Prairie avenue, Chicago, Ill., Wednesday, Sept. 29, 1875, by the bride's father, Rev. W. H. Smythe, Mr. W. F. BOGART to Miss NELLIE J. SMYTHE, of the Metropolitan Companies' lines, main office, Chicago.

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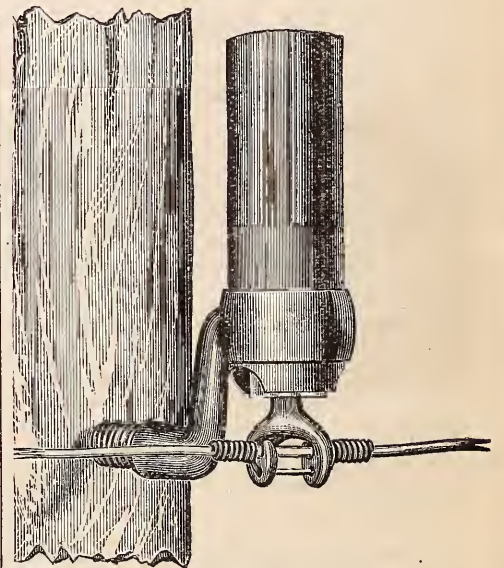
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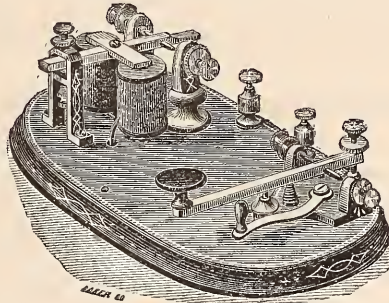
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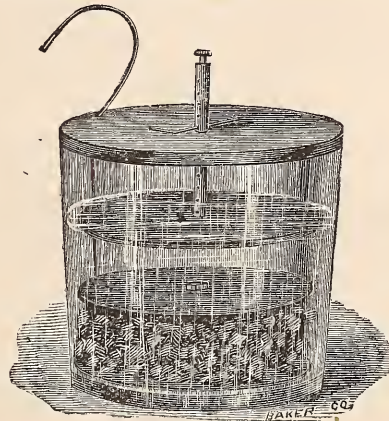
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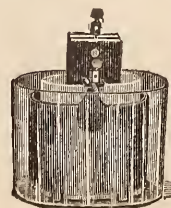
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Philadelphia, Pa.,
Pittsburg, Pa.,
Portland, Maine,
Peoria, Ill.,
Providence, R. I.,
Portland, Oregon,
Paterson, N. J.,
Pawtucket, R. I.,
Quebec, L. C.,
Reading, Pa.,
Rochester, N. Y.,
Richmond, Va.,
St. Louis, Mo.,
St. John, N. B.,
St. Paul, Minn.,
Springfield, Mass.,
San Francisco, Cal.,
Savannah, Ga.,
Syracuse, N. Y.,
Somerville, Miss.,
Terre Haute, Ind.,
Troy, N. Y.,
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The Distinctive Features of these Systems of

Fire Alarm and Police Telegraphs

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First—The Automatic Repeater, through which the apparatus may be distributed in a combination of circuits, and the entire system successfully worked, without the constant personal attention of either operators or watchmen.

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These Features combined form the

Only PERFECT, COMPLETE and RELIABLE System

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IN THE WORLD.

It is a sufficient vindication of the claims which are made by the Proprietors of these systems of

FIRE ALARM AND POLICE TELEGRAPHS,

that they have sustained the test of more than twenty years of practical use, and that the efforts which have been repeatedly made to supplant them by other inventions have

COMPLETELY FAILED;

the few instances in which municipalities have been induced to adopt other systems having demonstrated their insufficiency and unreliability, and resulted in their abandonment, and substitution thereof of the

AMERICAN FIRE ALARM TELEGRAPH.

Messrs. GAMEWELL & CO. are the owners of the original FARMER & CHANNING PATENTS, one of the most important of which has just been extended for seven years, and during the past seventeen years have spared no expense or effort to secure improvements, and the Systems are now covered by

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The most important improvement which the Proprietors have adopted and introduced is the

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the introduction and operation of which involves so little expense, compared to the benefit which it confers, that even small communities can profitably adopt and maintain it.

The American System of

FIRE ALARM AND POLICE TELEGRAPHS

has met with the universal approbation and commendation of the

People, Municipal Authorities,

AND THE

PRESS

throughout the UNITED STATES and CANADA.

NO EFFORT, TROUBLE OR EXPENSE

is spared by the Proprietors to obtain and secure ANY POSSIBLE IMPROVEMENT which shall increase the

EFFICIENCY,
RELIABILITY and
ECONOMY

of the system. They intend that, as far as possible, it shall be

ABSOLUTELY PERFECT!

The amount of property which has been saved from destruction, and the number of lives which have been preserved through the general adoption of this system, throughout the UNITED STATES and the DOMINION OF CANADA,

CANNOT EASILY BE ESTIMATED,

but that, in every community where it has been introduced for any considerable length of time, they have been enormous, **THREE CAN BE NO QUESTION.**

The cooperation of TELEGRAPHERS in securing its introduction into their localities is cordially invited, and their efforts will be duly appreciated and compensated.

Any information desired in regard to the above system will be cheerfully and promptly furnished upon application at the office.

A pamphlet, setting forth more fully its advantages and superiority, has been printed, and will be supplied to Municipal Authorities and others interested in Fire Alarm and Police Telegraphy, upon application as above.

CHARLES T. CHESTER,
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TELEGRAPH ENGINEER,

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INSTRUMENTS,

BATTERIES,

AND EVERY DESCRIPTION OF

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BUNNELL'S PATENT REPEATER.

These instruments are now made in two different styles, at \$120 and \$135 a set, consisting of two Relays, two Sounders, two Keys and Governor.

JONES' LOCK SWITCH-BOARD,

a most compact and reliable Switch, forming a clean spring-locked connection between any number of wires, occupying for each different connection only one square inch of space, and though made of the largest size, not subject to the warp and contraction of wood-work.

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A. G. DAY'S

KERITE,

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COMPOUND RUBBER COVERED WIRE.

SUBTERRANEAN & AERIAL WIRES,

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HIGHEST INSULATION.

We are now prepared to furnish, after an experience of three years, an Insulated Wire which can be buried in the earth or exposed to rain and sun, or to the vapor of acids, without injury. Professor SILLIMAN, who has exposed it to the most destructive agencies, finds that it remains uninjured in an atmosphere of ozone, which would destroy gutta-percha in a few hours. It exceeds glass or any other known substance as a non-conductor

We have made special arrangements to furnish this article or office purposes at a reduced rate.

ALSO, TO FURNISH

IRON CLAD CABLES

of the usual size, with KERITE COVER, believing that it will exceed, in insulation for submarine purposes, ANYTHING HITHERTO MANUFACTURED.

We shall be happy to furnish estimates for any amount and size of cable, which will be found to compete with any other construction, both in quality and price.

We manufacture the Genuine ELECTROPOION BATTERY, with Patent Platina Connection, introduced by us eight years since; also, THE ALPHABETICAL OR DIAL TELEGRAPH, now extensively used in this and other cities for private lines, being easily and quickly learned by any one.

We offer for sale, among other novelties, a SOUNDER that will work practically with a single DANIELL cell, a BATTERY that does not require to be taken down but once a year, and the very best MAIN LINE SOUNDERS now

Our CATALOGUE, embracing a large amount of new matter and description, is now ready for distribution.

THE TELEGRAPHER

A JOURNAL OF
ELECTRICAL PROGRESS.

J. N. ASHLEY, PUBLISHER.

SATURDAY, OCTOBER 23, 1875.

VOL. XI. WHOLE No. 484.

Original Articles.

The Tendencies of the Times.

BY DOUBLE SIX.

THE tendencies of the times are, telegraphically speaking, very discouraging. It has been said by a correspondent in these columns that the Western Union Telegraph Company have proven it to be possible to pay good dividends without reducing the pay of its employes. Now, while willing to accord to that corporation its full measure of praise for abstaining from a sudden and general reduction in its pay rolls, we are unwilling to allow the above statement to pass as an unqualified fact. It is true that while some other companies have materially lowered the salaries of their employes, the Western Union has not (except recently in the South, where unwarrantably large salaries were being paid) made any such sudden curtailment of expenses. It is nevertheless an undeniable fact that it is the settled and determined policy of this company to gradually lower its rates of compensation to the cheapest possible standard. The natural outgrowth of such a policy is apparent to every thinking mind. The business must inevitably fall into the hands of an inferior class of operators. Men of spirit and ability will not brook any such invasion of their rights. Their rights, we say, because we maintain that a man whose abilities would in some other line of business command a certain salary, say \$100 per month, is rightfully entitled to that amount in return for his services. It is a fact that the actual result of this policy is, that one by one the best and most valuable men—those whom above all others the company can least afford to lose—are dropping out of the ranks to engage in more lucrative business, and their places are being filled up with a cheaper class of talent (if such workmen can properly be said to be possessed of that article). The consequence of this lack of capacity in many of the cheap operators is that "hulls" are multiplied until their numbers exceed those of the "cattle on a thousand hills;" press despatches are garbled, until the printers groan in anguish of spirit, and pray for the return of those good old days when report was received on paper and copied by their own reporters, when such men as A. S. Brown handled the key, and men of like ability stood along the line to receive the news.

It is possible that to some minds the immense increase of our business, and the consequent demand for a greater number of operators, might seem to justify the employment of a cheaper class of men. That this is a fallacious idea we believe it easy to prove. No one will attempt to argue that the class of telegrams which occupy the wires to-day are of less importance than those which were transmitted ten or fifteen years ago. Quite the reverse is the fact. The business of to-day is, taken as a whole, vastly more important than that of former years, and therefore it calls for—not cheap labor, but the employment of a still more responsible and intelligent class of men than it was ever entrusted to before. The interests of the business public cannot afford such a policy, and if telegraph companies persistently disregard the best interests of their patrons, the end is not difficult to imagine. They will be "weighed in the balance and found wanting," and their kingdom will be taken from them. We feel justified in thus criticising a policy which we have shown to be so diametrically opposed to the interests of the public, and ruinous to those of the better class of Morse telegraphers.

While the subjects of fast telegraphy and other increased facilities for the transaction of business are being agitated, it would be well to consider, in connection therewith, whether or not there cannot be effected an improvement in the men as well as in the apparatus. No money is spared in procuring the best of machinery; would it not be a sensible idea to open the money bags a trifle wider, and thereby encourage and retain some of the most valuable *animated* machinery?

Observation has shown us that operators, as well as telegraph companies, have certain tendencies peculiar to the times, which are likewise open to criticism. A Chicago correspondent of THE TELEGRAPHER recently noticed a class of operators who take no interest in the business. The class is a numerous one, and is being in-

creased yearly by the policy above mentioned. When a young man fixes upon a trade or profession, he does so with the intention of making it his life business, and if he be a man of spirit and ambition, all his energies are devoted to his work; he strives to master its every detail, and does not rest satisfied until he has fitted himself to hold the highest position which the trade or profession holds forth. How is it with a great many of our profession? They enter the business with the professed purpose of abandoning it as soon as something better presents itself. They have no desire to learn any more than is actually necessary for them to know, in order to draw their pay. They say, "Of what use is it for me to 'burn the midnight oil' in studying the science and practice of telegraphy; I am not going to make this my business. I can do better in almost anything else, as soon as I get a little start." The spectacle of a constantly diminishing scale of salaries is not one likely to check this feeling, or to inspire a young man with ambition to excel in this business. There is precious little glory connected with it, and men generally work for the money, so if that is not forthcoming there is generally a change of base effected.

The remedy for this evil is twofold. In the first place, if it is to be remedied at all, telegraphic corporations must adopt a different policy toward their employes; men of character and ability should be properly appreciated and encouraged, while incompetent men, and those who "take no interest in the business" should be kicked out to make way for better men. It strikes us also that morality needs a little encouragement. It is hardly creditable to the intelligence of a corporation having vast public and private interest confided to its care, to hear one of its officials state that "we do not hire men for their morality, but to work." On the other hand, operators can do much towards bettering their condition by making themselves worthy of advancement. It is not to be expected that a man will be advanced unless he is qualified for and worthy of promotion. Some months ago there was considerable talk in the various telegraphic papers about the necessity of a more thorough education for telegraphers. The official organ of the W. U. intimated that in the future more would be required of a man than the mere ability to send and receive messages. The actual state of affairs in relation to this subject is this: in so far as our observations have extended, we have found that telegraphic officials are not at all anxious to advance the standard of education of those below them. The fact is, that the man who attempts to learn more of the business is snubbed and treated as an intruder upon pastures not his own. There is a seeming fear that the servant may come to know more than his master, and therefore his efforts are, if possible, nipped in the bud. Of course this rule, like all others, has its exceptions. There are undoubtedly large numbers of young men of talent and ambition in our profession who, if properly encouraged and assisted, would in a few years make themselves invaluable to the company which was so fortunate as to possess them. Suitable libraries, a reasonable number of hours of labor, and a justly graded scale of salaries would do much, very much, towards effecting this much to be desired end. But why waste time in advocating such improvements as these? Telegraph companies will probably go on economizing (?) until they have run the business, like their wires, into the ground, and then—well, perhaps by that time the readers of this will all be gone where telegraphers are not, and where "troubles" are unknown.

The Anglo-American and Direct United States Cable Companies.

THE half yearly meeting of the Anglo-American Telegraph Company was held at the London Tavern, in London, October 1st.

The report states that the total receipts from the 1st of January to the 30th June, 1875, including a balance of £3,683 carried over from the last account, amounted to £288,637. The total expenses of the half year, including income tax, repair to cable, and depreciation of cable stock, amount to £47,570. One quarterly dividend at the rate of 5 per cent. per annum, free of income tax, was paid on the 1st of May, 1875, absorbing £87,500, leaving a balance of £153,566, from which a second quarterly dividend at the same rate of 5 per cent. per annum, amounting to £87,500, was paid on the 1st of August, 1875, leaving a balance of £66,066 (including £32,301 surplus cable) to be carried forward to the next account. The falling off in the traffic receipts for the first six months in 1875, as compared with the corresponding period in 1874, amounting to £67,720, is to be attributed partly to the continued depression of the American trade, but chiefly to the reduction of the tariff to 2s. per word, which came into operation on 1st of May, 1875. This reduction, announced in the last report of the directors, and unanimously approved by the proprietors at their meeting in April, resulted in a considerable diminution of receipts. The hopes which were entertained by many that low rates would produce remunerative results have

not been realized, for, although a large increase in the number of messages was obtained, the experiment, so far, seems to shew, on the contrary, that a low tariff cannot produce a reasonable dividend. The competing company, which opened its cable for public business on the 15th of September, announced a tariff which necessitated a still further reduction, and a rate of 1s. per word was adopted, as being the most simple and convenient under the circumstances. The result, as at present ascertained, confirms the opinions expressed in the last paragraph. Four of the company's cables are in complete working order and condition, and the messages, although greatly increased in number, continue to be transmitted with punctuality and accuracy. The directors regret to have to announce the resignation of his seat at the board of Mr. E. J. Halsey, a gentleman who has always shown great zeal and activity in the interests of the company.

The chairman, Lord Monck, in moving the adoption of the report, referring to the reduction of the tariff first to 2s. and afterwards to 1s., and the competition with the Direct Cable Company, said:

"He hoped they would not imagine that he spoke with the slightest feeling with respect to this question of competition, for he could assure them there was nothing further from his mind, as he looked upon the matter not as a question of feeling, but as one of *£ s. d.* What he meant to say was this, that he knew there were some gentlemen among the Direct Cable shareholders, and a very large portion of the community at large, who thought a low tariff would bring them such an accession of business as would enable them to pay a good dividend, whereas with the 4s. tariff they were not making anything worth talking of. His own opinion never ran in that direction, but still the board felt bound to shew these gentlemen that a 1s. tariff would neither pay them nor the Anglo-American Company itself. The result of the company's experience was to show that before they could recoup themselves what they lost by a reduction of the rate, they must have such an increase in the number of messages as would virtually clog with traffic the four cables belonging to the company. That was a thing to be avoided, inasmuch as the slightest disarrangement was calculated to damage not only the traffic but the character of the company in respect to its efficiency. That was a lesson worthy to be laid to heart. The directors have proved that neither the company nor its competitors can make a profit on the 1s. tariff, even when working at high pressure.

* * * * *

If those who were connected with the Direct Company were possessed of common sense, as they were undoubtedly possessed of great common sense, they must admit that a low tariff will not pay them. They had too, he hoped, satisfied the public that they should not expect that the company should do business for them at a loss. Having arrived at this conclusion, they felt when the direct cable was broken, and the reins were again in their own hands, that they were bound to return to the 4s. tariff which had given them a good income in the past, and which would give them the same in the future. He wished now to say a word with respect to the interest of the public in this matter of long sea cables. They had heard a great deal about fresh and fresh competition, and when the Anglo-American board adopted the shilling tariff, he met a gentleman who said to him, 'You are going to crush the Direct Cable Company, and that is a generous policy.' But he could assure the meeting that the directors did not entertain any such views, nor was it possible they could, inasmuch as the smallest traffic would be sufficient to enable them to go on paying their working expenses."

The chairman further stated, in reply to questions in regard to the current rumors in regard to the negotiations between the directors of the two companies, that "He had heard of rumors of negotiations between this and the other company, but he had not heard anything about negotiations."

A shareholder inquired whether the directors intended to again reduce the tariff in the event of the new competition on the part of the Direct Cable being revived.

The Chairman: "Certainly not."

After some further discussion the ordinary routine business was disposed of, and the proceedings terminated in the usual manner.

Arrival of "Clix" in Arizona.

THE family of Ex-Gov. Coles Bashford, of Wisconsin, now Secretary of Arizona, arrived here on Monday from Los Angeles, Cal., by Jim Bonos' stage. This arrival includes a son-in-law of the Governor, W. E. Smith, Esq., who comes to take a partnership in the house of L. Bashford & Co. On and after Nov. 1st the firm will consist of L. Bashford, R. H. Burmister, W. C. Bashford and W. E. Smith. The old firm has always done a leading business in this part of the Territory, and with their new acquisitions to the proprietorship, their now fire-proof stores, and new and very heavy stocks now on the way, the new firm must of necessity do an increased amount of business.—*Arizona Weekly Miner.*

Correspondence.

We do not hold ourselves responsible for the opinions of our Correspondent. Our columns are open to free discussions on all telegraphic subjects, without distinction of person or opinion.

No notice will be taken of anonymous communications.

Poor Prospects for Telegraphers on the Pacific Coast.—The New National Telegraph Co.—Personals.—California Plug Factories.

SAN FRANCISCO, CAL., Oct. 1.

TO THE EDITOR OF THE TELEGRAPHER.

"ROMEO" anticipated me in giving to you the "Personals" and changes on this coast. He omitted, however, the most important changes. He did not mention the number of operators out of employment in this city, nor the reduction of salaries, nor the poor prospects that operators who leave the East have to find employment. That would be more acceptable news for the many who have come here to drag around town, or go poleing hogs, or mind sheep to protect themselves, than personals.

The situation here is anything but flattering or promising—I might say panicky, but, unlike the Bank of California, there is a poor show indeed for a resumption of the good old days when men were paid first class salaries, and San Francisco boasted of not having a plug within its walls. Now plugs are at a premium. There are at this moment fourteen operators in this city out of employment, the majority of whom claim to be first class. Most of these operators have come direct from the East, anticipating immediate employment, because a few inferior men who preceded them found employment, because they arrived at a time when things were badly mixed in this office. These men, of course, wrote to their friends of their good fortune, which is one of the reasons why operators were allured hither. I hope these lucky ones will be as willing to support their—soon to be—starving brethren as they were to entice them here, for starve they inevitably will if they wait for situations as telegraph operators. The telegraph companies cannot be blamed for this, but they naturally take advantage of the situation to reduce wages. The Atlantic and Pacific have not as yet attempted to either reduce wages or the force, but the Western Union have done both. Mr. Vandenberg, of the Atlantic and Pacific and Central Pacific Railway Telegraphs, says if all the operators on his division wanted to leave to-morrow he could have their places filled inside of forty-eight hours. Judge, therefore, if this is a good field for telegraphers. I am also inclined to believe that the rumor put on foot about the National Telegraph Company and their gigantic undertaking was another cause why operators flocked to this coast. Operators should not be such silly fish as to jump at every crumb thrown into the stream of rumor. The National Company is—or rather was—got up for the sole purpose of depressing Western Union stock, at a time when money was tight and the market panicky. The prospectus of that company was so transparent that an ordinary observer could see the undertaking was too stuporous for completion within the time specified. Besides, California capitalists, and more especially the projectors of this scheme, are not the men to place millions of dollars in an enterprise which does not promise quick returns. Notwithstanding that, I would be glad to see it consummated. I must simply say that operators must look elsewhere for brighter prospects than to the National Telegraph Company.

There was a time when it was a credit to be an operator—when those who learned the art at least possessed a common English education. Now mark what follows. The unfortunate being who possesses any claim towards enlightenment or common intelligence hangs his head with shame when a boy not yet out of his teens, or a big ignorant haymaker, who writes a hand worse than the late Mr. Greeley, or maybe as ignorant of the English grammar as of current events, is pointed out as receiving the same wages and doing the same work—but how different. I must not warm to this subject lest I should grow rude and tell the truth, which, though it pleases God, sometimes grievously offends men. Therefore, as long as the powers think that ignorance is akin to intelligence, and are satisfied withal, I have nothing to say.

It is but just to say, however, that the officers of the Western Union here evince an interest in providing situations for operators from the East, even by sometimes sacrificing their oldest and best tried men, but then it cannot be expected, when the influx like at the present time is great, that they could accommodate all, no matter how willing they might be. Among the fortunate emigrants was Mr. F. Drake, who has been appointed private secretary to Mr. Gamble.

Mr. C. S. Lamb (late clerk in Mr. Williams' office, Cincinnati,) has been appointed chief operator of the San

Francisco office. Although some may consider it an injustice to remove an operator to make room for the latter gentleman, and that as capable and as trustworthy men could be found here, yet neither Mr. Lamb nor Mr. Drake can be blamed for being fortunate. I, for one, bear them no ill will, but wish them success and speedy promotion, if they deserve it. I will not allude to the changes that have taken place, nor to the causes which led thereto, but confine myself to the present state of affairs, which, notwithstanding that we are somewhat down in the mouth at the inclination to reduce salaries, etc., we cannot but look for a gleam of hope when we see honest ability, untiring energy, and sterling worth appreciated in the appointment of Mr. Charles T. Dozier to the management of San Francisco office. This gentleman has risen beyond the sphere of a mere telegrapher by being a close and attentive student. He is a thorough electrician, and is engaged in putting up a quadruplex of his own invention, which promises to be a successful improvement to that now in use. To these qualifications add a fine idea of manly honor, a genial good temper and a generous heart, and you have our manager. We were pleased when he was appointed, for he deserved it. Mr. Lamb being a stranger, unknown and untried, I cannot undertake to criticise save from external appearances. *He looks honest.* Our force consists of three very pretty and intelligent young ladies—Miss Fannie Littlejohn, Miss Susie W. Peck and Miss Rose Thomas. The male force consists of Messrs. William Foley, Arscott Venton, Edward Somerville, Joseph H. Thatcher, Wm. F. Archibald, Horace Jones, Chas. H. Boynton, James O'Toole, Q. A. Stephenson, William H. Glover, C. J. Lawson, Frank Medina, Jr., John H. Powers, and T. S. Cunningham, Mr. H. H. Smith and Mr. Sheldon having been compelled to resign on account of reduction of force. Mr. Smith was immediately employed by the Atlantic and Pacific over all those who had applied before him; that company evincing a very commendable spirit, preferring "a dell they ken to a dell they dinna ken." The telegraphic department of Heald's Business College, as well as the Western Union School at Oakland, are under the supervision of Mr. Jas. Gamble, who is president of both institutions. They seem to find plenty of applicants, and the chief qualification required is the spondulix, in the shape of \$50. *The Telegraph*, a sheet published in the interest of the institution in Oakland, claims thirty-five students have already graduated from there, sixteen of whom got situations. I believe Heald's is doing equally as well. I have no objection to these schools personally, but I think there is room for improvement by having first class competent men to teach, and require of the candidate a general knowledge of the English language, as in many cases these questions are totally ignored, although some students, like Miss Littlejohn, are accomplished and intelligent; yet have I seen those who, to use the language of our illustrious William (Foley), "wrote a hoof like a hired man." The majority of the graduates and pupils are ladies, and I should not be surprised if, in the course of three years, that male operators were few and far between. I would not—or cannot—be so ungallant as to wish anything adverse to the ladies. The telegraph offers a good field, where they can find pleasant, remunerative and honorable employment, and I hope men will turn their eyes towards something else which will be more in tune with their sterner and rugged natures, and which may ultimately be a more remunerative business than telegraphy has proved itself to be, and where a man may at least hope for something better, after ten or fifteen years of faithful service and good behavior, than *Irish promotion* or a reduced salary. "Nothing extenuate nor ought set down in malice." C.

Mr. Orton's Annual Report Reviewed.

TO THE EDITOR OF THE TELEGRAPHER.

IN looking over the published annual report of the President of the Western Union Co., in the last number of your journal, I was forcibly struck with the statement of that gentleman (than whom there is no higher authority in telegraph matters, *except upon points which he has not investigated*, as, for instance, automatic telegraphy, which, judging from his published conclusions, must be a sealed book to him) to the effect that notwithstanding the Western Union Co. solved the question of *cheap telegraphy* three years ago by the introduction of the then somewhat antiquated duplex system, and then again, a year ago, solving it a second time by introducing the quadruplex system, belonging though, unfortunately, to a rival Telegraph Co., there is "no profit from the transmission of (10 word) messages at the rate of twenty-five cents, even within the short distance of twenty-five miles, which is the limit of that rate." In the same paragraph the President informed his shareholders that it costs the company "an average of 37 cents per message," of which twenty-one cents per message was required to pay the cost of "operators and messengers' wages," and five cents per message was absorbed in the "maintenance of lines."

The candid manner in which Mr. Orton practically

admits the utter inability of the Morse, duplex and quadruplex systems in use by the W. U. Co. to compete with the automatic system, is commendable, even at this late day, and notwithstanding the disingenuous manner in which, in a subsequent paragraph of his report, he seeks to disparage automatic telegraphy, by asserting that "a single message can be transmitted and copied in less time by the hand (Morse) process than by any other." Obviously, we who have devoted six years to the development of automatic telegraphy, did not spend our time and money with reference to a "single message." If the public have no occasion to use a telegraph line except occasionally to transmit a "single message," the Morse or other more simple and still less expensive systems would answer all necessary purposes. But the advocates of the automatic system have contemplated something more than "single messages"—something more than hundreds or thousands of messages every hour of the day and night, and it is to be hoped that when the President of the W. U. Co. next addresses his shareholders he will tell them what he proposes to do when the business of telegraphing is quadrupled in numbers of messages, and each message quintupled in the number of words—for this is what automatic telegraphy foreshadows in the near future.

Accepting Mr. Orton's undoubtedly correct statement that it costs the W. U. Co., or any other Telegraph Co. worked by the Morse system, at least "21 cents per message (of 10 words) for operators and messengers' wages," let us see what it will cost the company having the control of the automatic system.

Whilst it would be perfectly practicable to send 1,000 words per minute over any fairly good single wire, in circuits worked by the W. U. Co., we will assume that the automatic wire is only utilized to the extent of 500 words per minute, or 30,000 words per hour, or 300,000 in 10 hours. If we assume that the messages average 20 words each, we should have a total of 15,000, which, at 21 cents each, aggregate \$3,150 for the day's work.

To accomplish these 15,000 messages in 10 hours by the automatic system, we should require the assistance of—

- 15 Perforators,
- 12 Copyists operating the Type Writer,
- 12 Readers or Translators,
- 2 Transmitters and Receivers.

Total 41 Automatic operators.

With our perfected machines, girls can perforate, copy and translate as accurately and as rapidly as can be done by the class of operators employed by the W. U. Co. It may therefore be safely assumed that \$82 would afford liberal salaries to the 41 operators, and the usual sum paid to messengers is 3 cents per message, so the cost figures would stand—

For Operators' salaries.....	\$82.00
For Messengers' fees.....	450.00

Total cost for 15,000 messages... \$532.00
or less than 3½ cents per message, against Mr. Orton's 21 cents.

And yet Mr. Orton assures his shareholders that the W. U. Co. cannot afford to use machinery, in preference to hand labor, because the former is "neither economical as to time or expense!"

In every annual report of the distinguished President of the W. U. Co. since 1869, he has taken care to condemn automatic telegraphy because of the necessary delay of messages, and yet it would be impossible for any one to show a particle of reason why 15,000 messages should not be perforated, transmitted, translated and copied, at the rate of 1,500 messages per hour, using one wire, with even more reliability than 60 messages per hour, for 10 hours consecutively, could be sent over one wire by the Morse system.

Whilst we easily perforate, transmit and copy an ordinary business messages in 60 seconds or less, it is probably true that if only a single message was to be sent, it might be completed in three or five seconds less time by the Morse system than it could be by the automatic, but where a volume of business on any one line exceeds about 50 or 60 messages per hour, then the automatic system is supremé.

A line doing a light business, with few or many offices, can be worked more economically and to far greater advantage to the patrons by the automatic than it can be by the Morse system, but of course automatic telegraphy will mean, when it gets into the hands of those who have sense to appreciate its excellencies, *cheap telegraphy and an enormous increase in volume.* Automatic telegraphy means 50 word messages and not over four rates, the lowest 25 cents and the highest one dollar, prepaid by stamps, and at these rates the Automatic Company can make very large profits, whilst the W. U. Co., with all its possible advantages, could not earn one half of its current working expenses. Automatic telegraphy will soon cause fearful "cracks" in the Tall Building, and I expect to live to see the rats escaping from every story. D. H. CRAIG.

The Foote and Randall Automatic Telegraph Inventions.—Caustic Reply to Anti-Humbug.

NEW YORK, Oct. 11.

TO THE EDITOR OF THE TELEGRAPHER.

IN my communication of the 2d inst. I find there is an error, which I beg you will correct. The first paragraph in the second column of page 236 should read: "Their system differs from the 'L. E.' system, in that the L. E. system is worked on an open and closed circuit principle, while the F. and R. system is worked by polarity or alternating currents, etc."

I notice, also, in your last issue an article signed "Anti-Humbug." FRAUD would certainly have been more correct.

I desire to say in reply, that "Anti" will have to thrust again before he "pricks the bubble," as F. and R.'s "bubbles" (?) are pretty solid, and if he does not know it, let him inquire. I presume, however, he does, for it is evident from his article that he did not have any facts to deal with, the assertions made evidently being for a sinister motive. I desire, also, to say to "Anti" that it is an easy matter to make assertions without proof under an assumed name, to make sarcastic remarks, to circulate "respectable rumors" of unknown origin, and to quote from *in cog.* "eminent legal gentlemen," but where are your facts, "Anti-Humbug?" What do you know about things you never saw or scarcely ever heard of?

Now, as regards "reissues," let me tell you that such shining lights (?) as the electricians, patentees and managers of the Aut. Tel. Co. positively asserted, "that we could not work any circuit," "that it was impossible to change the poles of a battery as we pretended to and get any result therefrom on a line." Others, more brilliant than those cited, asserted, "That it was impossible," "that the reverse current could not and did not pass over the circuit." How is that, Aunty? But what's funny about it is, that these people, who have proved how totally ignorant they were of what F. and R. were doing, now turn around and talk about "reissues," and further, in my last communication I especially set forth—after stating what had been done by F. and R. in April, proof of which I can furnish—that by an invention, improvements, etc., since made by F. and R., they could transmit and receive at double the speed then obtained.

Now, inasmuch as those inventions, etc., though patented, are not yet issued, and it is presumed not generally known of or about outside of the Patent Office, I cannot understand how any "eminent legal gentleman" can know any thing regarding "their novelty or legality" or prior claims.

Now, I do not want to trespass on your columns, or in fact waste much time on Anti-Humbug, but I would like to repeat for his edification, he takes to it so kindly—

1st. That at a test made in April, 1875, between New York and Boston, of the Little-Edison and Foote and Randall Automatic systems, the former obtained a speed of 340 words per minute, and the latter 480 words per minute.

2d. That by a new system since invented, F. and R. can double the speed then obtained by them without any increase in operating or other expense.

3d. Their system differs from the Little-Edison as heretofore set forth; and further, neither Little nor Edison ever worked, at least never patented any chemical automatic system worked, or that could work by polarity or alternating currents, nor has any one else to my knowledge, and that is one reason, perhaps, F. and R.'s patents were allowed "with but slight examination," because they were new.

4th. As regards the "F. and R. Perforator," which is "a mere vision of the future visionary hopes of those inflated gentlemen," I would say to "Anti-Humbug" that if he will call on F. and R. they would possibly be able to convince him that it is not all a vision.

But if he feels very bad, they will disclaim the Perforator, and furnish half a dozen good mechanics, either of which will produce a Perforator at short notice, notwithstanding it took his friend, that great inventor (?) Edison, several months, at an expenditure of several thousand dollars to make one, and not then until he had borrowed the inventions of Messrs. F. J. & G. H. Grace, for proof of which I refer to those gentlemen.

5th. That, although he knows (?) that "in claiming a special chemically prepared paper," F. and R. claim "something they never possessed of their own"—very gentlemanly—I repeat that if we do not possess a chemically prepared paper of our own, we certainly do not desire to borrow any belonging to him or his friends.

6th. And in conclusion I would say that F. and R. are desirous of proving the assertions set forth in relation to their inventions, and they challenge "Anti-Humbug" and his friends to an investigation of their patents and systems by three or more experts chosen in the usual way, it being provided only that their decisions shall be made public through THE TELEGRAPHER and other scientific journals.

CHARLES A. RANDALL.

A Telegraphic Musical Composer.—Personals, etc.

BOSTON, MASS., Oct. 11.

TO THE EDITOR OF THE TELEGRAPHER.

AS is usually the case, telegraphic news is meagre, and as I wish to keep within the circle of the telegraph and its employes in my correspondence, I must forego a portrayal of the autumnal glories of fields and sky and their gorgeous coloring, after the manner of some, leaving its beauties to be depicted by worthier pens than mine.

Boston deservedly holds the front rank in æsthetic matters among the American cities, and the Boston Telegraph office contains considerable musical talent of no mean order. Only last week a delegation of Odd Fellows passed our office, headed by the 5th Regiment Band, who played the "Battalion March," composed by Mr. J. H. Milliken, an operator in this office. The march is bright, enlivening and a great favorite with all the bands of Boston, who have placed it in their repertoire of choice quicksteps; and it is not unlikely that Broadway will soon resound with its pleasing melody, rendered by some of New York's famous bands. The style of the march is much like that of the celebrated Ninth Regiment quickstep, having many odd effects in its composition, and lacking none of the fine melody and general vivacity of the above named march. The different changes of the march have offered opportunities for the unique and graceful variations that the composer has improved on in a masterly manner, especially in the introduction to the "Trio." The old conventional style is here entirely ignored, except, of course, in the observance of the time. The tenor drums have a sharp roll, which gives way to a duet by the two ponderous "E" flat bass horns, who perform a very deep and odd measure, finally ascending the scale in chromatics which develops the time admirably, and launches the full band into the trio with a burst of harmony really thrilling, which makes us poor toilers wish that we could march behind such music, knowing that we should never tire of its beauty.

The Fifth Regiment Band is composed of amateurs, nearly all being young men who pursue various occupations on State street, and having been fortunate in securing the services of Claus, the celebrated European Bandmaster, they have by their success proved themselves to be no mean rivals even to Harry Brown's (formerly Gilmore's) famous band, and it is the opinion of the majority of the people of the "Hub" that they are second to none in the city. New York office should produce a like organization; it would be pleasant and profitable winter evenings, with a trifling expense, opening a new experience in life to many which would prove attractive, entertaining and ennobling to the participants.

Mr. Stanford has developed his natural genius for the fine arts in the direction of crayon drawings. I have had the pleasure of seeing several exceptionally fine specimens of this gentleman's work in crayon portraiture.

I am glad to be able to say that Mr. H. J. Pettingill, our all night manager, who has been ill for some weeks with typhoid fever, is convalescing, and will be with us once more before long.

"Bull" Noyes is in his accustomed place this morning. We understand that he essayed to move a stove in his domicile, thereby inflicting so severe an injury on his spinal column as to necessitate his absence from his "throne" for several days.

The season of vacations being about over, all are in their accustomed places.

Mr. Pond has returned from his Eastern tour and looks more rosy than ever, and Fitchburg stock is high in consequence.

The rumors relative to an early removal of the main office have received some confirmation from similar statements in the Boston papers.

Up to this writing there has been no further developments in the rapid sending rivalry. More anon.

ARISTIDES.

The "Centennial" Excitement.—Telegraphic Arrangements, etc.

PHILADELPHIA, PA., Oct. 3.

TO THE EDITOR OF THE TELEGRAPHER.

IT is not improbable that even beyond the limits of this staid and quiet city of fraternal affection rumor has reached of our coming Centennial celebration. Ay! how we are going to celebrate the coming event of the one hundredth anniversary of our national independence, and the grave old town is going quite mad over it. Philadelphia has never before had an offspring in any field of enterprise of which she has been so proud, and fond, and happy, as of this Centennial Fair. Well, in truth she well may be proud of it, and happy. She is going to produce a mammoth and all wonderful show, and the whole world is coming to see—and get fleeced. There is not, I confidently assert, one man, woman, or child, with so much as a single grain, or atom, or mote of ambition in, about, or around them but faithfully believe they are to make their fortunes inside of the next twelve months. In

truth, I think partly that way myself. The infection is contagious, and I sometimes fancy myself going mad in the popular course. How we are going to attain just what we desire and expect many of us have no very clearly or well defined idea. For one, I find myself sitting abstractedly, with my thumbs in my vest pockets, expecting that somebody or some vast concourse of people are going to come and thrust something upon me; and I doubt if I am alone in my illusion. Well, I hope they will.

As a natural result of so much protracted anticipation we have "Centennial" already applied to everything that is capable of sustaining an application. And let me turn to you individually now and ask you if you do not think "centennial" is a real nice and good word? It looks well painted in large red and green and black letters on an awning in juxtaposition to "oysters," or "deviled crabs," or "dry goods," or "tombstones." And seeming to understand this, the enterprising dealer prefixes it to whatever he may have to dispose of. We have "centennial hardware," and "centennial hollowware," and "centennial" ware of all kinds. Doors, windows, fronts, trucks, wheelbarrows, horses, cats, and dogs, and even small chickens are lettered "centennial" something. We have got used to this and do not mind it; but when I saw "centennial fruit" the other day I was led to reflect. I wondered whether the fruit was a century in developing to its present state, or whether it represented a second edition of something that had preceded a hundred years, or whether there was a good deal of humbuggery about it. I think I came nearest to the conclusion of the latter idea.

Well, now, this wonderful affair does not pass the telegraph entirely by. The telegraph is going to contribute a little to it, and is going to be represented there in quite a number of ways. The Western Union, and I do not know who all, are going to open offices on the grounds, and they likewise contemplate reaping a vast benefit. Operators in the city are ambitious for the distinction of working there, probably believing it is the last work they will ever have occasion to do. I have not learned just what preparations will be made for the business that will offer, but undoubtedly they will be ample. The grounds are located in Fairmount Park, on the west side of the Schuylkill, and wires will probably be constructed from there to the main offices of the companies; as it is hardly likely that the city wires would furnish the required facilities were they extended for the purpose. In short, telegraphers, as well as those of all other pursuits, are expecting quite a busy season of it, and a stirring up and impetus-giving renovation of the stagnation that has so long existed. May it be even so. MICAWBER.

Cable Soundings.

THE United States steamer Tuscarora, now at San Francisco, will sail from that port about the 1st of November on a cruise among the various groups of islands in the Pacific Ocean, for the purpose of taking soundings to ascertain the most advantageous route for a cable in those waters. The following is an extract from the orders issued to Commander J. N. Miller, who commands the vessel:

You will proceed from Oahu toward the Phoenix Islands, about 1,700 nautical miles, making soundings at the usual distances apart, and, wherever the bottom requires it, such additional soundings as may be necessary. You will make such examination of the Phoenix Islands and those adjacent as may seem advantageous for landing a marine cable. Thence you will proceed to Birouana, Western Fiji, or some other convenient island of that group, about 1,000 nautical miles, sounding as before. You will take up the line of soundings from the Western Fiji to Brisbane, about 1,500 miles, passing as close to the southeast end of New Caledonia as may be proper; thence proceed to Sydney; from Sydney you will proceed toward North Cape, New Zealand, making such soundings as you may think advantageous en route, and from that point toward the Fiji Islands, making soundings, with a view of laying a telegraphic cable between those points.

It is expected the Tuscarora will be absent about four months.

Telegraphy in Australia.

A FEAT of telegraphy was performed for *The Argus* and *The Australasian* on the arrival of the mail steamer at Adelaide. The letters of our London correspondents, comprising some 20,000 words, were transmitted from Adelaide by wire, and appeared in *The Argus* and in the country edition of *The Australasian* at least 36 hours before the R.M.S. Nubia can be expected to reach Hobson's Bay. It may be imagined that so great an addition to the ordinary work thoroughly tested the efficiency of the arrangements of the telegraph department, and acknowledgment is due for the energetic and successful manner in which the extra strain on the officials was encountered. —*The Australasian.*

THE TELEGRAPHER

DEVOTED TO THE INTERESTS OF THE TELEGRAPHIC FRATERNITY.

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INDEX TO ADVERTISING PAGES.

Table with 2 columns: Name and Page. Includes Ashley, J. N., American Fire Alarm and Police Telegraph, Am. Compound Telegraph Wire Co., Bastet, L., Bishop Gutta Percha Works, Bliss, George H. & Co., Brooks, D., Chester, Charles T., Hochhausen, W., Kenosha Insulator Co., Lannert & Decker, Moore, Joseph & Sons, Merchants' Manufacturing and Construction Co., Norris, James L., Patrick & Carter, Phillips, Eugene F., Protection Life Insurance Co., Russell Brothers, The Electric, Tillotson, L. G. & Co., Watts & Co., Western Electric Manufacturing Co., Williams, Charles, Jr., Wallace & Sons.

Some Notes of a Western Trip.

BUSINESS matters recently necessitated a visit to Chicago and Milwaukee, and some notes in regard to telegraphic matters in those cities may not be without interest to the readers of THE TELEGRAPHER. The brief time which other duties permitted us to devote to this journey prevented as full an examination of telegraphic affairs as could be desired, but the time was utilized as much as possible in visiting the telegraph offices and telegraphers of the two cities.

We found Chicago apparently as lively as ever, although we met here as elsewhere complaints of dull times and depression of business. Judging, however, from the amount of telegraph business being done, one would scarcely believe that the times were hard and business dull. We visited the Western Union main office in Chicago, and were received cordially and courteously by all the officials and employes with whom we came in contact. This is the headquarters of General STAGER, the General Superintendent of the Middle Division of the Western Union Telegraph Company. The ability and experience of General STAGER as a telegraph manager are well known and need no commendation from us. His division is managed in a most excellent manner, and while the interests of the company whom he represents are carefully and energetically looked after, every effort is made to conciliate the public and secure the popularity of the company. In this he has been very successful, and in the West General STAGER is looked upon as the

embodiment of telegraphic ability, and he is deservedly popular with all classes. Col. J. J. S. WILSON is the District Superintendent of Western Union Telegraph Company at Chicago, and cooperates with General STAGER ably and faithfully in the administration of the affairs of the company.

Mr. C. H. SUMMERS is the electrician of the Middle Division, and the Western Union Company is fortunate in having the services of an electrician of so marked ability and intelligence. The value of the services of a good electrician cannot be overestimated, and in Mr. SUMMERS the company has secured one of the best and most practical electricians of the country.

Under the reorganization of the Western Union main office in Chicago, of which our readers have been fully informed, the deficiencies and abuses which had grown up have been thoroughly corrected and reformed, and that office is now admirably systematized and managed. The business of the office is enormous, but it is conducted so quietly and systematically that there is no confusion or unnecessary delay, and Mr. MAYNARD, the manager, and his assistant, Mr. F. W. JONES, have shown themselves to be the right men in the right places. While the discipline is of necessity strict, there appears to be a due regard to the comfort and convenience of the employes, and the new management is apparently generally satisfactory.

We also visited the Atlantic and Pacific Company's main office and headquarters of the Pacific Division. Mr. E. D. L. SWEET, the General Manager of the Pacific Division, has his headquarters at Chicago. We found him in his new and comfortable office, and were pleased to find him so well situated. The Atlantic and Pacific office, although not as extensive, of course, as the Western Union, is very well arranged and managed. We saw the automatic apparatus in operation at this office, and a large part of the business on the main circuits is done automatically. The employes generally, as well as the officials, speak highly of the automatic, and by means of it are enabled to do a much larger business with fewer wires than would otherwise be the case. We were much pleased with the Atlantic and Pacific arrangements, and were informed that business was good and improving. It is expected soon that the new line to St. Louis will be completed and in operation, and open a new and valuable territory to the Atlantic and Pacific Company.

We had not the time to visit the smaller telegraph offices in Chicago, but were informed that they were generally prosperous and well managed.

One of the most interesting objects in Chicago to a person interested in telegraph matters is the manufactory of the Western Electric Manufacturing Company. This is situated at No. 220 Kinzie street, a central and excellent location. An inspection of the various departments is very interesting. This is the largest establishment of the kind in the country, except the shop of the Western Union Company in this city.

The Western Electric Manufacturing Company is an incorporated company, General STAGER being the President, and it is under the immediate business management of Mr. E. M. BARTON, the Secretary, and Mr. GEORGE H. BLISS, General Agent. Mr. ELISHA M. GRAY, the inventor of GRAY'S Printer, the Electric Harmonic Telegraph, etc., is the Superintendent.

It would require too much space to give a detailed account of all the departments of this large concern, and in fact the brief time we were enabled to devote to its inspection scarcely qualified us to do so. The different departments occupy the entire large building, and are most completely equipped with the latest and best machinery. In this establishment everything that possibly can be done by machinery, and the best and most skilful mechanics are employed. An enormous amount of work is constantly being turned out here, and everything that may be desired in the way of electrical and telegraphic apparatus is manufactured and supplied. The manufacture of office, magnet and insulated wire is a specialty, and large quantities of all descriptions are con-

stantly being manufactured to supply the demand. The machinery for the manufacture of these wires is very complete. We were shown the wires in every stage of manufacture, and from the finest magnet to the largest insulated wires all appeared to be of the first quality as regards excellence and finish.

GRAY'S Printers are exclusively manufactured here, and large numbers of them are required to supply the demand throughout the country. Twenty-eight of these Printers were recently forwarded from the manufactory to fill an order from San Francisco.

The manufacture of Electric Annunciators is carried on extensively, and the annunciators of the company are deservedly popular. The W. E. Manufacturing Company have just contracted to put in an annunciator having 310 numbers for the Girard House at Philadelphia. Western Union Switch Boards, SHOLES and GLIDDEN'S Type Writers, etc., are also manufactured at this establishment. To show the extent of the business of the company we would state that at the time of our visit a part of the stock on hand consisted of 300 sets of MORSE apparatus, 100 GRAY'S Printers, and 500 Pocket Medical Electrical Instruments. Nearly all kinds of batteries are manufactured here, the consumption of zinc for battery purposes reaching 4,000 pounds per week.

This is also the headquarters for the manufacture of the Fire Alarm Telegraph Apparatus of Messrs. GAMEWALL & COMPANY, and we were shown a considerable number of boxes in the several stages of manufacture.

The Western Electric Manufacturing Company have also recently closed an arrangement with the Electric Railroad Signal Company of this city for the manufacture of the Electric Safety Signals for railroads, and have the exclusive management of the business West as the General Western Agents of the company.

Upon the invitation of our friend Mr. CHAS. H. HASKINS' the well known electrician, inventor, author, and General Superintendent of the Northwestern Telegraph Company, we visited the beautiful city of Milwaukee, which is his headquarters. Under Mr. HASKINS' excellent management the Northwestern Telegraph Company has attained a high degree of prosperity, and become one of the best managed telegraph enterprises in the country. Mr. HASKINS' geniality and personal popularity, as well as his ability as an electrician and practical telegraph manager, have proved very advantageous to the company whom he so well represents.

In Milwaukee the Northwestern and Western Union Companies jointly occupy the offices, and the business is here exchanged between them. The main office of these companies is in the Chamber of Commerce building, and they have besides an office in the Board of Trade, and six branch offices, well distributed for the accommodation of the business of the city.

The Atlantic and Pacific Company also have their main office in the Chamber of Commerce building, also an office in the Board of Trade, and a branch office in East Water street.

The Great Western Telegraph Company have also an office in the Board of Trade and another on Broadway, and another line, called the Board of Trade line, expressly, for the business between the Boards of Trade of that city and Chicago, under the management of Mr. ALLEN C. KNAPP, of Chicago, is in successful operation.

About three miles southwest from Milwaukee is established the Northwestern Branch of the National Asylum for Disabled Soldiers. Under the management of Gen. E. W. HINCKS this establishment has been improved and beautified, until it has become one of the handsomest places which it has ever been our fortune to visit. The inmates number 627, of whom nearly 500 were present at the time of our visit. The library of the institution contains some 3,000 volumes, and the reading room is supplied with 27 daily and 130 weekly newspapers and 37 magazines, all of which are in constant use by the inmates. Schools are taught, and telegraphy is among the branches which receive special attention. An excellent band of music has been organized among the inmates of the asylum, which gives concerts every Sunday dur-

ing the pleasant season, one of which it was our privilege to attend.

Gen. HINCKS is justly proud of the Home which has been so greatly improved during his administration, and his plans for further improvement are comprehensive and extensive.

It would have gratified us much to have been able to accept the urgent invitations of our telegraphic friends to remain longer with them, but imperative duties called us hence, and we were compelled to postpone until a future time further experience of western hospitality.

The United States Direct Cable.

THE Faraday sailed from London on Tuesday last for the purpose of repairing the direct cable. If she has even moderately good weather the work should be done and the cable in operation in the course of two weeks from that date, as it is broken in 60 fathoms of water only, and should be easily recovered and repaired.

We print elsewhere a condensed report of the recent half yearly meeting of the Anglo-American Telegraph Company, from which it will be learned that the reports of negotiations between the Anglo-American and Direct United States Cable Companies were contradicted by the Chairman, and the further statement was made that it was not intended to again reduce the tariff when competition was restored.

Experience has shown that even at the 2s. rate, and without competition, the business was not remunerative, and it is not probable that such low rates for Atlantic telegraphing will soon again prevail.

Memorial of the Late Vice-President Mumford.

A BEAUTIFUL memorial of the late GEORGE HART MUMFORD, Vice-President of the Western Union Telegraph Company, has recently been completed by Mr. G. ADOLPHUS STIMPSON. It consists of a superb volume of sixty-nine large quarto pages, containing the resolutions of the Executive Committee and Board of Directors of the Western Union Telegraph Company, and the Board of Directors of the International Ocean Telegraph Company, as well as those of his business friends and associates, in memory of their late associate.

Personals.

Mr. M. A. MCCOY has resigned the managership of the Buffalo, N. Y., office of the Atlantic and Pacific Company, and accepted a position as manager of the Omaha, Neb., office of the same company.

Mr. JAMES W. STACEY, ex-Sup't of telegraph at Topeka, Kansas, has been appointed to a position on the night force of the St. Louis, Mo., Western Union office.

Mr. CHARLES J. LAWSON, of the San Francisco, Cal., Western Union office, has resigned, to accept a position with the same company at St. Louis, Mo.

Mr. JOSEPH McILVAINE, of Leavenworth, Kansas, has accepted a position in the St. Louis, Mo., Western Union office.

Mr. WILLIAM L. JONES succeeds Mr. McILVAINE at Leavenworth, Kansas, Western Union office.

Mr. WILBER H. NORTHWAY, formerly of Chicago, Ill., has accepted a position on the night force of the St. Louis, Mo., Western Union office.

Mr. T. J. HERBEL, late of Denver, Colorado, has been appointed to a position on the day force of St. Louis, Mo., Western Union office.

Mr. CHARLES ANDRUS, manager of Hiawatha, Kansas, Western Union office, has resigned, and accepted a position with the Western Union Company at St. Louis, Mo.

Mr. JAMES P. McCLURE, of Cincinnati, Ohio, Western Union office, has exchanged situations with Mr. D. W. H. VOORHIES, of St. Louis, Mo., Western Union office.

Mr. CHARLES W. HART, late manager of Lawrence, Kansas, office, and Superintendent of Telegraph of the St. L., L. and W. R. R., has resigned and gone to Philadelphia to study medicine.

Mr. C. G. WRIGHT, of Lawrence, Kansas, has been appointed Manager of the Western Union office of that place, and Superintendent of Telegraph for the St. Louis, Lawrence and Western R. R.

Mr. CHARLES L. ROGERS, who has for several years been in charge of the Montreal Telegraph Company's interests at Utica, N. Y., has resigned, and is now located at Providence, R. I., engaged in other business.

Mr. CHAS. E. ARNOLD, of Lake George, has returned to his old place in the Albany, N. Y., Western Union main office.

Mr. J. W. CUMMINGS, of Albany, N. Y., Western Union office, has resigned, and is now subbing in Troy, N. Y.

Mr. JOHN SABINE, a well known old-timer, is subbing for Manager OWEN at Saratoga Springs, N. Y., for a few weeks.

Mr. FRANK A. GLIDDEN, late of the A. & P. Saratoga office, has been transferred to A. & P. main office, New York City.

Mr. W. D. CHAFFEY, of the Dominion Telegraph Company, at Peterboro', Canada, has accepted a position in the main office at Toronto, Ontario, Canada.

Mr. J. VELLEAU, of Toronto, has been transferred to the Peterboro' office of the Dominion Telegraph Co.

Mr. J. C. SMALL has resigned the secretaryship of the Dominion Telegraph Co.

Mr. DAVID EDWARDS, formerly W. U. repairer at Albany, N. Y., is now east on a visit. He returns in a few weeks to take the position of Assistant Superintendent of Repairs for the A. & P. at Sacramento, Cal.

The Telegraph.

By Cable.

SAILING OF THE FARADAY TO REPAIR THE DIRECT UNITED STATES CABLE.

LONDON, Oct. 19.—The steamship Faraday sailed today to repair the injury to the Direct United States Cable.

PROFESSOR WHEATSTONE ILL IN PARIS.

LONDON, Oct. 19.—6 A. M.—The Daily Telegraph this morning has a special from Paris stating that Professor Wheatstone is very ill with congestion of the lungs.

The Atlantic and Pacific Telegraph.

THE new line of the Atlantic and Pacific Telegraph Company is completed to East St. Louis, and in a few days the office in St. Louis will be open. St. Louis business is temporarily despatched by messengers from East St. Louis.

The new line between Pittsburgh, Pa., and Columbus, Ohio, is making good progress and will be completed before cold weather sets in.

The work of fitting up the new offices of the company in this city, at 145 Broadway, is well under way, and it is expected that they will be ready for occupancy about the 1st of November.

Business on the Atlantic and Pacific lines is said to be good and constantly improving. A good deal of work has been done during the last few months, not only in the construction of new lines, but in improving the condition of the wires formerly in use, and, as a consequence, the facilities are greatly increased, and the business of the company is better done, and to more advantage to the patrons of the company, as well as the company itself, than formerly.

Foreign Telegraphic Notes.

THE traffic receipts of the Anglo-American Telegraph Company were as follows:

Table with 2 columns: Date and Amount (£). Rows: Sept. 23d, 24th, 25th, 26th, 27th, 28th.

The directors of the Eastern Extension, Australasia and China Telegraph Company have declared an interim dividend for the quarter ending June 30, 1875, of 8s. per share, or at the rate of 6 per cent. per annum, free of income tax, and payable October 15.

The Western and Brazilian Telegraph Company an-

nounce that their cable is interrupted between Santos and Santa Catherina. The breakage is in very shallow water, and their repairing ship being on the spot, communication by cable will be restored in a few hours. In the meantime telegrams for the south will be transmitted over the Brazilian Government land lines in operation between Santos and Santa Catherina.

The Eastern Telegraph Company (Limited) announce the payment on the 14th inst. of an interim dividend of 2s. 6d. per share for the quarter ending 30th June last. The registers of transfers will be closed from the 7th to the 14th inst., both days inclusive. The company also announce that the coupons on the Six per Cent. Debenture Bonds will be paid on the 15th October next at the bank of Messrs. Glyn, Mills, & Co., of Lombard street, E. C.

Telegraphic and Electrical Brevities.

THE Western Union Company is paying the principal and accrued interest on its bonds, maturing November 1st, 1875, upon delivery of the bonds at the office of the Treasurer.

The new railroad telegraph line from Troy to Whitehall is complete.

The military telegraph line connecting Fort Clark, Fort Concho and San Antonio, Texas, has been completed, and is working.

The Southern and Atlantic Telegraph Company have opened a new office at No. 110 Front street, near Wall, for the better accommodation of their customers in that vicinity. This office will communicate by direct wires with the other stations on the Southern and Atlantic lines.

The New Punta Rasa Cable.

THE new cable of the International Ocean Telegraph Company between Key West and Punta Rasa, Florida, was successfully laid and completed on Monday the 11th inst. This cable was laid from the Western Union steamer "Professor Morse." Mr. Theophilus Smith, assistant to Sir Samuel Canning, the engineer employed to superintend the construction and laying of the cable, had charge of the work, being assisted by Mr. Hellings, manager of the Key West office, and Mr. Wm. Mackintosh, foreman of repairs in the New York district.

The insulation of the new cable is excellent, tests showing a resistance of 360 megohms per knot.

The Italian Telegraphs.

THE reports of the Italian Telegraph Service show that its development has very largely increased since 1861, when the present constitution of the empire was established. The following extracted statistical table of comparison will briefly show the increase:

Table comparing telegraph statistics in 1861 and 1873. Columns: 1861, 1873. Rows: Length of lines, Length of wires, Number of offices, Number of instruments, Gov't messages per annum, Private messages.

Death of Professor Wheatstone.

A CABLE despatch from Paris, announces the death in that city of the eminent English electrician, Prof. Charles Wheatstone. The deceased was born at Gloucester, England, in 1802.

Prof. Wheatstone obtained a world wide reputation by his numerous scientific works, and more especially by his eminence as an electrician and telegraphic inventor. It has been claimed for him that he was the inventor of the electric telegraph, but this is erroneous, though he undoubtedly contributed to its practical development.

He was one of the judges appointed for the department of light, heat and electricity at the Paris Exhibition of 1855, and at its close he was decorated with the Cross of the Legion of Honor. In 1868, he was appointed professor of physics in the Royal College of London. He had been ill for some time, and his decease was expected.

Sudden Death of an Operator.

MR. ALBERT MUIR, late agent of the Dominion Telegraph Company at Woodstock, Ont., died suddenly of heart disease, on the 17th inst. He was sitting at breakfast, apparently in good health and spirits, when he suddenly dropped his head upon the table, and expired in a few minutes without uttering a word. The young man was greatly esteemed by all who knew him, and his obliging and genial disposition had won the respect and confidence of business men. He had only been in charge of the office a few months and the company's business was largely increased under his efficient management.

"Hearse" vs. "Horse."

On the day of the terrible tragedy at Gowanda, a Buffalo coroner was notified by telegraph, and requested to repair to the spot for the purpose of making an investigation. On reaching White's Corners he found that Coroner Sherman had also been notified and had started for Gowanda. Properly concluding that one coroner would be sufficient, the Buffalo official was about to start on his return to the city, when a telegram was placed in his hands. This telegram requested him to get a hearse and carriage and proceed to Gowanda without delay. Accordingly he hired a conveyance for himself, together with a hearse and a man to drive, and started.

Night was approaching and the weather was threatening, but our coroner went boldly on, as did also the man with the hearse. Presently the rain began to fall, and ere long it came down in buckets full. The coroner got thoroughly drenched and the hearse became very damp. The procession—as becomes a procession in which a hearse takes part—would have presented a dimly mournful appearance had there been light enough to see it. Meantime the rain came down thicker and faster, and there was a good deal more of it. Human nature could not endure this sort of thing for any considerable length of time, and it was finally agreed between the Coroner and the driver of the hearse to pull up and wait till daylight. Accordingly a stop was made at Eden Corners.

Bright and early in the morning the journey was resumed, and in due season a triumphal entry into Gowanda was made. The strange figure presented by the vehicles and the individuals they carried of course created considerable excitement in the village. The coroner felt a proud consciousness of having performed his duty, despite the difficulties by which he was surrounded and beset—and was happy within, though he was yet considerably damp without.

His promptness and perseverance were duly commended; but wherefore—that was what the people of Gowanda wanted to know—wherefore should he have taken the trouble to bring a hearse all the way from White's Corners? The answer was, of course, that he had simply complied with the request made by telegraph, viz: "to get a hearse and carriage," etc. But nobody had sent him any such telegram. Then the coroner, to the end that the discomfiture of those about him might be sudden and complete, produced the document, which, sure enough, read: "Get a hearse and carriage," etc. Recourse was then had to the original copy of the despatch, in the telegraph office, which was found to read:

"Get a HORSE and carriage!" etc.

We have no report of the addresses which were subsequently delivered by the coroner, the hearse driver, and others interested.—Buffalo Commercial.

The Telegraphers' Mutual Benefit Association.

RECEIPT OF ASSESSMENTS.

NEW YORK, October 11, 1875.

ASSESSMENT No. 79.

4, 13, 16, 22, 23, 26, 28, 46, 53, 56, 58, 60, 75, 77, 82, 86, 88, 90, 91, 93, 99, 113, 140, 157, 179, 181, 269, 322, 372, 385, 391, 434, 438, 536, 544, 546, 547, 553, 575, 646, 672, 703, 708, 731, 740, 804, 830, 832, 839, 901, 922, 923, 952, 976, 1011, 1126, 1173, 1183, 1191, 1205, 1208, 1252, 1260, 1282, 1298, 1300, 1303, 1306, 1325, 1345, 1368, 1394, 1398, 1409, 1448, 1485, 1517, 1524, 1531, 1550, 1579, 1613, 1615, 1623, 1635, 1818, 1831, 1859, 1894, 1901, 1544, 1991, 1995, 2030, 2069, 2082, 2097, 2133, 2135, 2164, 2169, 2174, 2178, 2199, 2228, 2229, 2244, 2259, 2287, 2307, 2322, 2343, 2345, 2352, 2363, 2371, 2386, 2412, 2413, 2414, 2422, 2424, 2427, 2442, 2444, 2450, 2454, 2455, 2468.

ASSESSMENT No. 78.

17, 19, 25, 33, 61, 70, 74, 76, 89, 95, 97, 101, 112, 120, 134, 154, 156, 158, 160, 164, 189, 190, 191, 193, 197, 198, 227, 230, 240, 244, 257, 286, 302, 334, 341, 342, 351, 356, 357, 362, 364, 366, 378, 382, 392, 393, 394, 405, 406, 411, 412, 413, 418, 425, 430, 456, 463, 478, 511, 512, 548, 552, 554, 574, 577, 584, 594, 597, 642, 648, 649, 652, 655, 661, 662, 663, 664, 665, 667, 669, 691, 694, 714, 717, 723, 724, 728, 729, 730, 780, 799, 800, 820, 821, 823, 848, 870, 876, 897, 905, 927, 934, 939, 942, 949, 954, 957, 959, 963, 964, 978, 979, 995, 1005, 1030, 1031, 1033, 1034, 1046, 1047, 1050, 1055, 1858, 1063, 1100, 1101, 1127, 1152, 1190, 1196, 1200, 1210, 1211, 1233, 1234, 1237, 1241, 1248, 1268, 1269, 1270, 1273, 1288, 1290, 1307, 1309, 1311, 1312, 1313, 1314, 2315, 1317, 1318, 1319, 1320, 1321, 1322, 1372, 1385, 1390, 1391, 1406, 1412, 1417, 1438, 1439, 1444, 1453, 1454, 1455, 1456, 1457, 1358, 1483, 1500, 1506, 1507, 1515, 1522, 1542, 1546, 1564, 1580, 1590, 1603, 1606, 1607, 1608, 1625, 1639, 1652, 1663, 1660, 1661, 1662, 1665, 1667, 1678, 1684, 1687, 1688, 1690, 1691, 1695, 1696, 1708, 1709, 1710, 1713, 1714, 1724, 1728, 1732, 1733, 1765, 1766, 1767, 1779, 1795, 1796, 1797, 1804, 1815, 1817, 1823, 1824, 1835, 1837, 1838,

1839, 1840, 1841, 1844, 1845, 1857, 1858, 1860, 1874, 1877, 1911, 1913, 1914, 1917, 1943, 1958, 1968, 1985, 1992, 1993, 1997, 2010, 2012, 2025, 2033, 2035, 2038, 2041, 2053, 2072, 2074, 2075, 2092, 2108, 2110, 2113, 2123, 2125, 2131, 2136, 2137, 2156, 2157, 2167, 2183, 2184, 2185, 2187, 2192, 2195, 2224, 2225, 2234, 2237, 2238, 2245, 2246, 2252, 2257, 2258, 2269, 2271, 2273, 2279, 2281, 2282, 2283, 2290, 2291, 2304, 2313, 2314, 2316, 2317, 2319, 2321, 2327, 2336, 2342, 2344, 2354, 2357, 2358, 2361, 2368, 2381, 2388, 2404, 2405, 3406, 2407, 2408, 2409, 2410, 2411, 2416, 2426, 2443, 2452, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2466, 2473, 2474.

ASSESSMENT No. 77.

27, 51, 185, 186, 187, 237, 238, 242, 246, 258, 451, 453, 455, 457, 695, 697, 705, 1071, 1400, 1415, 1556, 1557, 1570, 1600, 1655, 1657, 1670, 1692, 1715, 1716, 1731, 1786, 1788, 1934, 1945, 1946, 1947, 1974, 1976, 1978, 1987, 1996, 2037, 2151, 2177, 2236, 2320, 2328, 2353, 2448.

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For the week ended Sept. 21, 1875, and bearing that date.

168,018.—MAGNETO-ELECTRIC MACHINES.—Otto Heikel, Jersey City, N. J. [Filed June 5, 1875.]

1. The magneto-electric machine, containing helices that are connected together and combined with the circuit wires, cores and stationary magnets, arranged substantially as set forth, to produce a continuous circulation of the electric current in one direction, as specified.

2. The revolving core a, contiguous to the stationary magnets, in combination with the helices, arranged in respect to the core, substantially as set forth, to induce a continuous current flowing through the helices, as set forth.

168,058.—ELECTRIC RAILROAD SIGNALS.—H. W. Spang, Reading, Pa. [Filed Dec. 22, 1873.]

1. The combination of a primary signal and a secondary signal or indicator, included in or operated by the same circuit of electrical conductors, when the movements of the secondary signal are dependent upon or controlled by the reversal of a battery current through said circuit, effected by the movement of the primary signal, substantially as herein set forth.

2. The combination of primary signal S, circuit changer C, one or more galvanic batteries, intermediate conductors, and a polarized electro-magnet, which operates or controls a secondary signal or indicator, substantially as described.

3. The combination of shaft D, signal S, spring H', and wheel H, having in its periphery the curved faced notches r, substantially as and for the purpose set forth.

For the week ended Sept. 28, 1875, and bearing that date.

168,143.—AUTOMATIC TELEGRAPH KEYS. L. S. Crandall, New York, N. Y. [Filed Aug. 21, 1875.]

1. An automatic telegraph key composed of a series of pivoted spring keys or levers, provided with cam or contact pieces of varying shape, corresponding to the Morse character of their letters, in combination with projecting arms of a common transmitting shaft, spring pawl, ratchet wheel, and insulated metal tongue, the keys, shaft and ratchet being connected to one pole, the tongue to the other pole of the battery, to transmit messages by mechanical means, substantially in the manner and for the purpose set forth.

2. The shaft provided with a series of cam operated arms, D, and a single pawl arm, having a spring reactor, as and for the purpose set forth.

3. In automatic telegraph keys, the spring keys or finger levers, provided with cam or contact pieces having step shaped projections and intermediate extensions, for producing the required feed of the ratchet, and the dwell at points of contact and non-contact, substantially as specified.

168,349.—PRINTING TELEGRAPHS.—Elisha Gray, Chicago, Ill. [Filed June 1, 1874.]

Improvements on Gray's former Patent No. 192,907.

1. In a printing telegraph instrument, the separable and yielding points h and h', one in constant electrical connection with the press magnets and one pole of the battery, and the other in like connection with the other pole and the type wheel magnets, in combination with a yielding separator or circuit breaker, controlled substantially as specified, for the purposes set forth.

2. The combination of the polarized relay I, having its helices in the main circuit, the points m and m' on opposite sides of corresponding points on the polarized armature, the Morse armature I', and its lever, provided with the points or pin k, and actuated by the relay magnet, and the points l and n on opposite sides of the pin k, these several points being arranged in the circuit of the local battery, substantially as and for the purposes specified.

3. In combination, substantially as described, the separable points h and h', arranged in the circuit of the type wheel magnets, an automatic circuit breaker operating in connection with the said points, the separable points k and n arranged in the circuit of the printing magnets, and controlled by the main current, all operating together in a printing telegraph instrument for the purpose of leaving the local circuits broken when the instrument is at rest.

4. The main battery circuit or wire carried to the diagonal insulated points of the pole changer, in combination with the insulated tongues attached to the type wheel lever, one of the said tongues being electrically connected to the sunflower of the primary instrument, and the other to the sunflower of the secondary instrument, substantially as specified, and for the purposes set forth.

5. The pole changer A, consisting of the insulating points a' a'', e and e', in combination with the type wheel lever provided with the insulated springs c and c', all arranged substantially as specified, with relation to each other and the circuits, for the purposes set forth.

6. The sliding, yielding, and vibrating arm E, provided with a wedge shaped insulator block on one end, and engaging at the other end a screw or worm on the type wheel shaft, in combination with the yielding points h and h', arranged in the type wheel circuit, and with a releasing arm carried by the printing mechanism, substantially as and for the purposes set forth.

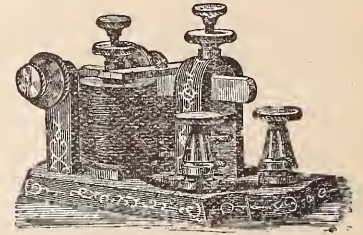
7. The combination of the polariz d relay and the Morse armature, in connection with the points l and n arranged in the local circuit, substantially as and for the purposes specified.

Married.

GAY.—BLINN.—At Georgetown, Colorado, Oct. 1, 1875, by the Rev. D. H. Mitchell, Mr. JOHN GAY, Manager of the Western Union Telegraph Company's office at that place, to Miss CARRIE I. BLINN.

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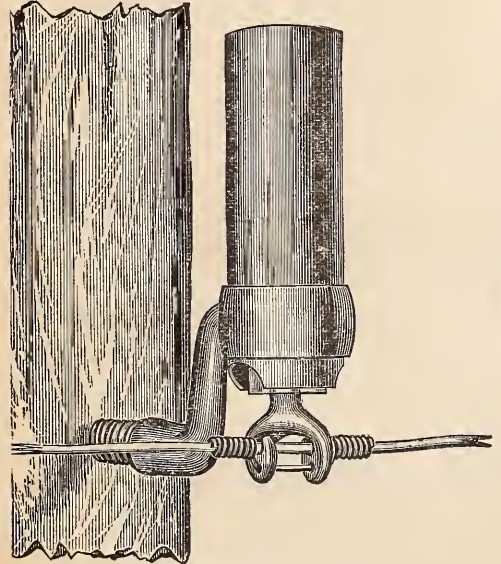
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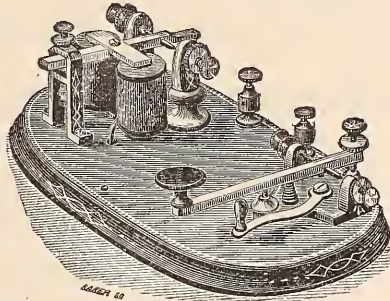


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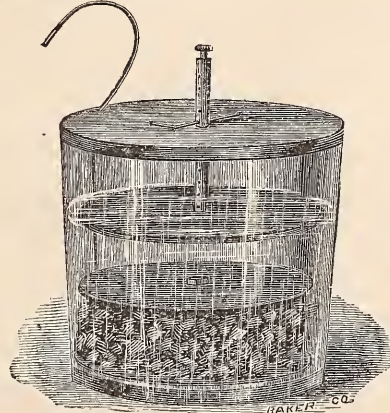
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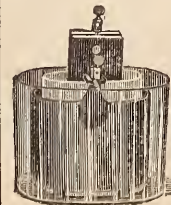
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We are now prepared to furnish, after an experience of three years, an insulated Wire which can be buried in the earth or exposed to rain and sun, or to the vapor of acids, without injury, Professor SILLIMAN, who has exposed it to the most destructive agencies, finds that it remains uninjured in an atmosphere of ozone, which would destroy gutta-percha in a few hours. It exceeds glass or any other known substance as a non-conductor

We have made special arrangements to furnish this article for office purposes at a reduced rate.

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of the usual size, with KERITE COVER, believing that it will exceed, in insulation for submarine purposes, ANYTHING HITHERTO MANUFACTURED.

We shall be happy to furnish estimates for any amount and size of cable, which will be found to compete with any other construction, both in quality and price.

We manufacture the Genuine ELECTROPOION BATTERY, with Patent Platina Connection. Introduced by us eight years since; also, THE ALPHABETICAL OR DIAL TELEGRAPH, now extensively used in this and other cities for private lines, being easily and quickly learned by any one.

We offer for sale, among other novelties, a SOUNDER that will work practically with a single DANIELL cell, a BATTERY that does not require to be taken down but once a year, and the very best MAIN LINE SOUNDER made

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THE TELEGRAPHER

A JOURNAL OF

ELECTRICAL PROGRESS.

J. N. ASHLEY, PUBLISHER.

SATURDAY, OCTOBER 30, 1875.

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Original Articles.

The Central American Telegraphs.

By a TELEGRAPH OPERATOR.

WHEN the California trade, fifteen or more years ago, was partially diverted from the Isthmus of Panama to the then new route of Nicaragua, it became necessary to insure speedier and more sure means of communication for the guidance of the steamers of both oceans than the facilities at that time afforded, and from this want arose the first telegraph line of Central America. Exclusively devoted to company's business or wants of passengers, connecting no important towns, with the close of the line of transit the telegraph was allowed to go to ruin. Today a few old fashioned porcelain insulators attached to the gigantic trees of mahogany or cedar, dispersed throughout the route, or remains of rusty wire affording trellises for innumerable vines of the country, and a former operator in the garb of a stage driver and owner, are the only remains of the first attempt at telegraphs in Central America.

SALVADOR.

The Republics of Central America were not fully aware of the immense benefits accruing from the electric telegraph until within the past nine years. A motion was at that time made in the Salvador Congress for the construction of the first telegraph line, and two years later the work commenced by the building of twelve leagues of line. The lines have since rapidly increased, until now the State controls 600 miles of line with 30 offices, uniting the principal towns with the capital, and extending to the boundary of Guatemala on the north and Honduras south. The total cost for construction, tools, and equipage has been, up to August 1, 1875, \$83,075; for repairs and ordinary expenses, \$26,000. The receipts the past year were \$28,118.62, exclusive of Government business, which is free. The instruments were furnished by C. T. & J. N. Chester, and L. G. Tillotson & Co., of New York.

The operators are natives of the country, generally intelligent, and under the guidance of their superintendent, Mr. Maury, are capable of reading by sound. The telegraph being in its infancy, comparatively little is known of the laws applying to electrical science; a simple ambition to understand the practical working of the instruments is considered sufficient, although I can say with truth their standard of knowledge is much higher than in the other republics. In the eastern department of the state bad insulation, combined with the small diameter of the wire, renders repeaters of 300 ohms' resistance necessary.

The salary paid by the Government for operators averages from \$50 to \$75 monthly, more or less, according to the location of the office rather than skill of the manipulator. The tariff is 25 cents for ten words throughout the State.

GUATEMALA,

four years since, followed the lead of Salvador, by a decree of 300 miles of line, extending from San Jose on the Pacific through the principal towns to the capital, and thence to Champerico on the Pacific. The price paid was \$150 per mile, the Government furnishing the posts. The wires have gradually extended, and there are at present 457 miles in working order, connecting all the principal towns on the Pacific coast, also uniting with the wires at Salvador south, and a contract has lately been made for the construction of 300 miles more to bring the Atlantic department in telegraphic circuit. The tariff is 25 cents for ten words for any part of the Republic. The cash receipts average some \$1,000 monthly. This with the Government business shows a very creditable amount of work. The number of offices is 25. Salary of operators \$60 to \$100 monthly. Instruments from Tillotson & Co., New York. As the Government appears satisfied with their lines and management, I leave them in that happy state

"Where Ignorance is bliss," etc.,

leaving comments for the future electricians "to be," should the failing of the "chief" allow the craft the advantages of self-improvement in their occupation.

Galvanometers, testing, etc., are here unheard of, and not the slightest idea is entertained of any of the princi-

ples of the science, or endeavors to have them understood, for fear, as the intellectual head of the department informed me, "of getting too much in their cabeza."

COSTA RICA.

With the railroad construction mania in Costa Rica four years ago came up also the subject of the construction of telegraph lines; and the question once broached to Congress, a contract was given for a line from Punta Arenas to the capital, a distance of ninety miles, embracing ten offices. A line is also under way from San Jose, the capital, to Port Limon on the Atlantic. The expense of this line was heavy, as in some places iron posts were necessary, and Brooks' patent iron insulators substituted for the glass. It cost the Government \$25,000. The English alphabet is here used. Tariff 40 cents for 10 words. "No foreigners need apply."

NICARAGUA

issued a decree in March last for the construction of 200 miles of line connecting the two Pacific ports and principal towns with the capital, and at the close of 1876 will probably be in communication with Costa Rica on the south, as this Republic (Costa Rica) has officially offered to build the wire necessary in its own State to insure the connection, should Nicaragua extend its line to the frontier of Costa Rica. On the north it extends to Chinandego. From this town to La Union, Salvador will be the only link remaining to unite the five Republics by telegraph, and open a country of 2,500,000 people to the benefits derived. The recent overtures made by three of the Republics for a Central American Confederation, if carried, will do much toward completing the beginning.

While the South American Republics have for six years past agitated the uniting of South America with the Old World, North America and the West Indies, the project is at this moment being carried into execution on the Pacific under the management of the West India and Magnetic Telegraph Cable Co., of London, and one cable has already been laid between Brazil and Lisbon, and the third is in course of submerging between Brazil and Jamaica. The Central American Republics have been wrapped in a cloak of happy seclusion, amazed at the strides made in this branch of scientific civilization within the past few years, and the main question has lain dormant. This question is the construction of a cable to bring the world within a day's call of Central American wants.

There are two routes of no great distance, either of which would be serviceable at a reasonable expense. One embraces a cable from Port Limon, Costa Rica, to Aspinwall, a distance of 250 miles or less, connecting with the cable of the W. I. & P. Co., of London. The other from a point in Honduras to the Island of Cuba, a distance of 250 miles, connecting with the wires of the International Ocean Telegraph Co. and Western Union Telegraph Co., of the United States, as also here with the wires of the W. I. & P. Co., traversing the West Indies. This latter route would necessitate the building of 200 miles of wire in Honduras.

The cost of cables is not so great but that the Central American States, with their patriotism, and the intelligence distinguishing them, assisted, perhaps, by foreign capital, could soon lay them.

There are many laughable incidents connected with the telegraph construction here, and yet not so very funny to the contractors financially interested. I refer to the silly notion entertained by the ignorant class as to the mission of this new improvement. At the beginning of the work in Costa Rica, the hundreds of cartmen engaged in the transportation of coffee saw in the telegraph the means of transportation of their cargo, and no chance of breaking insulators was allowed to escape—"Competition is the life of trade" not being duly appreciated. The crowds congregated at their night bivouac, over their smoking bowl of coffee and tortillos, related with laughs and carambas their exploits of the day in breaking "inkstands" (i. e. insulators), to the infinite delight of the listeners.

The adoption of Brooks' patent paraffine insulator remedied this, while time and legal enactments have overcome the practice of using the telegraph wire for clothes lines, or for repairing broken carts, harness, etc.

In Nicaragua, while waiting at an intermediate station for a change of horses, I overheard with some amusement the explanation given by the landlady as to the uses of a telegraph service, and the numerous "Santisimo Maria" expressed as their imagination pictured the sacks of coffee going hopping and skipping over the posts, followed by bags of sugar, sandwiched now and again by passengers, while native cartmen with hungry mien looked on in wonder at the usurper of their bread, would be changed to some stronger expressions should misfortune ever compel them to be a telegraph operator.

SUBSCRIBE FOR THE TELEGRAPHER.—More valuable and interesting information and instruction in regard to telegraphy and telegraphic affairs is contained in THE TELEGRAPHER than any other publication.

The English Press on the Reduction of Atlantic Cable Rates.

WITH reference to the recent reduction in Atlantic Cable rates, the London *Observer* of Sept. 26th, says: "The returns of the Anglo-American Company since the introduction of the shilling tariff have abundantly proved that the theory that the reduction in price will lead to a corresponding increase in messages is a fallacy. Sir James Anderson, in his interesting volume on 'Telegraph Statistics,' had always maintained the contrary principle, and the facts have thus far fully justified his conclusions. It is not surprising that under these circumstances the shareholders of the two companies have impressed on their boards the desirability of coming to an agreement without loss of time. Every day implies the loss of £1,000, for which the public will doubtless have to pay in the future in the shape of higher rates than before the commencement of the competition * * *

All experience has, in fact, demonstrated that commercial undertakings cannot be carried on for any length of time without a sole regard to the interests of the shareholders, and that such pretensions as that of destroying a monopoly, and giving the public the benefit of cheap telegraphy, are simply clap-trap put forth for interested purposes. The cable service between this country and America is so admirably performed that it takes less time to receive an answer to a message from New York than from Paris. Yet three of the five cables actually working are fully sufficient for the traffic. It can therefore suit the interest of nobody except the contractors to lay down any more cables on the bed of the Atlantic; but, at the same time, the Direct United States Company must feel that as long as it owes one cable only it is not in a sound position. It has, therefore, been suggested that the two companies should treat on the basis of an agreed proportion of traffic accruing to each company, whether their cables are in working order or not, and that a joint repairing and renewal fund should be set aside for the purpose of keeping the cables of both concerns in an efficient condition. The various conventions of the Anglo-American secure to it a monopoly of the entire Continental traffic, and of all messages not specially directed to go by another route in England. It will, therefore, always obtain the bulk of the traffic, and then valuable privileges justify in some measure the addition to the original capital in the shape of bonus shares. Before the reductions of the tariff the normal income of the Anglo Company was about £700,000, and this amount, after deducting £250,000 annually for working expenses, and reserves and repairs, is sufficient to pay dividends at the rate of about 5½ per cent. on the capital of the two companies. With six cables and a practical monopoly—which the public cannot wish to be interfered with as long as the tariffs are not unreasonably high—such dividends would render the shares of both undertakings a very desirable investment."

In an article on the same subject the *Daily Telegraph* of the 29th ult., says: "The Direct Company had no right to expect immunity from the risks attending submarine enterprise, and we imagine the most sanguine shareholder must now regret that the occasion offered for a working agreement with the rival line within the last few days was not promptly seized. The chance has been lost, and the Anglo-American Board is left in possession of the field, with full license to tax the public to the top of their bent. With traffic receipts of little more than £5,000 a week, it was not likely so tempting an opportunity would be left unimproved, and accordingly we learn, without the least surprise, that the company will at once raise the tariff to what may be termed a paying point—that is, apparently, sufficient to yield the modest dividend of 4 per cent., or thereabouts, which seems now to constitute the highest aim of Atlantic shareholding ambition."

A Valuable Discovery.

SOME of the young people in this city who have been learning the telegraphic alphabet on the pocket sounding machines to prepare themselves to operate when the business telegraph is established, have arrived at the interesting discovery that the new medium of communication is available within easy hearing distance, without the use of a wire. What will they not do with it? Imagine a Binghamton Romeo standing under his Juliet's window and pouring out his words of love in a series of clicks; or again, a backward pupil, confronted with the dreaded examination paper, clicks out the question, and some better informed schoolmate clicks responsively the answer, and the examination is passed with flying colors. But there is no need to suggest the extent to which the idea may be carried out: Young America will find out for itself.—*Exchange*.

A French scientist has invented a new fish bait. A bottle is lowered into the water and lighted by electricity, and the fish are to follow it into the net.

Correspondence.

We do not hold ourselves responsible for the opinions of our Correspondents. Our columns are open to free discussions on all Telegraphic subjects, without distinction of person or opinion.

No notice will be taken of anonymous communications.

Chilly Experience.—Personals.—Bulls.

ALBANY, N. Y. Oct. 26.

TO THE EDITOR OF THE TELEGRAPHER.

AFTER the horse is stolen put a lock on the stable, or rather, after your men are half frozen for weeks, and threatened with the epizootic all around, then put in your heating apparatus. For nearly a month we have been suffering for some kind of a heater—steam, hot water, electricity, in fact, almost anything short of a volcano that would have raised the temperature of the operating room would have been hailed with delight, but nothing of any kind made its appearance. Sunshiny days we got along very well, but when clouds mantled the azure depths of the firmament and intercepted the refulgent rays of old Sol, then our troubles began. It didn't require much of an effort to give a man the cold shoulder on those days. It was amusing at times to observe our chief operators, those who, above all others, should not be affected by any changes in temperature, backed up against a table, and with chattering teeth, plunging their hands down into their pockets in the vain endeavor to appear comfortable and at ease, but it was no go, "cold weather doth make shiverers of us all." [After Shakspeare—a long way]. There are, however, better times in prospect, as our heater has arrived and is now being put in. It is the hot water style, the same which was in use in the old office, with the addition of radiators, of which there are six in the operating room, each nine feet long and containing nine pipes, and one in the manager's upstairs office, six feet long, with seven pipes. The radiators are so arranged that the hot water may be cut off from each one separately, thus making it a very simple matter to regulate the temperature of the room. The apparatus is furnished by Baker, Smith & Co., of New York, and is similar to that used in the old N. Y. office at 145 Broadway.

The *Albany Sunday Press* has the following:

"Mr. M. J. Bartley, a former well known Albanian, now one of the rising young merchants of Fairplay, Colorado, is in town. His many friends will be glad to learn that since his residence in the far West his health has been greatly improved."

Mr. Bartley was formerly connected with the N. Y. C. & H. R. R. telegraph in this city.

The *Press* also has the following:

"Mortimer Walrath, an employe of the Western Union Telegraph Company, met with a painful accident during the past week. A party of men were at work felling poles, one of them having the large end resting upon the track, as a train was approaching. Walrath seized hold of it, and, by exerting himself to the utmost, managed to spring the pole away until the last car neared him, when his strength gave out, and the last step of the last car tore a finger from his hand."

The injured hand was dressed by a country doctor, who did the job in such a bungling manner that Mr. Walrath was obliged to come to Albany and have the finger re-amputated.

The city line dept. in New York office, sometimes sends out messages which are—well, to be charitable to the ladies, we will say slightly mixed. The following is a specimen: "New York. To P. Ronal, Lombardy st., Albany." (Mr. Ronal does business in the lumber dist.) "W. B. Wemple's" was stopped before it had gone far and made into "W. B. Wemples & Sons." A message passed through here recently calling for a "sitificut of deposit." Will some classical scholar translate it?

DOUBLE SIX.

Corrections.—Personals.—Manager Maynard's New Copying Ink.—The Western Electric M'g Co.'s New Pocket Relay.—New Arrangement for Night Work Satisfactory, etc., etc.

CHICAGO, Oct. 10th.

TO THE EDITOR OF THE TELEGRAPHER.

AS the minister before beginning his sermon generally reads the notices on his desk, in like manner before I hash up the news to you I wish to make some corrections.

Firstly, in my communication of the 8th, in speaking of Mr. Paul Bossart's accepting a regular position with the A. & P. Company, I am made to say he resigned his place on the extra force of the W. U. and accepted a situation on the regular force of the W. U. Also, in same communication, the *sex* of Mr. Foote's heir is re-

corded of the *gentler* and *weaker* kind, when it should have been "a son," of which Dell is very proud. The mistakes are all my own I am inclined to think. I was probably "rushed" by my thoughts, and "couldn't put it down fast enough." Mr. George York, of the Western Union office of this city, was to-day made the happy father of an eight pound daughter, first baby—score one for George.

The Western Union folks have for some time been working duplex direct to Baltimore, through duplex repeaters at Pittsburg, two operators here doing both the Pittsburg and Baltimore business. To-day the same arrangement was effected with Louisville duplex repeater in at Indianapolis, two operators here doing the business for both Indianapolis and Louisville. Our old time friend "Billy" Wallace has gone out of telegraphy for the present, and has engaged in other business. Messrs. Frank Farley, — Haight and Geo. Miller, the two latter just from Omaha, were in town this week looking for sits. Mr. Farley intends going South shortly, Mr. Miller to St. Louis, and — Haight to New York. Miss Snell, of the Metropolitan Company, this city, has resigned and accepted a position as operator with the Western Union Company, at Racine, Wis. Henry John has been transferred from the Metropolitan Hotel office of the Metropolitan Co. to same company's office on 12th street, near the river.

Mr. O. S. Denise some time ago resigned and sold out his news stand and cigar store at the Western Union office in the Central Hotel, opening an office for the A. & P. Company, on commission, a few doors south of the hotel on Market street, and also started a new stand and cigar store at that point. He did not like the location, however, and has returned to his former love, the Western Union, having charge of the Barnes House office of that company on the west side, in connection with his cigar and news store there.

Mr. W. Em. Browne is the enterprising operator who relieved Mr. Lowther (who has gone into other business) at the Grand Pacific Hotel W. U. office, this city. "Em" also takes a turn at the extra work nights every now and then in the main office.

Misses Bessie De Lange and M. T. Fitzpatrick, of the Metropolitan City Lines, have been assigned to duty in the main office (W. U.) on the Metropolitan Co.'s lines, while Miss Jennie Fox has been promoted to a position on the W. U. Dubuque way wire, W. U. main office.

The old original "Jack" Riley and Mr. Null, old timers, travellers, etc., formerly of the N. Y. W. U. office are in the city subbing for the W. U. Messrs. C. H. Kelly ass't night manager, W. U. office, and C. W. Jones, manager Metropolitan Co.'s lines, have returned from a ten days' vacation (looking very much refreshed), and resumed their respective duties.

I understand Manager Maynard, of the Western Union, has been experimenting for some time on a new style of ink, his own invention, which would copy without blurring, and which would not blur on the original (after drying) from the touch of the hand before it had been copied. He has so far succeeded that the company here intend adopting it shortly. In color it is a nice shade of violet, and flows from the pen freely. It seems to dry into the paper quickly, but at the same time is easily brought out upon the impression sheet, the finest hair mark coming out plain, the heaviest shaded letter copying without a blur, and as many as five copies being made from one writing, *not at one impression*, but in five successive ones. It is certainly a great improvement over the ink now used, and it is claimed freezing will not destroy its properties. It has been reduced with water nearly one half and still retained its copying qualities. It is equally good for ordinary writing as there is nothing in it that will glue or stick the pages of written matter together should the precaution to use the blotter freely be neglected, as is the case with other copying inks. It has also been used on the tapes of Gray's Printer and Sholes & Glidden's Type Writers as successfully as on the Western Union office blanks.

It is not often I feel like going out of the way as a gossip recorder to puff up any particular kind of telegraph instrument, etc., but the superior quality of the Pocket Relay manufactured by the Western Electric Manufacturing Company of this city (a cut of which appears on the advertising page V of THE TELEGRAPHER) is being so highly spoken of here by all telegraphers who have used it or seen it used that it seems an act of justice to call the attention of your readers to it. It is certainly one of the finest finished, nicest sounding little instruments I have ever seen.

The boys are wondering what has become of "Pant-a-loon" of Milwaukee. We would have more of him. Tease him out.

The following answer to "Davy" Anderson's challenge to the W. U. boys in Cincinnati to meet a nine from this city on the "Diamond field," is very suggestive. I give you the answer *verbatim* as handed me by one of the W. U. boys: "Every one here too *darned lazy* to play ball. Can scrape up a nine that can beat the world drinking beer or playing faro."

Our "Check" says the reason operators are generally

men of small stature, "is because they very often have to get right down to their work, and it would hurt a big "fellow" to do that. He wants to know "if those fellows who done that *fast receiving* years ago had their blanks all fixed like he has to fix mine for me." If so he don't want to go to the Centennial with me.

I understand the Western Union night men are loud in their praises of the new hours. They are now being paid for the "noon hour," and seven hours constitutes a night's work. If a man is "let off" on account of not being needed before he has worked seven hours the time lost is charged against the hours he works extra after completing the seven hours on other nights. It is a change that has long been needed. When a man gets "stuck" now he gets paid for it.

The new Western Union receiving blanks are the same shape as the counter blanks, but have not got figures at the right hand side, nor ruled lines like the A. & P., and the boys claim they like them much better without them. There is one objectionable feature, however, the name of the firm doing the printing is placed in the lower left corner of the blank, right where operators have been in the habit of writing the check of the message, and if the message is long the printing is in the way. It could just as well be above the line at the top of the blank on either side, and be entirely out of the way, as to be stuck down in that corner in the way of the check. No doubt the officials having the printing in charge will see to this.

It is said there is not a Western Union office in the country that has so many operators in it *who know everything* as the Indianapolis, Ind., office. They know all about it before they are told. They are the fastest senders and the finest receivers, according to their belief, in the world. Here's a sample of *how* they know it. One of the Western Union boys working the duplex here tonight sent "B" a few "Reds," and waiting some time for an O. K. (as there was only business enough at that time to keep one side busy) and not getting it inquired if he had got those "Reds," when the man at "B" replied, "Oh! I was waiting for you to close your key."

The cattle market is rather dull at present, but here's a few choice ones I must dispose of before I close: "Genuine" for "Gen'l Supt.," "Guise D" Waterbury for "Mrs. E. D." Waterbury, "Van Stone," Ill, for "Evanston," Ill, by the W. U. boys, the latter by an old one, and D. P. Dyer "and Qusatty," St. Louis, for D. P. Dyer, "Esq., U. S. Atty.," and "Come quick, Sarah has 'tipped over,'" for "Come quick, Sarah has typhoid fever," by the A. & P. men, the latter and the choicest of the lot by an "old timer" who *don't* take any interest in THE TELEGRAPHER. It's a bad case of guessing. Let's "sing the doxology" and "cut out." OCCASIONAL.

Regular Telegraphic Correspondence Desirable.—Forest Fires and Hot Times for Telegraph Repairers.—Personals, etc.

ALBANY, OREGON, Oct. 6.

TO THE EDITOR OF THE TELEGRAPHER.

I AM pleased with the suggestion made by "Micawber," of Philadelphia, in a recent issue of our paper, regarding regular correspondence from all parts of the country, and I am, for one, very much in hopes the boys will come to time on this subject, as a steady correspondence would be very desirable, and be welcomed by all. This could very easily be accomplished if we would *only* think so. The communications need not be a huge, dry, multiplication of jawbreakers, and elaborate apologies for writing, but they should be composed of short, terse sentences, replete with interest. I have tried to do my best, and propose in future to keep up my lick. Of course our facilities for news and interesting articles are far inferior to those of our friends in the East, but as a "lastly" to this already too long article, I will venture an assertion that if all (in proportion to facilities) would do as well as the Pacific coasters regarding subscriptions and letters, friend Ashley would rise up and call him blessed! and, like "Micawber," I feel disposed to return thanks unto "Occasional," "Western Union," "Double Six," and others for past favors and ask a continuance in future.

A force of men started out from Portland a week ago Monday to place the O. S. N. Co. line in thorough repair for an early connection with the Nevada & North Telegraph Co.'s line at Walla Walla. Mr. Platt Burr, the Supt. of the latter line is now on the ground rushing the building, and it will not be many weeks until I can announce to you the completion of this line to San Francisco—"opposition" to W. U.

During the past month or so, extensive forest fires have played sad havoc with the wires of both the W. U. and O. S. N. Co., up the Columbia River, as both lines run for some distance through dense forests, and the repairers can emphatically declare they have been having a "hot old time."

I hear some rumors about some more telegraph extension, but as they are hardly substantial enough to warrant publication, I will await further developments.

Another good telegraphist has quit the ranks to engage in other business. I refer to our old time, tried friend, Jim

Reed, at Halsey, who has resigned to accept a position as travelling agent for M. Gray, the noted music dealer of the Pacific coast. Side by side have we worked for four years, and we are truly sorry to have Jim leave us, but as he has secured a No. 1 position, and can do much better, we will put on sackcloth and grin it. Farewell, Jim; if any of the boys can ever get enough ahead, I know they will patronize you when purchasing pianos and other musical "fixings."

Another martyr has come into existence. Who? Why, Charley Wheeler, at Shedd's Station. Its a fine bo—gir—no—boy—I be-le-i-ve—any way "it" weighed 12½ lbs., and Charley goes around at night peeling his shins in the dark hunting for the matches, preparatory to a grand hunt for that "soothing syrup." Ain't "Web-foot" glad he ain't a martyr, and that he did not succumb to Hymen's importunities! for it would be just his luck to get caught prowling around after syrup and sich like. Let's return thanks!

I hear rumors of some more "lightning showers" (that's an "occidental" phrase), contemplating matrimony. If these come off there will be a chance for something more from
WEBFOOT.

A Telegraphic Scare and Stampede.—Personals.

BOSTON, MASS., Oct. 20.

TO THE EDITOR OF THE TELEGRAPHER.

THE roof of the Western Union main office, 109 State street, having sunk from its original and proper position, it was deemed prudent to elevate it, and insert an additional support to prevent a possible catastrophe. Accordingly the carpenters went to work Monday morning, Oct. 18th, raising the roof by means of a *jack-screw*. During this process an ominous crackling was heard above, and the truss which supports the roof seemed ready to give way and cause our precipitation with the debris to the basement. The operators, with blanched cheeks and lips, and a *beam* in their dilated orbs, sat heroically at their desks amid the presaging crack of the weakening timbers till the carpenters, fearing disaster, fled from their labors. Then and not till then did panic seize on the majority of these brave telegraphers. With one common impulsive they rushed frantically to the staircases, animated by a pardonable eagerness to breathe the free air, unsurrounded by shabby walls or threatened by falling roofs; and not till they felt the firm pavement beneath their feet did their usual presence of mind return to them. Then, watching the building and its walls more intently than ever before, they ascended the stairs leading to the operating room which they had so lately deserted, with trembling limbs and many forebodings of danger ahead.

There were a few notable exceptions to this general heroism. John Whitaker sat in his usual place at the Portland duplex receiving messages when all around had fled. John Milliken exhibited a bravery worthy of a Jem Bludsoe, sticking manfully to his post, and under the protecting *Ægis* of St. John he was prepared for the worst.

Joe Hoags continued to manipulate the uncertain mechanism of the metropolitan quadruplex with as easy a grace as if no danger hung overhead.

Phillips clutched his table with despairing energy, fondly hoping that if his fears were realized his devotion to his desk would save him from harm. Randall, the stoic, sat immovable as a statue, while O'Connor sought the crystal shelter of a skylight for protection. But all bravery is thrown into the shade by Tom Davin's demeanor on this trying occasion. This heroic soul, furtively glancing at the creaking roof, was the last man to leave his post of duty, but was the first to reach *terra firma* at the bottom of the stairs. How he succeeded in making this brilliant record, or how many jumps he took in his descent, will probably never be known. With wonderful agility he fled up Broad street to some haven of rest vouchsafed to those noted for heroic deeds. Jules Guthridge also withdrew from the dangerous edifice in a very lively manner, not at all *scared*, only some, one wanted to see him *down stairs*. Chief operator Henderson attempted to cheer the drooping hearts and to inspire courage in the swiftly retreating knights of the key, but without much success. Stanford, Weaver, Dennett, Wilson and Magee were also distinguished by bravery of a judicious kind, almost equalling Davin in their efforts to escape from the expected crash.

Messrs. Davin and Guthridge did not grace the operating room with their presence for several hours after the panic had subsided.

On Tuesday the city inspector of buildings paid us an official visit for the purpose of reporting on the condition of the telegraph building, and it is said that, although he did not consider it absolutely unsafe for occupancy, he ordered more supports for the roof to be placed in the operating-room, and the erection of efficient fire escapes for the safety of the employés in case of a conflagration. These measures, it is to be hoped, will have the effect to prevent the recurrence of telegraphic stampedes in the

future. The conundrum of the office now is, who gave the information about the building to the City Hall authorities, and speculation is rife as to whether it was given by one of the frightened telegraphers or some outside party.

A new arrival is Mr. Green, late of the Perry House office, Newport, R. I., who works Mr. Bishop's hours, the latter gentleman taking Mr. Griffith's hours, who has been promoted to the second press wire nights. Mr. H. J. Pettingill has sufficiently recovered from his severe illness to be able to be on duty again, working days, Mr. D. B. Grandy filling his place nights until he is fully restored to health.

Mr. J. C. Shorey manages the Concord wire now, that circuit being more in accord with his well known *penchant* for heavy work than the wire he has been working. More anon.
ARISTIDES.

The Management of the Chicago Western Union Office.

CHICAGO, ILL., Oct. 13.

TO THE EDITOR OF THE TELEGRAPHER.

I PRESUME to speak only for myself; yet, from numerous comments and observations by many of the Chicago operators, I am inclined to believe that the late bitter complainings by Messrs. H— and B— are far from meeting general approval or endorsement. It seems to me unjust, and in no way a strong point, to attempt, by sweeping, careless assertions, to condemn our management without a favoring exception, and that such assertions are hardly warranted by the present state of affairs here. It is, perhaps, too much to expect that every manager, chief or operator has a heart overflowing with the milk of human kindness, or a head weighty with the wisdom of a Solomon. The nature of his business does not require a charity Christian, nor a capacity broad. Man has ever been known to be a warlike animal. He "kicked" upon his advent into the world; and unless he meets some unusual divine influence or miraculous "toning down," he is quite sure to "kick" all through life; and, at last, upon his departure therefrom.

There are employed here somewhere over a hundred men and boys, whose antecedents are as varied as their numbers, and who sprung from heaven knows where. Is it not hoping against the natural order of things to think that perfect harmony can ever reign where so many of these beings are caged in close confinement? One has only to "stir up" the menagerie at any time to witness a commotion oftentimes threatening indeed.

I am impressed with the belief that, altogether, this office is, in all its departments, very ably managed. Its electrical geniuses are many and active, and appear well up with the times. It may be that upon one occasion or another, some assistant preserver of order has shown a lack of discretion and good taste, so far as to compromise his dignity, and call down upon himself the just indignation of the dissenters; but, generally, I have been pleased in noticing a disposition upon both the side of the managers and of the operators, working to the end that all may run as smoothly and peaceably as possible. In short, I cannot recollect a time when the business of this office was done upon a system insuring more of promptness and satisfaction; nor a time when good feeling and good fellowship prevailed to a wider extent.

As intimated in the beginning, I do not pretend to represent the "idea" of the office. I have simply relieved my mind of an honest opinion upon a subject that has, since the outburst by H— and B—, created, in some quarters, quite a sensation. Nor do I write to deter any one from going upon the war-path who may think it worth his while so to do.

I will end by remarking that we should not allow chronic grumblers to play upon our sympathies, nor should the really oppressed need an earnest champion.
RANDOM.

Additional Appointments.—A Railroad Accident and Extra Work, etc.

PHILADELPHIA, PA., Oct. 18.

TO THE EDITOR OF THE TELEGRAPHER.

WE are still pursuing our usual occupations, notwithstanding that Jack Frost has paid us several visits, and as we gather round the attractive feature of the office (the stove), we regret that summer has so soon passed away.

We have had an addition made to our lines, which I call "The Great Eastern," but my brother operator in this office declares that "Jackass" line would be more proper; be that as it may, the line extends from the office at Burks and American streets to Front and Willow streets office; the intermediate offices being, one in the scale house on American street below Berks, where Mr. Dougherty attends to the weighing of cars and telegraphing; next is the one at the milk depot, Third and Thompson streets, where A. Hopkinson reigns, and the other at

or near Second street and Germantown road, where Barney Peterson is located. The object in putting up this line is, our freight depots being at Front and Willow streets and vicinity, we haul all freight from Berks street to the freight depots with mule teams and shifting engines, and there being only a single track between Third and Thompson, and Second and Germantown road, the operators at the two latter places have to keep one another informed of anything in the way, so as to prevent up and down trains and teams from meeting on the single track, and prevent delay, as there is a curve between the two places, and it is therefore impossible to see if anything is coming up or going down. The office at the scale house is to send all weights of cars and other messages from the despatchers for the freight agents to Front and Willow streets office.

On the night of the 5th inst. several of the boys, including myself, were favored with night-work by having a "pile up" of box cars between Ashbourne and York Road, about seven miles from the city, at some places being piled up three story high, so that a box car fell down on the wires, and of course took them along down and made a good ground for our wires; so I was of as much use as a wooden man, and no more, for the time being. The accident happened at about 8 o'clock, and the wires all being down, we received no report until an engine came back from the wreck and gave us the account, when in about fifteen minutes thereafter an engine and car with men left for the wreck, taking with them the other operator from this office, and then sent for me, and as I was at a lecture that evening, they easily found me. Well, at about 11 o'clock one of the wires was made O. K., and after the first little rush of biz was over, and the wire not otherwise engaged, we kept one another awake by cracking jokes, etc., but when the clock sounded two o'clock A. M. I resorted to the lounge in the office, and was soon in the land of dreams. It is stated as a fact that at one place where there were three box cars on top of one another an Irishman was in the top one stealing a ride, and, after the occurrence, he put his head out of the car and wanted to know *why they were stopping and what was the matter?* He afterwards remarked that he had often stolen his ride, but that was the last time he would ever steal a ride. Fortunately no one was seriously injured. The aforementioned accident rendered it necessary for my fellow operator to work from 7.30 A. M. Tuesday until 6.30 P. M. Wednesday without any sleep whatever. That is the kind of men needed in such cases.

The Perkiomen Railroad having been completed, this company has opened a ticket office at Allentown, Pa., appointing Charles Eckert & Son as agents.

Do any of your readers wish to take lessons in drilling? If so, let them call at our office on J. Cooke (not Jay, but our messenger), who occasionally favors us with the exhibition free gratis.

Business is very brisk at present in our coal and freight departments, rendering it necessary for many of the men to work extra.
EX-PROF.

Resignation of a British Columbia Telegraph Manager.

WE are very sorry to announce the resignation of Mr. Meyer, the gentleman who has been for the past year in charge of the telegraph office in this city. Mr. Meyer is a first class operator, and has in his intercourse, public and private, gained friends from every quarter. He leaves shortly to visit his friends in Europe, and we trust to see him at an early day once again established amongst us. We are confident we but speak the sentiment of the community when we state that, for uniform courtesy and civility to all, the gentleman we write of possesses them in a degree not easily to be found in persons filling so responsible and trying a position. A successor is looked for within the next week or two.—*Victoria (Vancouver's Island) Daily Standard.*

The Electric Light as a Military Signal.

THE roof of the Siemens-Halske factory at Berlin, was recently the scene of a series of experiments with the electric light, which filled all the streets in the vicinity with a crowd staring with astonishment at a supposed wonderful natural phenomenon up in the clouds. The apparatus, which gave a light so powerful that ordinary writing could be read by its illumination at a mile distance, was arranged with an inclosed mirror, so that the rays were projected against the clouds, which served as a screen. In front of the mirror the signals were made, and these were repeated, of course on a gigantic scale, in the clouds. The light is to be adopted by the German army for night signaling.

The Globe Telegraph and Trust Company announce that the interim dividends for the quarter ending the 18th inst. will be 2s. per share on the preference, and 3s. per share on the ordinary shares, both payments being at the rate of six per cent. per annum.

THE TELEGRAPHER

DEVOTED TO THE INTERESTS
OF THE
TELEGRAPHIC FRATERNITY.

SATURDAY, OCTOBER 30, 1875.

THE TELEGRAPHER:

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THE TELEGRAPHER MAY BE HAD at the news stand in the Receiving Office of the Western Union Telegraph Company, corner of Broadway and Dey street, where it is regularly on sale.

A Special Premium for Subscriptions to "The Telegrapher."

The summer season is about over, and we expect that the friends of THE TELEGRAPHER will now renew their efforts to increase its list of subscribers. The subscription list has been very well sustained during the summer, but as the days of vacations and excursions are over, we look for the usual increase of interest in the only truly independent telegraphic journal published.

It has been our custom for years past to share with those who kindly interest themselves in obtaining subscriptions by offering valuable premiums.

We propose this season to excel our former liberality in this direction. We desire to offer something of real and permanent value. We have accordingly made arrangements by which we are enabled to offer to the person obtaining 60 subscribers for one year, at the regular subscription price, \$2 per year, or their equivalent in shorter subscriptions, a

No. 1 WEED SEWING MACHINE;
for 65 subscribers a

No. 2 WEED SEWING MACHINE,
and for 70 subscribers a

No. 3 WEED SEWING MACHINE.

The price of these machines is respectively \$60, \$65 and \$70.

The machines will be boxed and shipped without extra charge.

This affords an excellent opportunity for female telegraphers, or for telegraphers who have wives or relatives that need these exceedingly useful machines, which are in every respect first class, to obtain them at comparatively little trouble or expense.

Send in subscriptions as obtained, and they will be credited until the necessary number to entitle the sender to the desired premium is obtained.

To prevent disappointment, should any canvasser eventually fail to obtain the requisite number for a machine, they will be allowed other premiums proportionate with the amount collected, or, if preferred, 20 per cent. in cash on such amount. To whom shall we send the first machine?

The Annual Report of the President of the Western Union Telegraph Company.

CIRCUMSTANCES have delayed our attention heretofore to the report of President ORTON to the stockholders of the Western Union Telegraph Company, presented at their annual meeting on the 13th inst., and we do not now propose to treat of it at any great length. There are, however, some features of it to which it is proper that we should briefly refer. The report makes a very satisfactory exhibit of the business of the company for the year ended June 30th last. The company has been prosperous, and the statement of receipts and profits shows the dividends declared to have been fairly earned.

The statistics of the growth of the company's property and business during the nine years which have elapsed since the consolidation of the principal telegraph lines of the country, show an increase of 57 per cent. of line and 110 per cent. of wire, and 156 per cent. in the number of offices and stations. The number of employes of the company is not stated in this report. During this time the number of messages has increased 192 per cent.; the rate of tolls has decreased 51 per cent.; and the gross receipts have increased 46 per cent. This very fairly represents the development of the telegraph business in this country during that time. In referring to the increase of 192 per cent. in the number of messages transmitted, while the mileage of wire has increased but 110 per cent., Mr. ORTON says: "The ability to make so large an increase in the carrying capacity of the wire is due in part to improvement in the conductivity and insulation, and in part by the introduction of the duplex and quadruplex apparatus. * * * By means of this apparatus, during the past year, the company has had the use of more than 30,000 miles of what may be called *phantom wire*, which has cost nothing to provide," etc. This "phantom wire," we apprehend, when the amount expended in developing and endeavoring to secure the title to the quadruplex apparatus is taken into account, will be found to have been as expensive as *real wire* would have been.

The report treats at some length of the tariff rates and the reductions which have been made from time to time by the management of the company. It is not to be disputed that the Western Union Company has made material progress in cheapening the cost of telegraph service to its customers, and the management of the company deserves more credit for what has been done in this direction than it usually receives. The rates have been reduced as rapidly and as radically as was consistent with a due regard to the interests of the stockholders, and the proper maintenance and efficiency of the service. The fact which is stated, that with all the improvements that have been made, the average cost of each message to the company is 37 cents, fully demonstrates this fact. That a further reduction in the higher rates is yet possible is probable, and it is understood that Mr. ORTON personally favors a further reduction at an early day.

The assertion that "The reductions in message rates made by this company during the past nine years have been greater in the aggregate than have ever been made upon the entire traffic of any other telegraph system, private or governmental, in the same period of time," should be qualified.

In making this statement we think Mr. ORTON has spoken without due examination of the facts. While we are disposed to accord to the Western Union Company all the credit to which it is entitled for its reductions of tariff during the last nine years, we scarcely be-

lieve that the facts will bear out the assertion. The reductions of tariff by the Atlantic cable companies (now represented by the Anglo-American Company) have certainly been greater, for from \$100 gold for 10 words the rate has been reduced to 25 cents gold *per word*, and now stands at one dollar gold *per word*; above which there is no likelihood of the price being again advanced. It may be said that there is no analogy between the Western Union and a cable system, and that Mr. ORTON intended only to refer to the lines of a similar character to those of his company, that is, aerial lines. But even with this exception we think an examination of the figures will show that the reduction made by the Montreal Telegraph Company, which from a series of rates ranging from 30 cents to about \$3 for ten words, has reduced its tariff to a uniform charge of 25 cents for all the stations on its line, is greater in the aggregate, and it has continued to pay dividends notwithstanding. No doubt telegraph lines are more cheaply worked in Canada than in the United States—in fact, such must be the case, for unless the average cost of messages to the company were less than 37 cents, there could not be much profit on a 25 cent tariff.

The reference to the failure of the postal telegraph system of Great Britain is *apropos* and instructive. With an enormous development of the business, the relative increase of cost has brought the postal telegraph in debt more than a million of dollars for the last fiscal year.

It is well known that THE TELEGRAPHER does not agree with Mr. ORTON in his estimate of the automatic telegraph system, and we had intended to have criticised this part of the report, but as our correspondent, Mr. D. H. CRAIG, in the last number of this paper, has discussed the subject in reply to Mr. ORTON's statements at length, we will not further trouble our readers upon the matter.

In conclusion, we would congratulate Mr. ORTON, and the company which he so ably manages, upon its prosperous condition, and hope that it may continue to be in the future not only successful, but maintained and operated for the best interests of the public as well as of its shareholders and employes.

A Trip to Boston and Providence.

WE have recently enjoyed a brief visit to Boston and Providence, and were much gratified at the cordiality with which we were received by the telegraphers in those cities. The fact that six years of our life were spent in telegraphic service in Boston, and that our first introduction to telegraph service was in Providence, naturally adds to the interest which we feel in the telegraphs and telegraphers in those cities.

We had but little time to devote to the telegraphic fraternity, but our call at the Boston office of the Western Union Company was very pleasant. Mr. G. F. MILLIKEN, whom we left in the Boston office fifteen years ago, still remains; and is growing gray in the service as manager of that office. But few of those who were associated with us then now remain; but WILLIAM MARTIN, in the receiving office, and Messrs. DAVIS, BARRETT, and one or two others, reminded us of old times and scenes of long ago, when we were companions and co-laborers for the old American Telegraph Company.

At Providence Mr. H. CARPENTER BRADFORD still represents the Western Union Telegraph Company with that grace, dignity and fidelity which are inseparable from his nature. Mr. BRADFORD is looked upon by the public in Providence as the embodiment of the telegraph, and so highly is he appreciated by his fellow citizens, that for the past two years he has been elected to a responsible position in the municipal administration of the city. Time seems to treat him kindly, and although he is not sufficiently portly of person for an Alderman, yet as a Common Councilman he has achieved marked success.

We availed ourselves of the opportunity to visit the works of Mr. EUGENE F. PHILLIPS, at No. 20 Conduit street, who is well known as the manufacturer of patent insulated wire, and rubber covered and insulated wires, electric cordage, etc., of every description. Mr. PHILLIPS

was absent, but Mr. REED, who has immediate charge of the manufactory, showed us through the establishment. The works are equipped with the best machinery for the manufacture of insulated wires, and the business has grown into extensive proportions under the able business management of Mr. PHILLIPS.

The superior quality of the PHILLIPS wires is well known to those who have occasion to use them, and the active and increasing demand for them attests the estimation and appreciation in which they are held. The factory covers a considerable extent of ground, and the machinery provided is ample to supply promptly any quantity of wires to satisfy the demand therefor.

In addition to the wire business, Mr. PHILLIPS manufactures the best gas tight gas tubing made, either in this country or in Europe, and the demand for this tubing comes not only from all parts of the United States but also from foreign countries, to which considerable quantities are exported. Improved and very beautiful and expensive machinery is employed in the manufacture of the tubing, as well as of the electric wires. Everything appeared to be thoroughly systematized throughout the establishment, and the utmost efficiency and economy employed to turn out work not only superior in quality, but at reasonable and satisfactory prices.

Fatal Accident to Mr. Frederic Hudson.

MR. FREDERIC HUDSON, who for thirty years was connected with the *New York Herald*, on Wednesday afternoon of last week met with an accident which in a few hours resulted in his death. While crossing in the carriage of and with his friend Judge KEYES, the crossing of the Middlesex or Concord branch of the Boston and Lowell Railroad at Concord, the carriage was struck by the cars, and Mr. HUDSON was entangled in and carried with the debris some distance, when the whole was thrown down an embankment some ten or fifteen feet. Judge KEYES succeeded in jumping from the carriage, and escaped without serious injury. Mr. HUDSON, when taken from the wreck, was not supposed to be fatally, although severely injured, and was taken home; but about half past nine o'clock P. M. he commenced vomiting blood, and it became evident he was injured internally. Vomiting of blood continued at frequent intervals, and at five o'clock, Thursday morning, he died.

As the managing editor of the *Herald*, Mr. HUDSON was intimately associated with telegraphic affairs. He was one of the originators and organizers of the Associated Press of this city, and from the first introduction of the electric telegraph fully appreciated its value and importance to journalism.

He was a man of great ability as a journalist, and the wonderful success of the *Herald* was largely due to his labors. Of a most kindly disposition, and with a just and equitable mind, while at the same time a strict disciplinarian, he made friends of all who were associated with him in the service of the *Herald*.

Several years since he retired from his connection with the *Herald*, to devote himself to the care of an invalid wife, and has since resided at Concord, Mass., where he met his death. He was universally beloved by his townsmen, and the news of his death cast a gloom over the village, and has caused a universal expression of grief and regret from all who knew him, which is his highest eulogium.

He was between 56 and 57 years of age at the time of his death, and was in the prime of life and usefulness when he was called so suddenly from existence. He leaves an invalid wife and a son to mourn the great bereavement which has so unexpectedly come upon them.

It has been said, "Of the dead speak nothing but good;" but there is naught but good that any one can speak of the deceased. He had no enemies living, and no man ever more fully deserved the good and kindly words which have been called forth by his death.

An independent and popular telegraphic journal—THE TELEGRAPHER.

A Caution to Operators.—Don't Go to California!

EVERY letter that we receive from California or the Pacific coast, whether intended for publication or not, speaks of the over supply of telegraph operators in that section of the country. A letter from a telegrapher in San Francisco, dated the 17th inst., begs us to warn telegraphers who are contemplating going to the Pacific coast not to do so, unless they have situations assured before starting. Many telegraphers who have been induced to emigrate to California in the expectation of securing good situations and better salaries than at the east, are now there without employment, and many of them without the means of subsistence or to return home, or expectation of any except from their friends in the east.

A fact stated by another correspondent gives a good idea of the situation, viz: that Mr. VANDENBERG, the Superintendent of the Atlantic and Pacific Telegraph Company, asserted that if every operator in his employ should leave he could fill their places without difficulty in forty-eight hours.

Telegraphers owe it to their fellows now on the Pacific coast not to further over-stock a market already so excessively supplied with telegraphic labor.

We understand that there are in operation two telegraphic "plug" factories in California, under the presidency or patronage of the General Sup't of the Western Union Telegraph Company. We should suppose that there would be but small show for the graduates of these so-called telegraph schools, and that to receive pay from them for tuition in a business which is already over supplied with labor, must be very much like obtaining money under false pretences, for, of course, each of the pupils enters the school with the intention and the understanding that the business, when learned, will be remunerative. It isn't a good time now for plug factories anywhere, especially in California.

The Atlantic and Pacific Telegraph Company.

THE executive offices of the Atlantic and Pacific Telegraph Company in this city will to-day be removed from 198 Broadway to the rooms which have been fitted up for occupancy at No. 145 Broadway. It is not expected that the operating and other departments will occupy their new quarters for a week or ten days yet. We shall, as soon as this is done, print a description of the new offices, which will be superior in every respect to any heretofore occupied by the company. No labor or expense is being spared to make the new quarters admirably fitted for the increasing business of the company, which imperatively requires more adequate accommodations than have heretofore been provided.

The new lines of the company are being energetically pushed forward, so as to have them ready for use before cold weather sets in. A large amount of work has also been done during the present season in improving the insulation and conductivity of the old wires of the Atlantic and Pacific and Franklin lines, and they are now in better condition than ever before.

In consequence of the refusal of the St. Louis Bridge Company to allow the wires of the Atlantic and Pacific Company to be maintained across the bridge, that company having an exclusive contract with the Western Union Company, a cable will be temporarily laid across the river to establish connection with St. Louis. The Atlantic and Pacific Company, however, claim, under the National Telegraph Act of 1866, the right to use the bridge for telegraphic purposes, it having been established as a post road, and this right they propose to enforce legally, having commenced a suit against the Bridge Company for that purpose; but pending the decision of the courts in their favor, will make the connection by cable as above stated.

The National Telegraph Company.

THE National Telegraph Company, of California enterprise, continues to attract attention among telegraphers as well as the public, and Mr. COHEN, the President, is yet

in New York, but will in a few days return temporarily to the Pacific coast.

Mr. COHEN objects to the statements of our San Francisco, Cal., correspondent "C," in a communication published in the last number of THE TELEGRAPHER, in regard to that enterprise, as not being correct. He denies that the object of the promoters was to depress Western Union stock, and asserts that the company intend to go on and build the proposed telegraph system. As his company did not invite telegraph operators to California, or promise them employment upon any terms, it can hardly be justly blamed for any rush of that class to the Pacific coast.

It is not proposed to commence the construction of lines before next spring, but the intervening time will be utilized in perfecting the preliminary arrangements. It is expected by the National Company to obtain such legislation from Congress during the winter as will authorize the use of the post-offices and postal officials, wherever it is desirable for the transaction of the telegraph business of the company, upon some proper rate of compensation to the Government, and by this means considerably reduce the cost of the telegraphic service—which is essential, if the business is to be done upon the scale of charges proposed by the National Company. We think it very doubtful, to say the least, whether any such legislation can be obtained, as neither the people or Congress have so far manifested any overweening desire to engage in the telegraph business, either directly or indirectly. A Government or Postal telegraph, either directly owned by the Government, or owned or worked in partnership with other parties, is not desirable, and we hope the National Company will abandon the idea of any connection of Government, or Government officials, as such, with its enterprise.

Personals.

Mr. N. B. WALKER, lately of Ottawa, Ill., has retired from the telegraph business to engage in farming, at Sedgewick City, Kansas.

Mr. CHARLES H. POND has accepted a position with the Western Union Co. at New Orleans, La.

Mr. CHARLES POPE has been appointed extra operator in the St. Louis, Kansas City and Northern R. R.

Mr. JAMES W. SHRYOCK is subbing in the Western Union office at Cheyenne, W. T.

Mr. ROBERT IRWIN, the comedian and transmitter, has been transferred from the day to the night force of the St. Louis, Mo., Western Union office.

Mr. HARMON BYERS, of Troy, Kansas, has accepted the managership of the Western Union office at Barnum's Hotel, St. Louis, Mo.

Mr. JOHN WILKIE has left the Jackson R. R. Co.'s telegraph service at Caution, Miss.

Mr. ALLEN SCHURG, formerly assistant operator and agent of the No. Pa. R. R. Co. at Souders, Pa., has been appointed agent and operator of the same company at Jenkintown, Pa.

Mr. M. D. ZENOTT has been appointed agent and operator of the N. P. R. R. Co. at Souders, Pa., to fill vacancy caused by the promotion of Mr. ALLEN SCHURG.

Mr. FRANK NICHOLSON, formerly of Troy, N. Y., has accepted a position with the Montreal Telegraph Co. at Utica, N. Y.

Mr. SAM'L. Q. SEVIER, of the New Orleans, La., Western Union office, has resigned, to engage as travelling agent for a prominent grocery house of that city.

Mr. CHARLES H. PATCH, from the north, has accepted the vacancy in New Orleans, La., Western Union office, caused by the resignation of Mr. SEVIER.

Mr. C. H. SMITH, formerly of the New Orleans, La., Western Union office, and late of the Western Union main office, in New York, is an addition to the force of the former office.

Mr. W. P. DENNETT has been appointed to a position with the Western Union Company, at Vicksburg, Miss. An increase of force.

Mr. A. G. TAYLOR, of the Western Union, Galveston, Texas, has been made night chief operator.

Mr. WM. THOMS, an old timer, is an increase to the Western Union force at Galveston, Texas,

The Telegraph.

Foreign Telegraphic Notes.

THE erection of the Encla telegraph line in Western Australia is proceeding satisfactorily.

The New Zealand Cable is to be laid before May next.

The traffic receipts of the Anglo-American Telegraph Company for

Table with columns for dates (Sept. 29, Oct. 1, 2, 3, 4, 5, 6, 7) and amounts in pounds (£) ranging from 460 to 2,650.

The traffic receipts of the Brazilian Submarine Telegraph Company for the month of September, 1875, were £9,544, against £8,238 for the corresponding period of 1874.

The number of messages transmitted over the Cuba Submarine Telegraph during the month of September last was 2,072, estimated to produce £2,000, against 1,797 messages, producing £1,802 in the corresponding month of last year.

The traffic receipts of the Direct Spanish Telegraph Company for the month of September, 1875, were £1,547, against £1,245 in the corresponding period of last year.

The traffic receipts of the Eastern Telegraph Company for the month of September, 1875, were £30,176, against £28,208 for the corresponding month of 1874.

The traffic receipts of the Eastern Extension, Australasia and China Telegraph Company for the month of September last were £18,080, and for the corresponding period of 1874, £18,163.

The traffic receipts of the Great Northern Telegraph Company for the month of September last were 392,089 francs, and for the corresponding month last year 425,931 francs. Total traffic receipts from January 1 to the 30th of September last, 3,186,948 francs, and for the corresponding period of last year, 3,328,040 francs.

The accounts of the Brazilian Submarine Telegraph Company, though not finally audited, show a profit for the year ending 30th of June sufficient to enable the directors to recommend a final dividend of 2s. 6d. per share, making with previous distributions five per cent. per annum, and carrying to reserve the sum of £40,000. The dividend will be payable on the 28th inst.

The report of the Eastern Extension, Australasia and China Telegraph Company for the half year ending June last states that the gross earnings have amounted to £110,754, and the working expenses, including maintenance of cables, to £28,473, leaving a balance of profit of £82,280. An interim dividend of 1½ per cent. has been paid, and it is now proposed to distribute a further one of 1½ per cent., leaving £22,355 to be carried forward. The greater portion of the 3,200 debentures authorized to be issued for the purpose of laying the cable between Sydney and New Zealand has been taken up. The report further states, and it is anticipated, that the cable will be laid early next year.

At a meeting of the Board of the West India and Panama Telegraph Company it was resolved to recommend to the shareholders, at the approaching general meeting, the declaration of a dividend of 7s. 6d. per share, on account of arrears of dividend on first preference shares to 30th of June, 1875.

The steamship Edinburgh was to leave Portland on the 10th inst., carrying the shore ends of the New Zealand cable, and the Hibernia is expected to follow about the end of the month with about 1,000 miles length of deep sea cable. On the arrival of the latter the two ships will proceed to lay the cable, which will connect the ports of Sydney and Wellington. The total length of cable being manufactured is 1,370 knots. Last week Sir Julius Vogel visited the works of the Telegraph Construction Company, and inspected every process of the manufacture, which is progressing most satisfactorily.

The Panama Star and Herald, of Oct. 16th, says: We are officially informed, under date of 15th inst., that the break in the cable, between Key West and Punta Rasa has been repaired, and that messages are now forwarded without any extra delay. The following is a new schedule of rates from the Isthmus:

Table with columns for destinations (Havana, U. S. E. of Mississippi, U. S. W. of Mississippi, Canada) and rates per word, ranging from \$1 12 to 1 45.

For Great Britain and France the Anglo-Cable Company's tariff is to be added, which is \$1 per word, to the east of Mississippi rate.

The traffic receipts of the Western and Brazilian Telegraph Company for the five weeks ending October 1, were £10,360, showing an increase of £1,124 over the corresponding period of last year.

Telegraphic and Electrical Brevities.

THE Galveston, Texas, Western Union office is now one of the most important and profitable in the South. The relaying for almost the entire State of Texas is now done at Galveston.

The Signal Service Telegraph line from Wilmington to Smithville, N. C., mouth of Cape Fear river, a distance of twenty-five miles, has been completed.

An incendiary fire at Mahoney Plains, Pa., at two o'clock Sunday morning, the 24th inst., destroyed the Western Union Telegraph office. The telegraph instruments were saved.

At St. Louis, Mo., on Saturday last, the 23d inst., the Atlantic and Pacific Telegraph Company stretched a wire on the bridge to connect their lines with that city, and shortly afterward the bridge company cut it down. The telegraph company claim the right to use the bridge under an Act of Congress, but the bridge company, having a contract with the Western Union Company granting them the exclusive right to use their structure, refuse to allow the Atlantic and Pacific folks to go on it.

It is proposed to establish a system of fire alarm telegraph in Long Island City immediately. It is estimated that the work can be done for \$5,000.

The United States Military telegraph line was completed and connected to Fort Concha and McKavitt, Texas, 575 miles from Dennison, Oct. 20th.

Quotations of Telegraph Stocks at N. Y. Stock Exchange.

Showing Lowest and Highest Prices each day during week.

Table with columns for dates (Oct. 21-27) and stock prices for Western Union, Atl. and Pac., Amer. Dist., and Gold and Stock.

New Patents.

OFFICIAL COPIES of any U. S. Patent issued since July 1st, 1871, including drawings, specifications and claims in full, sent free to any address for 25 cents each. Address F. L. POPE, Elizabeth, N. J.

For the week ended Sept. 28, 1875, and bearing that date.

168,144.—AUTOMATIC TELEGRAPH KEYS.—S. L. Crandall, New York, N. Y. [Filed Aug. 21, 1875.]

1. An automatic telegraph key for mechanical transmission of messages, constructed of a series of sliding spring keys, representing the letters of the alphabet, and connected by spring pawls and ratchet wheels with a corresponding number of revolving wheels, with partially insulated circumferences, and with spring tongues or riders in contact therewith, said wheels being connected to one pole, while the tongue is connected to the other pole, substantially as and for the purpose specified.

2. The combination of two sliding spring keys, having spring pawls, with one transmitting wheel, provided with ratchet wheels placed in opposite direction to each other, for the purpose of coupling keys having letters with reversed Morse characters, substantially as shown and described.

168,185.—ELECTRIC CIRCUIT BREAKING CLOCK WORK.—David Rousseau, New York, N. Y., assignor, by mesne assignments, to Wm. F. Smith and S. Samuels, same place. [Filed Aug. 13, 1875.]

The circuit breaking train of wheels acts only at the time when, in the course of the revolution of a pin wheel in the time-keeping train, the pins have advanced sufficiently to allow the escape of an arm projecting from a spindle of the circuit breaking train.

1. The arm a, combined with the rotary wheel d, and intermittently rotating wheel h, to constitute a circuit breaker, substantially as herein shown and described.

2. The combination of the mainspring B, which rotates the wheel d, with the mainspring C, arm a, and circuit breaking wheel h, substantially as herein shown and described.

168,242.—TRANSMITTERS AND RECEIVERS FOR AUTOMATIC TELEGRAPHS.—Thomas A. Edison, Newark, N. J., assignor to himself and George Harrington, Washington, D. C. [Filed Jan. 26, 1875.]

1. The transmitting drum f and receiving drum e upon the same shaft, in combination with the receiving and transmitting stylus or rollers n o and a clutch b, for connecting either one drum or the other to the shaft b, as set forth.

2. The two contact rollers i and i', applied to the transmitting drum, one at each side of the roller n or stylus, in combination with the wire d, to guide the advancing end of the strip of paper, as set forth.

3. The roller z1, removable from the shaft c, and revolved by friction, and containing points, in combination with the receiving drum e and yielding roller n2, substantially as set forth.

For the week ended Oct. 5, 1875, and bearing that date.

168,364.—ELECTRIC ANNUNCIATORS.—Saml. H. Beckwith, Utica, New York. [Filed April 1, 1875.]

The alarm and all the indicators controlled by one electro-magnet, through which circuits pass from all the points to be signaled from. Magnet is revolved by clock work.

1. The combination in an annunciator of a series of indicating or numbered cards or signs and a single electro-magnet controlling the same, with intermediate mechanism, for the purpose of causing the proper sign or number to appear on sounding an alarm or call, substantially as set forth and described.

2. The combination of a revolving electro-magnet, an armature lever, a drag spring, and a system of keys for the purpose of announcing an alarm or call by the appearance of annunciating cards indicating the place from whence the alarm or call proceeds, substantially as set forth and described.

3. The revolving electro-magnet provided with the armature lever C2 and drag spring G, in combination with the cut-off I3, the automatic switch M, and the clock work, whereby the breaking of the circuit at the switch causes the clock work to move and revolve the magnet, and the circuit is automatically closed to stop the same, substantially as set forth and described.

4. The keys D D1, etc., in combination with the armature lever C2, the conducting plates E E1, etc., and the horizontal notched springs h, substantially as set forth and described.

5. The cams L carrying the annunciating cards N, in combination with the horizontal springs h1, rods I and K, chains or cords m', and keys D D1, etc., substantially as set forth and described.

6. The conducting plates E E1, etc., in combination with the drag spring G, the armature lever C2, and the automatic switch M, substantially as set forth and described.

7. The cut-off I3, constructed as described, in combination with the automatic switch M, the revolving electro-magnet, the drag spring G, and the armature lever C2, substantially as set forth and described.

8. The cut-off I3, in combination with the crank F, substantially as set forth and described.

9. The automatic switch M, composed of the sheath n and punger p, provided with the metal pins r r and the metal plates s s', in combination with two circuits to the annunciating apparatus, substantially as set forth and described.

168,379.—CIRCUIT CLOSERS FOR RAILROAD SIGNALS.—Lloyd B. Dennis, Sandusky, Ohio. [Filed June 26, 1875.]

Lever C, operated by train, forces B B apart. The combination, with spring clamp B B', holding together the ends of circuit wires A A, of the lever C, adjacent spring D', rod D, and superposed spring E, all arranged substantially as and for the purpose specified.

168,466.—SOLUTIONS FOR CHEMICAL TELEGRAPHS.—Thos. A. Edison, Newark, N. J., assignor to himself and Geo. Harrington, Washington, D. C. [Filed Jan. 26, 1875.]

In a chemical solution for telegraphic paper, the combination of a proto-salt of iron with a vegetable astringent and a conducting salt, substantially as set forth, in order that the mark may be made by electrolysis, as set forth.

168,467.—RECORDING POINTS FOR CHEMICAL TELEGRAPHS.—Thos. A. Edison, Newark, N. J., assignor to himself and George Harrington, Washington, D. C. [Filed Jan. 26, 1875.]

A recording point formed of metallic ruthinium in a chemical telegraph, substantially as set forth.

WILLIAM BROWNLEE, Dealer in CEDAR TELEGRAPH POLES. OFFICE, FOOT OF SHELBY STREET. DETROIT, MICHIGAN.

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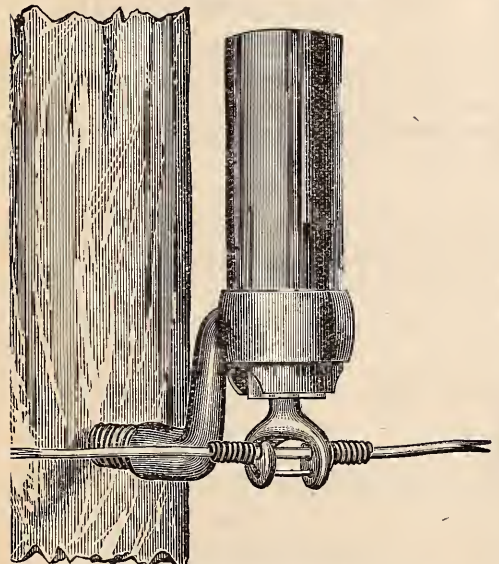
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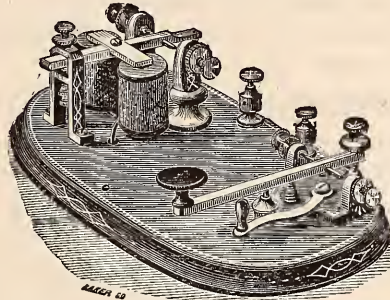


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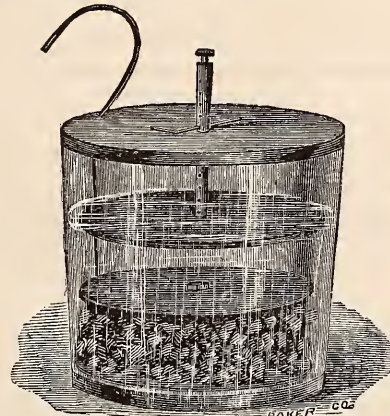
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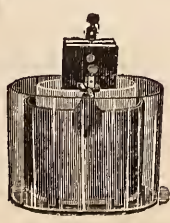
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Fall River, Mass.,
Fitchburg, Mass.,
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THE TELEGRAPHER

A JOURNAL OF ELECTRICAL PROGRESS.

J. N. ASHLEY, PUBLISHER.

SATURDAY, NOVEMBER 6, 1875.

VOL. XI. WHOLE No. 486.

[Written for THE TELEGRAPHER.]

Our Prospects.

[By NIHIL NAMELESS.]

I.

We young folks seldom think at all, Our pathway is so lined with flowers; Advancing years no terrors bring, So smooth the moments weave the hours. So grandly rides the climbing sun We think not of declining ray— So deep the draught of morning joy We take no thought of closing day.

II.

Could we but see with thoughtful eye The clouds that darken future years, The pinching want, the friendless age, How hope would dwindle into fears— How oft, instead of thoughtless laugh, Would fall the deep and hopeless groan, As dark before our forward glance We see our gray haired selves alone.

III.

I had a dream the other night, Which was not all a common dream; The men and places all seemed strange, And still 'twas a familiar scene. I stood among a busy throng Of strangely intermingled men— Some young, some old, some weak, some strong, Some meek and mild, some smart and vain.

IV.

I mused in silent pensive mood, And listened as they thronged around; The noisy click soon shaped itself Into the "giant's" well known sound; The messages poured in apace, The men were urged to greater speed, And as the orders passed along, I looked to see who held "the reed."

V.

I thought I saw among the men The very man to hold the sway— His silver hair and wrinkled brow Bore witness he had "had his day" Of labor. Surely, now his toil Has met the recompense deserved, And now he governs for the men For whom so many years he served.

VI.

But no; when orders came along The old man meekly bowed his head; No officer was he, I saw— From other lips the orders sped— He was a servant still, whose life Had been devoted thus to toil For those who now, in his old age, Repay his work with greater toil.

VII.

And standing spruocely in the midst I saw a boy, whose beardless cheek Proclaimed his youthfulness, no less Than glossy locks, so straight and sleek; His hair, so smoothly in its place, Was parted true with girlish care, As though the lack of brains compelled An equal weight each side of hair.

VIII.

A sharp rebuke dropped from his lips— Upon the silver head it fell— The old man answered not a word, He knew the consequence too well. The boy was master, he was man— His daily bread hung on a breath— To answer was to "lose his job," To lose the job was simple death.

IX.

A pert young master, just from school, Whose father owns a lot of stocks, Had claimed the right to order there, An got it through his father's "rocks." 'Tis ever thus with worth, I thought— Merit is crowded out by cheek— Desert goes meekly to the wall; Gold is mighty, virtue weak.

X.

To "point the moral" yet remains— I would I could "adorn a tale;" As thus we meet the future dark Let wise resolves in time prevail.* Old age will come, and poverty As surely come as silver hair, Unless we heed the lesson stern And "spend not till we have to spare."

* See "Talks" of "Yoorn," in Electric.

XI.

An old age rendered desolate Will be the more tormenting, friends, Should the dark path o'er which we've trod Have led our feet through "keno" dens. The draughts we drink in future years Of joy or woe will sweetened be, If, after all, we backward look, And only earnest effort see.

XII.

"Spend not when you should spare," young man, Nor "spare when you should spend," Secure the early part of life And then enjoy the end. "Let him who puts the armor on" Withhold the boastful scold; For safer is the man who waits Till he "puts the armor off."

CINCINNATI, O., Oct. 31st.

Progress of American Telegraphy.

ACCORDING to the recent annual report of the Western Union Telegraph Company, this great corporation has now in operation 72,833 miles of telegraph line, 179,294 miles of operating lines, and 6,565 offices. Its receipts for the past year were nine and a half millions of dollars, expenses six and a half millions, nearly— net profits over three millions. Over seventeen millions of messages were transmitted, the cost of which to the company was 37 cents per message. This is rather cold comfort for new companies that would like to compete with the Western Union by a reduction of the rates. Rather dismal, also, for the advocates of Government telegraphy, who propose a uniform charge of 25 cents for each message, being the rate now in vogue in England, where the telegraphs are worked by the Government at a great annual loss.

Our British cousins are a little apt to think that what they don't know about telegraphy isn't worth knowing. But the truth is they have not as yet learned the A B C of rapidity in the business. In this respect the American telegraph engineers are in advance of other nations; nor is this very surprising, since both the telegraph works and telegraph experiences of individual nations are diminutive when compared with those of the United States.

For example, the length of all the telegraph lines in the United Kingdom is only 23,878 miles, while, as shown above, a single company in this country is now working more than three times that length.

Another reason for the advanced situation of telegraphy in this country is the fact that there are thousands of telegraph operators and electricians here who, under the stimulus of our patent system, are constantly studying how they may improve instruments or make discoveries by which the operation of the line and adjuncts can be improved, quickened, or made more economical. Their success is astonishing, and in one branch is illustrated by the report of the Western Union Company, which shows that, by the employment of the new duplex and quadruplex instruments, they have greatly reduced the expense of transmission, besides increasing the capacity of the lines.

If our telegraphs were in the hands of Government officials there would be less striving or competition for excellence, and little encouragement, we fear, would be offered for the discovery of new improvements.

The recent invention of Elisha Gray, heretofore described by us, by which sixteen or more messages may be transmitted each way, at one time, over one wire, promises wonderful results in the future. It indicates that the time is coming when household and private telegraph lines will become as common as the existing method. It is one of the peculiarities of Mr. Gray's remarkable method that, while sixteen different persons may use the wire, none of their messages need interfere with or become known to any of the other users, save the sender and his designated correspondent.

A new organization, entitled the National Telegraph Company, with a capital of \$25,000,000, has been organized in California, and it is to be hoped that it will meet with success. But this it can only hope to achieve by improving the existing service. If it can send messages as promptly, at no greater prime cost than that now paid by the present companies, it may secure a share of the business. But this will be up hill work in the face of the admirable management of companies like the Western Union, which are constantly striving to improve every branch of their service, and quick to adopt every practical improvement that inventors present.—Scientific American.

The Society of Telegraph Engineers.

THE ordinary general meetings of the Society of Telegraph Engineers will recommence in London on the 10th of November. It is stated that the President of the Society, Mr. Latimer Clark, will give the annual soiree towards the end of November.—The Telegraphic Journal.

The Telegraphers' Mutual Benefit Association.

RECEIPT OF ASSESSMENTS.

NEW YORK, October 26, 1875.

ASSESSMENT No. 79.

25, 29, 38, 52, 54, 65, 67, 72, 80, 89, 95, 121, 141, 142, 143, 144, 146, 172, 176, 177, 183, 184, 185, 186, 187, 189, 190, 191, 193, 197, 198, 201, 202, 215, 220, 235, 247, 254, 267, 276, 286, 302, 342, 346, 349, 351, 367, 378, 379, 380, 383, 392, 393, 394, 416, 426, 431, 467, 476, 526, 532, 549, 552, 554, 576, 586, 587, 592, 603, 604, 605, 661, 671, 685, 695, 697, 705, 721, 729, 734, 735, 750, 751, 756, 808, 815, 831, 855, 858, 874, 880, 883, 886, 908, 916, 932, 978, 998, 1001, 1013, 1023, 1039, 1047, 1054, 1071, 1074, 1076, 1081, 1088, 1090, 1147, 1148, 1175, 1177, 1182, 1196, 1225, 1226, 1232, 1276, 1295, 1304, 1329, 1358, 1364, 1365, 1385, 1390, 1391, 1400, 1402, 1403, 1404, 1410, 1417, 1440, 1444, 1454, 1455, 1456, 1484, 1498, 1505, 1506, 1507, 1508, 1518, 1522, 1554, 1555, 1556, 1557, 1568, 1569, 1570, 1582, 1589, 1598, 1594, 1620, 1630, 1656, 1670, 1707, 1708, 1721, 1723, 1729, 1735, 1736, 1773, 1775, 1791, 1810, 1811, 1812, 1815, 1847, 1869, 1881, 1916, 1919, 1928, 1942, 1945, 1947, 1950, 1965, 1972, 1987, 2019, 2021, 2024, 2025, 2029, 2044, 2055, 2057, 2091, 2113, 2114, 2138, 2143, 2151, 2154, 2162, 2172, 2180, 2181, 2200, 2201, 2202, 2204, 3205, 2206, 2212, 2213, 2214, 3216, 2236, 2241, 2242, 2243, 2257, 2265, 2269, 3272, 2279, 2281, 2282, 2283, 2288, 2289, 2295, 2296, 2297, 2298, 2299, 2305, 2310, 2313, 2314, 2316, 2317, 2318, 2321, 2330, 2331, 2333, 2334, 2385, 2336, 2337, 2344, 2348, 2354, 2355, 2356, 2358, 2367, 2372, 2373, 2374, 2375, 2378, 2379, 2385, 2388, 2392, 2393, 2403, 2431, 2434, 2438, 2439, 2441, 2435, 2448, 2451, 2453, 2465, 2467, 2472, 2474, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507.

ASSESSMENT No. 78.

39, 84, 148, 171, 206, 228, 248, 252, 280, 316, 344, 350, 361, 441, 482, 556, 557, 569, 701, 710, 722, 733, 781, 783, 786, 802, 809, 825, 836, 838, 842, 873, 904, 906, 926, 944, 980, 1000, 1002, 1014, 1016, 1041, 1057, 1069, 1105, 1106, 1107, 1108, 1109, 1110, 1112, 1113, 1115, 1117, 1119, 1120, 1122, 1123, 1125, 1131, 1141, 1238, 1251, 1255, 1256, 1281, 1283, 1284, 1285, 1286, 1339, 1340, 1342, 1344, 1346, 1348, 1349, 1350, 1351, 1352, 1366, 1405, 1415, 1421, 1427, 1430, 1432, 1433, 1465, 1479, 1574, 1476, 1481, 1497, 1513, 1528, 1529, 1530, 1573, 1586, 1597, 1616, 1649, 1663, 1666, 1677, 1700, 1701, 1718, 1737, 1746, 1747, 1750, 1751, 1753, 1754, 1755, 1756, 1757, 1758, 1759, 1760, 1769, 1771, 1785, 1802, 1813, 1828, 1863, 1864, 1895, 1982, 2004, 2023, 2040, 2083, 2085, 2112, 2145, 2171, 2196, 2211, 2215, 2226, 2227, 2253, 2266, 2267, 2284, 2286, 2293, 2324, 2325, 2326, 2351, 2360, 2369, 2380, 2381, 2382, 2398, 2401, 2425, 2446, 2463, 2470.

(The following should have appeared in last TELEGRAPHER):

ASSESSMENT No. 77.

169, 182, 429, 490, 495, 496, 497, 499, 500, 503, 505, 506, 507, 508, 1104, 1553, 1712, 1743, 1744, 2115, 2132, 2150.

Members of the Association who look to THE TELEGRAPHER for receipt of assessments paid will please take notice that an acknowledgment of the receipt of one assessment should be taken as a receipt for all previous assessments.

The Perils of Australian Telegraphy.

THE South Australian Register of July 14th last publishes an account of the murder of the station master at Daly Waters, of the Port Darwin telegraph line, by the savages. It says:

"About three weeks ago Mr. C. H. Johnston, the station master at Daly Waters, telegraphed for permission to proceed to the Roper River, in order to look after some Government horses and cattle which were known to be straying in that locality. The necessary sanction having been given, he started in company with Messrs. Daer and Rickards and one or two blacks. Nothing more was heard of the party until Tuesday, July 13, when Messrs. Daer and Rickards returned to Daly Waters with the report that they had been attacked by the natives, and that Mr. Johnston had been murdered. It appears that the attack was made on the 29th of June—Mr. Johnston being speared on the left side of the abdomen. Situated as they were, his companions could do little for him with such a dangerous and probably poisonous wound. The poor fellow lingered till the following day, when, as the telegram informs us, he 'died easily.' Both Daer and Rickards were wounded, the former on the nose and the latter on the breast, but not seriously. They managed to reach the station, though in a very exhausted condition. With this second painful evidence of the savagery of the aborigines in the interior, it is to be

hoped that the utmost care will be taken by the authorities to keep the officers of the various stations as near home as possible. The recovery of a few horses is nothing to the life of a faithful servant; and although in this case the suggestion emanated from the person who lost his life, still, with regard to any such proposed future expeditions, a firm refusal, except under very special circumstances, should be given by the superintendent of telegraphs, and this we are sure, after the tragedy which has just been enacted, he will be careful to do. Mr. Johnston entered the telegraph service in September, 1872, when he was appointed an operator on the overland line. He was stationed at the Katherine, and in May last was transferred to Daly Waters."

Correspondence.

We do not hold ourselves responsible for the opinions of our Correspondents. Our columns are open to free discussions on all Telegraphic subjects, without distinction of person or opinion.

No notice will be taken of anonymous communications.

Annual Meeting of the American Electrical Society Adjourned.—Distinguished Telegraphic Visitors.—Rumored Resignation and Appointment.—Resignation of Asst. Manager Sholes and Promotions.—Painful Accident to Mr. Louderback.

CHICAGO, ILL., Oct. 23.

TO THE EDITOR OF THE TELEGRAPHER.

THE annual meeting of the "American Electrical Society" was called to order on Wednesday, the 20th inst., at 3 P. M., Col. J. J. S. Wilson in the chair. The Recording Secretary, C. S. Jones, not being present, W. C. Long was, by unanimous vote, requested to act as such *pro tem*. The meeting was held in Room 9, Union Bank building, Gen. Supt. Stager's office. As it was understood, by notices issued and sent to the different members by mail, that it was the wish of the executive committee that the business of the annual meeting be postponed until the third Wednesday in November, so as to give more time to fully prepare for such an important meeting, it was rather understood that very little if any business would be transacted on the regular day for the annual meeting. It was not generally understood, however, that the meeting would be held in the afternoon, as it had been the custom to hold the meetings in the evening, beginning at seven P. M. On this account very few members were present, not enough for a quorum, and as no business could be transacted, the meeting was immediately adjourned until the third Wednesday in November.

This city has been honored recently by quite a number of telegraphic visitors, prominent among whom were Prest. Orton from New York, Supt. Gifford, W. U., Syracuse, N. Y., and Manager Stumm, of W. U., Cleveland, Ohio; the latter accompanied by several ladies. They all visited the points of telegraphic interest, especially the W. U. office and surroundings. Miss Jennie Harding, formerly of the W. U. Chicago office, now of the W. U. Buffalo, N. Y., office, is also in the city, and paid the W. U. office a visit, making new and renewing old acquaintances. Jennie is as handsome as ever, but regrets very much that she don't get to see THE TELEGRAPHER in "Bu," as she did when at "Ch." Where are those gallant youths of Buffalo? Mr. M. C. Bristol, Supt. Construction, W. U., Indianapolis, is also in the city.

It is rumored here that Mr. Fox, of the W. U., Detroit, resigns on the first prox., and Mr. Corbett takes his place. Mr. W. H. Mixer, formerly of Aurora, C. B. & Q. R. R., now has charge of the general telegraph offices of that company in this city in conjunction with his duties as chief operator of the Chicago division of that company. Mr. M. is an old and faithful employé, and the company have done well in promoting him. Mr. Chas. Lee has charge of the telegraph office at the general baggage rooms of the C. B. & Q. R. R. in this city. Mr. L. has seen considerable service out on the line, and is the right man in the right place. Mr. Samuel Smith, an old P. & A. repairer, is now repairing for the W. U. R. R., from Racine to Rock Island, and a branch road in Iowa, with headquarters at Racine. "Sam" is trying to operate enough so as to test with the chiefs while out on the line, and has made quite a good operator out of himself.

On Saturday, the 16th ult., Mr. C. G. Sholes' resignation as second assistant day manager of the W. U. main office in this city took effect. Mr. Plum, next in rank, takes Mr. Sholes' place, while Mr. Pettit succeeds Mr. Plum as third assistant, and Mr. "Ed" Whitford takes the position of assistant Board of Trade manager, made vacant by Mr. Pettit's promotion. Thus the old men

here are being rewarded for their faithfulness, one by one, according to ability and length of service.

Mr. Sholes' resignation, I am sorry to state, was caused by his health failing him, he having had several hemorrhages of the lungs the past six months. His physician has forbidden his doing any kind of work the coming winter. He goes to New York city to try the effect of the salt water breezes, and hopes by spring to be so far recovered as to engage in other business. Should his hopes not be realized, he may go to Europe—or probably west to Colorado. Mr. Sholes leaves many warm friends. He was known under the old management as a rigid disciplinarian, but very impartial in his dealings; ever ready, in his kind-hearted unostentatious way, to help the boys if it was possible to do so, and at the same time serve the company faithfully.

Early this last summer Mr. D. H. Louderback, one of the W. U. receiving clerks here (formerly of Philadelphia), met with a painful accident while hunting, receiving a charge of bird shot in the face from a companion's gun. I was requested at the time not to mention the fact, and as I supposed the correspondents of the other telegraph papers had been requested likewise, I refrained from doing so, as Mr. L.'s Philadelphia friends, especially his parents, would be very anxious till they saw him in a fair way of recovery. Now, however, the accident has become a matter of news. Mr. L. repaired to Philadelphia as soon as able, and remained there under skilful surgical treatment, nursed by kind friends, until a short time ago, when he returned to Chicago, and was welcomed to his accustomed position. One of his eyes, however, is still so severely injured as to make it too painful for him to pursue his vocation, and indeed, it is feared he may yet lose his right eye. Accordingly, he has for the present resigned, and accepted an offer with the Western Electric Manufacturing Company, of this city. Any of the fraternity or others desirous of purchasing telegraph goods can do so to no better advantage than by addressing Mr. L.

The "Quad" arranged on Mr. Jones' plan (of the W. U. here) has been put in successful operation between here and Cincinnati.

OCCASIONAL.

Telegraph and Postal Combination.

TO THE EDITOR OF THE TELEGRAPHER.

IN your editorial remarks last week, in relation to the future of the National Telegraph Co. of San Francisco, you deprecate the idea of any possible connection between that company and the Postal Department of the Government. Your editorials upon the propositions of Mr. Hubbard, and the commendations of the simpletons in and out of the U. S. Senate, who have favored his views upon the subject of postal telegraphy, have always appeared to me sound and logical, but I fail to see any real force in your objections to what is understood to be the views of the President of the National Co.; and I suspect that your well grounded objections to the impudent propositions of Mr. Hubbard, who has aimed at cheap telegraphy for the people at the expense of the people's Government, has led you to condemn Mr. Cohen's views without giving to them the consideration which their importance merits.

As I understand Mr. Cohen's views, the National Telegraph Co. propose to cover the country with a network of wires of large conductivity, and of the very best materials, and enter into binding obligations to the Government to serve the public with a reasonable degree of promptness, with not over three or four rates of tariff, to be prepaid by stamps, and ranging from ten cents to one dollar per message of 20 words or less. Surely, it is the duty of the Government to do what it can, without loss or any possible embarrassment, to help the people to secure cheap and reliable telegraphy; and if the National Co., with a capital of \$25,000,000, is prepared to guarantee the low rates of tariff, and the greatly improved quality of lines and system proposed, and only asks that the P. O. Department may be permitted to supply to the telegraph company such office accommodations as it can yield without inconvenience or extra cost to the Department, why should not Congress cordially and promptly assent to Mr. Cohen's proposals? It is reported that he also wants the P. O. Department to deliver and collect (through the street letter boxes) telegraph messages; but for this service Mr. Cohen proposes to pay the Department a liberal consideration in cash for each message delivered, and for each message collected and handed over to the Telegraph Co. So, in fact, the arrangement, as a whole, may be even advantageous, pecuniarily, to the P. O. Department, at the same time that the public are served with telegraphic facilities at from 50 to 75 per cent. less expense than they are at the present time.

It may not be known to you, as it is to me, that this subject of coöperation (to the extent above indicated) was fully investigated and warmly commended by the late P. M. Gen. Cresswell, in the early days of automatic telegraphy (1870), but unfortunately the automatic system, at that stage, was turned over to the management of an executive officer whose highest aspiration was, for the succeeding five years, to use the system for

his personal advantage, and no rational or honest attempt was made to utilize the system, independent of, or in conjunction with the Post-office Department.

During the five years (since 1870) that automatic telegraphy has been manipulated by him, other very valuable systems of telegraphy have been developed, in part at least, and at the present moment probably no one can say what system of telegraphy will be used by the National Company, but it may very safely be predicted that Mr. Cohen and his associates will adopt the best system that money can purchase. I have an abiding faith that it will be found that the automatic system possesses advantages over ALL other systems, equal to at least 50 per cent., yet if there is a better system, I sincerely hope it may be found and be adopted by the National Co. The time has fully arrived for cheap telegraphy and a general abandonment of antiquated ways and old fogy methods of intercommunication.

Mr. Orton, the able manager of the Western Union Co., has stated officially and unequivocally that the actual cost to that well appointed and exceedingly well managed company, for telegraphing 10 word messages in short circuits of even twenty-five miles, is over 25 cents per message—and substantially the same results have been developed in England, under the Government's excellently well managed lines. Now, then, let me repeat my inquiry: If this large and powerful California Telegraph Company will satisfy the Washington Government of their earnestness and sincerity in proposing to build a network of superior lines throughout the country, and serve the public correctly and with reasonable promptness with 20 word messages in short circuits for 10 cents, and in longer circuits for 25, 50, and 100 cents, provided the Post-office Department will cooperate with them, so far as it may without pecuniary loss or inconvenience, why should not Congress grant the concessions prayed for, and thus confer the greatest possible boon upon its constituents? I pause for your reply.

D. H. C.

A Fallen Angell.—Telegraphers Returning from Vacation.—The Ladies Dissatisfied.—Personals.

CHICAGO, ILL., Oct. 4.

TO THE EDITOR OF THE TELEGRAPHER.

SEE here, "boss," you don't want to be calling "Jerry" Mereness "Jemmy," as you did in my letter of Aug. 28th; 'twon't do; can't have it.

Our Angell has flown. He and Lathrop at "Bx." were having too much fun on that city line, and some of the conversation didn't suit Miss Veazey. The "boss" switched on his loop at the "Throne," listened to it a couple of days, and making out a case of a violation of that famous rule "Occasional" has been going crazy over, they concluded not to wrestle with the Angell any more until daybreak, but they let him go, contrary to Jacob's mode of doing. You see I know a little something about the Bible. Well, this is kind 'o hard on Ed., to shove him out for the first offence, after so many years' continuous service for the company. Ed.'s a good boy (worse to himself than any one else), and we're sorry to see him go. The boys are wondering what they are going to do with Lathrop. Well, there's no use in kicking, boys; business is business—relation or no relation, as the feller said when he married his rich mother-in-law—and law is law, and when the Grand Mogul says you've got to git, why git you got to git, whether it's first time you're bad or not.

Chief operator Stone, of the Baltimore and Ohio R. R. line, favored our office with a visit on the 1st, and inspected the new "quad," etc. "Om." begins to look like an old man, with his long chin whiskers.

Hazleton has got tired running around the country, and has joined the "floater" gang in our office. Quite a joke is told on "Hazy." He had several ladies out for lemonade while sojourning at McGregor. When he gave the boy his order for three lemonades the boy asked him, loud enough for the ladies to hear, "If he'd have a stick in one of them?" Although the ladies knew nothing about "sticks," still Hazy indignantly replied "Certainly not," at the same time giving "the wink" to the boy. When the lemonades came in, the "stick" was so large that one of the ladies remarked she thought she smelt liquor, while the other one wondered why Mr. "H.'s" lemonade was so much darker than the others. This was too much for "Hazy." He immediately wanted to know of the boy why he put that liquor in his lemonade when he told him not to do so. This, of course, revealed the "stick" biz to the ladies, and when the boy replied "Well, you winked at me, darn you," "the ways that are dark and the tricks that are vain" in the average young man of to-day, was very plainly manifested to the young ladies, who insist upon inquiring of "Hazy" at every opportunity "if he don't want a lemonade with a stick in it." Benson, who has been on the sick list, has recovered, and changed places with Riley, of the night force. Mr. Haake, who has been doing the Illinois Central lines during Mr. Avery's visit in New York State, has again taken his place on the city lines,

Mr. Avery returning and taking hold of the Ill. Central again. Mr. Harry Garner, who has been on the sick list for the past month, has resumed work again on the extra force, days. He seems to have a decided preference for the wire on the table alongside of Miss Phelps. Jim Petit has returned from his visit to Wis., and is ready to rush Board of Trade "biz" around the office, or draw your profile, just as necessity demands. Henderson makes it lively at "Qu," but he has a hard time getting that repeater adjusted, which "Q." Lithgoor tells him is at "Cb," and is the reason why he don't get him, "Q.," clearer. "Tommy" Knox and "Charlie" Thayer have changed places on the second New York duplex and "Smith" report days. Dennis and Hall have changed off, Dennis going on Pittsburg and Baltimore duplex, and Hall on Davenport wire. Strong and Bloomhoff have also changed places, the former taking Bloomington wire, the latter Springfield. Mr. J. N. Crittenton, "Nute," known over the wires as "T.," took quite an extensive vacation, going around by the lakes and back through Michigan, recently, and returned looking fifty per cent. better for his trip. It has always been understood that the operators in this office were not allowed to do anything during business hours except that which related to their duties at the key. After Mrs. O'Connor's return from Ireland, she gave such glowing accounts of how the lady operators were allowed to knit, sew, embroider, crochet, etc., while on duty, if not busy, some of our girls thought they would try it on as long as there was no order posted up about it. Accordingly they began on Bristol board, making book marks, "Remember me," etc., and their little hearts, no doubt, leaped for joy at the thoughts of how happy they would make their little "fellers" when they finished them. It went on for two or three days, till the management noticed the little dears, when a wet blanket, "so to speak," was, figuratively speaking, "as it were," thrown on the proceeding, and they were informed it could not be allowed. This, coupled with the fact that since the business has increased so much recently they have been kept like the men until six o'clock (they used to get off quarter before six), makes them think the management is real mean. They say the boys are so "boisterous" in the elevator they can't go down with them, and they spit tobacco juice all over the floor of the elevator, consequently it makes a difference of a half an hour with them, as they now wait until all the boys but "Strong" go down. Miss Nellie J. Smythe (*i. e.*) Mrs. W. F. Bogart, and Misses Bessie DeLang, M. T. Fitzpatrick, and Miss C. M. Kent, are the latest additions to the metropolitan force in the main office here; while Miss Ada Patrick has been transferred to "S." office, corner Van Buren and Canal sts.; Miss "Sue" Musgrove to the Dubuque and Freeport Way; and Miss Jennie Fox to the Dubuque Local: Mr. Whitcomb taking one side of Cincinnati duplex. Mr. J. N. Ashley, publisher of THE TELEGRAPHER, paid our office a visit on Saturday, and left this P. M. for New York.

WESTERN UNION.

The Relative Value of Automatic Telegraphy.

TO THE EDITOR OF THE TELEGRAPHER.

I HAVE read, and with great interest, the various arguments for and against automatic telegraphy that have appeared from time to time in your paper, but never believed that I should ever feel called upon to enter into the discussion. Since reading Mr. D. H. Craig's letter in the last issue, I, however, do feel called upon to enter my protest against such vast and base misrepresentations as his communication contains, and in justice to the profession I have followed for five years, uphold that which he seeks to bury. In this high sounding and well penned letter much stress is laid upon the "single message" to which President Orten alludes in his annual report. I wish to ask Mr. Craig what goes to make up the vast business done daily if it's not the "single message?" Now, let us glance down further and review, if not revise the statement "whilst we easily perforate, transmit and copy an ordinary message in sixty seconds or less." To me this all looks well on paper and in print, but you and I all know that no such work ever was or ever can be accomplished by the automatic, "easily" or otherwise, and Mr. Craig, I think, is the first and only man who claims it. I have had one year's experience in the system, and am ever ready to concede to it superiority over the Morse in certain circumstances, such as reduced number of wires, etc., and this is all that any one can claim after watching it closely for the length of time covered by my experience. All these arguments in favor of the automatic may look very well in a theoretical point of view, written and clothed in beautiful language. Now, let us consider whether it is sustained by practical tests.

Six months ago there was delivered to an office which works both Morse and automatic 1,620 words of press matter; 813 words were handed to a Morse operator, and 807 to an automatic force of three perforators simultaneously. When the Morseite had finished and his copy was ready to be delivered, the automatic force were just ready to transmit their portion, which was done, 'tis true

in quick style, but it was not till twenty minutes after the Morse operator had written his last word that the matter was all ready to deliver. What more proof can any one ask than this as to the merits of automatic telegraphy? or does it appear to any sound minded man in the light of rapid telegraphy, or, in fact, economy, when this proves four operators at one end and four at the other end—a total of eight against two? The above contest was in every way a fair and impartial one, and the writer can furnish proof of it.

It would appear that Mr. Craig puts no limit to the capacity of an automatic circuit. It has been proven that Philadelphia, Baltimore and Washington cannot do their business on one wire, and Philadelphia has been given another circuit. Does any one suppose that there are 15,000 messages sent and received from the above named cities in a day? Certainly not; and not over 1,000 are sent now. Why is it that the automatic system fails within 14,000 of doing what Mr. Craig's claim calls for? Certainly not through bad management or from the want of its proper development.

I could and would much like to present more facts, but will not at this time, and will close by the remark that I have seen and heard of Mr. Craig's prophecies before now, and would not advise any of the employes at the W. U. building to resign on account of the forthcoming "crack" in its massive walls. I hope that this will find favor in your sight, and that it will be read by my friend Mr. Craig in all friendliness, in all sincerity and in all justice.

OPERATOR.

A Defence of the Telegraphic Fraternity.

NEW YORK, Oct. 18.

TO THE EDITOR OF THE TELEGRAPHER.

I HAVE been wondering, ever since your editorial on the status of the representative telegraph operator was published, why it was that no one took up the cudgel in defence of this much abused class, and as other and nobler pens have refused their assistance, it behooves the subscriber as a duty, as well as a pleasure, to perform it. Now, Mr. Editor, granting that your remarks hold good in the main as to a very large majority of operators, still I think you are rather too sweeping in your assertions. The men who are chosen as our superior officers are not as a class of as good material as *might* be got out of the ranks. True, they may be well up in electrical matters, but many of them are deficient in a dignity of character that should also, methinks, be as requisite to help them as the performance of their numerous duties. As it is now, there is no particular honor attached to the position of chief operator in a large, or manager of a branch office; and as for salary, it varies little from that of the grade below them—in many instances being less even than a first class wire manipulator commands. What is the consequence? Those of the fraternity who have any ambition exercise it in outside studies, and save their money to invest in business for themselves. The number of telegraphers engaged in other employments that were brought into service during the strike proves this. Not until the telegraph companies offer some inducements to their operators will they be enabled to find thorough electricians to fill the posts of responsibility. Those who are fitting themselves for a professional life in pursuing a course of study in their leisure hours, have no time for electrical matters. They are generally quiet, unassuming gentlemen, who attend to their duties in perhaps a machine-like way, because they are tired and sick of it, and therefore help to give the false impression that they too are part and parcel of "the gang." On the other hand, there is too much tendency to rank a man according to the class of work he turns out, and just because he is incapable of fast transmission or receiving, or makes a bad copy, it is too often the case that he gets the credit of being a "darned fool," especially if he has too small an opinion of his accusers to try and correct the impression. No! if the corporations really seek for excellent talent they have simply to put up the premium, and I'll warrant that proper stuff will be forthcoming.

CANDOR.

Further Introduction of the Jones Quad.—Telegraph Business between Chicago and Milwaukee.—Thieves Raiding on Chicago Telegraphers.—Personals, and a Bull.

CHICAGO, ILL., Oct. 12.

TO THE EDITOR OF THE TELEGRAPHER.

THE quadruplex of Mr. Jones, of the Western Union of this city, still continues to give satisfaction. A set has been arranged to take the place of the St. Louis main and Board of Trade duplex sets, between here and St. Louis, and will probably go into operation to-day. Telegraph business is not quite so lively as it has been, still I am told the different companies are all doing well. The Board of Trade Telegraph Company, between here and

Milwaukee, is so ably managed that it is a perfect success. The business between here and Milwaukee is simply enormous. The Western Union keeps two sets of duplex going all the time. Jones' "Quad," will come in good on that route. The old Great Western Company seems to have got a new lease of life, and is doing a good business between here and Milwaukee also; while the A. & P., like the Board of Trade Company, being a "new broom" between here and Milwaukee, of course, come in for a fair share of the business.

Some sneak thief or thieves, who made themselves acquainted with the habits of the night operators in the Western Union office (*i. e.*, leaving their coats and hats in the coat room at the west side of the operating room), slipped around through the coal furnace and battery rooms from the head of the main entrance stairs, a few nights ago, and placing themselves in position to watch the boy in charge of the coat room through an open window, watched their chance while he stepped out to get a drink at the ice cooler, and stole the two coats hanging nearest the window, which was raised, making off with them. The theft was not discovered until the boys started for lunch nearly an hour afterwards; then the boy remembered hearing steps in the battery and furnace rooms, but thinking it was the janitor or one of the chiefs, paid no attention to it, as the noise ceased shortly after he came from the water cooler.

The coats belonged to old "Jack" Riley and Sam Bracker, who recovered them in a day or two afterwards at a pawnshop, kept by a gentleman who was well enough acquainted with the boys to know the coats, who, after getting the coats from the thieves, tried to arrest them, but not being able to get a policeman soon enough, they ran away before he could get hold of them.

Mr. William Hopkins, of the Western Union repair gang here, who had his right foot severely injured by a stick of timber (with which a derrick was being built to raise a large pole) falling on it last July, has so far recovered as to resume his work and enliven the boys with his funny stories.

"Ed." Whitford, of the Western Union office of this city, has been off on a few days' vacation, and brought his wife and baby back from Michigan with him. "Ed." says it's lots of fun to travel with a woman and baby and look after their baggage. After he got the baby carriage, one valise, and a Saratoga trunk checked, he *only* had the following few things to take care of: three baskets, one carpet bag, one crock of butter and two pots of flowers, besides his cane and overcoat. Mr. L. L. Childs and the renowned traveller, "Charlie" Patch, are the latest acquisitions to the Western Union "sub gang." Here's a bovine which we must charge to one of the Western Union "ops.": "Geo. L. Oarrinop, Bowling Green, N. Y., for Geo. L. Carey, No. 6 Bowling Green, N. Y."

The following conversation in the street elevator entrance to the Western Union office a few mornings ago, serves to elucidate how the pure and beautiful idea conveyed by our purer and more beautiful English may be perverted: 1st Messenger Boy—"Had a route this morning?" 2d Messenger Boy—"No, I had 'er out last night."

OCCASIONAL.

Pugilistic Telegraphers.—The Chicago Office Correspondents.—Personals.

CHICAGO, ILL., Oct. 18.

TO THE EDITOR OF THE TELEGRAPHER.

SOME of the boys are getting pugilistic and I shall have to advertise them if they don't let up. "Fair Play" kind o' stirs up "Harkaway," and draws his thread through "Beeswax" as if he meant to take enough along to keep the thread of his discourse from getting tangled. Well, the majority of the boys say it's all true as Gospel. 'Tain't none of my funeral, one way or the other, but let's have facts, boys—facts without any dressing on them.

Armstrong (old Dad) is becoming quite a billiard player, but he gives the boys too much discount. Tom Weller and McRobie are "bosses," too. Jake Tollman is "bustin'" all the faro banks, just like he did the Bank of California. Merveise is over in the hospital corner now, working the "Bx" local. Lester is on 1st N. Y. duplex again with Mereness. Tatge, the lady killer, is on the "W" local, and Minor, "Gm.," works the Burlington and Keokuk wire. Fisher hugs the Buffalo Dock. "Cord" has had a sick spell in the family but is back again with us. Miss L. Veazey is on the Fort Wayne and Eph Martin floats. Lawson is on the new Cedar Rapids, Clinton and Boone wire. Mr. Solder is our new metropolitan operator. Charlie Patch just stayed here long enough to smile on us, worked two days extra, then hid himself away to the sunny South—New Orleans being the objective point in the

WESTERN UNION.

A Detroit, who has taken a great interest in the fate of Donaldson, thinks that balloonists should have a telegraph attachment to the car, so that in case of any fatal accident they could at once inform the anxious public.

THE TELEGRAPHER

DEVOTED TO THE INTERESTS OF THE TELEGRAPHIC FRATERNITY.

SATURDAY, NOVEMBER 6, 1875.

THE TELEGRAPHER:

PUBLISHED EVERY SATURDAY at 38 VESEY ST.

ELEVENTH VOLUME.

TERMS OF SUBSCRIPTION.

One Copy, One Year, - - - - - \$2.00.

INVARIABLY IN ADVANCE.

Single Copies Five Cents.

SPECIMEN COPIES FORWARDED FREE on APPLICATION.

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Communications must be addressed to

J. N. ASHLEY, Publisher,

P. O. Box 5503.) 38 VESEY ST., New York.

INDEX TO ADVERTISING PAGES.

Table listing advertising pages for various companies like American Fire Alarm and Police Telegraph, Am. Compound Telegraph Wire Co., etc.

THE TELEGRAPHER MAY BE HAD at the news stand in the Receiving Office of the Western Union Telegraph Company, corner of Broadway and Dey street, where it is regularly on sale.

The National Telegraph Company and its Proposed Connection with the Post-office Department.

OUR correspondent, "D. H. C.," replies in our correspondence columns at some length to our remarks in the last number of THE TELEGRAPHER, in depreciation of a proposed connection of the National Telegraph Company of San Francisco with the Post-office department.

While we concede the force of his argument, yet we fail to be convinced of the propriety of the proposed connection of a private enterprise with a leading department of the Government.

He proposed to use the offices and machinery and personnel of the postal department to receive, transmit and distribute the messages for his company, for which the Government was to retain a certain proportion of the receipts.

The primary object of all telegraph companies is, or should be, to make money for its stockholders. It is a question, then, whether this profit shall be derived from legitimate charges for the business or from a contribution in some shape from the National Treasury.

It inevitably follows that any telegraph company that shall secure such aid from the Government will crush out and destroy all competitors. Thus a telegraph monopoly will be established, and this is what, in the interests of the public and telegraphic employes, it has been one of the objects of THE TELEGRAPHER to prevent.

Undoubtedly the late Postmaster General CRESSWELL favored the scheme proposed in connection with automatic telegraphy in 1870. He was also fanatically in favor of a Government ownership of the telegraphs of the country, and made it the pet measure of his administration of the Post-office Department.

Any such arrangement as that proposed by the National Telegraph Company or Mr. HUBBARD leads inevitably and eventually to the assumption by the Government, in connection with, and as a part of the Post-office Department, of the ownership and control of the telegraphs of the country.

If the National Telegraph Company or any other telegraph company or combination can, by the adoption of improved methods of working, or by more economical management, reduce the cost of telegraphic facilities so as to reduce the charges for telegraphic service, that is a proper and legitimate method of competition, and its competitors must succumb to the operation of business principles, unless they can likewise effect similar advantageous and economical arrangements.

The result of the postal telegraph experiment in Great Britain, as well as in other European countries, has shown that Governments cannot perform telegraph service satisfactorily to the public except by taxing those who do not use the telegraph to make up the pecuniary deficiency.

If the promoters of the National Telegraph Company

of San Francisco depend upon Congressional legislation for the realization of their schemes, we do not think we shall soon see their promised telegraph system in operation.

We do not say this from any antagonism to that company. On the contrary, it has our best wishes for the establishment of its lines and complete success, practical and pecuniary; but, in our opinion, the sooner its managers and promoters eliminate from their plans and calculations anticipated special legislation in their favor, the sooner will they realize the accomplishment of their legitimate purposes.

The Telegraphers' Mutual Benevolent Association.

WE would again remind our readers of the Annual Meeting of the Telegraphers' Mutual Benefit Association, which will take place at the Western Union Telegraph office in this city on the 10th instant.

During the year there have been but eight deaths—a very small percentage—and it is one of the cheapest forms of life insurance known. A surplus fund of \$7,000 has accumulated in the treasurer's hands, so that the amount payable at the death of a member, which is limited to \$1,000, is available without waiting for collections of dues in each case.

It is hoped that the members of the Association resident in this vicinity will make it a point to be present, and that large delegations from abroad will also attend.

Through this Association telegraphers can make provision for those dependent upon them for support, in case they should be taken away, which will greatly mitigate the distress which, under the most favorable circumstances, must result from such an event, and relieve them, until they have time to make the necessary arrangements for future support, from the pecuniary necessities which are apt to press so heavily upon the bereaved.

We heartily commend this Association to all telegraphers. Its membership should be reckoned by thousands instead of hundreds. We are all liable to be suddenly called away from life, and it will relieve us of much anxiety if we are assured that those we leave behind, when deprived of our care and labor, will not suffer, as they must, unless some adequate provision be made for them.

New Advertisement of Mr. Charles T. Chester.

THE new and extended advertisement of Mr. CHARLES T. CHESTER, of No. 104 Centre street, which will be found in our advertising columns, is worthy the special attention of all who may have occasion to purchase any description of electrical or telegraphic apparatus.

As will be seen from the advertisement, in addition to the regular telegraphic apparatus and supplies many specialties may be found at CHESTER'S, such as Dials and Printing Telegraph Instruments, for private and municipal lines, which are patented, and which contain many valuable features and improvements; Electro-Mechanical Gong Strikers, for Railway Signals and Fire Alarm purposes; Non-interference Street Box, for fire alarm purposes, etc.

In fact we have not space to call attention, as we would

like to do, to all the novel and useful articles offered, and would advise those intending to purchase to call at 104 Centre street, or send for a circular, which contains full descriptions and prices.

Webfoot Surprised.

Mr. W. B. RICE, of Albany, Oregon, who is well and favorably known to the readers of THE TELEGRAPHER as WEBFOOT, has again been surprised. We say "again," because he was once before surprised at reading his obituary in THE TELEGRAPHER some years before he was prepared to "shuffle off this mortal coil," some graceless rascal having imposed upon us with a false report of his decease. This time the surprise was of a more pleasant character. We copy the following account of the complimentary affair from the Albany, Oregon, *Daily Morning Call*, of Oct. 20th.

We would say here that WEBFOOT fully deserves the esteem and popularity which he enjoys with the Oregon and California members of the fraternity, and we hope he may enjoy it for many years to come.

"The numerous friends of W. B. Rice, the chief lighting manipulator, gave him a surprise party last Monday evening at the residence of Dr. Rice. Billy came very near spoiling a good thing by putting in an appearance on the noon train, he having been at Salem all the week, and was not expected home until the evening express train came in, and in order to carry out the programme, the Doctor had to take a buggy and hustle Billy off up to Corvallis, under the pretence of going on a professional tour. Billy says he could not for the life of him think why the Doctor wanted him to go with him to Corvallis. They returned in the evening and the surprise was a success. Music and singing and a sumptuous supper was the order of amusements. It was quite late before the surprisers adjourned, having spent a glorious evening. We regret our inability to be present."

Gamewell & Co. Capture Another City.

MESSRS. GAMESWELL & Co. have just finished the introduction of their system of Fire Alarm Telegraph in the City of Newport, R. I. The system has been fully tested by the municipal authorities and accepted, and is now in full operation.

There has been great opposition on the part of some of the citizens of Newport to the introduction of the Fire Alarm Telegraph on account of the expense, but although so recently established the opposition is completely done away with, and it would require a large amount of money to induce even the former opponents to agree to a removal of the new Fire Alarm Telegraph system.

The Telegraphers' Ball.

THE attention of our readers is called to the notice from the President of the New York Ball Association, which will be found in our advertising columns. It is intended to make this the most enjoyable and successful social entertainment which has as yet taken place in this city. A full attendance of the members of the Association is desired at the meeting to be held in the auditor's office of the Western Union Telegraph Company (fifth story of the Western Union building), on Monday evening, the 15th instant, in order that the necessary arrangements may be perfected.

Personals.

Mr. ROBERT IRWIN has been transferred from the St. Louis, Mo., to the Galveston, Texas, Western Union office.

Mr. JOHN F. STANSIFER, of St. Louis, Mo., has been appointed to a position in the Dallas, Texas, Western Union office.

Mr. JOHN C. HANCHETT, a well known telegrapher of St. Louis, Mo., has been appointed night manager of the Omaha, Neb., Atlantic and Pacific office.

Mr. C. E. RIEHLE, of the Terre Haute, Ind., Western Union office, has resigned, and accepted a position on the night force with the same company at St. Louis, Mo.

Mr. FRANK FARLEY has been appointed to a position in the Shreveport, La., Western Union office, *vice* JOHNNY MORRIS, resigned.

Mr. WILBUR H. NORTHWAY, of the St. Louis, Mo., Western Union office, has resigned.

Mr. EDWARD L. PARMELEE, of the St. Louis, Mo., Western Union office, who, accompanied by his wife, has been visiting at Havana, Ill., for the past two weeks, has returned to St. Louis, much improved by his brief vacation.

Mr. JNO. MORRIS, of Shreveport, La., has been appointed to a position in the St. Louis, Mo., Western Union office.

Mr. HENRY LUCKING, of the St. Louis, Mo., Western Union office, has been appointed manager of the Cape Girardeau, Mo., office of the same company.

Mr. A. G. FOX has been reappointed manager of the Atlantic and Pacific office at Auburn, N. Y., which position he resigned about a year since to engage in other business.

Mr. CHARLES L. ROGERS, manager of the Montreal wires at Utica, N. Y., has resigned that position and accepted a situation with the American Screw Co., at Providence, R. I.

Mr. FRANK NICHOLSON has been appointed manager of the Montreal wires in Utica, N. Y., office, *vice* Mr. CHAS. L. ROGERS, resigned.

Mr. F. D. FARRINGTON, has been appointed night inspector of the American District Telegraph Company in this city.

Mr. W. H. SMITH has been appointed battery man for the American District Telegraph Company in this city.

The Telegraph.

The Direct United States Cable Recovered.

THE steamship Faraday, whose departure from London for the purpose of repairing the Direct United States cable was duly reported in THE TELEGRAPHER, reached the location of the break in the cable and on Sunday last, recovered the eastern end and buoyed it, and on Monday the western end, which was also buoyed. The cable on both sides of the break was found to be in good condition. It was expected to have got the cable in working order again by Wednesday last, but a heavy northeast gale accompanied by flurries of snow came on, which prevented splicing on that day.

The cable was successfully repaired on Thursday morning. It was found after fifteen months' submergence in absolutely as perfect condition as when manufactured. The break, which was found in 70 fathoms of water, was apparently caused by either an anchor or a grapnel.

The Atlantic and Pacific Telegraph Company.

THE work of fitting up the new offices of the Atlantic and Pacific Telegraph Company at 145 Broadway has been pushed vigorously forward. The executive offices were removed to their new location on Saturday and Sunday last, and are getting fixed up in good shape for business. The Receiving, Operating and Delivery Departments are expected to be ready for occupancy to-day. The arrangement of all the offices is most convenient for the transaction promptly, easily and satisfactorily, of the business of the company.

The new line from Pittsburg, Pa., to Columbus, Ohio, is being vigorously carried forward, and is expected to be completed about the first of December.

A cable has been laid across the river at St. Louis, to be used temporarily to establish connection with that city direct, until the right to use the bridge for crossing the wires of the company can be enforced.

American District Telegraph Company.

THE American District Telegraph Company, on Saturday, Sunday and Monday last, preceding the election on Tuesday, assorted and delivered, in addition to their regular business, and without an increase of the messenger force usually employed, 300,000 unaddressed and 45,000 addressed circulars. A contract has been entered into by the company for delivering one million cards on New Year's day in this city, and negotiations are pending for the delivery of a large number in Newark, Elizabeth and Paterson, N. J., and other suburban cities.

The office of Assistant Superintendent of the American District Telegraph Co. has been abolished, and the duties heretofore pertaining to that office will hereafter devolve upon the Superintendent.

The work of connecting the instruments of the American District Telegraph Company in this city has been contracted for with Mr. C. H. DuBois, at a fixed rate per instrument.

Foreign Telegraphic Notes.

THE traffic receipts of the Submarine Telegraph Company for the month of September, 1875, amounted to £10,014, and for the corresponding month of the preceding year to £9,682, showing an increase of £332.

The Eastern Telegraph Company, in connection with the Eastern Extension, Australasia and China and Brazilian Submarine Telegraph Companies, state, in their circular for the month of September last the latest dates of messages received in London from India, China, Australia, etc., by the direct cable route of the Associated Companies, which continued working with uniform speed and efficiency, that the average time the messages occupied in transit had been from Calcutta seventy minutes, and from Bombay fifty-five minutes. The Eastern Extension Company's Cable between Singapore and Batavia had been restored, having been interrupted for repairs during the first half of the month. The Indian Government lines between Ahmedabad and Deesa were swept away by floods, and all communication with India and the East (excepting to Kurrachee) by the land route was in consequence interrupted from the 20th to the 28th of September, between which dates the whole of the Indian traffic passed over this company's lines.

Since the nomination of Yaver Pacha as Director of the Telegraph and Postal Department of Turkey, and Mr. Scudamore's arrival at Constantinople, the postal and telegraphic administrations have displayed great activity.

A new telegraph code has been compiled by Mr. Geo. Ager, LL.D., for the use of bankers, merchants and ship owners. The code is written in accordance with the St. Petersburg Telegraph Convention, each code word not exceeding eight letters, and is intended for use privately as well as publicly; also providing a method for insuring the correctness of a message.

A curious statistical table has been drawn up in France showing the distribution of letters and telegrams per head in different countries. Switzerland is first in both classes, the telegrams averaging eight for every 100 inhabitants; in France there are twenty-three letters to every 100 inhabitants; in England 20 1-12th, and in the United States nineteen. In England there are fifty-four telegrams for every 100 inhabitants, in Holland fifty-one, in Belgium forty-seven, in the United States thirty-two, in Germany thirty-one. France ranks tenth, and Russia last, with one.

The Western and Brazilian Telegraph Company (Limited) have received the following telegram: "Communication between Santos and Santa Catharina restored. Test perfect." This again gives direct communication with Monte Video, Buenos Ayres, and the West Coast of South America.

The liquidator of the Panama and South Pacific Telegraph Company announces that, all the moneys owing to the company having been collected, he is enabled to declare a further return of 15s. 9d. per share to those shareholders who have paid up £2 10s. per share, and a return of 7s. 2d. per share to those who have paid only £1 per share, being the proportion due to them after deducting interest at the rate of 5 per cent. on the allotment money due the 31st January, 1870, not paid by them.

Telegraphic and Electrical Brevities.

THE *Portchester* (N. Y.) *Journal* says: "The Franklin Telegraph Co., at their office, next to the *Journal* office, have more than doubled their business in this village since Mr. Geo. Fowler was appointed operator, and the office removed from King street.

An Associated Press despatch from Key West, Florida, dated Nov. 1st, states that the Western Union cable steamer, Professor Morse, sailed that morning for New York, having completed laying the new cable between Key West and Punta Rasa and repaired and restored the second cable. This restores telegraphic communication by duplicate cable with Havana and other West India Islands, and with the South American telegraph systems through the new cable from Demerara to Para, and from Para to Pernambuco, connecting with established lines to Rio Janeiro, Montevideo and Valparaiso.

Oregon Indians Opposed to Telegraphs on their Reservations.

SEVERAL times mention has been made of the opposition of the Indians at the Umatilla reservation to the work of opening a road and building a line of telegraph through the grounds included in the limits of the reservation. The line has been completed as far as Baker City, and in constructing it through to Walla Walla it is found necessary to cross the lines of the reservation. For some reason the Indians are bitterly opposed to the work going forward, on the ground that they regard it as an encroachment. Justly considering the maguotic telegraph one of

the most potent levers of civilization, these noble red men of the primeval forest think they have seen quite enough of American civilization to suit them. They, therefore, have arrayed themselves in direct and open hostility, and declare not a pole shall be planted or a wire stretched across the *illike* donated them by Uncle Sam. When trouble was at first menaced, the department at Washington was notified of the opposition of the Indians. Orders were forwarded at once authorizing the construction of the line, as proposed, through the reservation lands. But it appears from recent events that the "Lo's" are up in arms, and do not propose to regard the instructions given by the Government. The following despatch, received here yesterday from Walla Walla, will serve to indicate the spirit of resistance among the Indians:

"L. McManis, who is just in from Weston, reports that the Indians, to the number of 30 or 40, armed, came to the camp of the men engaged in building the new road and telegraph line over the Blue Mountains last night, and drove them off, threatening to kill them unless they left at once, which they did, having no arms with which to defend themselves, and leaving all their tools and provisions."

Immediately on receipt of the telegram, Mr. Platt Burr, Superintendent of Construction, who is now in this city, went to the headquarters of the Department of Columbia, and apprised Col. H. Clay Wood, who is acting temporarily as commander of the department during the absence of Gen. Howard, who is now at the Dalles, *en route* for Portland, and the latter was notified by telegraph of the condition of things. He sent a despatch at once to Col. Elmer Otis, who has charge of the troops at Walla Walla, authorizing that officer to protect the men engaged in opening the road and building the line from the threatened attack, at all hazards. This may be regarded as the termination of the anticipated difficulty, as the Indians will scarcely have the hardihood to openly resist the military power of the Government.—Albany, Oregon, *Daily Morning Call*.

Quotations of Telegraph Stocks at N. Y. Stock Exchange.

Showing Lowest and Highest Prices each day during week.

Oct.	WESTERN UNION.	ATL. AND PAC.	AMER. DIST.		GOLD AND STOCK.	
			Bid.	Asked.	Bid.	Asked.
28	75 1/4 ... 76 3/4	19 1/2 ... 20	..	..	..	..
29	74 3/4 ... 75 3/4	18 3/4 ... 19 3/4	..	..	..	..
30	75 1/2 ... 76	18 ... 19 1/4	..	..	..	..
Nov. 1	76 ... 76 3/4	19 ... 19 1/2	..	.. 24	..	.. 55
2	..	..	..	..	..	..
3	75 3/4 ... 76 1/2	19 1/2 ... 20	..	.. 24	..	.. 55

New Patents.

OFFICIAL COPIES of any U. S. Patent issued since July 1st, 1871, including drawings, specifications and claims in full, sent free to any address for 25 cents each. Address P. L. POPE, Elizabeth, N. J.

For the week ended Oct. 5, 1875, and bearing that date.

168,385.—DUPLIX TELEGRAPHS.—Thomas A. Edison, Newark, N. J. [Filed Jan. 26, 1875.]

In "bridge system" uses in the artificial line additional helix 14 and resistance 12, to more perfectly balance static discharge of line.

The electro-magnets *h* and *l*, placed in the bridge circuit between the sending instrument and the line and artificial lines, respectively, in combination with the second artificial line 12 13 and the helices 14 around the cores of the electro magnet *l*, for the purposes set forth.

168,451.—INDUCTION COILS.—J. R. Chislett, Plymouth, England. [Filed July 14, 1875.]

For regulating, in conjunction with the soft iron core, the strength of current.

1. The combination of the conical spiral electro-magnetic coil D, constructed as described, with the soft iron core E, substantially as described and shown.
2. The combination of the conical spiral electro-magnetic coil D, constructed as described, with the soft iron core E and the graduated scale, substantially as described and shown.

168,465.—SOLUTIONS FOR CHEMICAL TELEGRAPHS. Thos. A. Edison, Newark, N. J., assignor to himself and Geo. Harrington, Washington, D. C. [Filed Jan. 15, 1875.]

Treats aniline solution with nitric acid till nearly colorless. Uses tin stylus. Oxygen evolved at stylus point forms protoxide of tin, which reduces the aniline to its original state while the current is passing.

A chemical solution for telegraphic paper containing aniline in a colorless, or nearly colorless condition, substantially as set forth, in order that the mark may be made by electrolysis, as specified.

168,470.—CIRCUIT CLOSERS FOR ELECTRICAL BURGLAR ALARMS.—Lewis Finch, Brooklyn, N. Y. [Filed Nov. 19, 1874.]

Two circuit closers arranged, as shown, in a frame, the movement of either sash closing the circuit.

In combination with the pivoted circuit openers and closers I, having the cam levers *g*, and wings *h*, the springs *k*, and the elastic tongue *K*, and all arranged within the box frame H, having openings on opposite sides for the outward movement of the cam levers, as herein shown and described.

168,548.—ELECTRICAL MARINE ENGINE GOVERNORS.—Christopher C. Wolcott, Washington, D. C. [Filed Sept. 7, 1875.]

Making and breaking an electric current, due to motion of vessel, controls the force operating the throttle valve of engine. The motion of vessel brings the mercury in the receptacle *m* in contact with the screw *f*, thus making circuit, and bringing the armature *J* in contact with the magnets. The armature draws back the rod *G*, steam is admitted to the rear of the piston, and the arm *a* closes throttle to prevent "racing" of engine. Upon receding of the mercury from screw *f*, the circuit is broken, armature released, and the piston returns to its original position.

1. A marine governor, in which the making and breaking of an electric circuit, due to the motion of the vessel, is made to control the force applied to operate the throttle valve, substantially as set forth.
2. As a medium through which the motion of the vessel is caused to make and break an electric circuit, the receptacle *M* containing a supply of mercury, and having adjustable attachments, *e* and *f*, for receiving the wires.
3. In combination with a throttle valve of a steam engine a steam, air, or other engine for operating the valve of the said engine, all substantially as specified.
4. A cut-off motion, in which the making and breaking of electric circuit, due to the engine, is made to control the force applied to operate the cut-off valve, substantially as set forth.

For the week ended Oct. 12, 1875, and bearing that date.

168,560.—MAGNETO-ELECTRIC MACHINES.—Louis Drescher, New York, N. Y. [Filed Oct. 13, 1874.]

Utilizes the secondary or "extra" current produced at the momentary interruptions of the primary induced current. Adjusts the commutator cams about the axis of the helix, thus altering the position with relation to the poles, the electro-magnet, and varying the intensity of the current.

1. Segmental commutator cams *u v*, embracing arcs of different degrees, combined with the helix *r*, tangential insulated springs *G G'*, and electrical conductor *C' d'*, of a magneto-electric machine, substantially as and for the purpose herein set forth.
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4. A magneto-electric machine, constructed substantially as herein described, to deliver both primary and secondary electric currents from the same helix, in manner as herein set forth.

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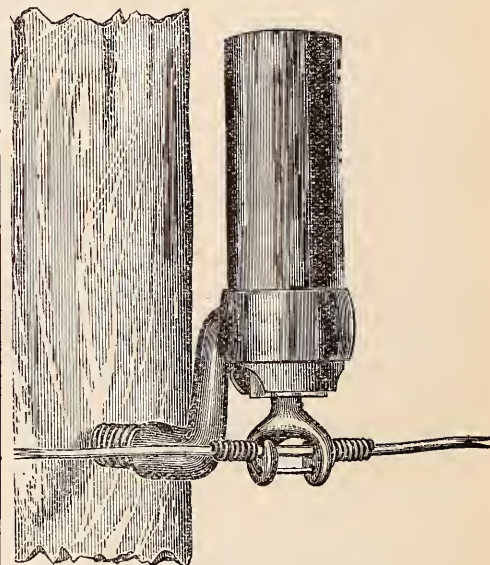
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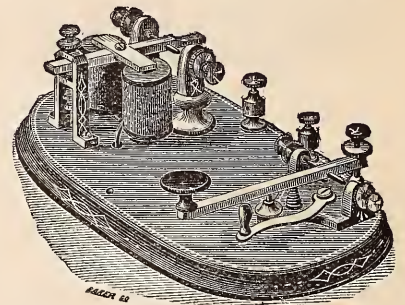
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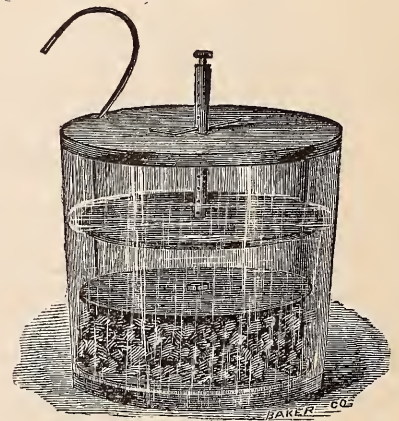
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J. N. ASHLEY, - - - - - PUBLISHER.

SATURDAY, NOVEMBER 13, 1875.

VOL. XI.

WHOLE No. 487.

Original Articles.

On Quadruplex Telegraphy.

By F. L. POPE.

THE simultaneous transmission of two telegraphic communications in opposite directions upon the same wire, now known by the name of duplex telegraphy, dates back to the year 1853. The first to conceive of its possibility as well as the first to carry the conception into practical effect, was Dr. Wilhelm Gintl, Director of State Telegraphs in Vienna, Austria. He describes his method in a paper read by him before the Vienna Academy of Sciences on the 9th of June, 1853, and in July of the same year it was put in practical operation between Prague and Vienna.

In March of the following year Carl Frischen, a telegraphic engineer of Hanover, Germany, improved upon Gintl's plan, by making use of a branch current from the main battery for compensating the effect of the outgoing current upon the home relay, instead of a local current employed by Gintl. This is unquestionably the most important improvement which has been made in duplex telegraphy from the time of its original invention by Gintl down to the time of the addition of the condenser by Stearns, in 1872. Frischen used a differential relay having helices composed of two equal and opposing wires, and an artificial or rheostat line equal in resistance to the main line, substantially as they are used at this day. His first practical experiment was made between Hanover and Göttingen on the 26th of May, 1855.

The labors of Frischen, and of Siemens and Halske, of Berlin, who during the same year, independently but subsequently worked out a method almost precisely similar to Frischen's, brought the system of simultaneous transmission in opposite directions to a state of perfection which answered a very good purpose upon the comparatively short lines, and at the slow rate of transmission in vogue at that day.

The success of these ingenious inventions gave an entirely new direction to the minds of the host of enterprising electricians on the continent of Europe, and during the following year, 1855, the problem of simultaneous transmission in the same direction, which naturally suggested itself as the next step in the progress of invention, was solved with more or less success by the independent labors of Dr. J. B. Stark, of Vienna, Dr. Werner Siemens, Dr. August Kramer and A. Bernstein, of Berlin, and Dr. J. Bosscha, Jr., of Leyden; each of these inventors having published a full account of his method in the latter part of 1855 and the early part of 1856. At least two of them, Stark and Bosscha, clearly saw that the successful solution of the difficult problem of simultaneous transmission in the same direction included, as a necessary consequence, the solution of the problem of quadruple transmission also; for a knowledge of the invention of Gintl, as perfected by Frischen, was all that was needed to show that it was equally applicable either to a single or a double telegraph in one direction. In the first published description of his method, dated at Vienna, October 31, 1855, Stark concludes as follows:

"With the method of double transmission in the same direction we may also combine that of counter transmission (gegenseprechen), and hence arises the possibility of simultaneously exchanging four messages upon one wire between two stations, which will, however, hardly find any application in practice."

This is unquestionably the earliest published suggestion of what is now known as the quadruplex system.

Dr. Bosscha, in a description of his system read before the Royal Academy of Sciences of Holland, on the 27th of October, 1855, and published in their transactions, Vol. IV, p. 101, not only makes the same suggestion, but sets forth in detail a method of accomplishing the result. Having described his method of double transmission in the same direction, he says: "Now, if we wind each of the receiving relays with two wires, and divide the current at the sending station, according to the plan of Siemens and Halske (Frischen), through the two coils of the home relay in opposite directions, then it becomes practicable for both stations to transmit at the same moment,

without their own relays being affected by their own transmitted currents, and in this manner it is possible to send four signals simultaneously through one wire. This solves the problem in its largest generality."

Thus Stark and Bosscha, as early as 1855, both recognized the indisputable fact that the production of a successful method of quadruplex transmission depended solely upon the successful solution of the problem of double transmission in the same direction. If this could be accomplished, it becomes a mere matter of mechanical detail to combine with it Frischen's or any other system of counter transmission.

It has been stated that methods of double transmission in the same direction were worked out independently, but almost coincidentally, by a number of inventors during the year 1855. The ingenious and active German electricians, recognizing that the accomplishment of this result was the key to simultaneous quadruplex transmission, had diligently labored at the problem. Let us now consider the results of their labors.

In any system of simultaneous double transmission in the same direction two keys are required at the sending station, and at least four different electrical conditions of the line must be provided for, one for each of the four following cases:

1. When the first key is closed and the second key open.
2. When the second key is closed and the first key open.
3. When both keys are closed.
4. When both keys are open.

The methods of Stark, Siemens and Bernstein (No. 1), though varying in detail, were arranged upon one general principle, the four electrical conditions of the line being as follows:

1. A positive current having a strength of 1.
2. A positive current having a strength of 2.
3. A positive current having a strength of 3.
4. No current.

The methods of Bernstein (No. 2), Bosscha and Kramer, and at a later date those of Schreder (1860) and Maron (1862), were arranged upon another and better principle, as follows:

1. A positive current having a strength of 1.
2. A negative current having a strength of 1.
3. A positive (or negative) current having a strength of 2.
4. No current.

There are two serious difficulties, leaving minor ones out of consideration, which are inherent in every system of simultaneous double transmission in the same direction. In the first place, when either key is passing from its front to its rear contact, it causes a momentary interruption of the signal which is at the same time being transmitted by the other key.

Neither Stark nor Siemens suggested any means of overcoming this difficulty. Bosscha and Kramer made use of a device originally invented by Gintl,* viz., that of keeping the battery constantly in the main circuit, but shunted by the key, so that when the latter was depressed the short circuit was broken and the current flowed to line, but when raised the battery was again short-circuited. This plan effectually disposed of the difficulty in question, but was injurious in its effect upon the batteries. Bernstein, however, hit upon the method now in use, that of providing each of his keys with a spring so arranged as to close the front contact at or before the time of interrupting the rear contact. This difficulty was, therefore, effectually removed as early as 1855. The second difficulty is a still more serious one, and arises in the following manner: In the simultaneous operation of the apparatus there must, of necessity, frequently be a change from a positive to a negative condition, or *vice versa*, of the line, and of the relays or receiving instruments, consequent upon the movement of a single key; yet it is evident that the reversal of the magnetic polarity of a receiving instrument by the action of one key must interfere with a signal which is being given upon it at the same time by the action of the other key. This difficulty is met with, in some form, in every arrangement of the receiving instruments. Stark employed three neutral relays, adjusted to varying degrees of sensitiveness, in one arrangement, and two polarized and one neutral relay in another, as did also Bosscha and Kramer. Bernstein used a single relay with three armatures, of varying adjustment. Neither Stark nor Siemens suggested any method of remedying this serious defect, and, judging from his published paper on the subject, the latter evidently considered it an insurmountable one. Bosscha, Bernstein and Kramer, by making use of different modifications of the same principle—that of operating the recording instrument or sounder by the opening of a shunt circuit, as the first and last had already done with the main batteries, and by working from the rear instead of the front contact of the receiving relay—theoretically succeeded in surmounting this obstacle. Practically, however, the method of operating a register or sounder by closing and breaking a shunt is a very unsatisfactory one.

It not only exhausts the local battery with great rapidity, but the demagnetization of the iron cores takes place with far less rapidity when the battery is cut off by a shunt, even of very small resistance, than when it is completely interrupted by breaking the circuit in the usual way, and this renders it impossible to receive and record the telegraphic signals with the rapidity that is necessary in modern telegraphy.

When these methods came to be tried on lines of a length exceeding 100 or 150 miles, the interference of the static discharges was superadded to the already existing difficulties, and for these reasons the results were, on the whole, so unsatisfactory that the subject remained in abeyance for many years. The subsequent labors of Schreder, Wartmann, Maron, Schaak and Zetsche, between 1855 and 1865, though exhibiting great ingenuity and research, added little or nothing of practical value to what had already been done by the earlier inventors in the same field.

The revival of the duplex system in America, and its extensive introduction into practical use, both in this country and in Europe, resulting from the improvements of Joseph B. Stearns—notably his method of compensating the effects of the static discharge from the line by the application of the condenser, which was made known in the winter of 1871—2—once more turned the attention of electricians to the problem of simultaneous transmission in the same direction.

In a paper published in the *Philosophical Magazine* of June, 1873, Oliver Heaviside, of Newcastle-on-Tyne, England, pointed out, as Stark and Bosscha had done before him, that the invention of a system of simultaneous transmission in the same direction furnished at the same time the solution of the problem of quadruple transmission. He says: "It is theoretically possible to send any number of messages whatever simultaneously in one and the same direction upon a single wire. Now, by combination with a null duplex system it becomes obviously possible to send any number of messages in the other direction while the opposite correspondences are going on, and without interference. Thus the working capacities of telegraphic circuits may be increased indefinitely by suitable arrangements. * * * From experiments I have made I find it is not at all a difficult matter to carry on four correspondences at the same time—namely, two in each direction, and if we may suppose the growth of telegraphy will be as rapid in the future as it has been in the past, it seems not improbable that multi-telegraphy will become an established fact."

During the summer of 1874, T. A. Edison, of Newark, N. J., while engaged in conjunction with George B. Prescott, electrician of the Western Union Telegraph Company at New York, in experimenting upon Stearns's duplex apparatus, with a view of introducing certain modifications and improvements therein, devised a system of simultaneous transmission in the same direction which differed materially in principle from any of its predecessors, and which was destined to furnish the basis of the first practical solution of the curious and interesting problem of quadruplex telegraphy.

The distinguishing principle of this method consists in combining together two distinct and unlike methods of single transmission in such a manner that they may be carried on independently upon the same wire, and at the same time, without interfering with each other. One of these methods of single transmission is used principally in England, where it is known as the double current system, and the other is the single current or open circuit system, used on the continent of Europe. In the double current system the battery remains constantly in connection with the line at the sending station, its polarity being completely reversed at the beginning and at the end of every signal without breaking the circuit. The receiving relay is provided with a polarized or permanently magnetic armature, but has no adjusting spring, and its action depends solely upon the reversals of polarity upon the line, without reference to the strength of the current. In the single current system, on the other hand, the transmission is effected by closing and breaking, or increasing and decreasing the current, while the relay has a neutral or soft iron armature, provided with a retracting spring. In this system the action depends solely upon the strength of the current, its polarity being altogether a matter of indifference.

It will therefore be apparent that, by making use of these two distinct qualities of the current, viz., polarity and strength, two sets of instruments may be operated at the same time on the same wire. This method possesses, moreover, the important practical advantage that the action of each of the two receiving relays is perfectly independent. Each receiving operator controls his own relay, and can adjust it to suit himself without interfering with the other—a peculiarity that none of the former methods possessed. As soon as this method was practically worked out, it became at once obvious that any of the different methods of simultaneous transmission in opposite directions already in use might be applied to it, as Stark, Bosscha, and others had long ago pointed out, the result of which would be a practical system of quadruplex transmission. This was shortly afterwards

* Brix's Journal, II, 224.

* Brix's Journal, II, 136.

done upon the lines of the Western Union Telegraph Company between New York and Boston, a distance of 240 miles, and both the bridge and the differential system of duplex working were tried in combination with it, with excellent results. When, however, the apparatus was experimentally tested on a circuit of about 450 miles, the effects of static induction became very strongly marked, and it was found that these could be more conveniently compensated in the bridge than in the differential system. The former was, therefore, decided upon as being better suited to the usually existing conditions than the latter.

The diagram shows the quadruplex apparatus as arranged upon the bridge plan.

T_1 is a double current transmitter or pole-changer, operated by an electro-magnet, local battery e_1 , and finger key K_1 , in a manner well understood. The office of the transmitter T_1 is simply to interchange the poles of the main battery E_1 with respect to the line and ground wires, whenever the key K_1 is depressed; or, in other words, to reverse the polarity of the current upon the line by reversing the poles of battery E_1 . By the use of properly arranged spring contacts, s_1 s_2 , this is done without at any time interrupting the circuit. Thus the movements of the transmitter T_1 cannot alter the strength of the current sent out to the line, but only its polarity or direction. The second transmitter T_2 is operated by a local circuit and key K_2 in the same manner. It is connected with the battery wire 12 of the transmitter T_1 in such a way that when the key K_2 is depressed the battery E_1 is enlarged by the addition of a second battery, E_2 , of two to three times the number of cells, by means of which it is enabled to send a current to the line of three or four times the original strength, but the polarity of the current with respect to the line of course still remains as before, under control of the first transmitter T_1 .

At the other end of the line are the two receiving instruments R_1 and R_2 . R_1 is a polarized relay with a permanently magnetic armature, which is deflected in one direction by positive and in the other by negative currents, without reference to their strength. This relay consequently responds solely to the movements of key K_1 , and operates the sounder S_1 by a local circuit from battery L , in the usual manner. Relay R_2 is placed in the same main circuit, and is provided with a neutral or soft iron armature, and responds with equal readiness to currents of either polarity, provided they are strong enough to induce sufficient magnetism in its cores to overcome the tension of the opposing armature spring. The latter, however, is so adjusted that its retractile force exceeds the magnetic attraction induced by the current of the battery E_1 , but is easily overpowered by that of the current from E_1 and E_2 combined, which is three or four times as great. Therefore, the relay R_2 responds only to the movements of key K_2 and transmitter T_2 .

The same difficulty which had baffled former inventors arises, however, in this connection. When the polarity of the current upon the line is reversed, during the time in which the armature of R_2 is attracted to its poles, the armature will fall off for an instant, owing to the cessation of all attractive force at the instant when the change of polarity is actually taking place, and this would confuse the signals by false breaks if the sounder were connected in the ordinary way. By the arrangement shown in the figure, the armature of the relay R_2 makes contact on its back stop, and a second local battery, L_2 , operates the receiving sounder S_2 . Thus it will be understood that when relay R_2 attracts its armature, the local circuit of sounder S_2 will be closed by the back contact of local relay S ; but if the armature of R_2 falls off it must reach its hack contact, and remain there long enough to complete the circuit through the local relay S , and operate it before the sounder S_2 will be affected. But the interval of no magnetism in the relay R_2 , at the change of polarity, is too brief to permit its armature to remain on its back contact long enough to affect the local relay S , and

through the agency of this ingenious device the signals from K_2 are properly responded to by the movements of sounder S_2 .

By placing the two receiving instruments R and R_1 in the bridge wire of a "Wheatstone balance," according to Stearns's patent of Nov. 12, 1872, and duplicating the entire apparatus at each end of the line, the currents transmitted from either station do not affect the receiving instruments at that station. Thus in figure 1 the keys K_1 and K_2 are supposed to be at New York, and their movements are responded to only by the receiving relays R_1 and R_2 at Boston. The duplicate parts which are not lettered operate in precisely the same manner, but in the opposite direction with respect to the line.

In applying this system of quadruplex transmission upon lines of considerable length, it was found that the interval of no magnetism in the receiving relay R_2 (which, as above stated, takes place at every reversal in the polarity of the line current), was greatly lengthened by the action of the static discharge from the line, so that the contrivance of the local relay S was not sufficient to overcome the difficulties arising therefrom. A rheostat or resistance, X_1 , was therefore placed in the bridge wire with the receiving instruments, R_1 and R_2 , and shunted with a condenser c , of considerable capacity. Between the lower plate of the condenser and the junction of the bridge and earth-wire an additional electro-magnet, r , was placed, acting upon the armature lever of the relay R_2 , and in the same sense. The effect of this arrangement is, that when the current of one polarity ceases the condenser c immediately discharges through the magnet r , which acts upon the armature lever of relay R_2 , and retains it in position for a brief time before the current of the

transmission in opposite directions was for the first time rendered practicable upon long lines by the combination therewith of the condenser, the first step was accomplished. It now only remained to invent an equally successful method of simultaneous transmission in the same direction, which, as we have seen, was done in 1874. The application of one or more of the existing duplex combinations to the new invention to form a quadruplex apparatus followed as a matter of course.

Thus it is clear that the merit of the invention of 1874 consists in its having furnished us with a new, and what is more important, a practical method of simultaneous transmission in the same direction, applicable to long lines, and not in the mere application thereto of one or more of the known duplex systems, to form a quadruplex, which in itself would no more constitute an invention, in the sense contemplated by the patent law, than would the application of the duplex principle to the printing or dial instrument instead of the Morse, with which it was first used.

As its uses become more and more extended, the quadruplex is constantly undergoing modification and improvement in its minor details, with a view to render its manipulation more simple and easy, and to enable it to be worked direct between the most widely separated points with the utmost speed and certainty. Some of these modifications are very ingenious and interesting, and will probably form the subject of a future article.

D'Infreville's Duplex Telegraph.

BY HUGH NELSON.

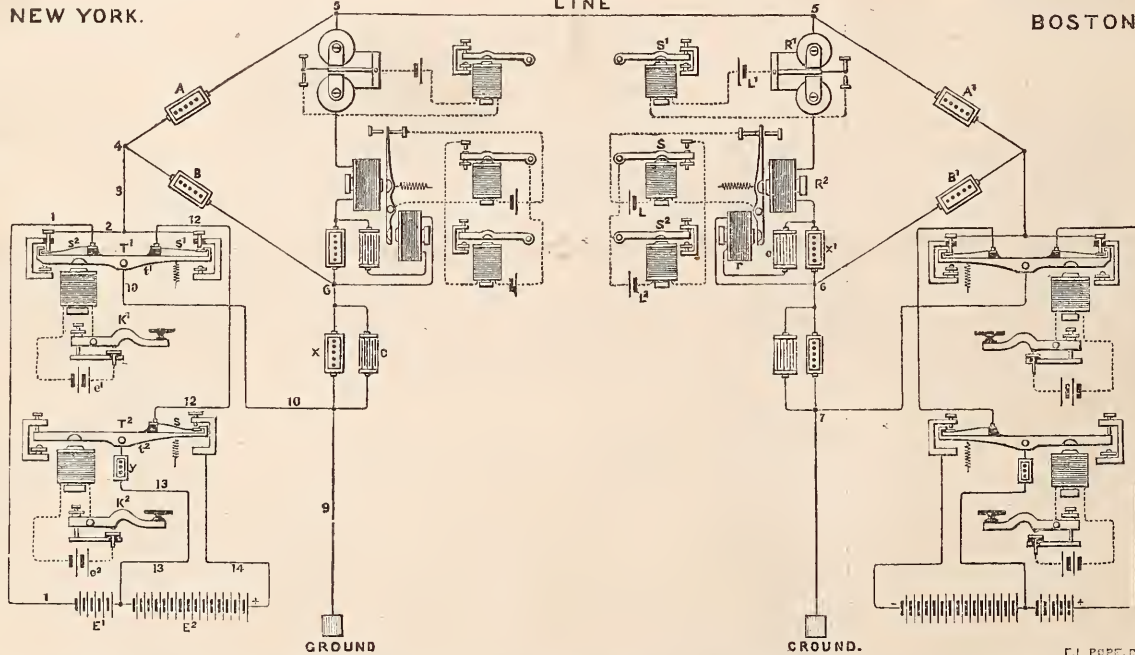
THOUGH the duplex invention has lately been rather

thrown in the shade by its "big brother," the quadruplex, it still remains, and, for a year or two at least, is likely to remain the most reliable means of working off business between large cities, especially when such cities are more than 250 miles apart. If an ordinary Morse circuit between two large cities can carry 350 messages a day, on which the company make a profit, an arrangement by which the capacity is increased to 700 must of necessity give two profits, while the capital has not been increased except by the extra cost of instruments, which, in comparison with the cost of construction and maintenance of another wire, it is not

NEW YORK.

LINE

BOSTON



opposite polarity arrives, and thus serves to bridge over the interval of no magnetism between the currents of opposite polarity.

It will be seen that the combination of transmitted currents in this method differs materially from any of those used in previous inventions. They are as follows:

1. When the first key is closed and the second open..... - 1
2. When the second key is closed and the first open..... + 3 or + 4
3. When both keys are closed.... - 3 or - 4
4. When both keys are open..... + 1

Here we discover another very important practical advantage in the system under consideration, which is due to the fact that the difference or working margin between the strength of current required to produce signals upon the polarized relay and upon the neutral relay respectively may be increased to any extent which circumstances render desirable. Within certain limits, the greater this difference the better the practical results, for the reason that the range of adjustment of the neutral relay increases directly in proportion to the margin. The ratio of the respective currents has been gradually increased from 1 to 2 to as high as 1 to 4, with a corresponding improvement in the practical operation of the apparatus.

From what has been said, therefore, it will be seen that before it became possible to produce a quadruplex apparatus capable of being worked at a commercial rate of speed upon long lines, it was essential that its component parts should have arrived at a certain stage of development. When, in the early part of 1872, simultaneous

necessary to take into account.

There are at present working successfully in this country five different systems of duplex: 1st and 2d, the differential and bridge systems of Mr. Stearns; 3d, the polarized relay system of Mr. Haskins; 4th, the system of Mr. D'Infreville; and 5th, Mr. Gerritt Smith's arrangement, lately described in THE TELEGRAPHER. The systems of Mr. Stearns have also been described in THE TELEGRAPHER and other papers. No description, however, has appeared of Messrs. Haskins and D'Infreville's inventions. The former arrangement is working very successfully on the North Western Company's lines between Milwaukee and St. Paul. I hope Mr. Haskins will soon give the fraternity a description of it through your columns. No one can do it better.

All the foregoing systems, except the D'Infreville, use condensers for counteracting the effect of the return current. In Mr. D'Infreville's system condensers are not necessary, the current of charge and discharge being rendered harmless by an arrangement of electro-magnets. Messrs. D'Infreville and Haskins also dispense with transmitters, only ordinary keys being used in their arrangements. The D'Infreville requires no instruments (with the exception of rheostats) which cannot be found in every telegraph office.

In the description of Gerritt's Smith's duplex arrangement, given in THE TELEGRAPHER and Journal of the Telegraph a few weeks ago, it is stated that in this, as in all other systems of duplex, it makes no difference whether the batteries at each end are placed with similar or dissimilar poles to the line. The writer of the article cannot be acquainted with the D'Infreville system or he

would not have written the foregoing. In the D'Infeville system the batteries *must* oppose each other, and, if I am not mistaken, I think that in Mr. Haskins' system they *must not* oppose, but be placed in same way as in an ordinary Morse circuit.

In both of Mr. Stearns' systems, and I should suppose in Mr. Haskins' also, it is possible to work other lines from the batteries used for the duplex. I understand, however, this is not generally done. In the D'Infeville system this cannot be done with advantage, and I think the same remark will apply to Mr. Smith's arrangement.

In these days, however, of sulphate of copper batteries, this cannot be considered a very serious objection. In the diagram two stations are shown arranged for duplex on Mr. D'Infeville's plan. The line is 7,500 ohms resistance.

A A' and B B' are ordinary relays of 200 ohms resistance.

E E' are ordinary Morse keys, with the circuit closer removed.

D D' are main batteries, of equal strength, with similar poles to line. The current from each battery passes through receiving relays A A' to the line, only a very small portion of it going through the shunts formed by the rheostats and recording relays. Of course, as the batteries oppose each other, both receiving relays remain open. By depressing key E we close relay A'. The current from battery D is now short circuited through recording relay B and rheostat C, 300. The current from battery D' coming over the line also takes the same route to the ground, and relay A' at once closes. Relay A, however, remains open, owing to the current coming from battery D', meeting with a sufficient quantity of current from battery D (which leaks past the point F) to balance it. This balance is obtained by varying the resistance in rheostat C, marked 300, so that when key E is closed (the key at the other end being open) the armature of relay A does not move. Relay A' being thus closed, let us see how relay A can be closed from the other end of the line. We close key E', battery D' being thus short circuited, the current, which before went over the line to preserve the balance at relay A is cut off, and the small portion of current which leaked past point F now goes on to point H, and thence through rheostat C, 5,000, and key E, to the ground, and relay A closes. Relay A', which had already been closed, is kept so by the leakage current, which acts same way as at the other end. It is thus shown that no matter in what position the keys may be, the relays are always ready to respond to the writing from the other end.

The return current is neutralized by the recording relays B B' as follows: When the line is at rest it is charged with a current of the same polarity from each battery. When the key at either end is closed the current in the line would, in discharging through the receiving relay, make a false signal; at the same instant, however, the recording relay, through which a strong current is passing, sends out an inductive current, which, running in an opposite direction to the current that produced it, meets and effectually kills the discharge current. On raising either key the line is again charged, and this current is again neutralized by the current given out by recording relay on being demagnetized. The strength of these inductive currents can easily be varied to suit any line or condition of line, by using relays of different resistances and size of core. The arrangement shown in the diagram has been working between Toronto and Montreal, on the Dominion Telegraph Company's lines, a distance of nearly 400 miles, for the last year, and is giving good satisfaction. One hundred and forty cups, of ordinary sized gravity battery, is used at each end.

The New Offices of the Atlantic and Pacific Telegraph Company.—No. 145 Broadway, New York, again a Telegraphic Centre.

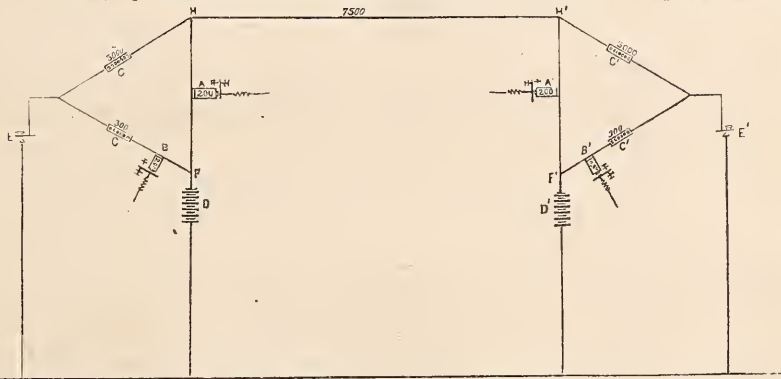
AS was announced in THE TELEGRAPHER some time since, the Atlantic and Pacific Telegraph Company has leased and fitted up for its main and executive offices in this city a portion of the building at No. 145 Broadway, and of the building adjoining, so long occupied by the Western Union Telegraph Company as its headquarters. The corner of Broadway and Liberty street is historical telegraphically, and it is fitting that after having been remodelled and furnished with all modern conveniences and facilities it should again be occupied for telegraphic purposes.

The premises heretofore occupied by the Atlantic and Pacific Telegraph Company at 198 Broadway were very poorly adapted to telegraphic purposes. The receiving and a portion of the executive offices were in the base-

ment, which was dark and very insufficiently ventilated. A part of the executive offices were located in the third story, and communication between them was difficult, and not conducive to the prompt and easy transaction of business. In fact, until the recent change the companies competing with the Western Union Company have always been badly located, and their accommodations in this city inadequate and unsuitable.

Immediately upon the accession of General T. T. Eckert to the executive management of the company he determined to secure better accommodations, and this would have been sooner accomplished but for the difficulty of securing a proper location, which should afford the necessary room and facilities for an advantageous arrangement of the several departments, and at the same time serve the customers of the company most satisfactorily, and by the severe and protracted illness which compelled a suspension of his active management of the affairs of the company for so long a time.

In the meantime, the building which had so long been the home of the Western Union Company, had been thoroughly remodelled internally; new and wide staircases and passage ways superseded the narrow and dingy ones which had formerly been in use, an elevator put in, and the rooms had been reconstructed, and the whole building, and that of the one in the rear which is connected with it, handsomely painted inside and out. It was evident to Gen. Eckert and his associates that this was just the place in every respect that was required for the future location of the headquarters of the principal competitor of the Western Union Company. A lease of the first floor fronting on Broadway, the basement, and of rooms in the rear of the main building on the second floor, was secured, and these have been fitted up in the best manner for the purposes for which they are to be occupied. The work has been done under the personal direction and supervision of General Eckert, and the result is most creditable to him. The Atlantic and Pacific Company, and especially its employes, are to be congratulated on the excellent accommodations and location



which has been obtained, and will doubtless find business steadily and rapidly increased by the change which has been made.

Upon entering the main office from Broadway a very handsomely fitted up space is seen in front of the receiving and delivery counter. For the accommodation of customers a desk is provided for writing messages, on the left of the room, where ample facilities are afforded patrons for that purpose. This desk is divided into several compartments, each being separated by a partition, so that privacy is secured to each customer.

The counter over which messages are passed, and communication with the representatives of the company had, is of elegant design and finish, and most conveniently arranged. Large plate-glass windows have been put in—the receiver's window being in the centre, the delivery window on the left and the cashier's on the right.

The room in the rear of this counter is used as the operating room, and the view from the front office is very pleasing and satisfactory. The operators can be seen busily engaged in sending and receiving messages, and the click of the sounders is rather confusing to the ear of the uninitiated, though perfectly understood by the operators.

The old familiar corner which our lamented friend, John Horner, so long occupied, is so changed that he would scarcely recognize it were he permitted to revisit the place.

Leaving the front office, let us enter the operating room. There is but one entrance for the entire staff, which is through a small anteroom in the rear of the operating room, where the doorkeeper will be placed to note the incoming of those entitled to admission, and exclude those who have no business inside. Passing through this anteroom into the operating department, the first object which attracts the attention is the handsome switch board, which has been especially made for its present location and use, on a new and especially effective plan. This switch board was designed by General Eckert, and he has introduced in it many new and useful improvements, which

greatly enhance its value, while at the same time simplifying it. This switch has a capacity for sixty wires, and as many instruments and loops as may be needed can be connected by means of it, as desired.

This switch was built by Messrs. L. G. Tillotson & Co., at their shop in Centre street, and certainly does them credit by the excellence and beauty of the work. It is a fact worthy of notice, as showing the capacity and extent of the facilities of this firm for the construction of electrical and telegraphic apparatus, that this switch was made and delivered, complete in every respect, in six and one half days. Such a job would ordinarily occupy four or five weeks' time, but it was needed in a hurry, and Tillotson & Co. were able to do the work, and do it well, too, within the brief time mentioned.

Between the switch board and the counter in the front part of the room are placed fourteen quartette tables, of what are known as the Western Union style, each table being divided into four compartments by glass partitions, and accommodating fifty-six sets of instruments. The sixteen tables in front are devoted to the city department of the company, which has grown to be a very important branch of the service. Miss Donovan is in charge of this department. The remaining forty sets of instruments are for the general business of the company. The eight sets next the switch being arranged for automatic working.

The Atlantic and Pacific are using the automatic system quite extensively and with good results. In a room in the rear of the operating room eleven punchers are in active use, and eight sets of automatic transmitters are employed. The automatic apparatus is generally used on the main routes, and enables the company to accommodate a large amount of business (nearly all the press reports being sent and received automatically), which it would be difficult to dispose of satisfactorily with its present number of wires otherwise. The managers of the company speak highly of the efficiency of the automatic system, and say that they find it more advantageous the longer it is worked. It is proposed to still further introduce the automatic system upon the lines as the increase and development of the business shall require increased capacity.

Mr. Wm. J. Dealey, who for a number of years had charge of the cable room of the Western Union Telegraph Company, is manager of the operating department, with Mr. Samuel H. Edwards as day chief operator, and Mr. Philip P. Hauff as night chief operator.

Mr. Charles S. Shriver has charge of the receiving and delivering departments.

In the sub-basement is located the delivery department, which is in charge of Mr. A. W. Smith, from whence messages are distributed by boys handsomely uniformed. As the entrances

to the basement are from the outside of the building, the boys are entirely removed from contact with the upper rooms.

The supply department is also located in the basement, and is in charge of Mr. Edward C. Cockey.

The battery room is in the rear of the delivery and supply departments.

Passing up stairs to the story above the operating room, in the rear building, we come to the rooms occupied by the executive officers of the company, comprising six in all. These rooms all communicate with each other, enabling President Eckert, who occupies the corner room, to confer as will with each of his subordinate officers.

To the left of the President's office is the office of the Treasurer, where the transfer books are kept, and where the Auditor, Mr. E. T. Mackey, may be found. The Directors' room is beyond this.

In the President's room will also be found Mr. Albert B. Chandler, the Secretary and Assistant Manager; and Mr. Alfred Nelson, the Treasurer of the Company, has a desk in this room at present.

Opening out of the President's room is the office of Mr. D. H. Bates, the General Superintendent of the Atlantic Division of the Company.

The offices of Mr. D. Doren, Superintendent of Construction and Repairs; of Mr. James G. Smith, Superintendent of the First Division; of Mr. William H. Weed, Superintendent of the Midland Division, and of Mr. Maurey Smith, Superintendent of the Metropolitan Division, will also be found located in these rooms.

These rooms have been neatly carpeted and fitted up, and furnished with all necessary conveniences for the transaction of the executive business of the company, and during business hours present a very busy appearance, which would indicate that the officials of the company do not by any means find their positions sinocures.

The offices of the American Press Association, which uses the wires of the Atlantic and Pacific Company very extensively, have also been removed to rooms in the upper story of the same building.

THE TELEGRAPHER

DEVOTED TO THE INTERESTS OF THE TELEGRAPHIC FRATERNITY.

SATURDAY, NOVEMBER 13, 1875.

THE TELEGRAPHER:

PUBLISHED EVERY SATURDAY at 38 VESEY ST.

ELEVENTH VOLUME.

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INDEX TO ADVERTISING PAGES.

Table with 2 columns: Name of advertiser and Page number. Includes American Fire Alarm and Police Telegraph, Am. Compound Telegraph Wire Co., Bishop Gutta Percha Works, etc.

THE TELEGRAPHER MAY BE HAD at the news stand in the Receiving Office of the Western Union Telegraph Company, corner of Broadway and Dey street, where it is regularly on sale.

The Direct Cable Again in Operation.—Reduction of the Cable Tariff.

THE fact was briefly announced in THE TELEGRAPHER last week that the Faraday had succeeded in repairing the break in the direct cable, off the Newfoundland coast, and that the cable was again in good working order.

The direct cable was reopened for business on Saturday, the sixth instant, and has been well patronized since, and is now doing a good business again. The tariff was fixed at 75 cents, gold, per word, which is 25 cents less than the rate made by the Anglo-American Company after the new cable was broken.

It is, perhaps, not to be regretted that the lower rates were temporarily established, as the result demonstrated

the fact that they were inadequate, and could only be maintained at a heavy and ruinous loss to the companies.

The changes of the tariffs are fully set forth in the advertisement of the Direct Cable Company, which will be found elsewhere in this paper.

Attempts have been made in certain quarters to disparage the new cable, on account of the difference in its construction from other Atlantic cables which have been laid. These attempts are not warranted by the facts, and arose either from a failure to understand its construction, or from a desire to disparage the enterprise without regard to the facts.

The cable was subjected to thorough and constant tests during and after its manufacture. It was thoroughly tested by Sir Wm. THOMSON, whose eminence and ability as an electrician and electrical engineer are well known, so late as Sept. 16th and 17th, with the following results: Insulation resistance of the whole cable of 2,420 knots in 2d and 3d minutes, 2 1/2 millions SIEMENS units, or 5,445 millions per knot; from 4th to 24th minute, 3 1/2 millions, or 8,470 millions per knot.

Copper resistance of whole line, 7,300 Siemens units, or 3.02 per knot.

Electrostatic capacity of whole line, 991 microfarads, or 4,095, say 41 per knot.

SIR Wm. THOMSON'S tests proved the cable to be in perfect condition as to insulation, and showed its electrostatic capacity and copper resistance to be so small as to give it a power of transmitting messages, which, for a transatlantic cable of so great length, is a very remarkable and valuable achievement.

It is to be hoped that, after the delays and misfortunes which have been experienced by the Direct Cable Company, that they have at last surmounted the difficulties which have beset the enterprise, and will now enjoy the reward of their perseverance and energy.

Duplex and Quadruplex Telegraphy.

WE print this week an article "On Quadruplex Telegraphy" from the able pen of Mr. F. L. POPE, which will be read with much interest. There has been a great desire for the publication of a full and accurate description of the quadruplex system which has been adopted and introduced by the Western Union Telegraph Company, which heretofore it has not, for reasons connected with the complications in regard to the ownership of the patents, been deemed advisable to make.

In his article Mr. POPE has given a concise, correct and complete history of duplex and quadruplex inventions, from that of GINTL to the present time, which has not heretofore been done, and has traced the development of the quadruplex from that time until it has become a practical and valuable telegraphic system.

We also print a description of the duplex invention of Mr. D'INFREVILLE, now extensively used on the lines of the Dominion Telegraph Company of Canada, prepared by Mr. HUGH NEILSON, Superintendent of that company, an electrician of much ability, under whose direction and supervision this duplex has been introduced upon the lines of that company.

Mr. D'INFREVILLE'S patent has also been purchased by the Atlantic and Pacific Telegraph Company for its lines, although we believe it has not as yet been introduced practically upon the lines of that company.

It has also been adopted by the Southern and Atlantic Telegraph Company, and is now being introduced for practical use upon its lines.

In consequence of the space occupied by these articles, we have been obliged to omit the favors of our correspondents in the present issue; but for this the great value and importance to the telegraphic interests of the duplex and quadruplex inventions will no doubt be regarded as a sufficient excuse. We shall next week give correspondents

a chance to be heard, and present their favors as rapidly as possible to our readers.

Appreciation of and Interest in The Telegrapher.

THE appreciation of the importance of THE TELEGRAPHER as an independent telegraphic journal, and interest in its success, of which we are constantly receiving assurances, are exceedingly gratifying to us. While it might make the paper more popular with a certain class of telegraphers if it were devoted more entirely to telegraphers' gossip and light reading, yet we are assured that it is much more useful and beneficial to the fraternity conducted upon the principle adopted and adhered to for several years past. Its aim is not merely to interest and amuse but also to instruct the practical telegraphers of the country, and better fit them to discharge their duties intelligently, and to occupy, satisfactorily to themselves and their employers, the more responsible and lucrative telegraphic positions.

Our corps of correspondents and contributors is the best and largest that any telegraphic publication has ever had, and additions to the number of new correspondents is made every week. We are especially proud of this department of the paper.

In its "Personal" column may be found a very complete record of the movements and location of telegraphers all over the country.

As THE TELEGRAPHER is a thoroughly independent journal, its columns are open to the fullest and freest discussion of all matters of telegraphic interest. In it every person can be heard on any telegraphic subject, it being understood that while we afford room for a general expression of opinion or statements of fact, we are responsible only for such as are editorially approved or endorsed.

While the favor with which the paper is received is most gratifying, its circulation is not as large as it should be. It has been increasing of late, but not as rapidly as could be wished. The small sum at which it is afforded brings it within the means of every telegrapher, and it should be taken and read by every telegrapher who has any regard for his profession or desire to advance in it. The season of the year has come when subscriptions should come in freely. Will not the friends of the paper, those who desire that it shall be liberally sustained, make a special effort during the next few weeks to secure additional subscribers and readers to their representative sheet? In this way they will increase the influence of the paper, and enable us to make it even more complete, satisfactory and advantageous to the fraternity. A general effort of the known friends of THE TELEGRAPHER throughout the country could easily double its circulation before the New Year. Shall we have it?

The Atlantic and Pacific Telegraph Company's New Headquarters.

THE removal of the main and executive offices of the Atlantic and Pacific Company in this city from 198 Broadway to the building so long occupied by the Western Union Company, at 145 Broadway, is in every respect an excellent change. The offices previously occupied were not in

a good location, the receiving and a portion of the executive offices were in a basement which was badly ventilated, and in which it was necessary to use gaslight most of the time, and the general appearance and arrangement was such as to give an unfavorable opinion to outsiders.

No spot could have been selected, or premises better located and arranged than those to which the offices have been transferred. The prestige which it acquired from having for so many years been the telegraphic headquarters of the country, was an important consideration. The offices are all well lighted and ventilated, and have been very handsomely and conveniently fitted up under the personal direction and supervision of President ECKERT, and reflect credit upon the company.

We are informed that the result of this change is already shown by a marked increase in the business received on the counter. We heartily congratulate all concerned on the change.

Personals.

Mr. GEORGE B. HAVENS, for the last year manager of the Western Union Telegraph office at Mingo Junction, Ohio, and Mr. GEORGE BUCKINGHAM, operator in the same office, started October 25th for Valparaiso, Chili, via New Orleans and the Isthmus. They expect to engage in telegraphy in South America.

The Telegraph.

Telegraphic and Electrical Brevities.

The best method of amalgamating zincs is said to consist in immersing the zinc in a liquid composed of nitrate of mercury and hydrochloric acid, which is prepared by dissolving one ounce of mercury in five ounces of aqua regia (nitric acid one part, hydrochloric acid three parts), and adding five ounces hydrochloric acid.

The cable steamer Mina sailed last Saturday from Halifax to repair the St. Pierre and Duxbury cable, which is broken.

Telegraphic communication with Camp Grant, Arizona Territory, by the United States military line, was established on the 9th inst.

The Western Union cable steamer Professor Morse, which recently laid the new cable between Key West and Punta Rasa, Florida, arrived at New York on Monday last, six and a half days from Key West. The new cable was successfully laid without difficulty. After laying the new cable the old one was taken up, and several miles of new cable substituted in place of the damaged sections, so that there are now two good cables in operation between Key West and Punta Rasa.

Unsuccessful Rascality of a Telegraph Operator.

At Fort Scott, Kansas, on Tuesday morning, the 9th inst., W. J. Philpot, night operator at the depot, was found lying on the floor of the ticket office with his hands tied, and gagged with a railway spike, fastened with a piece of telegraph wire. He seemed to be insensible when found, but soon after became conscious, and said that two men came into the office, struck him senseless, and then bound and gagged him. The office was robbed of all the money it contained, about \$126. Mr. Luly, the agent, charged Philpot with taking the money and binding and gagging himself, in order to deceive the public. Philpot acknowledged it, and told where the money would be found. He was arrested and lodged in jail to await examination.

Flattering Testimonial to A. Leonard Meyer, late Manager, Victoria, British Columbia, Western Union Telegraph Office.

VICTORIA, BRITISH COLUMBIA, }
October 16th, 1875. }

To A. Leonard Meyer, Esq., Manager Western Union Telegraph Co., Victoria.

We, the undersigned, learning that you are about to leave the Province, having had frequent occasion during the eighteen months you have managed the telegraph office in Victoria to transmit and receive telegraphic messages, have much pleasure in testifying to your business habits and careful attention to the duties of your office, as well as to the courtesy you have on all occasions exhibited.

While expressing our regret that you are leaving Victoria, we feel confident that your habits and character

will always command congenial and remunerative employment, and we offer you our best wishes for your future success.

- JOHN ASH,
Provincial Secretary of British Columbia.
- ROBERT BEAVEN,
Chief Commissioner of Lands and Works.
- W. J. ARMSTRONG,
Minister of Finance and Agriculture.
- W. C. WARD,
Manager Bank of British Columbia.
- ALEX. MUNRO,
Hudson Bay Company.
- HENRY RHODES & CO.,
Agents P. M. S. S. Co.
- WILLIAM CHARLES,
Hudson Bay Company.
- WELCH, RITHEB & CO.
- MOODY, NELSON & CO.
- EDGAR MARVIN,
STHALSCHMIDT & CO.
- FINDLAY, DURMAN & BRODIE.
- J. GOODFELLOW,
Manager Bank of British North America.
- TURNER, BEETON & TUNSTALL.

[We have much pleasure in giving insertion to the above.—ED. STANDARD.]—*The Daily Standard.*

Defalcation of the Cashier of the New York Office of the Western Union Telegraph Company.

It has transpired that Mr. Leonard Cox, the Cashier of the Western Union main office in this city, has appropriated to his own use some \$13,000 of the money of the Company, which has been lost in stock speculations. Of course he expected that profitable operations would enable him to replace the amount abstracted, but, as is generally the case, the losses constantly increased the deficiency. The abstraction was covered by falsification of his accounts, which was ultimately detected, and Mr. Cox made a full confession of the facts in the case.

Mr. Cox has heretofore enjoyed the fullest confidence of his superior officers, and was very popular with the public and his associates. It is not known what action will be taken by the company in the case, but it is probable that the friends of Mr. Cox will make good the amount of the deficiency.

Scene.

General Operating Room, W. U. Building.

New Man to Old Sport.—“I say, Jim!”
Old Sport.—“Hello! What you givin’ us?”
N. M.—“Been gittin’ a speshal?”
O. S.—“Yes; 9,000 words!”
N. M.—“How long?”
O. S.—“Twelve minutes, five seconds!”
N. M.—“Did you break?”
O. S.—“Break? Y break? Been here goin’ on nine years and ain’t broke yet!”
N. M.—“Um, you’s a pretty good operator I guess!”
They part with mutual satisfaction.

Proceedings of the Chicago District of the Telegraphers’ Mutual Benefit Association.

ONE of the most interesting meetings the members of the Telegraphers’ Mutual Benefit Association of the Chicago district ever held, took place in the Gold and Stock Telegraph Company’s rooms on Sunday, October 31st. It was well attended, and that, too, by the representative men of the association of this district; a fact which will be plainly discernable by glancing at the names of those present in person and by proxy, as mentioned in the Secretary’s Report, a copy of which has been furnished and forwarded you for publication. The meeting throughout was noted for the spirit of cool deliberation and fairness with which all questions were discussed. The members of this district have great reason to be proud of the gentlemen they have secured as delegate and alternate delegate—Gen. Stager being well known as a man well posted in insurance matters, as well as of large experience in all branches of executive work, and of that class of business men with which a delegate would have to deal.

The alternato, Mr. F. J. Loesch, of the Western Union Book-keeping Department, of this city, is a young man of sterling integrity and a young lawyer of rare ability, and should it be necessary for him to represent the association at the coming convention, on account of Gen. Stager not being able to be present from any cause, the district would be ably represented. The following is the Secretary’s report of the business transacted at this meeting: * The meeting was called to order at 11:20 o’clock A. M.,

by unanimously requesting Mr. F. J. Loesch to act as chairman.

Mr. Lomasney declining to act as secretary, Mr. W. C. Long was elected to act in that capacity.

There were present, in person, the following members: F. W. Jones, Agent of the Chicago District of the Association; Allan C. Knapp, R. W. Chapman, E. L. Armstrong, T. O. Cord, O. W. Hamilton, D. T. Francis, E. Lomasney, C. H. Kelly, F. J. Loesch and W. C. Long. By proxy there were present: J. L. Martin, C. H. Summers, C. H. Rudd, H. W. Plum, F. N. Benson and S. G. Lynch, without special instructions; C. B. Cobb and George B. Simpson, who mentioned Gen. Anson Stager as their choice for delegate, and C. T. Whittenhall and J. M. Kelsey, who declared their preference for alternate delegate to be Mr. F. J. Loesch; all represented by Mr. F. W. Jones.

Mr. Loesch, on taking the chair, thanked the gentlemen for the honor conferred, and remarked, that as we all understood the object of this meeting principally to be an election of a delegate to represent us at the coming convention of our association in New York, and the passing of appropriate resolutions as instructions to the delegate, remarks on that point were probably unnecessary, and nominations for delegates would now be in order. Accordingly Gen. Anson Stager was nominated without opposition, and after it being explained to the members present that the general expected to be in New York on other business about the time of the holding of the annual meeting, and would take great pleasure in representing us, was unanimously elected.

Mr. F. J. Loesch was then nominated, and elected without opposition, as alternate delegate.

A motion was made that the expenses of our delegate be borne by the members of the district, *pro rata*, and that a local assessment be levied for that purpose when the amount was known.

Considerable discussion arose on this motion. Mr. Cord strenuously opposing all local assessments, as he was of the opinion that all expenses should be defrayed out of the general fund.

The Chairman made some well timed remarks, showing that it was impossible to meet such expenses out of the general fund, Messrs. Jones, Chapman, Francis and Long following with a few remarks, sustaining the motion, the former explaining that as we put nothing in the treasury for the purposes this motion was intended to provide for, we could not reasonably expect to draw any out. Mr. Cord finally withdrew his objections, and after some general remarks, in which all participated, and all agreed that there should be some provision made for such purposes by the association at New York, the motion was passed.

Mr. Jones being requested to tell us something about the status of our association, made the following statement in lieu of one recently received from Secretary Holmes:

From Nov. 11, 1874, to Oct. 22, 1875 (date of statement).	
Cash on hand Nov. 11, 1874.....	\$9,515 95
“ Rec’d for assessments.....	12,417 16
“ “ applications.....	165 00
“ “ interest on investment.....	175 00
W. U. Tel. Co.’s Gift (cash).....	1,000 00
Sale of Desk.....	15 00
Total.....	\$23,288 11

Paid out—	
To heirs deceased members.....	13,450 00
For printing.....	204 35
“ postage.....	161 76
Refunded.....	13 50
Salary.....	458 26
Due on 78 and 79.....	2,000 00
Total.....	\$16,287 87
	\$16,287 87

Reserve..... \$7,000 24
Assessments called for, 10; number of deaths, 8; number of members, 1,250.

Mr. Jones, by request of some of the members, also gave a brief history of the last annual convention, and how he arrived in New York just in time to get a western man on the executive committee, and how the south then tumbled in and got a Southern man on that committee also.

A motion was then made that our delegate be instructed to use his influence to have the present western member of the executive committee (Mr. C. H. Summers) appointed to that position again for the ensuing year. Carried unanimously.

A brisk discussion in regard to having all the members inside the territory of a district deal directly with the agent of that district, and not with the general officers at New York, and in regard to having the whole country districted, was had, which subsequently took the form of a motion as follows: “That our delegate be in-

structed as above, and also to use his influence to have the wording of the assessment notices in regard to remittances changed, so that members would neither feel it obligatory or optional to correspond direct with the general officers, and thus lighten their burdens, and, at the same time, systematize the business of the association." This motion was carried.

It was then moved "That, as we had worked so harmoniously under the present constitution, and everything seemed to be in satisfactory shape, that we instruct our delegate to oppose any material change in the constitution as it now stands, and thus save a bill of expenses for printing new constitutions." Pending this motion remarks were made by the chairman and others regarding the assigning of certificates for debt, as in an ordinary insurance policy, some holding that it could be done, others that it could not, and some were in favor of having the constitution changed so it could be made assignable. It was finally decided, however, that as long as the association had no legal existence, it was best not to complicate our simple, good, and beneficent association, as at present a member could change his heirs or his beneficiary as often as necessary. The question was accordingly called, and the motion instructing our delegate to oppose any material change in the constitution, carried unanimously. Some general remarks were then indulged in, showing the good the association had done and the cheapness at which it had been done, the members having had one thousand dollars' insurance for about eight dollars per year. Mr. Jones here took occasion to say that he was proud to be a member and an agent of such an association, and that he considered it an honor to be connected with it.

A unanimous vote of thanks was tendered Col. J. J. S. Wilson for the use of the Gold and Stock Co.'s room, when a motion to adjourn prevailing, the meeting adjourned at 12:45 P. M. FRANK J. LOESCH, Chairman. W. C. LONG, Secretary.

Quotations of Telegraph Stocks at N. Y. Stock Exchange.

Showing Lowest and Highest Prices each day during week.

Table with 5 columns: Nov., WESTERN UNION, ATL. AND PAO., AMER. DIST., GOLD AND STOCK. Rows 4-10.

New Patents.

OFFICIAL COPIES of any U. S. Patent issued since July 1st, 1871, including drawings, specifications and claims in full, sent free to any address for 25 cents each. Address F. L. POPE, Elizabeth, N. J.

For the week ended Oct. 12, 1875, and bearing that date.

168,614.—ELECTRIC GAS LIGHTING APPARATUS.—Reuben Chamberlain, Hartford, Conn. [Filed May 25, 1875.]

Escapement stops vibrated by armature lever, releasing and stopping motive power for turning the cock.

1. The combination of the escapement wheel i, provided with the spurs v', with the vibratory escapement fork n n' hung on an axis at right angles to the shaft or axis of the escapement wheel, all operating substantially as shown and described.

2. The combination of the escapement wheel i, vibratory fork n n' hung on an axis at right angles to the shaft or axis of the escapement wheel, plug shaft s, gas cock r, burner u, armature lever o, electro-magnet k, and conductors w w', all operating substantially as shown and described.

For the week ended Oct. 19, 1875, and bearing that date.

168,893.—MAGNETO-ELECTRIC MACHINES. Jim Billings Fuller, Brooklyn, N. Y. [Filed July 30, 1875.]

The currents induced meet and combine at the commutator spring, pass through the external circuit to the other commutator spring, and thence back through the intermediate coils. The tapering poles are designed to prevent abrupt falling off of the magnetic force.

1. The combination of the arms a, the coils b, and the sectional commutator c, when the ends of the wire forming said coils are connected together, and to the commutator, substantially as set forth, said coils being caused to revolve between or near alternately opposite magnetic poles, developing electric waves or currents in said coils, and the currents developed being received and discharged continuously at the points in the wire forming said coils nearest said poles, or where the magnetic force is strongest.

2. The magnetic poles h, and h', having points or angles tapering toward the neutral magnetic point, substantially as and for the purpose specified.

Married.

SMITH—MARSHALL.—On Wednesday, Nov. 3d, 1875, at the M. E. Church, Mechanicville, by the Rev. W. M. Wicker, WILLIAM J. SMITH, Manager Western Union Telegraph Office at East Albany, N. Y., to BLANCH M. MARSHALL, daughter of the late Allen C. Marshall, of Mechanicville, N. Y.

THE DIRECT UNITED STATES CABLE COMPANY,

16 BROAD STREET,

NEW YORK, Nov. 6, 1875.

This Company's Cable is now repaired and open for business. The following is the new tariff to Great Britain, Ireland and France:

Table with 2 columns: Location, Price. Includes New York City, British Columbia, South Africa, etc.

The tariffs beyond Great Britain remain the same as given in THE TELEGRAPHER of Sept. 25, with the following exceptions:

Table with 2 columns: Location, Price. Includes Scilly Islands, Mossel Bay, Colesberg.

Telegrams from Lima (Peru) can now be prepaid to their destination.

Table with 2 columns: Route, Price. Includes London to Valparaiso, Valparaiso to Lima.

Messages for all other Stations on West Coast of South America only can be prepaid as far as Buenos Ayres or Monte Video, and forwarded thence by private agent of sender to destination.

SPAIN—The rate to Spain, via Santander, has been reduced to \$1.75; via Falmouth remains the same, viz., \$2.00.

The Turkish Telegraph Administration will not accept private telegrams written in cipher or secret language. The Siberian route to Japan and China is interrupted; messages to be accepted via Falmouth or Tientsin only.

Messages via Direct Cable are received at all the offices of the Atlantic and Pacific, Franklin, and Southern and Atlantic Telegraph Companies in the United States, and at all offices of the Dominion Telegraph Company of Canada, and at the Direct Cable Office, 16 Broad street, New York.

GEO. G. WARD,

Superintendent.

THE TELEGRAPHERS' BALL.

A very important and general meeting of the subscribers to the "TELEGRAPHERS' BALL FUND" will be held in the Auditor's Office (5th floor), Western Union Building, on MONDAY EVENING, November 15th, at 5.30 P. M.

The assessment comes due on that night, and as we propose having the invitations out by the first of December, each subscriber will see the necessity of their paying up. We also desire to submit a report of the action of the Committee of Arrangements thus far.

A full attendance, either in person or by proxy, is therefore earnestly requested.

Any subscriber unable to attend this meeting will please remit to J. H. LYMAN, Financial Secretary, 197 Broadway, on or before the above date.

D. W. McANEENY,

NEW YORK, Oct. 29th, 1875. Prest. N. Y. T. B. A.



THE LECLANCHE BATTERY.

THE WORLD RENOWNED Open Circuit Battery.

NO ACIDS! NO SULPHATE OF COPPER! DOES NOT FREEZE!

Will last from six months to several years, WITHOUT RENEWAL.

IS ESPECIALLY ADAPTED to Electric Bells, Hotel and House Annunciators, Burglar Alarms, Medical Apparatus and all kinds of Open Circuit Work. ADDRESS,

LECLANCHE BATTERY COMPANY,

No. 40 West 18th Street, or

L. G. TILLOTSON & CO., Sole Agents,

81 Dey Street, New York.

BRADLEY'S

APPARATUS FOR

ELECTRIC MEASUREMENT,

COMPOSED OF HIS

Tangent Galvanometer and Rheostat.

(Patented January 7th, 1873.)

Widely known and used among telegraph companies for practical work; also in colleges and other institutions of learning as a means of instruction and scientific experiment. Invaluable to experts or students in electrical science.

APPARATUS COMBINING

WHEATSTONE'S BRIDGE,

Also GALVANOMETERS for special purposes designed and furnished at short notice.

BRADLEY'S CELEBRATED

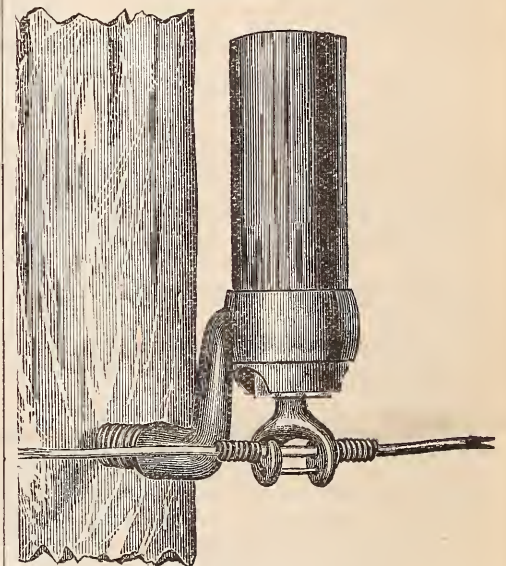
NAKED WIRE HELICES,

for Electro-Magnets, wound to any given size and resistance. Manufacturers of Telegraphic and Electrical Instruments supplied at low rates. For prices and pamphlet descriptive of apparatus, apply to

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BROOKS' PATENT TELEGRAPH INSULATOR WORKS,



AND AGENCY FOR THE SALE OF

SIEMENS' UNIVERSAL GALVANOMETER

Resistance Coils, Submarine Cables,

AND EVERY VARIETY OF

ELECTRO-METRICAL APPARATUS MANUFACTURED BY SIEMENS BROS.

DAVID BROOKS, Proprietor,

22 SOUTH TWENTY-FIRST ST.,

PHILADELPHIA.

TO ELECTRICIANS.

BASTET'S NEW IMPROVED BATTERY

is the most powerful, constant and durable power in the market; never crystallizes in the porous cup. This Battery, and Electrical Fluid to charge the same, is only sold at our store.

PRICE LIST.

Table with 2 columns: Cell No., Price. No. 1 Cell \$5.00, No. 2 Cell \$10.00.

L. BASTET,

619 Broadway, New York.

LEWIS' TELEGRAPH MANUAL.

A few copies of the last edition of

THE TELEGRAPHIC MANUAL,

by MR. WALTER O. LEWIS, remaining, may be had of THE TELEGRAPHER, 38 Vesey street, at fifteen cents each. Will be forwarded by mail postpaid on receipt of price.

CHARLES T. CHESTER,
 MANUFACTURER OF TELEGRAPH INSTRUMENTS,
 104 CENTRE STREET, NEW YORK.

BATTERIES of every description for TELEGRAPH and ELECTRO-PLATING purposes, best ENGLISH and AMERICAN TELEGRAPH WIRE, LINE TOOLS, INSULATORS, etc., etc. DIALS and PRINTING INSTRUMENTS for PRIVATE and MUNICIPAL lines.

Especial attention is called to the **CHESTER PIN DIAL** (patented), designed expressly for **POLICE and LAW TELEGRAPHS**. Works more than twice as fast as the Dial used at present for Police purposes, and with main battery only, thus doing away with the expense and care of local batteries. For call purposes a Bell Magnet is attached to each instrument by an Automatic Switch, so arranged that when the lid is closed the Bell is in circuit, and when opened the Dial is thrown in and the Bell cut out. Nearly every large city in the United States having a Police Telegraph is using the "Chester Police Dials," which have thereby earned a well established reputation for reliability and efficiency.

ELECTRO-MECHANICAL GONG STRIKERS,

for Railway Signals and Fire Alarm purposes, with Gongs ranging from 16 in., the engine house size, to 8 in., for house purposes. These are capable of striking very rapidly—at least two blows in a second. These vary in price according to size.

ELECTRO-MECHANICAL BELL STRIKERS,

for striking heavy bells, with hammers weighing as high as 200 lbs. These can also, if desired, be made to strike at "less than two seconds' interval." They are invaluable for Fire Alarm purposes, and can be furnished at very reasonable prices, varying according to size.

ALSO,

CHESTER'S PATENT NON-INTERFERENCE STREET BOX FOR FIRE ALARM TELEGRAPH;

so arranged that it is utterly impossible while one box is in operation to start another, thereby preventing any confusion of alarms.

ALSO,

REGISTERS, RELAYS, CALL BELLS,

and every description of Central Office apparatus, at most reasonable prices.

Particular attention is given to MUNICIPAL CONTRACTS.

THE NEW STYLE OF REGISTER, "THE EUROPEAN"

in which the spring takes the place of the weight, is enclosed in a metal and glass case; is noiseless in its action, and of great beauty and finish, and is specially recommended to *Shippers, to whom the most liberal discounts are offered on every line of telegraph goods and supplies.*

ELECTRO-SURGICAL APPARATUS

OF EVERY VARIETY AND DESCRIPTION.

HOTEL ANNUNCIATORS.

Simple, reliable, and never get out of order. The following Hotels are fitted with our improved patterns: Grand Union, Saratoga; A. T. Stewart's Hotel, corner Thirty-fourth street and Fourth avenue, N. Y.; Willard's Hotel, Washington, D. C.; Galt House, Louisville, Ky.; Tefft House, Buffalo; and many others. *Proprietors and keepers of Hotels most liberally dealt with.*

THE "COUNTING ROOM BELL MAGNETS,"

for communicating instantly to clerks and employes, by means of a keyboard, in any desired place.

ALSO,

BELL MAGNETS AND PUSH BUTTONS,

for connecting Rooms or Stables to houses; very cheap. Nickel plated and best material and workmanship, from \$3.00 upwards.

Sole Agent of the

WILSON ELECTRIC GAS LIGHTING CO

for Halls, Theatres, Churches, etc., etc. Inducements offered to any persons obtaining contracts for lighting.

Something New for

LIGHTING FACTORIES, MILLS, ETC.

By simply pushing a button on his bench the operator lights a section of burners.

Very slight consumption of Battery, and very cheap.

SEND FOR A CATALOGUE AND PRICE LIST.

They contain no munificent offers of 20 % discount on prices 25 % in advance of the trade, but the net prices will be found to be reasonable and satisfactory to all.

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NEW AND ENLARGED EDITION OF

SMITH'S

MANUAL OF TELEGRAPHY

CONTAINING

Complete Directions for Self-Instruction in Telegraphy,
 Instructions for Building and Operating

SHORT LINES OF TELEGRAPH,

Diagrams showing the manner of connecting wires, batteries instruments, &c.

Descriptions and cuts of all forms of telegraph instruments, batteries, &c.

Cuts, descriptions and prices of the

BEST LEARNER'S APPARATUS

AND

SHORT LINE INSTRUMENTS;

Together with full explanations of everything necessary for the

AMATEUR TELEGRAPHER

To know.

Every operator and every student of telegraphy should have one.

It is the

MOST COMPLETE, PRACTICAL

And easily understood explanation of the

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Sent post paid upon receipt of price.

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CINCINNATI AGENCY,

H. D. ROGERS & CO.,

22 WEST FOURTH STREET.

AMERICAN FIRE ALARM AND POLICE TELEGRAPH.

GAMEWELL & CO., Proprietors, 62 BROADWAY, NEW YORK.

- J. W. STOVER, General Agent and Superintendent. L. B. FIRMAN, Chicago, Ill., General Agent for the West and North-West. TELEGRAPH SUPPLY AND MANUF'G CO., Cleveland, Ohio, Special Agents for the Middle States. J. R. DOWELL, Richmond, Va., Special Agent for Virginia and North Carolina. J. A. BRENNER, Augusta, Ga., Special Agent for Georgia and South Carolina. L. M. MONROE, New Canaan, Conn., Special Agent for New England. ELECTRICAL CONSTRUCTION AND MAINTENANCE CO., San Francisco, Cal., Special Agents for California, Oregon and Nevada.

THIS SYSTEM OF FIRE ALARM & POLICE TELEGRAPH WITH A CENTRAL OFFICE, OR UPON THE AUTOMATIC PLAN,

is now in operation in the following Cities, to which reference is made for evidence of its great

SUPERIORITY, VALUE AND UNIFORM RELIABILITY.

- Albany, N. Y., New Orleans, La., Alleghany, Pa., New Bedford, Mass., Boston, Mass., New Haven, Conn., Bridgeport, Conn., Newark, N. J., Buffalo, N. Y., Nashville, Tenn., Baltimore, Md., Newton, Mass., Chicago, Ill., Newport, Ky., Cincinnati, Ohio, Omaha, Neb., Columbus, Ohio, Philadelphia, Pa., Cambridge, Mass., Pittsburg, Pa., Charlestown, Mass., Portland, Maine, Chelsea, Mass., Peoria, Ill., Covington, Ky., Providence, R. I., Detroit, Mich., Portland, Oregon., Dayton, Ohio, Paterson, N. J., Elizabeth, N. J., Pawtucket, R. I., Fall River, Mass., Quebec, L. C., Fitchburg, Mass., Reading, Pa., Fond du Lac, Wis., Rochester, N. Y., Harrisburg, Penn., Richmond, Va., Hartford, Conn., St. Louis, Mo., Halifax, N. S., St. John, N. B., Hyde Park, Ill., St. Paul, Minn., Indianapolis, Ind., Springfield, Mass., Jersey City, N. J., San Francisco, Cal., Kalamazoo, Mich., Savannah, Ga., Lansingburg, N. Y., Syracuse, N. Y., Louisville, Ky., Somerville, Miss., Lowell, Mass., Terre Haute, Ind., Lawrence, Mass., Troy, N. Y., Lynn, Mass., Taunton, Mass., Manchester, N. H., Toledo, Ohio, Mobile, Ala., Toronto, Canada, Montreal, Canada, West Roxbury, Mass., Milwaukee, Wis., Washington, D. C., Minneapolis, Minn., Worcester, Mass., New York City,

The Distinctive Features of these Systems of

Fire Alarm and Police Telegraphs

ARE,

First—The Automatic Repeater, through which the apparatus may be distributed in a combination of circuits, and the entire system successfully worked, without the constant personal attention of either operators or watchmen.

Second—The Automatic Signal Boxes.

Third—The Electro-Mechanical Bell Strikers, adapted to produce the full tone of the largest church or tower bells.

Fourth—The Electro-Mechanical Gong Striker, for hose and engine houses, by means of which the location of the fire is instantaneously communciated to the members of each fire company.

These Features combined form the

Only PERFECT, COMPLETE and RELIABLE System

OF

FIRE ALARM TELEGRAPH IN THE WORLD.

It is a snficiant vindication of the claims which are made by the Proprietors of these systems of

FIRE ALARM

AND

POLICE TELEGRAPHS,

that they have sustained the test of more than twenty years of practical use, and that the efforts which have been repeatedly made to supplant them by other inventions have

COMPLETELY FAILED;

the few instances in which municipalities have been induced to adopt other systems having demonstrated their insufficiency and unreliability, and resulted in their abandonment, and substitution therefor of the

AMERICAN FIRE ALARM TELEGRAPH.

Messrs. GAMEWELL & CO. are the owners of the original FARMER & CHANNING PATENTS, one of the most important of which has just been extended for seven years, and during the past seventeen years have spared no expense or effort to secure improvements, and the Systems are now covered by MORE THAN TWENTY PATENTS.

The most important improvement which the Proprietors have adopted and introduced is the

AUTOMATIC SYSTEM.

the introduction and operation of which involves so little expense, compared to the benefit which it confers, that even small communities can profitably adopt and maintain it.

The American System of

FIRE ALARM AND POLICE TELEGRAPHS

has met with the universal approbation and commendation of the

People, Municipal Authorities,

AND THE

PRESS

throughout the UNITED STATES and CANADA.

NO EFFORT, TROUBLE OR EXPENSE

is spared by the Proprietors to obtain and secure ANY POSSIBLE IMPROVEMENT which shall increase the

EFFICIENCY, RELIABILITY and ECONOMY

of the system. They intend that, as far as possible, it shall be

ABSOLUTELY PERFECT!

The amount of property which has been saved from destruction, and the number of lives which have been preserved through the general adoption of this system, throughout the UNITED STATES and the DOMINION of CANADA,

CANNOT EASILY BE ESTIMATED,

but that, in every community where it has been introduced for any considerable length of time, they have been enormous, THERE CAN BE NO QUESTION.

The cooperation of TELEGRAPHERS in securing its introduction into their localities is cordially invited, and their efforts will be duly appreciated and compensated.

Any information desired in regard to the above system will be cheerfully and promptly furnished upon application at the office.

A pamphlet, setting forth more fully its advantages and superiority, has been printed, and will be supplied to Municipal Authorities and others interested in Fire Alarm and Police Telegraphy, upon application as above.

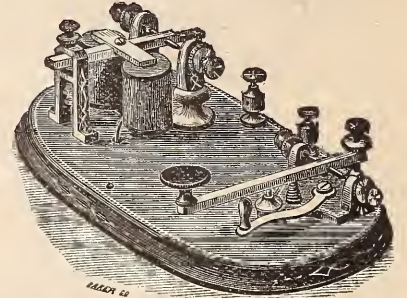
WESTERN ELECTRIC MAN'FG CO.

220 Kinzie Street, CHICAGO, ILL.

CELEBRATED

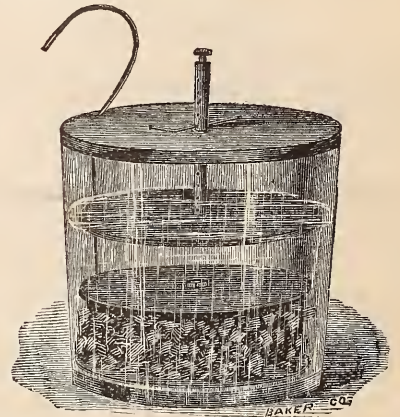
PRIVATE LINE OUTFIT:

THE BEST IN THE WORLD.



PRIVATE LINE INSTRUMENT.

This instrument is mounted on an iron base and finely finished. It gives a clear, loud sound. It is made to work on a line from a few feet to ten miles in length.



BLISS RESERVOIR BATTERY.

This battery took the first premium and a silver medal for force, constancy and economy at the Cincinnati Exposition.

With each "Private Line Outfit" is furnished one Private Line Instrument, one Cup Reservoir Battery, the necessary Chemicals, Wire for connections and a Manual.

PRICES.

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THE TELEGRAPHER

A JOURNAL OF
ELECTRICAL PROGRESS.

J. N. ASHLEY, PUBLISHER.

SATURDAY, NOVEMBER 20, 1875.

VOL. XI.

WHOLE No. 488.

My Sounder.

You have fretted me so long
With your everlasting song,
Your monotonous clatter and clatter,
You brazen brassy thing,
Of you I now would sing
In a way that will teach you "what's the matter."

It is true, without a doubt,
You're the greatest gossip out,
As many have learned and know to their sorrow;
You will gabble night and day
In your own peculiar way,
And find always something new for the morrow.

If the words that you have said
'Bout the living and the dead
Could work a change in your normal condition,
I am feeling free to tell
You would rattle down in—well,
You would soon learn the mysteries of perdition.

[From *The New Dominion*.]

Wooing by Wire.

A TELEGRAPH SKETCH.

"I DON'T see how any one can write such nonsense, and then get credit for being clever, and understanding human nature?" exclaimed Miss Sunnidale, shutting the book she had been reading with a protesting bang. "I don't believe one word of it! Do you, Dick?"

The question was addressed to her pet canary, and he answered with his usual accommodating chirp, which might be interpreted to mean yes or no, according to the questioner's wishes.

It was *Vanity Fair* she had been reading, and this is the passage which provoked her indignant exclamation: "Old or ugly, it is all the same, and this I state as a positive truth: A woman with fair opportunities, and without an absolute hump, may marry whom she likes."

Now, poor little Miss Sunnidale had reason to doubt this comforting assertion. She had not the shadow of a hump, and if it had been possible for her to marry whom she liked, she would not have been thirty years old and still a spinster. Her idea of Paradise was to have a little home of her own, no matter how humble, with a dear, good husband to love and live for. Long and patiently had she waited for the lord of her life to appear, but still he came not. Love, with all its gladness and grief, with all its sweet tumult and pain, was to her but a beautiful myth—a fairy tale; but *without* the less did she dream of it, and long for it; for her poor, innocent little heart was as romantic as that of any young school miss. Poor, lonely, little old maid! No wonder, then, that she differed from Thackeray in his estimate of woman's power to marry whom she liked.

She did not believe in the modern "Woman's Rights" movement, and although she had been earning her own living, bravely and uncomplainingly, for nearly twelve years, it was not from any desire to be independent that she did so, but simply because she had no one to earn it for her. None of her near relatives were living, and, though naturally of a cheerful and sociable disposition, she had always been very much alone in the world. Most of her life had been spent at school teaching in a country town, and wearisome enough she found it, trying to train the minds of her rustic pupils. Anxious for a change, she determined to learn telegraphy, and for this purpose made arrangements with the operator, Mr. Wylie, to instruct her in the mysteries of the art, and let her practice in his office after school hours. She had been practising most perseveringly for over two years, and was now a pretty fair sound operator, but, unfortunately, could not get a situation. After sending in about half a dozen applications, which always met with the same discouraging reply, "No vacancies at present," she began to despair of ever getting an office, and tried to settle down contentedly to school teaching. But she had no taste for it, and found it irksome. With telegraphy it was different. She felt sure she could succeed at that, for her heart was in it. To her there was an interest—a fascination about it. It was so much pleasanter than going over, day after day, and year after year, the same dull lessons, with duller children. It was the height of her ambition to be put in charge of a nice little office of her own. But she did not expect to get it, for, as she

sometimes plaintively declared, Dame Fortune seemed to have a grudge against her, and never would let her have anything she set her heart upon.

However, the fickle goddess at length decided to make a little variety in the programme of Miss Sunnidale's life, by granting her wishes.

The day after that on which this veracious narrative opens, she went down to the office, and told the operator she had decided not to waste any more time practising, as there seemed to be no hope of getting a situation.

"Well," said he, "I was just going to advise you to apply for this office. I am about to give it up and go back to farming, and will ask the superintendent to let you take my place, if you wish."

Of course she did wish, and he wrote without delay. In a few days the answer came back, authorizing him to transfer the books, etc., to her. She soon found a substitute to take her place at school, and in less than a fortnight she was in formal possession of the office.

There were not so many lady operatives in those days as there are now, and when it was flashed down the line that a lady had charge of "Sg" office, there was quite a little excitement in most of the other offices over it. Some of the operators signified their approval of it, in telegraph vernacular, by voting it "immense;" others less gallant felt that the presence of a lady on the line would be a restraint upon their freedom of (telegraphic) speech, and they would no longer be able to vent their wrath on offending brother artists in their accustomed style, which was often more forcible than elegant.

Tom Gordon was manager of the next office on that line, and when he heard of the appointment he scarcely knew whether to be pleased at the novel idea of having a lady to work with, or to resent the innovation of a woman presuming to engage in what he considered man's work. After due consideration he came to the conclusion that it would not be likely to affect the fact to any great extent whether he resented it or not, so he philosophically resigned himself to fate, determined to make the best of it.

That evening, when Phil Burke, operator on the opposition line, dropped in, as his custom was, to compare accounts, and tell about the wonderful amount of business "our Co." did, Tom cut him short by complacently observing:

"Oh, we know all about that, but we're one ahead of you yet, old man! We can boast of a young lady operator on our line!"

"You don't say so!" exclaimed Phil, with an incredulous air.

"Fact, sir!" said Tom, laconically.

"Is she good looking?" inquired Phil, deeply interested.

"Guess so—she sends well."

"What in the wide world has her sending to do with her looks?" quoth Phil, impatiently.

"Well, perhaps not a great deal, but as I haven't seen her yet it's all I have to judge by. It's one great point in her favor, at all events, for it would set me crazy to listen to her if she handled the key in the nervous, jerky style some girls do."

"She seems to have made a pretty good impression on your tender young heart," remarked Phil, mockingly. "Take my advice, old fellow—be careful you don't get caught."

"I was reading in a paper, the other day, of a fellow who fell in love with a 'sister operator' whom he had never seen, and only became acquainted with by talking to over the wire. He rashly proposed, she as rashly accepted, and they saw each other for the first time upon the wedding day. Rather risky business, I should think!"

"Well, of course, matrimony is a risky speculation altogether, but my opinion is that he stood as good a chance of getting a wife that would suit him under those circumstances as any other. You can form quite as good an estimate of a girl's character and temper by working and talking with her over the line as by being personally acquainted with her; better, perhaps, for you take her on her merits alone, and are not prejudiced by her appearance. Now, it is a well known fact that a pretty girl's beauty blinds us to her intellectual deficiencies and faults of temper, while, on the other hand, we are too apt to do homely women injustice by taking it for granted that their characters are as unattractive as their faces. I have a theory of my own—"

"Oh, bother your theories!" broke in Phil, irreverently. "You are the prosiest old preacher I ever knew. Every time a fellow asks you a simple question you trot out a perfect legion of facts, fancies and theories, mixed up promiscuously, in a way that is fearful to contemplate. Better cut the matter short, and put your theory into practice, by persuading the fair unknown to change her name to Mrs. Tom Gordon."

"I might think seriously of doing so," answered Tom, with imperturbable good nature, "only the trouble is, the cash valuation the company puts on my services is barely enough to keep me in segars, much less enable me to indulge in the luxury of a wife."

"Economize, my boy, economize! You might have

been a wealthy man by this time if you had not indulged in so many extravagant habits."

Which, indeed, was partly true, for Tom's salary was good enough, if only he had not been so careless about money matters. Handsome, generous, pleasure loving, and with no one but himself to think of, he never took the trouble to save, having, as he said, no object for so doing. This "having no object" had been the great drawback to Tom's success in life all along. He was clever enough to have made his way in the world, if he could only have been brought to feel that it was worth while trying. But he allowed himself to drift along, carelessly, aimlessly, making little use of the splendid talents nature had given him. The ability was there, but the stimulant was lacking. In short, he was a man who needed to have a good loving wife dependent on him, in order to develop the noblest part of his nature, and keep him from degenerating into a selfish, lazy "good-for-nothing."

Little Miss Sunnidale has been in possession of her office about a week, and already the place wears a tidier and more cheerful aspect than it used to do under the old masculine regime. It isn't much of an office, to be sure—only a wee corner of a book store, partitioned off, but it is pleasant and cosy. On the floor is a bit of pretty, fresh looking carpet. The ugly, ink stained counter, and the equally ugly desk on which the instruments stand, are neatly covered with green baize. At the window stands a mammoth geranium, perfectly gorgeous in its array of scarlet blossoms. Dick's cage hangs beside it, and Dick's sweet voice answers cheerily back to the monotonous click, elick of the sounder.

There has not been much doing all day, and the busy little woman, who cannot bear to sit idle, is wishing, for the fiftieth time, that somebody would come in with a message to send, or that one of the other offices would call her up to receive one. Her wish seems likely to be granted, for presently she hears the instrument tick off her office call, "Sg, Sg." Thinking some one had a message for her, she made haste to answer, but instead of a message comes the rather abrupt inquiry:

"What is your name, please?"

With her usual simple frankness, she answers, "Mildred Sunnidale."

"Odd name, but pretty," remarks her unknown querist. "How do you like your new office?"

"Oh, very much, now that it is cleaned up, and re-furnished, and is no longer redolent of segars," she replies. "What office are you in?"

"In 'Ch' office," is the answer. "My name is Tom Gordon."

Before she has time to make a fitting response to this interesting bit of information, an ill-natured fellow, away down the line, rudely breaks in, and without even taking the trouble to say, "Excuse me," as telegraph etiquette demands, jerks out, "To Sg. Here, take this," and begins sending a message in his usual rapid, unintelligible style. Now, this operator is the one drawback to Mildred's satisfaction with her new occupation. It always makes her nervous to have to copy from him. He 'sends' so fast, and gets so cross if she fails to catch it.

She strains every nerve in her anxiety to get the message correctly, and, having got as far as the signature without a "break," is beginning to congratulate herself, when bang! goes the door, effectually drowning the sound of the instrument, and causing her to lose a word. She asks him to repeat the signature, and after a series of impatient "Oh's!" he condescends to do so. She makes frantic efforts to catch it, but fails, and is obliged to ask him to repeat it, whereupon he becomes abusive, and savagely snaps out:

"Oh, get away, and let an operator take your place that can copy a message without 'breaking' at every word."

The poor little spinster is terribly frightened, and meekly replies:

"Please repeat it again, and I will try to get it this time."

But, as is the nature of bullies, her very meekness emboldens him to be still more tyrannical and impertinent.

"No, I'll be hanged if I will," he replies. "I'll report you to the superintendent, and get him to send some one to relieve you."

Tom Gordon is listening to it all, his handsome face flushed with generous indignation at the unmanly display of tyrannical ill-nature. He now thinks it time to interfere.

"See here, Pugh, you mean coward," he says, hotly, "Do you know it is a lady you are working with? Don't let us have any more of that nonsense, or I'll report you for using insulting language and wilfully delaying business."

"Who asked you to interfere?" retorts the irate Pugh, defiantly. But still he evidently thinks it best to heed the warning, for he repeats the signature, so that Miss Sunnidale gets it without further trouble.

And when she begins to express her gratitude to her self-elected champion for taking her part so kindly, he cuts short her thanks by saying simply:

"It makes me feel ashamed of my sex to hear a man speak roughly to a woman. If any of these operators do

so again, it won't be my fault if they are not punished for it."

And from that day kind-hearted Tom makes it his business to see that she is respectfully treated by every one on the line. He seems to consider her under his especial protection, and she—well, she thinks him a perfect hero, and worships him from afar. They fall into a daily habit of wishing each other "good morning" and "good night," and sometimes, when the line is not busy, their friendly greetings lengthen out into pleasant little chats.

And so it comes to pass that they gradually learn a great deal about each other's habits, tastes and opinions, and begin to feel acquainted.

Although he, like most of his sex, is not at all in the habit of under-estimating his own importance, it would surprise him to know what a large portion of Miss Sunnendale's thoughts are devoted to him. And the poor little old maid, who has never been made much of by anybody since those far-away days before her mother died, would scarcely credit, should any one tell her, how much he speculates about her, and how often he wonders whether she is as nice as she seems to be over the wire. For he finds her very interesting—so different from any of the rest of his rather numerous lady acquaintances. She has so many quaint little ideas, and such odd, original ways of expressing them. To him there is a certain fascination about her old-fashioned simplicity, which would seem almost childish but for the sound common sense she displays along with it. He knows she is a lady—no one could work with her long without discovering that. And when, as sometimes, she has occasion to speak seriously on serious thoughts, she does it so earnestly and bravely, yet so unassumingly, withal, that he feels a sort of involuntary reverence for her simple faith and pure, childlike nature, and is conscious of a dim longing to lead a better, loftier life than he has been doing.

Ah, if all women were but brave enough to use the mighty influence they possess over men to good purpose, by helping them cultivate the good that is in them, instead of encouraging them, actively or passively, in their follies and wrong-doings, how much better the world would become.

And so the days pass by, quietly and peacefully, as some people's days have a way of doing. The winter melts into spring, the spring into summer, and, little by little, Tom and Mildred grow very friendly with each other.

He often wonders if she is pretty, and if she has a pleasing voice, for Tom is rather sensitive about voices. It makes him shudder to hear some girls talk. Is she fair or dark? Tall or petite? And what kind of eyes has she? At last a happy thought comes to him. He will get her to exchange photographs.

(To be Continued.)

Absurdities of Telegraphic Censorship in France.

THE Paris correspondent of the *New York Herald* writes as follows of the absurdities of the censorship of messages on French lines: "Among the despatches which the administration of telegraphs in Paris have thrown into the waste paper basket this year, and refused to deliver because their contents were unintelligible to the gifted creatures employed in the department, is one very touching and ingenious. Here is the text of it: 'Third Epistle of St. John, verses 13 and 14.' In opening the Bible, and following these indications, at verse 13 will be found the following words: 'I had many things to write but I will not with pen and ink write unto thee.' The 14th verse, also, is thus composed: 'But I trust I shall shortly see thee, and we shall speak face to face. Peace be unto thee. Our friends salute thee. Greet the friends by name.' It will be thus seen that by the simple indication in the text of the despatch there is effected a notable economy of words; and perhaps some heart may have ached grievously enough because the absurd fears of official dunces prevented its delivery. Nothing can be more ridiculous, useless and mischievous than this censorship of telegrams which has now sprung up all over Europe. For it is clear that the least experienced of conspirators would arrange between themselves some cypher which would make their plots appear harmless in the eyes of a telegraph clerk, and none but innocent persons are ever likely to be molested by the censorship. Indeed, it is a favorite amusement of boys who have more money than wit to go and worry a telegraph clerk with a message which frightens him out of his wits, and then, after disturbing all the big wigs of the department, they show that it is only a joke. An acquaintance with the common French name of Bataille is quite a delight to the jesters of this description, for the telegraph clerks cannot maintain that M. Bataille's name and Mlle. Victoire's may not be used in a telegram without a prefix."

Unpolarized electrodes are obtained by using amalgamated zinc and a weak solution of zinc sulphate. If there be free sulphuric acid, it should be neutralized by carbonate of zinc. Common zinc may also thus be used

Correspondence.

We do not hold ourselves responsible for the opinions of our Correspondent. Our columns are open to free discussions on all Telegraphic subjects, without distinction of person or opinion.

No notice will be taken of anonymous communications.

Mr. Craig's Reply to "Operator."

TO THE EDITOR OF THE TELEGRAPHER.

AS YOU have thought "Operator's" communication worthy of publication, it seems proper that I should reply to its childish and utterly preposterous statements, lest my silence should be accepted as an admission of their correctness.

I pass over "Operator's" defence of President Orton's annual report, as being not of the least importance to me. My criticism of that document needs, as yet, no defence, and certainly no retraction.

Your correspondent is greatly in error in supposing that I ever make any random statements concerning the possibilities of my pet system of telegraphy. What I have said before I repeat now, and can sustain by proof whenever it becomes important to do so. Notwithstanding "Operator's" doubts and reckless statements about the possible speed of automatic telegraphy, repeated instances have occurred where we have perforated a business message of full average number of words, and telegraphed the same to Washington, where the same messages have been reperforated and retransmitted to New York all inside of sixty seconds, and this can be done any time with operatives of even moderate practice.

"Operator" relates, with apparent seriousness, that some months ago half of a report of 1,600 words was given to a Morse operator, and the other half was divided between three perforators to prepare for automatic transmission, and your correspondent asserts that it required as much time for the three perforators to get their 800 words ready to telegraph, as it did the Morse operator to telegraph and copy his 800 words ready for delivery.

I do not permit myself to believe that "Operator" states a deliberate untruth, and I shall pass his very extraordinary statement without other comment than to copy some official figures, which were attested by high officials of the General Post Office Department, and of the W. U. Co. and others, in 1874, on the occasion of telegraphing the President's message from Washington to New York. The W. U. Co. had accomplished the feat of telegraphing the message of 11,000 words, over eight wires, in sixty minutes, which was heralded as "a feat unparalleled in the annals of telegraphy." The sixteen operators employed were the cream of that company's 5,000, and they averaged twenty-three words per minute. This enables me to fix the time (strangely omitted from "Operator's" statement) in which the 800 words to which "Operator" refers, was transmitted, as thirty-five minutes, as it is not to be presumed that any higher speed was attained by his *Morseite* than was attained in the test of the President's message above referred to.

Now, if it is true, as "Operator" asserts, that his *Morseite* finished his 800 words before the three perforators had finished their part of the work, it necessarily follows that they averaged less than eight words per minute; and yet, in the noted test of telegraphing the President's message above referred to, ten perforators, most of whom had had very little experience, averaged twenty-five words per minute, and, of course, three of them would have perforated 800 words in less than one third of the time in which it was possible for "Operator's" man to have telegraphed his 800 words. I may also say that, as long ago as 1872, Mr. Prescott, the electrician, and several other officers of the W. U. Co., were present in the office of the Automatic Co., and witnessed a boy, who had worked the perforating machine less than a year, perforate 135 words per minute, at which rate of speed he, alone, would have perforated the 800 words in six minutes.

I do not believe there are many Morse operators "in an office which works both Morse and Automatic," who will accept "Operator's" incredible twaddle as entitled to the least consideration, and I am quite sure that the responsible officers of "Operator's" company know that his statements are destitute of every shadow of truth or probability.

"Operator" refers to the fact that the A. & P. Co. have given a special wire to the Philadelphia and New York business, as evidence that the business of New York, Philadelphia, Baltimore and Washington cannot be transmitted over one automatic wire, though the whole business, he says, does not exceed 1,000 messages per day—this childish and tricky statement being intended to discredit my estimate of 15,000 messages per day as the fair working capacity of one good automatic wire. Now, I do not suppose there is one messenger boy, six months from the bogs of Ireland, employed by the A. & P. Co., who could not inform "Operator" that very much of the telegraph business between New York

and Philadelphia is the business which results from speculations in gold and stocks—a class of business which the W. U. Co., with its numerous and exceedingly well managed and skilfully operated wires, performs with very remarkable quickness—the time being counted by seconds—and which, of course, cannot be had at all by the A. & P. Co. unless they so arrange their circuits as to admit of their having wires and operators in readiness to receive and execute it at a second's notice. One of the messenger boys to whom I have referred, will inform "Operator" that, if messages are going or coming over the single automatic wire to or from Washington or Baltimore, the New York office cannot, at the same time, send messages to Philadelphia, and though the wire might not be pre-occupied but a moment or two, yet even that delay would be fatal to the speculator's messages between New York and Philadelphia.

In the near future, and, I judge, long before "Operator" will have arrived at years of discretion, we shall see, under improved telegraphic management, thousands of messages where we now see hundreds, and messages of fifty words where there are now ten; and when that time comes, "Operator" will, possibly, have a faint idea of the aim and of the utility of automatic telegraphy. His mind is now, obviously, incapable of taking in or giving out anything above childish or tricky statements, which can deceive no one who is not as ignorant and short-sighted as he appears to be.

D. H. CRAIG.

The Delaware and Hudson Canal Co.'s Telegraph System.—New Western Union Wires.—Reconstruction of the W. U. Lines on

Harlem R. R.—A Telegrapher

Elected to the Assembly.—

Bulls, &c.

ALBANY, N. Y., Nov. 9.

TO THE EDITOR OF THE TELEGRAPHER.

WHEN the Delaware and Hudson Canal Co. secured the control of the Albany and Susquehanna railroad, a few years ago, they also obtained the exclusive management of the telegraph which was connected with it; this consisted of one wire between Albany and Binghamton, a distance of 142 miles. This wire terminated in the Western Union office at this place, and also at Binghamton, and business was sent and checked direct by the Western Union. When the D. & H. Co. assumed the control of this line its connection with the Western Union was broken, and its through business transferred to the Atlantic & Pacific Company; shortly afterward a second wire was put up between Albany and Binghamton, and the company commenced doing commercial business on its own hook, in addition to its regular railroad telegraphing. Later the D. & H. gobbled up the Rensselaer and Saratoga Railroad, in connection with which a wire was in use, owned by the Western Union and leased to the railroad company. Last spring steps were taken to extend their telegraph system by the erection of a new two wire line north of Albany. These two new wires have recently been completed and are now working, one terminating at Ticonderoga, on the New York and Canada railroad, and the other at Rutland, Vermont. The main office of the company in this city is located in the old Susquehanna depot on Steamboat square, presided over by Mr. C. S. Fales.

It also has branch offices at the A. & S. freight house, foot of Green street, Maiden lane passenger depot, Lumber street and Delavan House. A new and handsome set of poles have recently been put up on Broadway, between Steamboat square and State street, by this company.

The completion of the two new northern wires above mentioned gives the Western Union another wire between Albany and Whitehall, which will prove very useful, as the northern business is very heavy during the summer. The wires of the Western Union between New York and Albany via the Harlem railroad, nine in number, have been thoroughly overhauled and put in first class order. Formerly they were on two sets of poles, but the wires are now transferred to one set of new poles and entirely reinsulated with glass, regular Western Union pattern. The work is now nearly completed, only a few days more being required to finish it. Two northern wires, which were formerly insulated with what is known as the block insulator, are being reinsulated with glass between Eagle Bridge and Rutland, Vt. The glass seems to be the insulator in this part of the country. There is some talk of introducing the American District Telegraph system in Troy, N. Y. I have been unable to learn anything very definite about it, but as the Trojans are a wide-awake community, they will no doubt sooner or later have all the modern improvements in their little city. (They don't take THE TELEGRAPHER up there or I wouldn't dare to say "little city.") The right to introduce the system in this city was purchased some months ago by an Albanian, but nothing more has been done about it as far as can be ascertained.

The following is recorded as warning to all telegraph operators to beware of politics:

Mr. Alfred Leroy, formerly manager of the Cohoes, N. Y., Western Union office, a practical operator, was elected to the Assembly from the fourth district of Albany County at the late election.

Manager W. O. Shelley of Rome, N. Y., has had another young operator added to his family, who is destined to be one of the heavy men; he tipped the scales at eleven and three quarters first time trying.

I have a few city liners in my note book which must be disposed of soon or your correspondent will be gored to death. "S. Sanford, A. M. Sterdam, N. Y." Mr. Sanford is not a master of arts unless perhaps it be the art of making carpets, and his address is usually Amsterdam, N. Y. ("That's the way it came.")

"You had boor come" was transformed into "You had better come" on being repeated. "Wm. P. Cowin" went through a similar operation and came out "Wm. P. Irwin." A message addressed "Berth Adams, Mass.," was returned for better address, which came in the shape of "North Adams, Mass." DOUBLE SIX.

Changes in the San Francisco Western Union Office.—A Cruel Joke.—Personals.

SAN FRANCISCO, CAL., Oct. 19.

TO THE EDITOR OF THE TELEGRAPHER.

CHANGES are still the order of the day in the Western Union office. On September 1st, it being considered necessary to reduce the operating force, Mr. Henry A. Smith (brother of "Cliz") was informed that his services were no longer required, and with his usual luck he went to work next day for the A. & P. Co., in this city, filling the vacancy caused by the appointment of Mr. R. M. Talbot as manager of the Stockton office. Smithy always was lucky, and in anything from a game of "Pedro" to securing a first class situation, he is bound to win.

The San Francisco and Pacific Stock Exchanges resuming business on the 5th, necessitated increasing the force again, and Mr. J. B. Sheldon, of snipe catching notoriety, who, through some misunderstanding about his leave of absence, had been enjoying (?) an extended vacation, was reinstated in his old position, and is now correspondingly happy. On the 9th Mr. Chas. H. Boynton resigned, to accept a position with the A. & P. at Virginia City, Nevada. The W. U. lose one of their best men, and the opposition may well be proud of their acquisition. Mr. Thos. Hunt, recently night report man at Los Angeles, fills Mr. Boynton's place in the San Francisco office, and Mr. Jake Smith and his "celebrated trick dog" succeeds Mr. Hunt at Los Angeles. Mr. Chas. J. Lawson has resigned his position in the San Francisco office, and started east on the 16th, to accept a situation in St. Louis, leaving behind him a host of friends and—his blonde moustache; may success go with him, is the wish of all who have made his acquaintance during his brief visit to the Pacific coast. Mr. Geo. W. Bender, Supt. of Telegraph, Indianapolis, Cin. and Lafayette R. R. Co., spent a few days in the city last week, and left on the steamer "Mohongo" for San Luis Obispo, to visit his old friend J. B. Bennett, of the W. U. office at that place. George is not "on a bender," as our funny man suggested, but is simply on a flying trip to see the country, and expects to return east in a few days. Jimmy O'Toole was agreeably surprised, upon signing the pay roll for September, to find his salary raised to 100 dollars, and a happier boy than James could not be found in California. Some cruel jokers had one of the office boys tell him Mr. Jaynes (Supt.) wished to see him, that he had been paid 25 dollars too much by mistake. Jimmy's lower jaw dropped about two inches as he slowly and sadly wended his way down the stairs, at the foot of which the boy, becoming fearful of the consequences, informed him of the joke, and O'Toole made the fastest time on record getting back to his wire again, with a grin on his face which would have done credit to the great Billy Emerson.

There are a great number of unemployed operators in the city at present, and more coming; a few by railroad, but the majority on foot, and that's the way they will have to go back, as there are no situations vacant, and the boys out here, as some one has remarked, "seldom die and never resign." ROMEIO.

Election Experiences of the Western Union Chicago Employees.

CHICAGO, Ill., Nov. 14.

TO THE EDITOR OF THE TELEGRAPHER.

I were well if in a man's election the people found some sure relief; that in one thief's detection but elect another thief.

THE above true bit of poetry is from the pen of our "Smith" report. Mr. A. L. Baker. Mr. Baker has given us some real gems in the way of verses, the choicest of which, I am sorry to say, he has not put on

record in the "Smith" book, having sent them to friends in various parts of the country; however, what few I have will be given to your readers, who will doubtless appreciate them as much as we have. I enclose you with this letter a few verses by him, entitled "My Sounder," written a few evenings since during the various "let ups" on report. Many of us have seen the time when we, too, have (in our mind) consigned our sounder to that bottomless place suggested by Mr. B. Whether he is right or not in regard to an election the majority of men in this office do not question. It matters little to any of them who the lucky candidates are, so long as they have a vote, and are allowed time to go to the polls. This was most beautifully illustrated at the late election in this city, when the men were given time to go to the polls, thus giving them a chance to beat the company out of a few hours' work (and vote for the man that paid the most), and how well, too, did they improve each shining hour! Eddie Dorval, with several others (who had no vote at all, but claimed they had), might have been found at Pratt's, playing billiards for several hours. Billy Walsh came back with his face looking like a lobster—'twas from walking, of course. The gang from McDonald's stronghold (north side), Armstrong, Whitford, Meserve, Drandolph, Anderson, A. J. Long, and others, must necessarily go with each other to their various precincts, and consume three hours and forty-five minutes in so doing. 'Twas a bad part of town, but didn't they have the "Lion-hearted Dad" with them; what had they to fear; who dare step on their collar buttons; and A. J., wasn't he there, too, anxious to be classed as a "Muldoon." No one else should be allowed to fight while he was there to do it for them. Did he not knock down and drag out three judges before they even had a chance to say—Drink! Of the number of times they "repeated" your correspondent has not been informed, but to judge from the hilarity manifested by several of them, it would appear quite considerable. Dad's spirits rose with the occasion, and, when his vote was challenged, and it was necessary to make affidavit, I am told that he delivered one of the finest forensic efforts ever listened to in this city. Had he not lived here since the time Moses was found in the bulrushes of Chicago river, or since the time that Adam and Eve spilt the apple? So overpowered, astounded, and surprised were the judges that they immediately told him it would be necessary for him to verify his affidavit. Now, ye shades of Milwaukee avenue, this was too much; to be spurned in this manner by a lot of Democratic judges was more than Dad could stand. The air becomes impregnated with blasphemous oaths; he marshals his gladiators around him; blood is about to flow. A. J. cries for gore, when, lo! and behold, Whitford appears upon the scene. A glad smile quickly lights up their countenances, and their wrath is instantaneously appeased by the sight of a case of pop and two or three pounds of Limburger cheese that he had skimmed from an old Italian woman. Their spirits ascend upwards, and they return to the office. It was laughable to see the spouter of political rights after his return. Not satisfied with getting rid of a superfluity of it outside, he had to continue it after reaching the office. The position he took was a study for an artist; he planted both elbows on a table before which Col. Wilson happened to be sitting, and, I have no doubt but what the Col. appreciated the few remarks, for he left a few seconds after our genial friend had started to interview him. This eloquent orator continued his diatribe until about 2 P. M., when his power of elocution gave out, and he subsided into a somnambulant state. Messrs. Stanberry and Bracken whiled away a couple of hours very pleasantly in attending the counter for their "three ball" friend on West Madison street while he was out collecting. Our "Herzegovinian" friend Blumhoff has not yet fully recovered from the effects of having voted for the Boss, therefore we have been without his blooming countenance for the past few days. There are several others who abused this privilege so kindly given them by Manager Maynard, of whom I should like to speak, but I fear my letter is already too long, and therefore will wait for another opportunity, and not spoil my BONANZA.

Indian Opposition to Telegraph Construction.—Telegraphic Arrangements at the Oregon State Fair.—A Telegraphers' Baby Takes Second Prize.—Inspection of Western Union Lines, etc.

ALBANY, OREGON, Oct. 26.

TO THE EDITOR OF THE TELEGRAPHER.

FURTHER trouble is threatened with the Umritilla Indians regarding the construction of the Nevada and North Telegraph Line across their reservation. When it was first mentioned the Government at Washington was notified about the opposition of the Indians, and orders were promptly issued to the department here, authorizing the construction of the line, but when the

construction party reached the reservation they were met by thirty or forty armed "Sewasbes," who drove the men off, by threatening to kill them unless they departed at once; the party considering discretion the better part of valor, retreated, leaving their tools and provisions. As soon as Platt Burr, the Supt., who was in Portland, heard of the facts, he applied to headquarters for a force of soldiers, which was immediately ordered from Fort Walla Walla. We have nothing further, but presume the building will go on, as the Indians will hardly have the temerity to resist the soldiers.

The Oregon State Fair this year was a grand success as regards people present and money, both greatly exceeding the highest estimates. To facilitate the movement of trains necessary to transport the thousands attending the fair, the Oregon and California R. R. Co. were compelled to put in an office on the fair grounds depot, and as chief operator we were compelled to be present. Our office was in a board shanty, knocked together for the occasion, on the railway platform, and accessible to the crowd, continually asking questions regarding arrival and departure of trains; and by their frequently mistaking it for a whiskey shop, had many calls for "whiskey and cigars." Col. Brandt, Supt.; Geo. Crow, Ticket Agent, and myself, manfully strove to answer the multitude of questions until our jaws failed to work, and we had to tumble. The W. U. Co. put in an office in the Pavilion on the the grounds, for the transaction of commercial business, with Mr. L. G. Adair as operator—"Panhandle," as he is familiarly called, from the fact that he hails from the road east bearing that name. By the way, I had a pretty good joke on friend Adair, at times, as many of the visitors to the fair were from the parts of the State where telegraphs and railroads are unknown, and these, after satisfying their curiosity by examining the engines and cars, would drop around by my window and want full explanation regarding the workings of the "telegraphs." Not wishing to be bothered, even had I the time, I most kindly (?) told "our country cousins" that the W. U. Co. had most liberally and accommodatingly erected an office inside the grounds, and placed a gentleman in charge for the sole purpose of explaining to all wishing information just how it was done—"this gentleman would take pleasure in explaining fully. This generally had the effect of starting 'em in search of Adair and the "other office."

Before closing the fair subject, I might mention that in the "Baby Show" A. F. Wheeler, manager, W. U. Telg., Salem, with the help of his wife and baby, got away with second premium for the "handsomest darling." Gus declares it an outrageous piece of prejudice that he did not get the blue ribbon, and hints that bribery was used. 'Tis too bad, especially as this is the first baby from all that marrying which the Oregon telegraphers indigned in so strongly some time since.

Mr. F. H. Lamb, Superintendent, and John A. Crouch, general repairer, W. U. Telg. Co., have just returned from a trip of inspection over the W. U. line, from Portland to Yreka, Cal., and report it A No. 1 for this winter's service.

Mem.—John Crouch is not married; neither is "Webfoot," notwithstanding the damaging reports extensively circulated to the contrary. Some time ago they tried to have Webfoot dead; failing in that, the next best thing was to marry him, and that reception party tendered him on his return last Monday evening was for him alone, and not for two, as was imagined. Well! well! if they keep on, they will sure enough either kill me or get me married, and I am getting so I don't care which—one is as good as the other, and "mighty" little difference between the two.

Tom Sheridan, of Roseburg, has just been elected City Treasurer by a handsome majority over his opponent. Good for Tom. Telegraph talent always wins.

Confidentially.—Tom and I are going to play "Tweed" on 'em, but until arrangements are perfected, you may continue to hear from WEBFOOT.

A Relay in Danger.

CHICAGO, ILL., Oct. 26.

TO THE EDITOR OF THE TELEGRAPHER.

HERE is a good one from a country artist and speaks for itself:

"To Mr. Sweet, Chicago. "Please send me copper and zinc at once. These are all eat up. My relay will be ruined if I don't have them. (Signed), G. WRIGHT." Live and learn should be his motto. MORE SHON. DOT.

To Correspondents.

PRISCILLA.—Your attention is called to the notice at the head of our correspondence columns, in regard to anonymous communications. If you will send us your name we will print your communication, otherwise it must share the fate of all anonymous contributions.

THE TELEGRAPHER

DEVOTED TO THE INTERESTS OF THE TELEGRAPHIC FRATERNITY.

SATURDAY, NOVEMBER 20, 1875.

THE TELEGRAPHER: PUBLISHED EVERY SATURDAY at 38 VESEY ST. ELEVENTH VOLUME.

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Communications must be addressed to

J. N. ASHLEY, Publisher,

P. O. Box 5603.) 38 VESEY ST., New York.

INDEX TO ADVERTISING PAGES.

Table listing advertising pages for various companies like American Fire Alarm and Police Telegraph, Am. Compound Telegraph Wire Co., etc.

THE TELEGRAPHER MAY BE HAD at the news stand in the Receiving Office of the Western Union Telegraph Company, corner of Broadway and Dey street, where it is regularly on sale.

The Over-supply of Telegraphic Labor.

It has long been evident that there is an over-supply of telegraphic labor. Never before within our recollection have there been so many telegraphers seeking situations as at the present time.

In telegraphy as in other lines of business the tendency of compensation is to decline, and however unpleasant this fact may be, it must be looked squarely in the face, and those concerned must make up their minds to meet it with as much equanimity and philosophy as possible.

telegraphic aspirants has yearly increased in a much greater ratio than the demand for their services. If it were not for the depletion of the telegraphic ranks from telegraphers abandoning the business to engage in other employments, the excess would be even larger than it actually is, and the scale of compensation would be even less than at present.

Notwithstanding the excessive supply of telegraphic labor, the work of adding to the number seeking to obtain a livelihood by telegraphy goes on with undiminished vigor. In addition to those who learn in telegraph offices, numerous plug factories all over the country continue to inveigle new victims by their lying representations of the demand for telegraph operators, and the lucrative situations which graduates furnished with their worthless diplomas will easily secure.

It is very easy, it may be said, to indicate an evil, but much more difficult to find a remedy therefor. The only effectual remedy for the over-supply of telegraphic labor is, for the present, and until the demand absorbs the present supply, to stop learning additional operators. Telegraphers can do much in this direction by stating plainly and truthfully to those contemplating engaging in telegraphy the present situation, and inducing them to devote their time to some other business.

A Telegraphic Story.

WE commence in the present number of THE TELEGRAPHER a telegraphic story, "Wooing by Wire," which appeared originally a few weeks since in The New Dominion, a literary paper published at Hamilton, Canada.

This story is from the pen of our lively and interesting correspondent "Jo," of Toronto, whose contributions to our columns have been read with so much interest. In this story our correspondent has exhibited a talent in another department of literature which shows her versatility and ability, and promises well for her future as a writer.

Annual Meeting of the Telegraphers' Mutual Benefit Association.

WE print in this paper a full report of the annual meeting of the Telegraphers' Mutual Benefit Association, held in the Western Union Telegraph Building on Wednesday evening, the 10th inst. This report should have appeared last week, but was omitted, with other interesting and valuable matter, in consequence of the crowded condition of our columns.

It will be seen from the reports of the Secretary and Treasurer that the Association is in a prosperous condition, and that good progress has been made during the year towards the accumulation of the reserve fund of \$10,000 which was resolved upon at the previous annual meeting. Only eight deaths of members have occurred during the past year, which is certainly a very small percentage in a membership of over 1,200, and shows that much care and discretion is exercised in the admission of members, as well as that the telegraphers, as a whole, are a healthy body.

We cannot speak too highly of the value and usefulness of this Association, affording as it does prompt relief and assistance to those who are deprived by disease and death of the support of those upon whom perhaps is

their sole dependence. Through the aid received from the Association great good has already been done, and every telegrapher should avail of its beneficent provisions for those who are liable to be deprived of their dependence at any time. In no other way can this provision be so cheaply secured. It should be remembered that this is not a charity or eleemosynary institution. Each member contributes to its funds and purchases the benefit, which certainly none will desire to avail of so long as it can be avoided.

The excellent financial condition of the Association is evidence that it has been excellently and economically managed. We trust that the present year will witness a large addition to its numbers.

The Madras and Penang Cable Broken.

ATTENTION is called to the notice of the Direct United States Cable Company in regard to the interruption of the Madras and Penang Cable, and the forwarding of messages to China, Japan, the Straits Settlements and Australia.

Telegraphers' Mutual Benefit Association.

ANNUAL MEETING.

THE annual meeting of the Telegraphers' Mutual Benefit Association was held in the Western Union Telegraph Building at 7:30 P. M. Wednesday, November 10th. A large delegation was present. Mr. J. W. Tillinghast, of Buffalo, was appointed Chairman, and Mr. William Holmes, of New York, Secretary. The following are the reports of the officers:

REPORT OF THE SECRETARY.

During the year ending to-day there have been eight deaths of members, viz:

- E. S. Springsteen of New York. John Stalcup of Washington. Wm. F. Muchmore of Astoria, L. I. Wm. Lee Allen of Key West, Fla. Walter M. Tenny of Toronto, Ont. John Trevor of Rochester, N. Y. Abraham Kern of Cincinnati, Ohio. Charles H. Vawter of Sumner, Ill.

The number of new members admitted was 174—and the number dropped from the roll 111. Present membership roll contains 1,269 names. Forty-two applications for readmission to membership were made during the year, all but three of which were accepted. Eleven of the applicants were in arrears for less than \$5 each. The remaining twenty-eight paid the \$5 for back assessments required by By-Law II.

In the first year of the association, when its members numbered less than 350, there were but two deaths—a ratio of 1 to 175.

Table showing membership statistics for the second 8 months, with ratios of 1 to 81, 1 to 100, 1 to 108, 1 to 87, 1 to 66, 1 to 67, and 1 to 158.

FINANCES.

Table of financials: Balance Nov. 11, 1874 \$9,515 95; Received assessments 13,106 16; applications 174 00; Gift W. U. T. Co. 1,000 00; Sale of desk 15 00; Interest on investments 350 00; on deposits 238 60; Profits on sale of bonds 15 00.

Total 24,414 71 \$24,414 71

Of this amount there has been paid the following:

Table of disbursements: Heirs of A. R. Walsh \$1,000 00; T. A. English (to balance) 850 00; J. B. Dillon (to balance) 850 00; C. B. Matthews (to balance) 1,000 00; A. G. Martin 900 00; E. B. McDill (to balance) 1,000 00; W. C. Haven 1,000 00; E. S. Springsteen 1,000 00; John Stalcup 1,000 00; W. F. Muchmore 1,000 00; W. L. Allen 1,000 00; W. M. Tenny 1,000 00; John Trsvor 1,000 00; Paid Secretary's Salary 500 00; Paid for printing 206 85; Paid for postage 179 58; Refunded 25 50; Due heirs of Abraham Kern and C. H. Vawter 2,000 00.

Total 16,361 93; Leaving a reserve fund of 8,052 78

Of this fund \$6,867 75 were expended in the purchase of bonds drawing interest at seven per cent. on \$7,000. The balance, \$1,137 38, with the \$2,000 due the heirs

of Kern and Vawter, is on deposit with the Treasurer of the Western Union Telegraph Company, leaving \$46 65 cash on hand.

WILLIAM HOLMES, *Secretary*.

Mr. James D. Reid, the Treasurer, refers gratefully and appreciatively to the generous and wise, though unexpected gift to the association of \$1,000 received from the President of the Western Union Telegraph Company, in testimony of that company's appreciation of the value of the association.

The association, he says, has its foundation in two great facts: First, that death is certain; second, that death not only puts out the light of a human life, but leaves tears and sorrow, and often want behind it. The report continues:

"Immediately on receiving this gift the Executive Committee met, and finding that the reserve fund approximated \$4,000, and that funds on hand not yet payable could be used to make, with the gift, \$5,000, ordered the investment of that sum in 7 per cent. bonds, which was at once done. Since that time the surplus fund has increased so much that \$2,000 more have since been similarly invested, and a balance yet remains as a cash fund of \$1,137 38—a most gratifying condition, surely, in which to meet at our annual gathering to-night.

Another gratifying fact has been the very limited number of deaths during the year. Of the eight which have occurred since your last annual meeting two were violent; one by accident, C. H. Vawter, of Sumner, Ills.; the other, John Trevor, of Rochester, by murder while performing his duty. One death has occurred which the Executive Committee decline to provide for. This was the case of C. B. Schultz, of Moniteau, Mo., who had been a member only thirty days when he died, and of whom it seems evident that the application was false. The case is left to your action, should you deem it best to examine it and order action therein. Another claim awaits settlement. Abraham Kern, of Cincinnati, made his mother his heir. She died before him, but he made no change in the heirship. The brothers claim the money, but it is withheld until an order of a competent court decides their right to it.

The efficiency of the association and the small death rate are greatly due to the increased carefulness and intelligent attention of the agents who have, without exception, very faithfully attended, without compensation, to the laborious duties devolving upon them.

I beg to raise the question whether a member allowing himself to fall into habits of notorious intoxication should not, on the appeal of two members, be liable to be dropped from membership.

I also suggest the propriety of declaring a dividend to members of long standing, as the funds may justify, after the maximum surplus has been reached. Something seems due to those who, for a certain term of years, have steadily paid their dues. Perhaps after another year some plan having this in view may be devised.

I recommend that on our next annual gathering arrangements be made for a dinner at some suitable place, where the delegates and the New York members can meet each other on familiar terms, and where good speakers and good music may make the occasion one of cheerfulness and animation.

I have only to add a word of gratitude for the success of the year, and the hope that we may all meet again as happy as now when another year has closed upon us. Never has the association had so reliable a membership, or had opened to it so fair a promise of prosperity and usefulness."

After the reading of the report, Mr. Loesch, of Chicago, was appointed a committee to investigate personally the case of C. B. Schultz at Moniteau, Mo.

On motion of Mr. Loesch, of Chicago, it was

Resolved, That all members be earnestly requested to make their remittances for assessments and other purposes through the agent nearest them.

It was thought that this would lead to a more perfect representation of the association at the annual meeting, and to a closer fraternization of the members. By a system of districts, the members could occasionally hold meetings among each other, and discuss points of interest as these might arise.

The election of officers and Executive Committee resulted as follows:

JAMES D. REID, *Treasurer*.

WILLIAM HOLMES, *Secretary*.

Executive Committee.

JOHN B. VAN EVERY, T. G. SINGLETON, W. A. SCHRAM, C. H. SUMMERS, of Chicago, and J. M. CROWLEY, of Augusta, Ga.

On motion of Mr. John Fuller, of Easton, it was

Resolved, That the salary of the Treasurer be two hundred and fifty dollars per year.

It was *resolved* that a committee of three be appointed to examine the Treasurer's account, and publish a statement of the surplus in hand, and how invested.

Messrs. S. B. Gifford, John Fuller, and T. P. Scully were appointed such committee.

After which the meeting adjourned.

Personals.

Mr. JOHN E. STOCKMEYER, late agent and operator at Carlisle, Ill., has been appointed agent for the Ohio and Mississippi and S. and J. S. E. Railroads at Flora, Ill.

Mr. EDWARD A. KEENE has resigned his position with the Western Union Company at St. Louis, Mo., and goes to Titusville, Pa., for a brief visit, after which he will probably accept a position with the same company in New York.

Mrs. A. VIRGINIA CARR has been appointed manager of the Western Union office at Shawneetown, Ill.

Mr. CHARLES E. DODD, of the Western Union Kansas City, Mo., office has resigned to accept a position on the Atchison, Topeka and Santa Fe R. R. at Emporia, Kansas.

Mr. W. H. BANCROFT has been appointed Sup't of the St. Louis, Lawrence and Western R. R., also Sup't of telegraph. Mr. BANCROFT is an old and well known telegrapher. He was division operator of the 3d and 4th divisions of the Atlantic and Great Western R. R. at Galion, Ohio, for several years.

Mr. FRED. MAYNARD has accepted a position as night operator for the New Orleans, St. Louis and Chicago R. R. at Canton, Miss., *vice* Mr. JOHN WILKIE.

Mr. W. L. J. JENNINGS, of New York, has accepted a position on the day force of the Washington, D. C., Western Union office.

Mr. GEORGE E. MILLARD, late of Chicago, Ill., has been appointed Chief Operator of the St. Louis, Mo., Atlantic and Pacific office.

Mr. J. W. ZIEGENFUST, formerly of Omaha, Nebraska, has been appointed to a position in the Shreveport, La., Western Union office.

Mr. J. GROFF has been transferred from Mobile, Ala., to Chattanooga, Tenn., Western Union office.

Mr. WILLIS WOLF, of Tuscumbia, Ala., has accepted the position in the Mobile, Ala., Western Union office, vacant through the transfer of Mr. GROFF to Chattanooga, Tenn.

Mr. GEO. W. SAWYER, of the cable department, New York Western Union office, goes to Washington on or about the 1st of December, to assist in disposing of the additional business caused by the convening of Congress.

Messrs. WATERBURY and KING, of Albany, N. Y., Western Union office, were in New York last week, and attended the T. M. B. A. annual meeting as Albany delegates.

Mr. I. C. HENDRICKSON has been appointed transfer agent of the Western Union Telegraph Company at New York, in place of Mr. LEONARD COX, removed.

The Telegraph.

Special Meeting of the Franklin Telegraph Company.

A SPECIAL meeting of the stockholders of the Franklin Telegraph Company was held at Boston on Tuesday last. The object of the meeting was to receive the report of the Committee of Stockholders appointed at a previous meeting, to examine and audit the accounts of the company in connection with the Atlantic and Pacific Telegraph Company, a minority of the stockholders believing that the company had not been fairly dealt with by the Atlantic and Pacific.

The committee made quite a voluminous report, the gist of which was that they had proceeded to New York and thoroughly and carefully examined the accounts, from the time that the business of the two companies had been practically under one management, and so far as the accounts went found that they had been correctly kept. The earnings of the line from April 30, 1871, to Sept. 1, 1875, were \$1,135,516, and the expenditures \$1,026,953. The gross yearly receipts are now \$300,000, and the report states that the expenses need not exceed 80 per cent. of the receipts.

The report criticised some things in connection with the management of the business of the company heretofore since its connection with the Atlantic and Pacific Company. The report was referred to the President and Secretary, with instructions to have it printed for distribution to the stockholders. The petition of a minority of the stockholders for the dissolution of the Franklin Telegraph Company and sale of its property was argued on a demurrer before the Supreme Court at Boston, on Tuesday. The petitioners claim that their interests can be protected only by a dissolution and sale of the property.

Eldred has shown that wires are elongated when transmitting currents.

The Southern and Atlantic Telegraph Company.

ON Tuesday evening last a committee of the New York Cotton Exchange, headed by Mr. Henry Hentz, the President, had a conversation lasting for some time over the Southern and Atlantic Telegraph Company's line, with Mr. J. R. Dodge, the statistician of the Agricultural Department at Washington, D. C., on the subject of the report on the cotton crop.

A new office has been opened by the Southern and Atlantic Company at Blackstock, S. C., on the Charlotte, Columbia and Augusta R. R., with Miss Mary Ormond as manager.

Severe Storm on the Line of the Union Pacific Railroad.—The Western Union Wires Badly Damaged and Communication Interrupted.

AN extraordinary storm set in on Saturday night last along the line of the Union Pacific railroad west of Green River. Sleet fell in such quantities as to heavily load the telegraph wires, and so much snow as to block the trains for some time. The wires of the Western Union Telegraph Company were badly broken, and communication was interrupted, but finally restored Tuesday forenoon.

The wires of the Atlantic and Pacific Telegraph Company are reported not to have been broken or communication interrupted except for a short time, caused by a cross with the railroad wires, which was speedily removed, and by means of its lines telegraphic communication was maintained with the Pacific Coast.

The weather is reported as intensely cold, the thermometer at Cheyenne having marked 16° below zero at Cheyenne. The storm and excessive cold made it difficult to repair the lines, but by the energy of the employes of the Western Union Company the repairs were effected as soon as it could possibly be done, and communication re-established.

New York Telegraphic Notes.

AN arrangement for indicating the floor upon which the elevators are is being attached to the steam elevators in the new Western Union building.

Next week Boston and Philadelphia will work direct over one side of the New York, Philadelphia and Baltimore quadruplex, Western Union. A quadruplex repeater will be put in at New York, so that one side between New York and Boston can be used for local business, while the other side works through to Philadelphia, over the Philadelphia and Baltimore quad. Thus a circuit of three wires with two sets of quad. repeaters will be working continually between Boston and Baltimore, and doing the work of 12 wires if necessary. Gerrit Smith's new instruments and bugless relay will be used.

A despatch to Reuter's Agency in New York states that the telegraphic cable between Madras and Panang is broken, and communication east interrupted.

Atlantic Cable Notes.

THE Duxbury and St. Pierre cable is still broken, the steamer sent out from Halifax for that purpose not having yet succeeded in repairing the break.

An interruption on the land lines east temporarily suspended communication by the Anglo-American cables on Wednesday last.

The Direct United States Cable is working satisfactorily, and is receiving a good share of patronage since it was reopened to the public.

A Professorship of Telegraphy.

A COURSE of instruction intended for the higher class of telegraphic employes has recently been established in the Polytechnic Institute of Dresden, Saxony, the Professorship of which has been accepted by Dr. Karl E. Zetzsche, of Chemnitz. Dr. Zetzsche was formerly an operator in the Austrian telegraph service, but about the year 1858 he removed to Chemnitz, where he became a successful teacher of mathematics and natural philosophy. It is, however, as a critical and historical writer on the electric telegraph that Dr. Zetzsche has become more especially distinguished. In addition to numerous essays in various scientific periodicals, which he has published from time to time, he is the author of a number of standard works, which have given him a deservedly high reputation. Among those may be mentioned *The Copying Telegraph*, *The Type Printing Telegraph* and *The Double Telegraph*; *The Catechism of the Electric Telegraph*; *A Short Sketch of the History of the Electric Telegraph*, and quite recently, *The Development of Automatic Telegraphy*.

The Polytechnic School of Dresden has already, under Prof. Zouner, acquired a high standing in many branches of learning, which will without doubt be enhanced by the appointment of a Professor of such ability as Dr. Zetzsche.

Telegraphic and Electrical Brevities.

A SET of duplex was recently put up in the Houston, Texas, Western Union office.

On Thursday, the 25th inst. (Thanksgiving Day), and on Saturday, December 25th (Christmas), and on Saturday, January 1st (New Year's Day), office hours of the Western Union Telegraph Company will be from 8 to 10 o'clock A. M., and from 4 to 6 o'clock P. M., except at repeating stations and at principal offices, which will be kept open as usual, but with such reduction of force as circumstances may permit.

The new railroad telegraph line from Troy to Whitehall, N. Y., has been completed.

The Indians are very thankful for the telegraph poles on the prairie. They formerly had to ride a long distance to find a place to chain a prisoner to while they tortured him.

The Telegraphers' Mutual Benefit Association.

RECEIPT OF ASSESSMENTS.

NEW YORK, Nov. 8, 1875.

ASSESSMENT No. 79.

- 8, 51, 61, 70, 74, 76, 97, 101, 108, 112, 120, 129, 134, 154, 156, 158, 160, 164, 171, 188, 208, 218, 227, 230, 245, 248, 257, 278, 279, 280, 281, 282, 283, 285, 334, 341, 350, 353, 356, 357, 360, 362, 364, 381, 382, 398, 402, 405, 406, 411, 412, 413, 418, 425, 463, 478, 510, 511, 512, 533, 548, 561, 566, 569, 573, 574, 577, 584, 590, 597, 600, 601, 618, 642, 648, 649, 655, 659, 660, 662, 663, 664, 665, 667, 669, 678, 680, 694, 717, 723, 724, 728, 730, 733, 769, 772, 780, 790, 791, 803, 812, 820, 821, 823, 848, 870, 876, 897, 905, 927, 931, 938, 939, 942, 949, 954, 957, 959, 963, 964, 979, 992, 995, 1005, 1030, 1031, 1033, 1034, 1038, 1046, 1050, 1055, 1058, 1063, 1069, 1072, 1101, 1139, 1190, 1210, 1211, 1233, 1234, 1237, 1238, 1241, 1248, 1267, 1268, 1269, 1270, 1288, 1290, 1292, 1294, 1307, 1309, 1311, 1312, 1313, 1314, 1315, 1317, 1318, 1319, 1320, 1321, 1322, 1336, 1353, 1354, 1355, 1356, 1372, 1376, 1406, 1415, 1428, 1438, 1439, 1457, 1458, 1482, 1483, 1484, 1500, 1515, 1532, 1537, 1542, 1546, 1560, 1576, 1580, 1590, 1596, 1605, 1607, 1608, 1625, 1634, 1637, 1639, 1652, 1655, 1658, 1660, 1661, 1662, 1665, 1667, 1676, 1678, 1684, 1687, 1688, 1692, 1695, 1696, 1709, 1710, 1713, 1714, 1724, 1728, 1732, 1745, 1765, 1766, 1767, 1787, 1788, 1789, 1795, 1796, 1797, 1804, 1823, 1824, 1835, 1837, 1838, 1839, 1840, 1841, 1844, 1845, 1857, 1858, 1859, 1860, 1863, 1874, 1877, 1889, 1911, 1913, 1914, 1934, 1943, 1946, 1951, 1953, 1958, 1968, 1978, 1992, 1993, 1997, 1999, 2000, 2001, 2005, 2010, 2012, 2022, 2027, 2028, 2033, 2035, 2036, 2041, 2045, 2053, 2065, 2072, 2074, 2075, 2092, 2108, 2118, 2119, 2120, 2123, 2125, 2131, 2136, 2137, 2142, 2145, 2156, 2157, 2167, 2175, 2183, 2184, 2185, 2187, 2191, 2192, 2195, 2196, 2211, 2220, 2224, 2225, 2230, 2231, 2233, 2234, 2237, 2238, 2245, 2246, 2252, 2254, 2255, 2263, 2271, 2273, 2280, 2291, 2292, 2301, 2304, 2323, 2327, 2340, 2341, 2342, 2350, 2357, 2361, 2366, 2368, 2369, 2394, 2401, 2416, 2419, 2423, 2426, 2429, 2435, 2437, 2443, 2446, 2452, 2462, 2466, 2473, 2476.

ASSESSMENT No. 78.

- 5, 27, 51, 237, 238, 242, 246, 258, 451, 453, 455, 457, 801, 1028, 1080, 1153, 1207, 1600, 1609, 1657, 1715, 1716, 1731, 1786, 1973, 1974, 1976, 2037, 2128, 2177, 2320, 2328, 2353, 2475.

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For the week ended Oct. 19, 1875, and bearing that date.

168,919.—PRINTING TELEGRAPHS.—George M. Phelps, Brooklyn, N. Y. [Filed March 25, 1875.]

Type printer controlled by a perforated fillet of paper.

1. The combination of a paper feeding mechanism, punching mechanism, and mechanism for stopping the movement of the feed at distances proportionate to the relative distances between the successive types to be printed, so as to compose in a strip of paper a message that can be used in transmitting for a printing telegraph.

2. The combination of a type wheel and punch in a telegraphic composing instrument, so that the letter represented by the perforation is printed simultaneously with the perforations, as set forth.

3. The range of pins i, operated by keys, the revolving type wheel a, shaft a', and arm e, in combination with the paper feeding mechanism, punch, and punch actuating devices, brought into operation when the type wheel is stopped, substantially as set forth.

4. The combination, with a type wheel and punching, feeding, and stopping mechanism, of an additional paper feed, actuated independently of the motion of the type wheel, substantially as and for the purposes set forth.

5. A telegraphic transmitting strip of paper, perforated with holes at distances apart proportionate to the relative distances of the characters required on a type wheel, and with additional length between the perforations, to allow for the time during which the type wheel is detained in printing, substantially as set forth.

168,949.—PRINTING TELEGRAPHS.—Charles J. Wiley, New York, N. Y. [Filed April 6, 1875.]

For shifting the printing from one to the other of the type wheels, and vice versa.

1. The type wheel a, connected to and revolving upon a circular bearing upon the lever b, and the second type wheel e, similarly connected to the lever a, in combination with the shifting cam k, that acts upon the levers, and the means for raising the type wheel that is not in action off the paper, as set forth.

2. The two type wheels independent of the shaft by which they receive a step-by-step movement, and sustained by levers, in combination with the mechanism for printing and for moving the levers by the motion of the printing lever, substantially as set forth.

169,057.—ELECTRIC CLOCKS.—D. F. Sweet, Hastings, Mich., assignor of one half his right to Homer Moul and J. Lee Reed, same place. [Filed Sept. 14, 1875.]

Circuit is closed to the electro-magnet through an elbow lever swung into contact with a set-screw by means of a pin projecting from the balance-wheel, which pin, in the motion of the armature toward the magnet, takes against a spring attached to elbow lever. As the armature nears the magnet, the pin escapes from the spring and the circuit is broken. The tension given to the spring of the balance-wheel in this forward motion of the armature carries the armature back to the other limit of its swing.

In an electric clock, the combination of the toothed wheels C1, C2, and C3, cams f, f', hands B1 B2 B3, armature lever D, arms k k' and pawls h1 h2 h3, balance wheel H, having spring I, pin m, springs s, arm J, and set-screw p, all constructed and arranged substantially as and for the purposes herein set forth.

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Table with columns: Nov., WESTERN UNION, ATL. AND PAO., AMER. DIST., GOLD AND STOCK. Rows 11-17.

Born.

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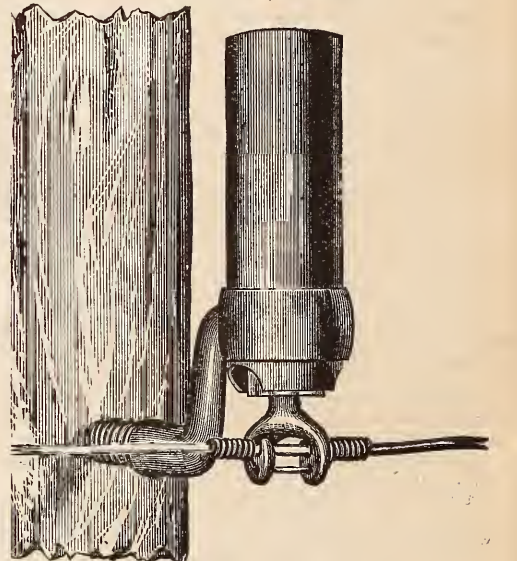
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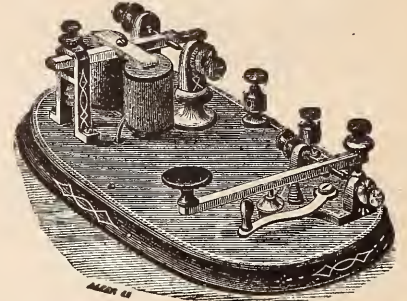
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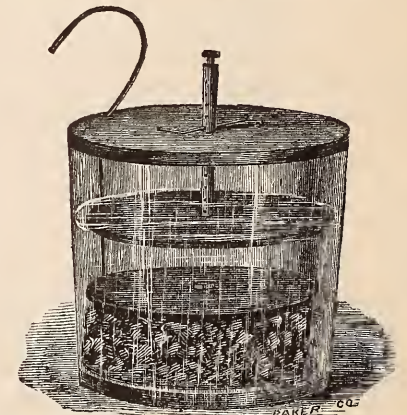
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THE TELEGRAPHER

A JOURNAL OF
ELECTRICAL PROGRESS.

J. N. ASHLEY, PUBLISHER.

SATURDAY, NOVEMBER 27, 1875.

VOL. XI.

WHOLE No. 489.

Original Article.

Chicago Poetical Squibs.

By "OCCASIONAL."

INTERSPERSED among the time notes of "more" and "out" of copy, in the record book of our artist who takes Smith report, I find the following poetical gems. First he takes in his surroundings, and then, with a sigh, exclaims:

"This office is a place, you know,
That most of us would gladly shun;
Yet, somehow we must come and go
As regularly as the sun."

The lines further along seem to indicate that he had "lost his grip" upon the last pay day:

"This fact you may have known before,
You may have felt it from a boy,
'Tis inconvenient to be poor,
And hug a curse without a joy."

Then again he appears to be grasping at the problem of life:

"More and out" is the nightly refrain;
'Tis so with the most that life can boast,
Its pleasures come and end again,
Hardly sooner gotten than lost."

Next he deals with a correspondent of THE TELEGRAPHER:

"Some Cockney bull eatin' nobby
Declares, in a way that's a sin,
That 'Harkaway's' bulletin hobby
Is good, but a little too thin."

Then the man with the euphonic name is immortalized:

"That word that I would place the first
Of all sad words that I have heard,
Is 'Smith,' for 'tis the very worst
That e'er my mortal bosom stirred."

At 12:30, A. M., a member of the *other* family is handed down to posterity in the following manner:

"Some might choose, in an hour like this,
To rest their weary bones,
But I prefer the rarer bliss
Of worrying 'Nip' Jones."

The flattering eulogy is continued "thusly:":

"Morse's ghost cannot control
The hand of this bad sender,
But sure 're-morse should seize the soul
Of such a mad pretender."

Then another bard "chips in" with this epigrammatic "Rap-sody" on "Tommy" Knox.

"Our day report man *sometimes* breaks,
But does it in a way that takes;
His every move the art betokens,
First he 'Knox' and then he 'opens.'"

After which one of "Tommy's" friends, who probably feels aggrieved at the plainness of the above, cautions the writer in this wise:

"Hard knocks will win most lasting fame,
Tom "keep this fact in view,
From what I know of Knox's name
He soon will knock the socks off you."

In the New York press record only one verse is found, probably the bards had "dug" all out previously for the "Smith" record, leaving only the following:

"He who may chance to struggle here
For glory, or his stomach's sake,
Can only live, with naught to fear,
While he can manage not to break."

One of our artists being requested to furnish a specimen of his "copy" (as he received report) to an eastern brother, does so by indulging in the following rhetorical strain:

"It was a cold, dark morning. The city streets were swept by a bitter wind, which drove before it clouds of dust, and tearing riotously on shook awnings and blinds, as it came dashing down Clark street, sending some of its flying eddies through the rattling windows of the south side Police Court room. A dreary place at best, it was rendered more than usually so by the gloom outside, the wail of the wild breeze, and its chill breath, which contended successfully against the little heat coming from a newly lighted fire in a rusty stove, and triumphing over it, filled the room with currents of air that made the miserable prisoners shiver in their wretched garments."

After which he "al"-lows the muso to possess his soul with the following result:

"Above, in a business sort of way,
Is the 'hand' I use for every day;
While in this little verse you will see
The 'hand' I would use for love and thee."

[From *The New Dominion*.]

Wooing by Wire.

A TELEGRAPH SKETCH.

(Concluded from page 277.)

SO ONE day, when there is a lull on the line, he calls her up and artfully remarks:

"I have been getting some new pictures taken."

"Are they good?" asks Mildred.

"Yes, splendid," he modestly replies. "Best I've ever had."

And then he waits, expecting her to say she would like to see one. But she only asks:

"When did you have them taken, and how did you manage to leave the office long enough to sit for them?"

Tom is covered with confusion and feels himself a swindler, for the pictures have been lying in his desk since last Christmas, and she would naturally suppose, from the way he spoke, that they had only just been sent home from the artist's. In order to get out of the dilemma gracefully he ingeniously ignores the first part of her question, and answers the second:

"Oh, I got Phil Burke to run the office for a few hours. He is able to manage two offices when he likes to exert himself, you know."

He has not time to say more, for some one is waiting to get business off. But he does not give up the notion—it is not his way to do that. He begins casting about in his mind for some other way of accomplishing it. By-and-bye he forms a bold resolution.

"That's it," he exclaims. "I'll send her my photo, and ask her to return me hers."

He is not afraid she will refuse—no one ever does refuse Tom anything he sees fit to ask.

Next day Miss Sunnidale receives a letter, with the picture of a very handsome man enclosed, together with a little note. The note is beautifully written, but carelessly worded.

"I take the liberty of sending you my photo," it runs. "Please return the compliment by first mail."

She is surprised and perplexed. What does it mean? It is something new for her to receive a note from a gentleman, still more a picture. She scarcely knows whether to be pleased or offended. He is very nice looking, but the note sounds cool and conceited. What right has he to send his picture without asking permission?

Then the spirit of mischief enters in and takes possession of the little lady.

She gets a dainty sheet of note paper, and demurely writes thereon: "Many thanks for the compliment. I return it by first mail, as requested."

This she encloses in an envelope, together with the picture he sent, addressed it to him, and drops it in the post-office without delay.

He only lives ten miles away, and it is now nine o'clock—it will reach him by noon. So she quietly sits down to await developments.

Tom is furious when he receives it—just at first. He is not used to being snubbed, you see.

But presently the humor of the affair forces itself upon him, and he laughs heartily.

"It just serves me right," he reflects. "It was rather impudent of me to send it. Well, she knows how to hold her own, at all events, for all she seems so simple."

But still Tom feels rather sore about it, and never speaks a word to her all day. When evening comes, instead of wishing her good night, as usual, he goes off without a word.

In the meantime Mildred is waiting and wondering what he will say. She expects him to take it good-humoredly, and perhaps make some half laughing apology. But as the day passes away, and he gives no sign, she grows anxious, and wonders if he is very angry about it. However, he will be sure to call her up to say good night, and then they can have a little laugh over it.

When night comes and she finds that he has gone away without calling her, her foolish little heart sinks within her. She closes up the office, and walks slowly to her boarding house, feeling very wretched.

She doesn't want any tea, she says, when her landlady knocks at her bedroom door, to announce that it is ready.

During the hot summer night that follows she tosses up and down restlessly, sorrowfully, and finally cries herself to sleep.

Of course it wasn't right—it was very undignified and silly; but don't be hard on the poor little creature. Her's was such a lonely life—her heart was so hungry for friendship, and Tom had been very kind to her. How could she help feeling sorry she had offended him?

Next day Tom relents—he bids her good morning.

She answers quietly, pleasantly, just as usual. Not for worlds would she have him think that she had noticed last night's neglect and been troubled by it.

Then Tom says, "I owe you an apology for sending that note yesterday, but I did not think you would be so hard-hearted as to snub me quite so unmercifully."

"Oh, I'm sure I never thought of snubbing you," she protests, very earnestly, "I only meant—"

But she finds a difficulty in explaining what she did mean, so naively adds, "I simply obeyed orders. You told me to return it, you know."

"But you knew well enough what I meant," say Tom. "I've a great notion to send it back to you again. Would you think me very presumptuous if I did?"

No, she would not think him presumptuous. And her heart flutters strangely.

"Would you send me back one of yours?" continues Tom, craftily following up his advantage.

But to this she answers not a word. She is thinking, "Would he want it if he knew I was thirty years old, and so dreadfully plain?"

Next day the handsome picture comes back to her again. She does not return it this time. She takes it home, instead, and dreams over it.

But Tom has hard work to persuade her to send him hers. And, at length, when she does so, she tells him very honestly that he must not think it is like her, for her pictures are always a grand improvement on the original.

It is true that she makes a very good picture. The large brown eyes show off to full advantage, the "tip-tilted" nose takes a more classic outline, and you would never suspect that her hair was red. But, on the other hand, her gentle, womanly expression is not enhanced by the photographer's art, and you miss the wondrous sweetness of her smile.

He has an album full of pretty girls' pictures at home, but none of them ever received so much attention from him as this. He looks at it again and again, studying every point of view, and at last, when no one else is in the office, consistent Tom, who has a great contempt for "softness," and was never known to act the "spooney" in his life, casts a furtive glance around, as if afraid of being seen, and then actually raises the poor little spinster's picture to his lips! After which he blushes furiously, calls himself a soft head, and tries to make believe he is only stroking his moustache with the card.

Presently he calls Miss Sunnidale, and asks her if she will remain a little while after office hours, as he has something to tell her.

She consents, and during the rest of the day keeps wondering what it can be.

And at night, when business is over, and the line is quiet and still, he cautiously cuts off all the offices on the other side of him, by putting on the ground wire, so as to guard against listeners, calls "Sg," and begins to tell it.

It is only the old, old story over again—the story of heartfelt respect, of undying love. But to Mildred it sounds strangely new, and strangely sweet.

It is hard—O, so hard! to put it away from her, but she does it bravely, firmly.

When he vows to love her, and be true to her all life long, and asks her to plight her troth to him in return, she answers:

"No, it is not me you love, but some ideal assemblage of virtues of your own creation, which you fancy I resemble. When you saw me, and discovered your mistake, you would repent your bargain. Why, I am an old maid, with red hair!"

She makes the announcement slowly, as though conscious that she is thereby demolishing every vestige of romance connected with her in Tom's imagination, and feeling sadly reluctant to do it.

Tom laughs. It is so funny of her to think it such a dreadful thing to have red hair!

He solemnly declares that red is his favorite color in hair, and as for her being an old maid—well, the more aged she is the more sense she is likely to have. He tells her he doesn't set much value on a pretty face. It is her good qualities he is in love with—her purity of heart, her nobility of mind, her sweet, unselfish disposition. With her to help him he could live a better, nobler life than he could ever hope to do alone. She would be his good genius, his guardian angel—restraining him from evil, encouraging him in good.

But the little woman is inexorable. She holds steadfastly to her point, and refuses to engage herself to a man whom she has never seen, and she won't tell him whether she likes him or not.

Tom is in despair, and at last asks if he may drive over on Sunday and see her.

She agrees to that, and hastily bids him good night, half suspecting that it is all a wild dream, out of which she will awaken presently and laugh at her own folly.

It is three whole days till Sunday, and Tom and Mildred both think that days never dragged themselves out to such an interminable length before since the world began.

It comes at last, the longed for, yet dreaded Sunday. Mildred rises early, though she knows he cannot be here for some hours yet. She is too restless to lie still.

Very anxiously she gazes into the glass and sees a woe face, with a feverish flush on the cheeks and eyes glowing like stars.

The day is going to be intensely hot, and she arrays herself in a fresh white muslin, cool and dainty looking, with pale blue ribbons at the throat.

Again she stares earnestly into the glass, sees that her dress is very becoming, feels conscious that she is looking her best, and is glad. Then comes the reaction. Something tells her it is not quite fair to make herself look better than usual. So she takes off the pretty white dress a little sadly, and dons a quiet dove colored silk, that makes her look like a little Quakeress.

A perfect simpleton!

Well, perhaps so. But she knows very little of the ways of the world, and is true to her own idea of honesty. After all, there are many things worse than being a simpleton.

She fastens a bunch of pansies and mignonette in her bosom, and, book in hand, descends to the parlor to await his coming.

About an hour afterwards she hears a knock at the door, and then a tall, fine looking man, with wavy brown hair, and eyes of the deepest, darkest blue, is shown in.

He stands before her, clasping her little hand in his, respectfully yet tenderly.

And this is Tom? She looks up to him without a word, wondering wistfully if he is very much disappointed in her.

If he is he does not show it. He picks up the book she let fall on his entrance and passes some remark about it. Soon they are engaged in an animated discussion of books and authors. After a while he skilfully manages to bring the conversation around to the point where they dropped it the other evening. He wants her to tell him if she thinks she could learn to love him, now that she has seen him.

The tall-tale flush spreads swiftly over her cheeks and brow, and she begins to tremble. But she wilfully refuses to answer just yet. She will see—she will tell him some other time—she must get ready for church now—the bells are ringing.

So they go to church together, and mingle their voices in prayer and praise. After that they take a quiet pleasant ramble through the cool shady lanes, then go home and have lunch, and another delightful long chat in the quaint old parlor. The kind hearted landlady, with whom Mildred has boarded for years, is "glad that Miss Sunniddle has got a beau at last—and such a likely looking gentleman, too. But if she should get married and go away the place will seem very lonesome without her."

It seems quite probable that she will get married, too, for when Tom leaves for home there is a tiny ring gleaming on the little old maid's finger, and a bright, happy look in her face, which makes her seem ten years younger and almost pretty.

Some weeks afterwards, when Phil Burke rushes into the office, and excitedly demands if it is true that he is going to marry the operator at "Sg" office, he calmly answers, "Yes, I have taken your sensible advice, and put my theory into practice by asking her to become Mrs. Tom Gordon. It may be a very risky way of choosing a wife, but I'm satisfied I've made a good hit of it. She is as good as gold—the best little woman that ever lived; and I don't believe that I would ever have found it out except by working with her over the line."

Phil congratulates his old friend very heartily, but is still rather doubtful of the advisability of "wooing by wire."

As for Mildred, she no longer disputes Thackeray's assertion that a woman may marry whom she likes. Her prince has come at last.

Correspondence.

We do not hold ourselves responsible for the opinions of our Correspondents. Our columns are open to free discussions on all Telegraphic subjects, without distinction of person or opinion.

No notice will be taken of anonymous communications.

Annual Meeting of the American Electrical Society.—Its Excellent Financial Condition.—Honorary Members Elected.

—The Constitution and By-Laws Amended.

CHICAGO, ILL., Nov. 18.

TO THE EDITOR OF THE TELEGRAPHER.

The American Electrical Society held their first annual meeting yesterday in parlors Nos. 1 and 3 of the Grand Pacific Hotel, in this city. It was one of the most interesting the Society has ever held. The harmonious feeling which has characterized all of the meetings held since the organization of the society (over a year ago), was unusually noticeable. The members began to assemble at the hour set for the meeting (10 A. M.), but it was 11:40 before it was called to order. The President of the society, Gen. Anson Stager, presided.

C. S. Jones, Recording Secretary, read the minutes of the organization meeting of 1874, which were approved.

There was a large attendance of members present, prominent among whom were Col. J. J. S. Wilson, Gen. Anson Stager, C. S. Jones, G. H. Thayer, E. B. Chandler,

S. L. Robinson, C. H. Summers, Wm. Henry Smith, E. P. Warner, J. P. Towler, E. M. Barton, L. B. Firman, M. G. Kellogg, Dr. E. A. Hill, M. L. Lawson, W. C. Long, H. C. Maynard, Chicago; B. T. Howard, Chas. Ross, Columbus, Ohio; N. Hueker, J. W. Tillingham, Buffalo, N. Y.; E. P. Wright, Cleveland, Ohio; Geo. T. Williams, B. H. Johnson, Cincinnati, Ohio; O. H. Booth, Mansfield, Ohio; Charles O. Rowe, Pittsburg, Pa.; E. Sholes, Dubuque, Iowa; Hugh Neilson, Toronto, Canada; C. H. Haskins, Alfred Weller, Milwaukee, Wis.; George E. Simpson, Aurora, Ill.

The Treasurer's report, which was read and accepted, showed that with the balance in the treasury fund, and when yearly dues were paid and new members qualified, the society would have nearly six hundred dollars available funds.

The following gentlemen were elected members of the society: Martin Ryan, Editor *Protection Advocate*, Actuary and Director *Ryan Life Insurance Company*; E. P. Whitford, Assistant Board of Trade Manager, W. U. Telegraph Co.; A. G. Stolbrand, Manager A. & P. Telegraph office; Samuel J. Smith, Private Secretary to Gen'l Supt. Sweet, A. & P. Telegraph Co.; Dr. G. C. Somers and A. J. Long, all of Chicago; and R. T. Howard, of Columbus, Ohio.

A number of scientific papers, that had been read at the monthly meetings, were read by title, and ordered printed in book form, with cuts and diagrams representing the various subjects treated therein.

Dr. Hill read the following communication from William Sooy Smith, Chairman of the Committee on Physical Phenomena, of the United States Testing Board:

"CHICAGO, Nov. 17.—*Dr. Edward A. Hill:* The Committee on the United States Board to test iron, steel, etc., for physical phenomena, desires to interest those whose tastes or pursuits lead to a study of thermal, electrical, magnetic, and galvanic phenomena, in the work which this Committee has in hand.

We hope that careful observations, made with such delicate instruments as you may be able to suggest, employed in ways which you may be able to point out, will lead to most important discoveries.

We believe, for instance, that when a bar is subjected to a tensile or compressive strain, constantly increasing, at the instant that the strain passes the limit of elasticity of the metal and produces a permanent set or change of dimensions of the bar, the molecular disturbance that takes place will be accompanied by a development of heat and electricity in some form which can be observed. The value of such observations in our work, which is of a national character, will be very great, and I venture to ask the assistance of your organization in devising the proper methods and appliances for making them.

Yours very truly, WILLIAM SOOY SMITH."

An interesting discussion followed the reading of the letter, and was participated in by several members of the society, who showed a hearty desire to assist in the proposed work, which, however, is no new idea with advanced electricians.

A committee to consider the matter was appointed by the chair, on the motion of Wm. Henry Smith, as follows: C. H. Summers, Dr. E. A. Hill, Gen. A. Stager, Chicago; C. H. Haskins, Milwaukee, and Thomas Henning, Buffalo.

A committee, consisting of C. H. Haskins, A. Weller and W. C. Long, were appointed to draft resolutions of respect to the memory of Dr. J. N. Lapham, late State geologist of Wisconsin, and a member of the society, who died of heart disease at Manitowoc, Wisconsin, a short time since.

The committee subsequently reported the following resolutions, which were adopted:

Resolved, That this society has sustained a severe loss in the death of Professor J. N. Lapham of Milwaukee, an eminent scientist, and a most exemplary citizen.

Resolved, That the Recording Secretary convey to the family of the deceased the expression of the heartfelt sympathy and respect of the members of this society in this their bereavement.

Letters of regret on account of inability to attend on account of pressing business engagements, were read from Messrs. Parenteau of Terre Haute, Dickey of Omaha, and others, who pledged their earnest support to any action taken by the majority, which should establish the society on a firm foundation, and promised to work energetically for it in the several localities where they resided. The Executive Committee made a very full and satisfactory report of what they had done during the year, and although some fault had been found because the papers read before the monthly meetings of the society had not been printed and distributed to the members, the committee were of the opinion that the society would uphold them for not rushing into print every month with but a meagre amount of matter for publication, and give them the credit of acting wisely in husbanding the documents until the end of the year, as they had done, and thus be able, with the large number of interesting papers which have been read before the society during the past year, to form a book of great value and interest to electricians.

The society resolved itself into a Committee of the Whole, with Gen. Stager in the chair, to consider the report of the Special Committee on Amendments to the Constitution. Each article was taken up separately, and after a great deal of discussion an amended constitution and by-laws was adopted. The committee rose, and reported to the society, and their report was adopted with but one dissenting vote, that of a member represented by proxy.

In the amended constitution and by-laws the holding of monthly meetings was abolished. Hereafter the society will meet annually at such place as the Executive Committee may determine. Auxiliary societies will be formed in the various cities throughout the country. Papers coming before these auxiliary societies will be referred to the annual meetings of the main body.

On invitation, the society enjoyed a "Grand Pacific" dinner—your correspondent doing ample justice to a square meal for once. The society having adjourned at 2 P. M. for the purpose above mentioned, they did not assemble again until 7½ P. M., when the next order of business was taken up. Messrs. Haskins, Booth, Neilson, Wright and Williams were appointed a Committee on Nominations.

After consultation, they reported the following ticket, which was balloted for and unanimously elected: For President, Anson Stager, of Chicago; First Vice-President, C. H. Haskins, of Milwaukee; Second Vice-President, Geo. B. Prescott, of New York; Third Vice-President, Harvey P. Dwight, of Toronto; Fourth Vice-President, John Van Home, of New York; Fifth Vice-President, I. N. Miller, of Chillicothe, Ohio; Sixth Vice-President, E. P. Wright, of Cleveland; Seventh Vice-President, J. J. Dickey, of Omaha; Corresponding Secretary and Librarian, F. W. Jones, of Chicago; Recording Secretary, C. S. Jones, of Chicago; Treasurer, E. B. Chandler, of Chicago; Executive Committee, C. H. Summers, J. J. S. Wilson, Wm. Henry Smith, G. H. Bliss, F. H. Tubbs, all of Chicago; Directors, W. W. Smith, of Indianapolis; S. D. Field, San Francisco; George T. Williams, Cincinnati; C. O. Rowe, Pittsburg; R. C. Clowry, St. Louis; N. Hueker, Buffalo; Hugh Neilson, Toronto; O. H. Booth, Mansfield, O.; J. W. Tillingham, Buffalo; W. C. Long, Dr. E. A. Hill, Chicago; A. Hayward, Vincennes; E. Sholes, Dubuque; C. W. Ross, Columbus, Ohio; M. C. Bristol, Cincinnati.

The Committee on Nominations also proposed the following as honorary members: Z. G. Simmons, Kenosha, Wis.; Wm. Orton, New York; T. C. Mendenhall, Columbus, Ohio; J. D. Layng, Pittsburg; Cyrus W. Field, New York; Thos. Swinyard, Toronto; Sir Hugh Allan, Montreal; Dr. N. Green, New York; A. B. Cornell, New York; Moses G. Farmer, Salem, Mass.; J. D. Caton, Marvin Hughtit, Chicago; Joseph Henry, Washington, D. C.; J. H. Wade, Cleveland.

These gentlemen were unanimously elected, and the Recording Secretary directed to notify them.

Gen. Stager was nominated and elected by acclamation, and the Secretary directed by a unanimous vote to cast the vote of the society for him as such before the nominating committee retired, thus showing the appreciation of the members for the able manner in which the General had conducted the affairs of the society during the past year. The nominations for officers, Executive Committee and Directors were so judiciously made that there had to be but one ballot cast for the whole ticket, thus saving a great deal of valuable time. The honorary members were elected one by one, and all received unanimous votes. In notifying members of their election, the Recording Secretary was directed to quote from the constitution and by-laws as to how they should qualify.

Mr. Haskins took the chair temporarily, and stated that he had had a conversation with Gen. Stager, and the latter had urged more earnest work among the members, and offered, rent free, a room in the Western Union Telegraph building for one year, for library and other purposes.

Gen. Stager expressed the hope that at the end of the year a larger room would be procured, and suitable books obtained for the library.

Mr. Chandler recommended that the works of the English society be procured.

The Directors withdrew and decided to hold the next annual meeting in this city, on the third Wednesday in October, 1876.

This was a unanimous decision, although the Chicago members of the Directory were willing and rather anxious that some other city should have the honor. The other members insisted that Chicago was the place, and that after the auxiliary societies had got fairly to work in the other cities, and showed by a year's work that they were ready and willing to hold a successful annual meeting of the main society, then it would be time enough for some of them to aspire to that honor. The Directors' report was concurred in unanimously by the society.

The thanks of the society were tendered to Mr. Turner, manager of the Grand Pacific Hotel, for the very comfortable accommodations furnished the society, and for the courtesies extended the members.

The society then adjourned at 9:25 P. M.

OCCASIONAL.

Telegraph and Postal Combinations.

TO THE EDITOR OF THE TELEGRAPHER.

"If this large and powerful California Telegraph Company will satisfy the Washington Government of their earnestness and sincerity in proposing to build a network of superior lines throughout the country, and serve the public correctly and with reasonable promptness with 20 word messages in short circuits for 10 cents, and in longer circuits for 25, 50, and 100 cents, provided the Post-office Department will cooperate with them, so far as it may without pecuniary loss or inconvenience, why should not Congress grant the concessions prayed for, and thus confer the greatest possible boon upon its constituents?"

I have read, with much interest, your consistent and able editorial "in deprecation of a proposed connection of the National Telegraph Co. of San Francisco with the P. O. Department," in which you aim to refute my arguments in favor of such a connection or combination.

Whilst conceding the plausibility and even the cogency of your general arguments against the Hubbard bill and all other sharp schemes of the past to enlist the General Government, financially, in telegraph companies or telegraph speculations, which have found few advocates in this country amongst disinterested people of average shrewdness, you will permit me to say that your answer to my direct inquiry (which I ask you to reprint at the head of this letter) is much more an answer to the fraudulent Hubbard bill than an answer to my direct inquiry.

After stating the objectionable features of the Hubbard bill, in which 999 out of every 1,000 sensible and disinterested citizens of the country are in full accord with you, you ask, with your usual complacency, "Is not this precisely what the National Company propose to do?" To which I answer, there is not, to my apprehension, the least similarity in the proposals of Hubbard and what I understand are the proposals of Mr. Cohen, on behalf of the National Company.

In the first place, Hubbard proposed no considerable lower rate of tariff for ordinary messages, to be sent only at the convenience of his bogus company, than the W. U. Co. have voluntarily adopted for all classes of messages; whilst it is well known that the Hubbard gang of needy speculators contemplated, and their bill was so drawn as to give them the power to force the business community to pay even a much higher tariff than is now charged for any class of messages by the W. U. Co.

In the second place, Hubbard's bill contemplated that the Government should pay to his company nearly the entire running expenses of the telegraph lines, except the single item of operatives' salaries. Competent experts have estimated that under the Hubbard bill the P. O. Department would have contributed to Hubbard's bogus telegraph company at least two millions of dollars per year more than the Government could have possibly received, and yet the actual tariff rates contemplated were not more favorable to the business public than those voluntarily conceded by the W. U. Co.

In the third place, the Hubbard bill contemplated an odious monopoly of the intercommunication of the country through the strong arm of the National Government, which was to be dragged into the support of a gang of totally inexperienced and needy political hucksters, with nothing in the world to trade upon except what they carried in their brassy faces and oily tongues.

Now, I do not understand that there is a single feature in this Hubbard picture that bears even the slightest resemblance to the Cohen programme—hence, with all possible respect for your opinions, I do not think your reply to my inquiry is really an answer to it, beyond the admitted fact that you have always been consistent with your present attitude in protesting against any connection whatever between the Government and the telegraph.

I agree with you that the National Government ought not to listen to any idea of favoritism to one telegraph company over another, and I do not understand that Mr. Cohen has contemplated such a state of things.

The W. U. Co. and all the present opposition lines in the country are in accord in demanding rates of tariff which Mr. Cohen and his associates believe to be from 50 to 75 per cent. above the necessary rates for a new and strong company, which should adopt all the best of the modern improvements in line building and line working.

Whilst the W. U. Co. shows the utter impossibility of its doing 10 word messages over circuits of even 25 miles at a cost of 25 cents, by any method of line building or line working that they think proper to adopt, and whilst the managers of the A. and P. Co. go back upon their public promises, and put up their rates at the dictation of and to correspond with the W. U. Co., and the managers of the S. and A. Co. betray their constituents by conspiring with the W. U. Co. to keep up the present apparently exorbitant tariff between New York and New Orleans, Mr. Cohen, backed by \$25,000,000 of capital, presents himself before the public, and, appreciating telegraph improvements which others have not seemed to have sense to understand, goes on deliberately to make his arrangements to cover the country with a network

of superior telegraph lines, which he asserts are to be built the ensuing year, regardless of what Congress may do or fail to do—and, meantime, he offers, as I understand from reliable authority, to give ample pledges to the Government that his company will serve the public at rates from one half to seventy-five per cent. less than the rates now demanded by the W. U., A. and P. and S. and A. combination companies, with the provisos indicated in the question at the head of this letter.

For form's sake, perhaps, the Government would think it proper, before accepting Mr. Cohen's offer, to tender the proposed arrangement to the W. U. Co., which alone, of all the present companies, has or is likely to have the means to comply with the Cohen programme; but of course such a tender would be a mere idle form, for it cannot be presumed that Mr. Orton would be willing to bankrupt his company by serving the business public at less than half the actual cost of doing the business.

I do not think you have, nor that you can, by fair argument, sustain your position that the Government should, in no contingency of circumstances, have any business relations with any telegraph company. The Government, through all its departments, necessarily allies itself with individual citizens and with individual companies for the promotion of the public good. The P. O. department deals with you upon better terms than it does with me. You, as a large patron of the newspaper mail, are permitted to send a half pound weight of your journal for the same charge as I am required to pay for a single ounce of your printed sheets.

If two railroads run out of this city, both passing through the same towns and terminating at Buffalo, obviously the P. O. Department would deal with that one of the roads for the transportation of the mails, etc., which would serve the Government and the citizens best and upon the most economical terms.

I contend that the well established principles which, by universal consent, have obtained recognition in all parts of this country, between the Government and the citizens, will justify and commend the connection which is understood to have been proposed to the P. O. Department by the California Company. If that company will hand over to the P. O. Department 20 or 30 millions of telegrams per year, and prepay the same, I do not see why the department should not undertake the job of delivering them, nor can I imagine a reason why the P. O. Department should not do that work for Mr. Cohen at much less than the ordinary charges for delivering single letters, as well as to permit you, because you deal with the department in a wholesale way, to send through the mails eight ounces for the same sum as I, a small dealer, have to pay for one ounce.

Mr. Cohen also asks the Government to collect for his company messages through the street letter boxes at a fixed sum per message. Why should they not do this? The P. O. messengers can collect the telegrams without loss or delay, and the revenue derived for the service would go far to compensate them for all their services to the department; but, above all, the citizens would be largely accommodated at the least possible expense by the facilities asked for by Mr. Cohen.

Such a connection as that contemplated would be greatly facilitated by having the telegraph and Post-office under the same roof, and hence Mr. Cohen properly asks that the department will sanction the occupancy of the Post-office premises, wherever it can be done without detriment to the operations of the postal service.

It can hardly be necessary to say a word upon the subject of a monopoly of the telegraph business of the country. If Mr. Cohen has \$25,000,000 in gold at his back, as he distinctly alleges, and has a system of telegraphy which will enable his company to transmit 20 word messages 250 miles for 10 cents per message, and longer distances at proportionately low rates of tariff, it is difficult to imagine how such a company is to be prevented from monopolizing the telegraph business of the country, whether the company is recognized by the Government or not.

D. H. O.

Mutual vs. Individual Benefit.

TO THE EDITOR OF THE TELEGRAPHER.

ON reading the report of the Treasurer of the Telegraphers' Mutual Benefit Association, rendered at the annual meeting held Nov. 10th, at the Western Union Telegraph Co.'s building, I was surprised to see that a motion had been made by Mr. John Fuller, of Easton, Pa., making the salary of the Treasurer of the Association two hundred and fifty dollars per year.

As a member of the Association, I would like to ask for what consideration this sum was voted. The Secretary's report says that there have been eight deaths during the past year. It is, I presume, necessary for the Treasurer to sign, officially, the order for the payment of insurance in these cases. His report may have taken him an hour to write, and I must say that two hundred and fifty dollars seems to me too much for this service.

According to the best of my recollection, one of the reasons why the office of Secretary was made a salaried one, was in consideration of the fact that Mr. Reid's health

would not permit of his doing the detailed work of Treasurer, and he was prevailed upon to retain the position in order to promote a confidence, and to insure the faithful carrying out of the purpose of the Association, with the understanding that the Secretary should relieve him of the labor connected with the office. This he does. The sinking fund of ten thousand dollars was instituted that the interest arising therefrom might be used to pay the Secretary's salary and other necessary expenses. This interest, at seven per cent., would amount to seven hundred dollars. The Secretary's salary and incidental expenses more than consumed this amount, as per annual report. In the face of this we are to incur an additional expense of two hundred and fifty dollars, which must necessarily come out of the assessments.

The Association was started with the understanding that there should be no salaried officers, but the work developed seemed to make it eminently just that the Secretary, who performs all the labor, should receive some compensation. That the amount awarded is sufficient is clearly demonstrated by the fact that others beside the present incumbent were desirous, at the last election, of having the position.

Now, if we are going to establish the precedent of paying the Treasurer, it may open the way, at the next annual meeting, to increase this salary, and, the ball once set in motion, who can say where or when it will stop, or into what excess it may drift us?

Another thing that presents itself, as we review the subject, is, what is to be the final disposition of the sinking fund as the money accumulates? Will it attract the attention of the greedy to such an extent that salaried offices will make the assessments excessive, thereby causing members to drop out, and when this is done sufficiently to indicate the want of success of the Association, will the remaining members pass a resolution pronouncing it a failure and divide and pocket what remains? I don't feel any grave apprehension on this subject, but, when encroachment commences, one naturally inquires, where will it end?

In the Treasurer's report I find a suggestion that a dinner be given, on the occasion of the next annual meeting, to the delegates and New York members. Being myself a New York member, I find myself in accord with this suggestion. I don't exactly see how this is to be provided for—whether it may be considered necessary to reduce the sinking fund or to assess the members; but, as the Treasurer is silent as to the ways and means, he doubtless believes that a timely motion could be made to cover this deficiency.

How members outside of New York may relish the idea of contributing to this suggested junketing on the part of our worthy Treasurer, time alone will tell. As for myself, as I said before, I should like it. I think I could eat and drink the full value of my assessments, and in view of being one of the dined and wined, would further suggest that the assessments upon the death of a member be made two dollars instead of one—one dollar to go to said member's heirs, and one dollar as a dinner fund, to celebrate the occasion. This, under the present membership, would give us \$1,269 for the dinner, which could be used as follows:

The dinner to be given at Delmonico's, at say ten dollars a plate; probable number of members present not to exceed one hundred. Gilmore would furnish the music for two hundred and fifty dollars, just the amount of the Treasurer's salary, leaving to be divided among the waiters nineteen dollars. Speeches could be made, and a general "feast of reason and flow of soul" prevail; the merits of the deceased being fully discussed and resolutions of condolence passed and sent to the bereaved family and friends.

Let us consider this, and exchange opinions on the subject at our next annual meeting.

INQUIRER.

A Scientific Problem for Solution.

TO THE EDITOR OF THE TELEGRAPHER.

WILL some of the scientific readers of THE TELEGRAPHER harmonize the two following electrical laws, which are laid down in most of the text-books on electricity: First, "When the sides of a Wheatstone bridge or balance are proportional in resistance no current will flow across the bridge wire."

Second—"Electricity will follow every route open to it."

Please explain why it is that, when the sides are, say for example 10 : 1 :: 500 : 50, the portion of the current which has passed the 500 resistance should return to the battery or the earth, as the case may be, through the resistance of 50 instead of taking the shorter route across the bridge wire and through the smaller resistance of 1. We can understand why an instrument placed in the bridge wire will remain unaffected, but that the wire is absolutely free of current does not seem so clear.

W. B.

Electricity is *shocking* to tako, and, telegraphically speaking, a little of it may go a long way.

THE TELEGRAPHER

DEVOTED TO THE INTERESTS OF THE TELEGRAPHIC FRATERNITY.

SATURDAY, NOVEMBER 27, 1875.

THE TELEGRAPHER:

PUBLISHED EVERY SATURDAY at 38 VESEY ST.

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J. N. ASHLEY, Publisher,

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INDEX TO ADVERTISING PAGES.

Table with 2 columns: Advertiser Name and Page Number. Includes American Fire Alarm and Police Telegraph, Am. Compound Telegraph Wire Co., Bishop Gutta Percha Works, etc.

THE TELEGRAPHER MAY BE HAD at the news stand in the Receiving Office of the Western Union Telegraph Company, corner of Broadway and Dey street, where it is regularly on sale.

Telegraph and Postal Combination.

WE print in our correspondence columns a communication from D. H. C. on the subject of the proposed combination between the Post-office department and the new National Telegraph Company, in reply to our remarks on the subject in THE TELEGRAPHER of the sixth instant. Our correspondent is not satisfied with our argument against the connection proposed, and claims that our remarks were "much more an answer to the fraudulent HUBBARD bill than an answer to my (his) direct inquiry," which he repeats as the text of his communication.

In our previous article on this subject we conceded that it is one upon which much may be said upon both sides, and certainly our correspondent has demonstrated this fact most fully.

We do not know that we can add anything to what we have heretofore urged in opposition to this scheme, that will be more satisfactory to our correspondent than has already been said. If the National Company has secured any system by which it can do telegraph business at anything like the rates mentioned by our correspondent, it certainly does not need the aid of a connection with and use of postal facilities to insure its success. No existing company could compete with it

successfully, and it would necessarily, without such aid, in a short time, ruin the present telegraph companies and secure a monopoly of the business.

Our objection to this, as to all telegraph schemes which seek to enlist the aid of the Government to carry them out, is vital, and as we have repeatedly stated, we are on principle opposed to Government aiding one business enterprise, with which it has no legitimate connection, in its competition with a similar enterprise. There is no argument that will apply to a Government intervention to cheapen telegraphic communication that is not equally cogent for such an intervention to cheapen railroad communication, or anything else in which the whole country is interested.

The objection to such intervention, in any such case, is that it is improperly connecting the Government, which is established for certain specified purposes, with business enterprises and competitions between its citizens, who jointly contribute to its support in the administration of its legitimate function. It leads indirectly but surely to a Government ownership and management of the telegraphs of the country, and as we are opposed to this on principle, for the same reasons we oppose any indirect method of reaching such a result.

We do not see the relevancy of the argument of our correspondent, that because the Government transports newspapers for publishers to subscribers at less rates than it transmits matter of the same class for the general public, it may properly enter into partnership in telegraphic enterprises to cheapen telegraphic services. The Government monopolizes the postal business of the country, and makes a distinction between wholesale and retail customers. Whether this is right or not is a question which does not enter into this discussion. It does not aid an express company in the transportation of certain matter, so as to enable it to underbid its competitors in the business, but fixes a price for its own services, to which we are all obliged to submit, whether or no. In contracting for the transportation of the mails by railroad, the Government, of course, where there are competing roads, makes use of the one which will do its business the best and cheapest. In this it exercises the same discretion that our correspondent or any other customer would do, and in this respect it stands on the same footing as other customers. It no further aids the road in its competition with its rival than do other patrons, and contributes no more to its success. If the post-offices were used for the sale of tickets for such road, and for doing all or a large part of its business except the actual transportation, at rates below these at which such services and facilities could be had by the rival of such an enterprise, the comparison might be more apropos.

We have opposed the HUBBARD schemes, as we oppose that now under consideration, without special reference to the details of either, upon the same grounds and upon the same principle as we have and do oppose a postal or Government telegraph, pure and simple. As between such a temporary indirect connection of the Government with the telegraph, we should prefer the immediate assumption by the former of the entire and direct ownership and management of the telegraph system of the country. In that case the existing telegraphs would be taken by the Government upon some fair valuation, and thus the owners and employes would be at least partially protected in their interests.

We have perhaps devoted more space to the discussion of this subject than was necessary, as from the small favor with which it has been received by the public, and especially in view of the financial failure of the British postal telegraph, there is very little chance of its being favorably entertained either by Congress or the people. If the National Telegraph Company really means business, its promoters may as well make up their minds to go ahead without expectation of aid from Congressional action. If they have secured the advantages claimed, they may count upon success in any event; if they have not, their prospects cannot be considered as sufficiently promising to warrant the investment of twenty-five millions of capital.

Atlantic Cable Tariffs.

WE print in another column a communication from Mr. OLYPHANT, the chief representative of the Direct United States Cable Company in this city, to the New York Herald, on the vexed subject of Atlantic cable tariffs, which is worthy of consideration. The Herald which knows more about telegraphs, as well as all other business, than those engaged in it, has been very persistent in urging a reduction to, and continuance of a low tariff for cable messages, and has not been complimentary to the Direct Cable management for its increase of tariff from 25 to 75 cents a word upon the restoration of communication through its cable. It asserts that 25 cents a word will pay any cable company better than a higher rate, if it will only stick to it long enough. It makes this assertion in face of the fact, which has been frequently stated and is well known, of the limited capacity for the transmission of signals of long submarine cables, which would insure bankruptcy to any company at a 25 cent tariff, even if it had its cable fully occupied with business.

It is a noticeable fact that, notwithstanding its unreasonable and unreasoning urgency for a very low cable tariff, the proprietor of the Herald has never sent a message by the new cable through whose competition lower rates have been secured. It is attempted to excuse this on the ground that the Herald is bound, by contract of the Associated Press to use the Anglo-American cable for its news despatches. If the writer will investigate the matter he will ascertain that no such contract exists, and that a portion even of the Associated Press cable despatches come over the Direct Cable.

We are satisfied, from such investigation as we have given the subject, that 75 cents is a reasonable charge for Atlantic cable telegraphing, and that no company can, with due regard to the interests of its shareholders, adopt a lower rate, until the capacity of the cables for business can be largely increased.

Mr. Henry H. Ward Appointed Cashier of the Western Union New York Office.

MR. HENRY H. WARD has resigned the situation of Treasurer of the Gold and Stock Telegraph Company, which he has filled with much credit to himself and advantage to the company, and accepted the appointment of Cashier of the New York office of the Western Union Telegraph Company, vacant through the removal of Mr. LEONARD COX. The qualifications of Mr. WARD for this position are of a high order, and his integrity and reliability unquestionable. He has filled various important positions in the telegraph service for many years past, and always to the complete satisfaction of his employers, and all with whom he has had business relations or dealings. Of strict and unswerving integrity, and always courteous and gentlemanly demeanor, he will be in his present as in former situations efficient and popular, and we congratulate the managers of the Western Union Company upon their selection of him to fill so important and responsible a position.

Severely Afflicted.

DIPHTHERIA is prevalent in this city and vicinity at the present time, and is proving very fatal, especially to young children. The announcement of the loss by Mr. R. M. MATTOCK'S, operator in the Cotton Exchange office in this city, of the Western Union Telegraph Company, of two beautiful infant children from this fell disease, will insure him and his afflicted wife the heartfelt sympathies of their many friends among the telegraphic fraternity. The little girl was taken with diphtheria two weeks previous to her death, and it was supposed was out of danger, when she was attacked with diphtheretic croup on Thursday morning of last week, and in a few hours her life was closed. The little boy was taken with diphtheria on Wednesday, and died Friday evening. They were both buried on Monday last in Rosedale Cemetery, at Orange, N. J.

If the sympathy of friends and acquaintances in their

sudden and severe affliction can comfort or console them, it is extended to them sincerely. May they be spared further affliction, for certainly their cup of sorrow is full to overflowing.

Personals.

Mr. CHARLES BENNETT has resumed work for the Western Union Company at the New York main office. He is on the 12 to 9 trick.

Mr. WM. J. LEWIS has been transferred from the 12 to 9 to the regular night trick, in the New York Western Union main office.

Mr. ALVAN S. LOCKE has resigned his position in the New York Western Union main office, and returns to his farm in Kansas, which he was obliged to leave temporarily last year, on account of the destruction of crops by the grasshoppers.

The Telegraph.

Pneumatic Tubes to be Laid by the Western Union Telegraph Company.

THE Western Union Telegraph Company has for some time had under consideration the subject of substituting some method of transmitting messages from and to its New York City offices, which should enable it to dispense with all or a large part of the poles which have become so objectionable in the streets of the city. In London pneumatic tubes have come into very general use for this purpose and have been found to work quite satisfactorily.

With a view to testing the feasibility of this method of communication here, the company has decided to put down an experimental system of pneumatic tubes from the main office at the corner of Broadway and Dey street to the office at No. 14 Broad street, through Broadway and Wall street, and also through Maiden lane to 134 Pearl street office.

At the meeting of the Board of Aldermen on Thursday of last week the Mayor transmitted a communication from the Western Union Telegraph Company, to which he requested immediate attention. He recommends the cooperation of the Common Council in taking away the suspended telegraph wires and placing them under ground, and also the passage of a resolution providing for an experiment in that direction. The letter from the Western Union Company submitted the following resolution, which was passed after some debate, with an amendment that the work should be done at the expense of the corporation soliciting the privilege and under direction of the Commissioner of Public Works:

"Resolved, That the Western Union Telegraph Company is hereby authorized to lay down tubes and wires for telegraph purposes in the streets between the main office of the company at the corner of Broadway and Dey street and its office at No. 14 Broad street, through Broadway and Wall street, and also from its main office aforesaid through Maiden lane to 134 Pearl street, such tubes, not exceeding fourteen in number, and wires to be laid three feet below the pavement; the work of removing and restoring the street surface to be done subject to supervision by the Department of Public Works."

In regard to this matter President Orton made the following statement a few days ago to a representative of the *New York Tribune*:

"No one," said Mr. Orton, "has yet succeeded in devising a method by which rapid communication can be made over wires submerged for a long distance, but for a short distance it can no doubt be done. Our object is to experiment upon this question, and see what improvements can be made. Besides other objectionable features of poles on which to stretch the wires, they are very expensive, costing from \$15 to \$25 each before they are set in the ground. Wherever we can secure the right of way through the crowded parts of the city, we carry the wires over the tops of houses; but this right of way cannot always be secured, as was the case down Chatham street, and from there to the main office. It is just as much to our interest as that of the public to place the wires entirely away from all obstructions, where this can be done without retarding the rapidity with which messages may be sent. Another difficulty which we wish to overcome is that experienced in sending messages to the different branch offices in this and other large cities as quickly as desired. It costs just as much, so far as the operating expenses are concerned, to send a message from the main office to Broad street as from here to Chicago, while time is lost in sending by carriers. The object of the pneumatic tubes is to remove this difficulty, by enabling us to send the message received in the main office to any of the branch offices in less time than it would require for the operator to repeat it. Two tubes will be laid, one for sending and the other for receiving messages; but we have not yet fully determined upon what method we

shall operate the tubes. A very great improvement in regard to this matter, I understand, has been made in England within the past two or three years."

The D'Infreville Duplex on the Southern and Atlantic Company's Lines.

THE duplex invention of Mr. D'Infreville, of which an illustrated description was published in THE TELEGRAPHER of the 13th inst., has been successfully introduced upon the line of the Southern and Atlantic Telegraph Company, between Washington, D. C., and Charleston, S. C. It works well, and practically doubles the capacity of the line between these points, as each circuit can be worked fully up to the speed of the single circuit previously operated over the wire.

Mr. D'Infreville is personally superintending the introduction of his duplex on this line and instructing the operators in its management. It will be soon introduced on other circuits of this company, which has purchased the patents for the territory which it covers.

Annual Meetings of Telegraph Companies.

THE annual meeting of the stockholders of the Southern and Atlantic Telegraph Company, for the election of a Board of Directors for the ensuing year, and such other business as may properly come before them, will be held at the executive office of the company at 51 New street, in this city, December 2d, prox.

The annual meeting of the stockholders of the International Ocean Telegraph Company will be held at the office of the company, in this city, on the 7th of December, prox.

Foreign Telegraphic Notes.

NEW SOUTH WALES has been the first to adopt the automatic system of telegraphy. In Australia and New Zealand there are at the present time 30,000 miles of telegraphic lines, which have cost nearly half a million of money. New South Wales has 8,000 miles of wires, Victoria 5,600, and other colonies less. The number of messages transmitted in this colony last year numbered about half a million, and augmented the public revenue to about £40,000. In New South Wales messages are now sent daily from Wentworth to the Gulf of Carpentaria, a distance of nearly 4,000 miles, for the absurdly small sum of 2s.

The sum of £1,193,000 8s. 2d. was expended in the last financial year in Great Britain on account of the postal telegraph service.

The Direct Spanish Telegraph Company notify that, from and after November 1st, the rate between London and any station in Spain will be seven shillings for a message of twenty words.

The half yearly accounts and balance sheet of the Brazilian Submarine Telegraph Company to the 30th of June last showed the total earnings of the company for the half year to be £68,778, and the working expenses £11,055, leaving a balance of £57,723; to this was added £19,811, the undivided profit to 31st of December last, making a total of £77,534. After deducting income tax, £481, there remained a balance of £77,053. A third interim dividend, amounting to £16,250, had been distributed since the last accounts were presented, leaving £60,803 for appropriation. The directors therefore recommended the declaration of a final dividend of 2s. 6d. per share, free of income tax, making a total dividend of 5 per cent. for the year, which would absorb £16,250, leaving a balance of £44,553. Of this amount £40,000 had been placed to a reserve fund, and £4,553 was carried forward.

The extension of the telegraph communication from the capital of the French penal colony in New Caledonia to the principal villages and government depots is being pushed forward vigorously, and a large staff is engaged along the route of the proposed line, from Canala to Uraï. This will be an expensive work, as the wires are to run through a dense forest and cross the main range at a height of about 2,500 feet above the sea.

The Hibernia, with the second portion of the New Zealand cable, was to leave England in the early part of November.

The cable between Santos and Santa Catarina having been repaired, direct telegraphic communication with La Plata is restored.

The government of Western Australia propose to expend £28,500 in the construction of a line of telegraph to South Australia. The line will extend from Albany to Eucla.

Mr. F. C. Wobb, who has lately returned to England from successful cable operations on the Brazilian coast, has had conferred on him by the Emperor of Brazil the honor of a Knight Officer of the Order of the Rosa.

The Indo-European Telegraph Company state that the average time in transit between London and India, *via* Teheran, of all outward messages to India, including messages for Penang, Singapore, China, Japan, Java and Australia, during the week ended 22d October, was 51 minutes.

The report of the British Postal Telegraphs just issued shows that the gross revenue last year was £1,160,000 and the expenditure £1,051,000, leaving the sum of £109,000 applicable to the payment of interest upon the capital raised for the purchase of the telegraphs by the State. There has been a large increase in the amount of postal telegraph business of the year, the number of messages (exclusive of newspaper telegrams) having last year been above 19,000,000, or about 10 per cent. more than in 1873. On one occasion, when an important debate took place in Parliament, and when, in addition, there was an unusual number of interesting occurrences in different parts of the country, nearly 440,000 words were transmitted from the central station in London in a single night.

President Avellanca has inaugurated the new telegraphic cable that connects Buenos Ayres with the island of Martín García.

The telegraph cable between Suez and Aden is broken, and messages for India and the East beyond Egypt are forwarded *via* Teheran.

The cable between England and the Scilly Islands is again interrupted.

The Pernambuco-Para telegraph cable is broken.

Communication *via* Siberia to Japan, China and Australia, has been restored.

Telegraphic and Electrical Brevities.

THE holiday hours for the offices of the Atlantic and Pacific and Franklin, and the Southern and Atlantic Telegraph Companies, will be the same as those already announced for the Western Union offices—that is from 8 to 10 o'clock A. M., and from 4 to 6 o'clock P. M., except at repeating stations and principal offices, which will be kept open as usual but with reduced force.

The Southern and Atlantic telegraph office at Atlanta, Georgia, has been removed two doors below its former location. The new office has been very neatly and tastefully fitted up by the mauager, Mr. W. A. Benton.

The new line of the Atlantic and Pacific Telegraph Company, from Pittsburgh, Pa., to Columbus, Ohio, is approaching completion. It is expected to be done by December 10th, and will afford an important and valuable addition to the facilities of the company.

The Atlantic and Pacific Telegraph Company have asked from the Board of Aldermen permission to lay pneumatic tubes from their main office in this city, No. 145 Broadway, to No. 8 Broad street, and in other parts of the city. The communication was presented on Tuesday last, and referred to the Committee on Streets.

The Direct Cable.

THE success of the *Faraday* in picking up and repairing the Direct Cable is one of the most wonderful things imaginable. On the 19th ult. the *Faraday* left Britain for Placentia Bay. On Sunday, 1st inst., sighted Cape Pine, took observations, found position correct, dropped grappling irons, and in ten minutes had the two ends on board, and undergoing repair. The *Faraday* called off our harbor on Saturday, and, after a short delay, proceeded to Britain.—*St. John's* (Newfoundland) *Chronicle*.

[From the *New York Herald*.]

Cheap Telegraphy.

THE DIRECT UNITED STATES CABLE COMPANY,
LIMITED, NO. 16 BROAD STREET,
New York, Nov. 18, 1875.

To the Editor of the Herald.

YOUR article in this morning's issue on cheap telegraphy contains some comments on a circular recently issued by me, to which I trust that your sense of justice will give me an opportunity of replying, as they are calculated to mislead the public. You remark, in the first place, that "We find the direct cable charges as much per word for the transmission of despatches from America to Europe as the other line." Had you said that you "found that the other line now charges as little per word as the direct cable," you would have presented the case more accurately. On Saturday, the 6th inst., "this company" opened for business at seventy-five cents a word, our opponents' rates being at the time a dollar, and it was not until we had commenced business at the reduced rates that the opposition announced their intention of adopting our tariff, which they did

shortly after. It is thus evident that this latest reduction, by which the public save twenty-five cents a word, was entirely due to the action of the Direct United States Cable Company. You then go on to state that the managers of this line will discover, "as has been discovered by the managers of all other telegraph companies, that the cheapest rates, in the long run, will bring more business, and consequently inure to the greater profits of the owners."

Permit me to call your attention to the fact that this has not been discovered by the managers of any cable company, and the statistics of the Anglo-American Company for over ten years go to show that the most paying rate, as between five dollars a word and twenty-five cents, is a dollar and a half a word.

Again you say, "Thus far the promise to reduce rates is little more than a promise." I have shown that it is a promise worth just twenty-five cents a word to the public. And you conclude, it would "be a stroke of genius for Mr. Oliphant's company to send messages over the ocean at a shilling a word." This stroke of genius has been already attempted, in the hope that it might be considered such by the public, but they utterly failed to appreciate it, and in no instance more conspicuously than in that of the *Herald*. Though this exceptional rate was due entirely to this company, the *Herald* did not support their efforts by sending a single message over their cable, and I would suggest that to taunt a company for not establishing low rates, and when it does establish them to refuse to support it, is a course not calculated to advance the cause of cheap telegraphy.

I am yours faithfully, L. OLIPHANT.

Quotations of Telegraph Stocks at N. Y. Stock Exchange.

Showing Lowest and Highest Prices each day during week.

Nov.	WESTERN UNION.		ATL. AND PAO.		AMER. DIST.		GOLD AND STOCK.	
	Bid.	Asked.	Bid.	Asked.	Bid.	Asked.	Bid.	Asked.
18	75 1/4	76 1/4	18	19	..	..	..	..
19	76	76 1/2	18 1/2	18 3/4	..	25	..	60
20	75 1/2	76 1/2	18 1/2	19	..	..	..	..
22	75 1/2	75 3/4	18 1/2	19	..	..	..	..
23	75 1/2	75 3/4	18 1/2	19	..	25	55	60
24	75 1/4	76	18	18	..	..	..	..

New Patents.

OFFICIAL COPIES of any U. S. Patent issued since July 1st, 1871, including drawings, specifications and claims in full, sent free to any address for 25 cents each. Address F. L. POPE, Elizabeth, N. J.

For the week ended Oct. 26, 1875, and bearing that date.

169,087.—FIRE ALARM TELEGRAPHS. S. Chester, Elizabeth, N. J. [Filed May 5, 1875.]

For use at central station. Each electric impulse from fire alarm box, through an electro-magnet, releases a clock work, which gives one rotation to cylinders, closing a circuit to smaller alarm bells. The clock work also operates a paper punching device, from which the paper is fed under transmitting styles to closing circuits to other larger alarm bells, by means of another clock work, also released by electro-magnet. At the conclusion of every complete signal, a third clock work is released, by means of which momentary flash of increased battery current is introduced into a signal box circuit.

1. The combination of a prime motor and train, an electro-magnet controlling the same, a revolving cylinder or cylinders causing on rotation a change or changes in the connections of one or more electric circuits, a perforator, and a train of wheels, giving uniform motion to the strip to be perforated, substantially as and for the purposes set forth.

2. The combination of a perforator, two or more sets of devices for removing the perforated strip therefrom, and moving at different rates of speed, and two or more electric circuits controlled by the operation thereof, whereby the signals upon one circuit are repeated over other electric circuits at different rates of speed for different circuits, substantially as and for the purposes set forth.

3. The combination, with a prime motor and train, and an electro-magnet controlling the same, as electric circuits, and two or more insulators or circuit closers rotated by a prime motor, and throwing into circuit at one period during rotation an extra amount of battery, whereby the electro motive force in the circuits is increased, substantially as and for the purposes set forth.

4. The combination, with any instruments carrying several sets of motors designed to cause paper or other material whereon impressions have been made to repeat electric impulses over several circuits, at various rates of speed, of a device connected with any other part of a running gear of such instrument, to successively render these several motors inoperative, by removing the pressure of the frictional roller or equivalent at specific periods in such manner that the paper or equivalent will cease to be moved thereby, so soon as the impressed portion has been carried past a fixed point, but that it shall continue to be carried by the succeeding motors, substantially in the manner and for the purpose hereinbefore described.

5. The combination of a rack and pinion, with the supporting wheels W¹ W², having a portion of the periphery cut down to a smaller diameter, and provided with arms for moving the rack in one direction, a connecting lever and pinion connected to one wheel and train, and imparting a rocking movement to the wheels, whereby, upon their movement in one direction, the rack is allowed to drop away from the pinion, but is held to engagement therewith on their movement in the other direction, substantially as and for the purposes set forth.

6. The combination, with the two independent motive trains, one of which is controlled by an electro-magnet, or a rack and pinion, connected with the trains, and controlling one thereof, whereby the motion of the first causes the release of the second, substantially as and for the purposes set forth.

7. The combination, with two independent motive trains, a rack and pinion connected therewith, and acting to release the second upon the movement of the first, of an extra magnet, and devices operating to allow the continuance of motion of the second train, after the motion of the first train has ceased, substantially as set forth.

8. The combination, with two or more batteries, or divisions or series of batteries, of the automatic circuit closer or breaker, to change the connections of the batteries, and thereby vary the electro-motive force of the circuits, or any of them, substantially as and for the purposes set forth.

Died.

MATTOCKS.—At Lafayette, N. J., on Thursday, Nov. 18th, of diphtheritic croup, JENNIE, aged 5 years and 4 months; and on Friday, Nov. 19th, CHARLIE, aged 2 years and 6 months, children of Mr. B. M. MATTOCKS, operator for the Western Union Telegraph Company at the Cotton Exchange office in this city. They were both buried at Rosedale Cemetery, Orange, N. J., on Monday last.

JAMESON.—At Rutland, Vermont, Nov. 19th, of brain fever, W. C. JAMESON, formerly an operator in the Rutland office, and latterly a conductor on the Harlem Railroad.

THE DIRECT UNITED STATES CABLE COMPANY (LIMITED).

SUPERINTENDENT'S OFFICE,
New York, Nov. 24th, 1875.

NOTICE.

The Suez-Aden cable is interrupted. Messages for India and all parts of the East beyond Egypt to be sent via Teheran.

The cable between England and Scilly Islands is interrupted. Messages to be addressed "Post Penzance," from whence they are despatched free of postal charge.

The P rambuco-Para cable is also broken.

Communication has been restored, via Siberia, to Japan, China and Australia.

During the interruption of the Suez-Aden cable, telegrams for Aden and places beyond can only be forwarded by "Indo-European," via Teheran.

The rate to Aden is the rate to Bombay..... \$10.00
To which must be added, for 20 words or less..... 9.72

Total charges to Aden..... 19.72
And for every additional 10 words or fraction thereof: 4.86

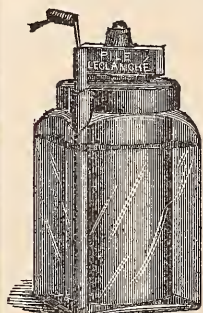
Telegrams to Peru can now be prepaid to their destination. The rate to be collected is the rate "London to Valparaiso," \$65.00 twenty words or less, to which must be added the following rates:

"Iquique," 10 words..... \$12.15
Each additional word..... 1.21
Arica, 10 words..... 18.22
Each additional word..... 1.82
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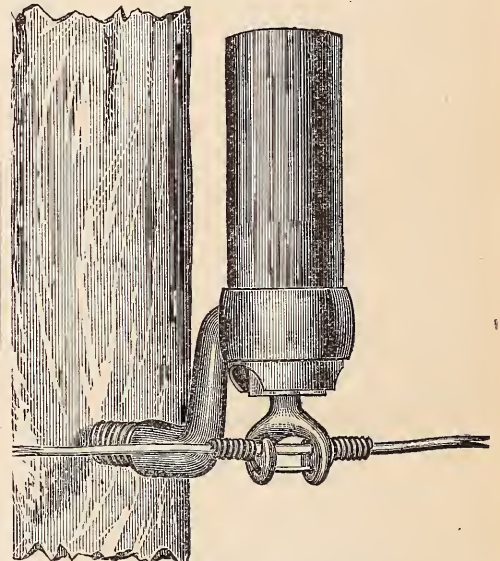
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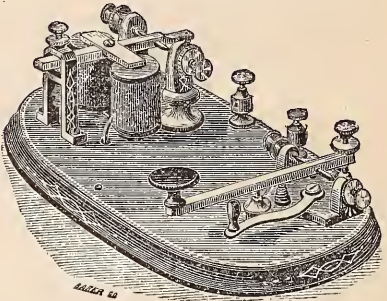
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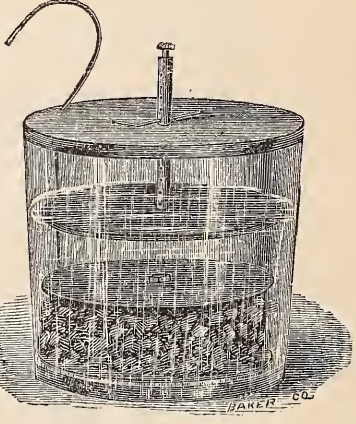
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THE TELEGRAPHER
A JOURNAL OF
ELECTRICAL PROGRESS.

J. N. ASHLEY, PUBLISHER.

SATURDAY, DECEMBER 4, 1875.

VOL. XI. WHOLE No. 490.

Edison's New Moonshine.

T. A. EDISON, of Newark, N. J., has made a discovery which, he claims, will revolutionize telegraphy. He claims to have discovered a new force, similar to electricity, possessing its efficiency, without being subject to many of the influences which affect the latter.—*N. Y. Tribune, Nov. 29.*

On another page an account is given of what appears to be a very remarkable discovery in electrical science and telegraphy. It is claimed that a new kind of electricity has been obtained, differing from the old in several particulars, and notably in not requiring for transmission that the conducting wire shall be insulated. While the reality and value of this discovery can only be ascertained by further experiment, it may here be mentioned that there is nothing inherently improbable about it. The difference claimed between the new and old electricities is scarcely greater in kind than between polarized and non-polarized light, or between ordinary iron and that which has been so changed by contact with platinum that the strongest nitric acid fails to attack it. A genuine discovery of the sort would be of inestimable service in cheapening the telegraph, cable-rates would soon be permanently reduced, and the unsightly poles that now disfigure our cities would quickly disappear.—*N. Y. Tribune, Nov. 30.*

NEW DISCOVERY IN ELECTRICITY.

Experiments of T. A. Edison.—Possibility of Sending Messages by Wires or Cables which are not Insulated.

T. A. Edison, of Newark, N. J., an electrician and inventor, has just made a discovery, alluded to in yesterday's *Tribune*, which, it is expected, will throw new light on the nature of electricity, and possibly manifest the existence of a hitherto unknown natural force. On the night of Nov. 22, while Mr. Edison and his assistant, Charles Batchelor, were experimenting in their laboratory, they made a discovery which is recorded as follows in their journal:

"In experimenting with a vibrator magnet, consisting of a bar of Stubbs's steel, fastened at one end and made to vibrate by means of a magnet, we noticed a spark coming from the core of the magnet. This we have often noticed before in relays, in stock printers, when there were iron filings between the armature and core, and often in the new electric pen. Always supposed it was inductive electricity, but happened to notice it when it seemed so strong that we suspected it might be something more than induction. Acting on the supposition, we found that by touching any portion of the vibrator or magnet with a piece of metal we got the spark. We then connected a wire to the end of the vibrating rod, and got a spark by touching a piece of iron to it."

The experimenters were led to try the effect of different metals in drawing off the spark, and soon found that cadmium was the most effective for their purpose. A bar of this metal was placed across the magnetic coil of the electric instrument, and a long wire attached to it. The electric circuit was thus drained of its current, which passed through the cadmium and the subsequent wire into a gas pipe, and so into the earth. Notwithstanding this interruption of the continuity of the circuit, it was found that when any metallic substance was brought into contact with the gas pipe, or with the intervening wire, a white spark was evolved with unusual brilliancy. Then it occurred to Mr. Edison that possibly this spark might be the manifestation of some unknown force acting simultaneously with electricity. Accordingly he applied to it the tests by which the presence of electricity is detected, and was surprised to find that the testing instruments gave no indication of the electric presence. A delicate gold leaf electroscope was undisturbed by the new manifestation, conclusively proving either that electricity may manifest itself in entirely new phases, or that under certain conditions it gives birth to a new and distant force. Mr. Edison has named the new principle "etheric force." This discovery was put to test by various experiments, and the following results obtained: That the new force is non-polar, radiating in straight lines like heat; that it is capable of transmission to indefinite distances through an uninsulated wire; that it is not affected by the ordinary non-conductors of electricity, as glass, etc.

and that it is retroactive, the spark being obtainable when the wire is turned back so as to touch itself. Mr. Edison is of the opinion that it can be made to manifest itself otherwise than by the spark, and that it may be derived from heat independently of electricity.

In order to put it to a severe test, he connected a wire from his laboratory with the ordinary telegraph wire, and by permission of the telegraph company, was enabled to make a circuit extending from New York to New Brunswick, N. J., both ends terminating in his laboratory. After passing through this great extent of wire the electric current was diverted, the cadmium wire attached, and a series of sparks evolved as readily as though the circuit had been only a yard long. The practical value of this discovery consists in its manifestation of the possibility of sending messages over cables or wires not insulated. Instead of employing poles and glass insulators it seems to be necessary only to make an attachment to the railroad track or to a wire laid in the earth, and the message can be as readily transmitted as by the present process. The expensive insulated cables now used for ocean telegraphy can be rivaled by cables of much cheaper construction, and in other ways the present cumbersome apparatus necessary for utilizing electricity may be avoided.—*N. Y. Tribune, Nov. 30.*

THE ALLEGED NEW DISCOVERY IN ELECTRICITY.

On Monday night T. A. Edison, the Newark electrician, continued his experiments in connection with his discoveries, an account of which was published in *The Tribune* of Tuesday. He is now perfectly satisfied that the new force discovered by him is different from electricity. A Leyden jar, charged with the etheric force, and strips of paper soaked in iodide of potassium and subjected to the etheric current, failed to indicate the presence of electricity. The galvanometer and electroscope also failed to indicate its presence, yet when the metallic test was applied signal sparks gave evidence of the presence of electricity. It made a vigorous flash of light, and yet it produced no sensation on the hand or tongue. Mr. Edison claims that the new force is not electricity. He is making an apparatus by which the sparks can be produced under the glass of a microscope of very great power. He then hopes, by the aid of the spectroscope, to be able to study more closely the nature of the scintillations, and the etheric power will be investigated by other appliances which he is now developing. He is also trying to obtain the new force without electric aid from a simple magnet, and believes that he will yet be able to produce it by means of heat.—*New York Tribune of Dec. 1st.*

The Legal Liabilities of Telegraph Operators.

It is desirable, in every business, that each individual employed should be fully aware of the responsibilities, etc., which attach to his position, and the exact relation which he bears to his employers. This is more especially to be desired where the employer is a corporation. It is peculiarly applicable to the telegraphic corporations, and it is somewhat remarkable that a matter of such moment and importance to the fraternity has not heretofore engaged the attention of telegraphic journals. We have but little hesitation in stating that not more than one fourth of the employes of the telegraph companies have a definite idea of their liabilities for the errors which are constantly occurring, and which are unavoidable, as human nature is prone to err, and a telegraph operator is only human. For years past it has been the custom of the W. U. Co. to hold operators, between whom an error is located, responsible for the tolls, or other damages, claimed by the public from the company, and, having the power to withhold from said operators' monthly pittance the amount claimed (of course, this is in cases where the damages are not great), the operator calmly submits to this extortion, as he has no alternative, and though mentally cursing his luck, lets the matter drop. The company, being almost the only one in the country, holds the reins of power, and if an operator is disposed to "kick" with prodigious earnestness against the extortion, he quickly discovers that he must subside, for "his place can easily be filled, you know."

We would call the attention of our brothers—the telegraphic fraternity—to a few interesting facts on this subject, viewed from a legal standpoint. In the first place, no corporation can hold its employes responsible for its failure to perform what it receives compensation for performing, for it must be borne in mind, an operator is a minute portion of a huge machine, to be used in his particular capacity, wherever the company may desire. For his services he receives, or engages to receive a stipulated salary; if he fails, in the eyes of his superiors to render complete satisfaction, he is discharged, and another machine put in his place at the will of the company. *They cannot hold the machine responsible for any error of whatever nature.*

Second: The company proposes to the public, for a certain remuneration, to perform certain things, and of course assume all the attendant risks of "bulls" or delays of any nature. The operator has no share in the transaction, either directly or indirectly, and it is not

just that he should be compelled to assume risk for which his employer is paid.

When an employe receives a voucher for \$100 for a month's services, and receives in cash only \$75, because he has been so unfortunate as to become involved in some bull, he is, legally viewing the case, being imposed upon, in that he does not receive the stipulated amount due him for services rendered.

It would be advisable, in our opinion, for all operators in the service of the company to make notes of the amounts doctored from their salaries on account of errors, with nature, time, and locality of the errors, and, when circumstances may permit, present the bill to the company; and should the payment be refused, they can recover the full amount, with interest, in a suit at law. It would be well also to pay only under protest amounts charged for errors, be they "bulled checks" or errors of any other nature.—*The Electric.*

Nibzy's Conundrum.

BY GNIMMUC.

Do you know Knibbs? H. Royal Knibbs? Royal is a character in his way. H. R. is foud of conundrums. In fact, I may say he revels in them, and originates atrocious ones himself. The other day he came round at the meeting, and propounded the following:

"Why is the business on a stormy night like a second hen's egg?"

M. D.—(He isn't a medical doctor, neither is he a mule driver, nor yet a Marylander) said: "What second hen do you refer to? Eggs-cuse me if I am impatient, Royal."

Cunny took the cue from this eggsactly, and laughed uproariously, whereupon Knibbs remarked, "I mean the second egg of the first hen."

K. (which stands for kicker) remarked very sagely that a hen never laid but one egg at a time.

Knibbs here began to grow impatient, and, after telling the gentleman aforesaid not to be so mulish, told his *tail* anew. Said he, "Gentlemen, these remarks are very irrelevant to the subject. What I want to propound is—" "Why is the business of the telegraph on long wires of a stormy night like the second egg that a hen produces in a given period of time?"

While His R. was taking breath after this unusual effort of language, B. of E. (burst of eloquence, so to speak), the "noisy man," whose name indicates a vessel, though he doesn't bark, came to the front, and suggested that it was because it was laid over.

"Although I can't help but admit that that is very good," said Royal, "it is not the correct answer."

As all then gave it up, Knibbs chuckled all over, and put forth the correct solution: "Because it is relayed."

Double You Bee, who had been very quiet all this while, here broke forth into his inevitable, "Ah, George! you are so large and so common all the sparrows in the Park know you. I will not associate with you."

Having finished his little speech, like our noble President, he again subsided into obscurity.

The kind youth objected to the genuineness of the article on the score that Philadelphia always insisted in putting in repeaters.

The friend of *Bos*, who is always more or less *Keene*, was in this case rather thick-witted, and insisted on a full explanation, so Nibzy—that's what we call him for short—counting on his fingers, interrogated the interrogator thusly:

"If the hen lays one egg, and then lays another egg, isn't the second one re-laid?"

The man whose eyes are partially blinded to the full meaning of the word "bulletin," and thinks himself a second Sothorn, nearly broke up the gathering with— "I—f—fancy he has you th—th—there."

The party whose name bears somewhat of a distant resemblance to that of an ex-Governor of the Empire State, thought that this conundrum *laid over* the deck for any he had ever heard.

Royal then referred to the old story of the darkey preacher, who told one of his listeners to sit down on his questioning the truth of his parson's statement, that God made Adam out of clay and loaned him against the fence to dry, and said their numerous doubts were like those of the colored auditor. Whereupon the fat man wanted that explained too. "Well," said Knibbs, "the son of Ham wanted to know who made the palings, if Adam was the first man, and the preacher said—

"Such questions would knock the wind out of the soundest theology. Sit down!"

"So with you. You are altogether too particular, and knock the wind and stuffing out of my egg story."

After a little more "clim" on various subject the meeting broke up.

In one of the recent terrible thunder storms in France 596 sheep were killed, out of a flock of 1,800, by one flash of lightning.

Correspondence.

We do not hold ourselves responsible for the opinions of our Correspondents. Our columns are open to free discussions on all Telegraphic subjects, without distinction of person or opinion.

No notice will be taken of anonymous communications.

Duplex and Quadruplex Telegraph Inventions of Mr. Moses G. Farmer.

TO THE EDITOR OF THE TELEGRAPHER.

FROM THE TELEGRAPHER of November 13th, 1875, I quote as follows: "We print this week an article on quadruplex telegraphy, from the able pen of Mr. F. L. Pope, which will be read with much interest. There has been a great desire for the publication of a full and accurate description of the quadruplex system which has been adopted by the Western Union Telegraph Co., which heretofore it has not, for reasons connected with the complications in regard to the ownership of the patents, been deemed advisable to make. The objection to such publication has now been removed (?), and we lay before our readers to-day the only correct and full description of this system which has yet been given. In his article Mr. Pope has given a concise, correct and complete (?) history of duplex and quadruplex inventions, from that of Gintl to the present time."

The injustice of the above, so far as I personally am concerned, is too glaring to be passed by unnoticed.

The facts in connection with my interest in duplex telegraphy are as follows: In August, 1855, I read before the "American Association for the Advancement of Science" a paper describing a method by which four messages could be simultaneously transmitted over one wire, all of them in the same direction, or part in one direction and part in the opposite direction.

On the 31st of August, 1858, a patent for duplex transmission was issued to me, in which patent the very device now used in the quadruplex for reversing the direction of the main current, without interrupting the continuity of the circuit, was fully described.

The said patent was extended in August, 1872, and was reissued February 16th, 1875. In said reissue occur the following words: "I claim, . . . 3d, in combination with instruments for sending and receiving messages simultaneously upon one wire, a key or device arranged to transmit signals by reversing the direction of the main battery current, without interrupting the continuity of the main circuit."

5th. In instruments for simultaneous transmission and reception of messages over one wire, the combination at each station of an accessory magnet or coil, an accessory battery, the receiving main circuit magnets, and batteries with the means of reversing the direction of the current of each of the main batteries, substantially as set forth."

The invention described in my patent, No. 21,329, above referred to, was successfully worked, even in its then crude state, upon a wire connecting Portland, Me., with Boston, Mass., for two or three days in the early part of Dec., 1858; as I find, by reference to my diary, that on the 3d of Dec., 1858, several messages were transmitted simultaneously over this wire, and the operation of the instrument in Boston was witnessed by Mr. J. S. Bedlow, Mr. W. T. Eddy, and Mr. Geo. F. Milliken. Others were present whose names I do not remember.

The instruments were worked on several other circuits in the latter part of the year 1858.

These were the first duplex instruments ever worked successfully between two distant stations in this country. This occurred, too, about ten years before Mr. Stearns introduced his instruments upon the Franklin line between Boston and New York.

The successful and unauthorized use by the Western Union Telegraph Company of my device in their present quadruplex system, shows that, had there existed in 1858-9 in this country a demand for any duplex system, the instrument capable of satisfying that demand had been invented, patented, and worked successfully by the undersigned,
MOSES G. FARMER.

U. S. Torpedo Station, Newport, R. I., Nov. 26, 1875.

The Defects and Deficiencies of Automatic Telegraphy.

TO THE EDITOR OF THE TELEGRAPHER.

THE general tenure of Mr. D. H. Craig's letter in your issue of November 20th, in reply to my communication of a few weeks ago, hardly demands an answer from me, relying as he does on personal abuse to refute the facts I presented at that time, and I therefore consider my point gained. Would I were as able to fight him with my pen as I flatter myself I am in facts. I will, however, reply to such parts of his letter as need correction, trusting to your indulgence to overlook any want of flowery language which looks so fine in print. The first question asked Mr. C. was with regard to the single message. This he nimbly glides by, and does, as most any ordinary man would do, "Gives it up." The idea that a message was

perforated, transmitted, copied, re-perforated and re-transmitted inside of sixty seconds, as also the cream of the W. U. Co.'s operators only being able to average 23 words per minute, is so absolutely absurd and ridiculous that it needs no comment whatever. The time so strangely omitted in giving the result of the contest with 1620 words—kindly inserted by your correspondent—was omitted purposely, as I was one who participated in the trial, my bump of self-praise not being fully developed.

Now let us examine the 135 words per minute perforated by a boy [statement of Mr. Craig]. We will average the words at 5 letters each, which makes a total of 675, or 11½ letters per second. Now, is it possible for any human being to manipulate their hands or arms through 6 inches of space 11 times in a second? Is it even possible for a Morse operator to make 11 dots on a key in a second? I leave it for you and your readers to answer. Now we will glance at the same rehashed statement that we have heard so much of with regard to the President's message, sent in 1872, as a fair test of the automatic system. Allow me to enlighten those uninformed. The message was perforated in Washington and copied in New York daily from three to six days previous to the trial. No one knows but those interested how many hundreds of words were submitted, under the disguise of freshly prepared work, that was in reality work performed hours or days before, thus deceiving those gentlemen who lent their names to the Automatic Co. as witnesses of the contest in good faith.

I construe Mr. Craig's explanation of the cause of another circuit being assigned to Philadelphia as a modification of his previous statement that 15,000 messages could be handled on an automatic circuit. Philadelphia has always had a special wire for his broker business, and attempted to send his ordinary business on the same automatic circuit as Baltimore and Washington, with what success you already know. Now let us call on the "responsible officers of my Co." for their experience. You will find that they, in their own good judgment, have long since found the distinction between theoretical views and practical application of the automatic system, and are governing themselves accordingly. They are now working automatic in conjunction with Morse, finding the automatic, as conceded in my former communication, a perfect success during prostration of wires, storms, etc.

As I said in the beginning, I am not able to compete with Mr. C. in theoretical views and there fine expression on paper, but I do profess myself willing to prove what I claim, or try to, at least. My hopes never aspire to convert Mr. Craig into the ranks of the only true system of telegraphy yet practiced; but by the statement of facts I wished to counteract the false impression your correspondent seeks to make upon the untutored minds of those who do not know the merits and demerits of automatic telegraphy, and I trust I have accomplished this. And now, having a desire to make Mr. Craig "treat, trade or travel," I hereby challenge him to select from the automatic forces three of its best perforators, three of its best copyists and two operators; I, in turn, to select two Morse operators, and with one thousand words of the same manuscript, and in the presence of competent and impartial judges, finally settle this long disputed question.

As he closes with still another prediction "in the near future," etc., will you allow my "silly," "tricky" and "ignorant" brain to make one also? I predict, "in the near future," the complete annihilation of automatic, except for the use of press and matter that can stand almost indefinite delay; and I very much fear that to bring it to the perfection claimed by its loving friend, he and his talented messenger boy will have to return to the bogs of Ireland and spend another six years in experiments. In closing, allow me to express my thanks for his hopes of my soon arriving at years of discretion, and the hope that at his age I shall exercise it together with common sense fully as much as he does. OPERATOR.

A Caustic Reproof of "Western Union" by a Chicago Female Operator.

CHICAGO, ILL., Nov. 9.

TO THE EDITOR OF THE TELEGRAPHER.

IT is my turn to speak now. Heretofore I have been merely a looker on, watching the actions of that brilliant (?) young man, "Western Union." In the issue of THE TELEGRAPHER for the 6th inst. he became a little too personal, and among "the little dears" he may find some not quite as tame as he thinks they are. There is not one lady in this office who cares to have her name mentioned in the columns of any paper whatever, and we cannot take up a copy of THE TELEGRAPHER but that we see some remark about some lady in this office. "Western Union" may not mean any disrespect whatever, nevertheless if such remarks are continued, the Chicago ladies will soon be known all over the universe, and their names be used as a by-word and jest. My opinion is, and the others agree with me, that it is not consistent with the strict rules of etiquette to address a lady by her given name, and I also think it the height of impudence to en-

close said name in quotation marks. If a lady's intimate friends address her by her given name, a perfect stranger has no authority to violate the privilege given to those friends only. One of the ladies remarked the other day, "I am not ashamed of my name, but I do hate most awfully to see it quoted in THE TELEGRAPHER." "W. U." says, "the ladies say the management is real mean." If he wants to strike at the management himself why don't he come out and say what he thinks about it, and not beat around the bush or try to whip it across the ladies' shoulders? I doubt the veracity of that statement of his. I don't think there is a lady in the office that ever used such an expression; on the contrary, they think the management superior to what it formerly was. I would not say any more about Angell if I were you, "W. U.;" any man that uses or did use such vulgar and profane language on a wire next to one worked by a young lady ought to be discharged. If you think the manager is not justified in doing as he did, maybe you could suggest another way of clearing the office of such nuisances. How fortunate for Angell that he has still one friend that clings to him in the days of adversity, and one heart that truly mourns because he is not here—

"Though lost to sight, to memory dear."

Kuwo, all ye people, this man ("W. U.") by his associates, and if they be such as Angell, may their fate be the same. Allow me to correct you, "W. U." We do not have to stay until six o'clock every night—we get off at five three eights out of the six—and will you explain to us how you know we stay half an hour after the boys go down? Do you peep into our lunch room at six thirty to see if any of us are there? How grateful we ought to be to one who interests himself so much in our behalf. How kind! but then some folks are naturally kind hearted, and are never appreciated in this world. The elevator stops running at six ten—ten minutes after we are relieved—and we usually go down in the elevator, every one of us. I think a little more study in the rudiments of arithmetic would be beneficial. You miscalculated this time. If "the boys" were not "boisterous" it would not be in the power of ladies to say so, and no lady wants to go down or come up in an elevator where tobacco smoke is puffed in her face, and where the men are not particular whether they spit tobacco juice on her dress or on the floor. A lady cannot wear a dress one week in this office but what it becomes filthy with the tobacco juice which some of the men and boys spit on the floor and sides of the paper boxes, notwithstanding the fact that spittoons are furnished, one to every table. The hall leading from the entrance to the elevator and the sidewalk in front of the door is a disgrace to any establishment where there are so many who call themselves gentlemen (save the mark!).

We do not care how much tobacco they use or how they use it; but we do ask them, "please not to spit on the floor quite so much hereafter." One more correction. "W. U." That lady did not return from Ireland until August, and in April I noticed several young ladies doing tating, etc., so it was not her "glowing accounts" that induced them to try it again. You have been using your eyes for no purpose whatever, and before you speak of book marks again, learn the difference between Bristol and common perforated cardboard. A suitable motto for you would be, "Attend to your own business." Will not some one be kind enough to work it for him? Some of the men in this office seem to take special delight in commenting upon and criticising the actions of the ladies, and frequently using their names in a light and ungentlemanly manner. Oh, for the good old days when we had an apartment to ourselves, where none like "W. U." dare put his foot. A majority of the ladies in the office will not subscribe for a paper which contains nothing but silly, nonsensical trash in connection with their own office. They can, every one, enjoy a joke when played upon them, but when it becomes a standing one they will not endure it. THE TELEGRAPHER has degenerated very much within the last year; it is totally unlike the paper of two years ago; and we hope the paper of two years hence will be as much superior to the one of to-day as the one of to-day is inferior to the one of two years ago. Until then, or until the Chicago correspondents cease using the names of the ladies so familiarly, THE TELEGRAPHER will cease to circulate among us. PRISCILLA.

Thanksgiving Privileges.—Good Advice to Correspondents.

CHICAGO, ILL., Thanksgiving Day.

TO THE EDITOR OF THE TELEGRAPHER.

THE Western Union Company shortened the force, as usual, to-day, to allow all ample time to partake of the traditional bird. Beams of satisfaction are noticeable upon the countenances of those who have put in an appearance since the close of the day.

"Bonanza" appears in a fair way to be scalped for the careless manner in which he wrote up some of the operators who went to the polls on election day.

Probably the fact that he has not yet been positively located is all that saves him. It will be most charitable to believe that he was only prompted by a spirit of malicious mischievousness, and that he did not feel withheld from wandering as far from the golden rule as his imagination might lead him.

It is hoped that the fraternity will not thereby gain the impression that our voters went seriously beyond the limits common upon such occasions.

It may not be out of place to write here that correspondents should consider well before indulging in personalities to which they would hesitate to append their names. They thus assume an advantage that should not be claimed, unless, perhaps, in cases of extreme emergency or oppression, where decapitation might be the result of their being known, and then let every line be ruled by "the truth and nothing but the truth." THE TELEGRAPHER is our "stand-by," and presumed to be a friend to us all, and we should work to the end that it may never appear in any different light. Its editor is not in a position to always be able to judge precisely what is best to be published or suppressed. While it is ready to give all a hearing, as far as consistent with our well-being, we should not subject it to condemnation by flooding it with acrimonious stuff, or any element that would tend to bring it into disfavor. It is understood there are operators, particularly among the ladies, who sit in fear that the next issue of THE TELEGRAPHER may contain mention of their names, facetious or otherwise, to their confusion or mortification. Let this feeling be dispelled, and let all take up the paper, confident that there is nothing therein to their discredit, and much therein for their benefit.

Let us not make it possible that there shall come a day when it shall cease to be an earnest protector of our rights, privileges and respectabilities; for, in such an event, it might be shown that we were hardly worthy its protection.

B.

A Valuable but Dangerous Instrument Table Invention.—A Plan to Duplex, Quadruplex and Automaticise Telegraph Operators.

HAMILTON, ONT., CANADA, Nov. 25.

TO THE EDITOR OF THE TELEGRAPHER.

AS I have not inflicted anything on you for some time, it strikes me that I might do so now, so here goes, "for the good of the fraternity," you know. It did not take me long to discover that the quartette tables were not suitable to all offices, and with a view to obtain an improvement I offer the following thoughts:

In Canada, and no doubt in many of the States, you find a city or town conveniently situated between two or more larger places. The wires run through that office, perhaps in three or four directions, giving a large number of instruments, while the staff is regulated according to the amount of local business transacted. We will suppose there are sixteen instruments and four operators, no one wire paying to detail an operator specially to it. Such an office is difficult to work, and while each operator's aggregate of messages may be small, yet the amount of running around, waiting, watching, etc., is great, and still it does not appear in the monthly returns. Those four men would prefer to do double the work on one wire each, but they must do business as it offers, when and where they can.

Now, I hold that one man cannot advantageously run a quartette table, so I have invented one (patent not yet applied for) embodying the following ideas: The operator is in the centre of the table, like the hub of a wheel, his three or four instruments surrounding him; the glass partitions which are in the centre of the quartettes are placed around the outside or circumference of the table, with divisions radiating towards the centre, to better divide the sound. The operator sits on a revolving stool with a high back, and by a slight motion can place himself in front of any instrument. In large offices, where steam power is used, these stools might be attached by shafting, the motion being arrested by operator's foot.

So far my model works well, but unfortunately a trifling accident occurred the other day. The operator was let in by the chief, who only can release him. The operator in question signalled the chief to be released, but, carelessly leaning slightly out of the perpendicular, his right ear came in contact with the edge of the table as his seat "descended" to let him out. The ear was picked up and was sewed on by a skillful surgeon. "Tom" has the sympathy of the boys. The bandages have not yet been removed, so we don't know how it will be. One fellow unfeelingly suggests, in case the organ does not take root, that it would make a splendid door mat. Orders have been given to sit erect when being "inducted" or "discharged," and those who cultivate projecting ears are advised to "pin them back."

I have read with great interest the progress made within the last few years to increase the capacity of wires. Duplex, quad, multiplex and automatic appear to come on us thick and fast, but while they are really wonderful inventions or discoveries, the price of tele-

graphy cannot well be reduced, in Canada, for instance, until messages can be copied off cheaper than by present methods. To increase the capacity of a wire four to twentyfold keeps down capital account, but the other items, wages, etc., are in proportion to the amount of work done. To solve this problem I am devoting my leisure, and as you may be able to assist me I will take you into my confidence. I once heard of an operator, years ago, who claimed to be able to send on two wires at once, and receive on another by aid of a copyist. The thing appeared so absurd that we did not credit the fellow. Just like the rumors about duplex telegraphy a few years ago. Had we not tried to send two messages at once, and what was the result? Crashing, smashing, swearing "it could not be did; tell that to the marines, old boy, you can't fool me." Now, I have reached the stage that I am prepared to sink all my previous theories which I acquired so laboriously, and I am now prepared to test every theory. If that triplex operator is alive now I would like his cooperation.

I desire to get up a duplex operator, and, if successful, I propose to duplex each side of him, and work him quad. Should success crown my efforts, I shall then turn my attention to "automatic" the next fellow who turns up and applies for a job. Any one who will volunteer in the interest of science and *pro bono publico* to be experimented upon will be liberally dealt with, when patents are secured and sold at least once. I presume condensers will be required, but have not yet decided how or where to attach them. I feel jubilant over this idea: if the quad. is worth a quarter of a million dollars a year to the Western Union, what would not a method of "quading" the operator be worth, to say nothing of the value of the "automaticised" operator to the Atlantic and Pacific or to Craig and Little? I stand aghast at the idea, but I am reminded that all things are transitory, and I will not anticipate what is in store for me. I reserve calculations and formulæ for my next.

B.

Presentation to Mr. Sholes from his Friends in Chicago Western Union Office.

CHICAGO, ILL., Nov. 30.

TO THE EDITOR OF THE TELEGRAPHER.

WHEN it was ascertained that Mr. Sholes was about to resign his position in the Western Union office here, some of the older men, headed by Mr. James E. Pettit, decided to make him some suitable testimonial. Accordingly a subscription paper was started and considerably over one hundred dollars raised. Owing to the peculiar condition of Mr. Sholes' health, his friends were at a loss to know what would be most suitable, but they finally decided that (as nothing could be of more pleasure to him than the regaining of his health, now so much impaired) the most fitting present would be that which would assist him to purchase such things as would tend to assist him in regaining it, viz., money. A great many, knowing Mr. Sholes' sensitive nature, were fearful that such a tender might be looked upon as an insult, and strongly opposed such a course, but the majority ruled, and delegated Mr. Pettit to do up the presentation business in that original manner which only "Jim" can command. He immediately put the plan into execution (Mr. Sholes being in Milwaukee at the time) by purchasing a fine morocco portmonnaie and having the following inscribed upon it: "Presented to C. G. Sholes by his friends of the Chicago office W. U. Tel. Co." Inside the portmonnaie the testimonial, amounting to something over one hundred dollars in greenbacks, was placed, and, together with the following letter, written by Mr. Pettit, left at Mr. Sholes' residence:

"Chicago, Oct. 23, '75.

"C. G. Sholes—Friend Cass.

"On severing your official connection with us we wish to make a testimonial to you, in appreciation of the many sterling qualities you have exhibited in your official intercourse.

"Bearing in mind the cause of your leaving us, permit us to tender to you the enclosed, and allow us to be instrumental in gaining for you that priceless boon—a return to perfect health.

"Wishing a speedy recovery, believe us to be ever your well wishers.
Your Friends of 'Ch.'"

The testimonial was very unexpected to Mr. Sholes, as also was the kindness of the company here in retaining his name on the pay roll until the end of the month; the two together making him a purse of nearly one hundred and eighty dollars; and being that much better off than he expected to be, he was, of course, very much rejoiced. Immediately on his return from Milwaukee he indited a reply in Mr. Pettit's care, of which the following is a copy:

"Chicago, Ill., Oct. 26, '75.

"To my Friends in 'Ch.'

"On my return home from Milwaukee, yesterday, I found awaiting me your gift, with its kind accompanying letter.

"Words fail me when I try to express my feelings. I am like the party who, when toasted at a public dinner, responded in this wise, 'My friends, a morbid desire for originality prevents my saying this is the proudest moment of my life, and as it does not occur to me to say anything else, I am afraid I must take my seat.'

"I thank you deeply and sincerely. It needed not this reminder to cause me to carry with me lively recollections of the old office, and pleasant and lasting remembrances of my fellow operators; but it is peculiarly gratifying to me at this time to receive a token of your friendship, as it shows me that, in your opinion, my energies were not misdirected—my motives not misunderstood while discharging the duties of my late position.

"Again I thank you, one and all. Believe me, sincerely your friend.
C. G. Sholes."

I am happy to say that up to the present writing Mr. Sholes has not had a hemorrhage since he left the office, clearly showing what the direct cause of his ailment was—*i. e.*, confinement. He is just starting for your city, and will, no doubt, as soon as sufficiently rested, give you a call. From present indications his hopes of a speedy recovery will be realized, and none of his many friends can more devoutly wish for such a consummation than

OCCASIONAL.

The Scientific Problem.

TO THE EDITOR OF THE TELEGRAPHER.

BEFORE attempting the task of "harmonizing" the two electrical laws which your correspondent, W. B., says are laid down in most text books on electricity, will he have the goodness to inform us in what text book he found his second law, viz., "Electricity will follow every route open to it?" This may be true in one sense, but it certainly will not follow a route in which the resistance is infinite, *i. e.*, in which the circuit is open; nor one in which there exists an opposing current of equal electromotive force; nor one in which the electrical potential at the end of the route is the same as that of the current at the entering point, which is the case with the bridge wire when the four sides of the balance are in proportion.

P.

Odd and Ends.

PHILADELPHIA, PA., Dec. 1.

TO THE EDITOR OF THE TELEGRAPHER.

THE general despatcher of this road being at the milk depot office, whose office signal is "D," sent the following message to "X:": Send a shovel, poker and scuttle to "D." The call for Doylestown also being "D," but on a different line, and of more prominence than the former named "D" office, they were sent to Doylestown. In the meantime, it getting cold, the despatcher again sent a message: "Send a shovel, etc., to D." Again they were sent to Doylestown, and not receiving the articles, after waiting a few days, he then called on the person having charge of those materials, and demanded an explanation. The reply was, "I sent them to Doylestown, as you told me to, in the market car." That settled it.

On the 21st and 28th ult. we had a sort of D. H. train, allowing all employes to ride free without a pass, and the agent's clerks, etc., made a good turn out, a few returning with "champagne on the brain."

A slim young lady (of 200 lbs. avoirdupois) called on our Bingen operator the other day, and handing him a letter, asked in an exciting manner, "Gade dar brief nuch udder is dar delegaff shun gouga." He is often greeted with such customers and remarks, and he therefore follows the maxim to "laugh and grow fat." A letter received at the post-office at the above named place bore the inscription, "deliver impossibly."

One of our former conductors, who wanted to "show off," sent a message saying, "I cannot impossibly come." He made one "show off" too many, and so he takes a rest.

"Mill, Mill, the paper is run out, come quick, and get the rest by sound." Now "R," don't get too "excited." Does "R" know what freight flats are, or did he mean foreign flats? Wonder if Andy prefers colts to cows, as that is the way he had it in a message. "C. N." insisted upon it being cider; upon looking at the tape it proved to be order. He is, however, improving, but he don't count his dots right, and therefore made a ridiculous signature the other day, saying "Sig. A. Hell," when it should have been "Sig. A. Sell."

Miss Maggie Duff is now located at Third and Chestnut, in this city; Mrs. Diekel occupies her former position at Broad and Coates streets.

Boys, don't say hard times prevent you from taking THE TELEGRAPHER, when I have an operator on the list who receives twenty-five dollars per month, buys his clothing, pays board and his washerwoman regularly, and lives in this city.

Ex-Prof.

To Correspondents.

KNIGHT TEMPEAR.—Your note of the 25th November received, but the communication to which you refer has never come to hand.

THE TELEGRAPHER

DEVOTED TO THE INTERESTS
OF THE
TELEGRAPHIC FRATERNITY.

SATURDAY, DECEMBER 4, 1875.

THE TELEGRAPHER:

PUBLISHED EVERY SATURDAY at 38 VESEY ST.

ELEVENTH VOLUME.

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THE TELEGRAPHER MAY BE HAD at the news stand in the Receiving Office of the Western Union Telegraph Company, corner of Broadway and Dey street, where it is regularly on sale.

Duplex and Quadruplex Telegraphy.—Mr. Farmer's Inventions.

WE publish in another column a communication from Mr. FARMER, in which he takes exception to our remarks in relation to Mr. POPE's article on quadruplex telegraphy, published in THE TELEGRAPHER of November 13th. It was certainly very far from our intention, and we think we may safely say, that of Mr. POPE also, to do injustice to any person. In our editorial remarks, by an oversight plainly apparent to any one taking the trouble to read the article referred to, we spoke of Mr. POPE's article "as a complete history of duplex and quadruplex inventions." It does not claim, nor was it intended to be, either a treatise on, or a history of duplex telegraphy. Its sole object was to trace the progress and development of the so-called quadruplex apparatus, as now used in this country, and all reference to duplex inventions was purposely omitted, except in so far as seemed absolutely essential to throw light on the particular subject in hand. Mr. POPE informs us that he was acquainted with the invention described in Mr. FARMER's paper of 1855, to which he refers in his communication, but it contained no principle in common with the quadruplex apparatus of to-day, and consequently did not, properly speaking, form the starting point in the chain

of development which he was endeavoring to trace. It was, doubtless, for this reason that he said, in reference to STARK's proposition of 1855, that it "was unquestionably the earliest published suggestion of what is now known as the quadruplex system."

Mr. POPE also attempted to show, what we believe to be the fact, that each of the so-called quadruplex inventions is founded on some particular method of double transmission in the same direction, and that the conversion of any one of these into a quadruplex, by using it in connection with some previously existing duplex system, could not of itself constitute a legitimate invention.

Mr. FARMER's invention, patented in 1853, and reissued in 1875, does not claim the pole changing continuity preserving key as new *per se*, but only "in combination with instruments for sending and receiving messages simultaneously upon one wire." EDISON, in 1874, used the same key, but in combination with instruments for sending two messages in the same direction upon one wire. This, in fact, constituted the gist of his invention. The application to this of one of the existing duplex systems was an afterthought, and, according to Mr. POPE's view of the subject, was not a true invention when considered by itself. The question whether such an application does or does not embody or infringe upon specific combinations previously invented or patented by others, is altogether a distinct one, the discussion of which did not necessarily, as it seems to us, fall within the scope of Mr. POPE's article. If it had in reality formed a part of Mr. POPE's plan to trace the development of what is now known as the duplex system, the omission of any reference to the early labors of Mr. FARMER in this now fruitful, but then almost unknown field of discovery, would have been simply unpardonable. With this explanation we feel sure that Mr. FARMER will acquit the writer of the article, as well as ourselves, of any intentional injustice towards him, while our readers, being now in possession of all the facts, can readily form their own conclusions in regard to the matter.

Another Great Discovery of the Professor of Duplicity and Quadruplicity.

"HERE we are again!" is the familiar exclamation of the clown as he tumbles head first into the circus ring. Similarly EDISON, the great professor of duplicity and quadruplicity, once more astonishes the editor of the *New York Tribune*, and through the columns of that newspaper acquaints the world of another great discovery, which is to "revolutionize telegraphy" and cheapen telegraphic communication to such an extent that it will be cheaper to use the telegraph than the mail.

The professor is not certain as yet whether his discovery is of a new kind of electricity, which has hitherto been overlooked by electricians, or a bran new force, similar to electricity but developed by it, and which possesses all the advantages and none of the disadvantages for utilization of that subtle and difficult to be managed fluid or force. The modesty of the great professor is striking in thus diffidently distrust'ng his intuitive perceptions, but it is only a temporary hesitancy, which will soon yield to further development. Not knowing its character, or exactly the quality of his new "What is It?" does not prevent the professor from naming it, as its merchantable value largely depends upon a name, and he has accordingly christened it, "etheric force"—a very excellent and taking appellation. We would diffidently suggest to the professor and his astounded friends whether this is not the force with which the celebrated PAINE motor was run a few years ago, and that perhaps after all his title to this as well as other of his inventions is not likely to be called in question by PAINE, or some other party, who has used it before him, effectually to extract dollars from gullible investors?

We have been aware that for the last two or three months the professor has been hard up, and have been confidently looking for some new development of his genius which should again immortalize his name and replenish his exhausted exchequer, and it is evident that

our watching and waiting was not without reasonable expectation of reward. This new "discovery" affords another excellent chance for semi-scientific capitalists to invest what means PAINE and EDISON have heretofore left them; and our knowledge of human nature, and of the *guideless* and *taking* characteristics of the professor, assures us, and may assure him that investors in the new moonshine will not be sought in vain. That "the fools are not all dead" is the great fact upon which such inventors and discoverers trade. As this seems to be a recent development of the professor's genius, we do not suppose that an interest in the discovery has been sold or promised to more than three or four parties as yet, so that the field is open for all who have more money than wit to invest the former. *Vive la humbug!*

Appointment of Mr. J. D. Reid Treasurer of the Gold and Stock Telegraph Company.

IT affords us much pleasure to record the appointment of Mr. J. D. REID as Treasurer of the Gold and Stock Telegraph Company, in place of Mr. H. H. WARD, whose resignation, to accept the position of Cashier of the Western Union Telegraph Company in this city, has already appeared in THE TELEGRAPHER.

Mr. REID's long and prominent connection with telegraph interests, and his acknowledged ability and courtesy, qualify him to serve in his new position with credit to himself and satisfaction to the company and all who may have business with its treasurer.

Personals.

Mr. R. J. HEWETT has been transferred from Osage City, Mo., to the Train Dispatcher's office of the Atlantic and Pacific R. R. at St. Louis, Mo.

Mr. EDDIE DENNIS, of the Chicago, Ill., Western Union office, has been absent for a week's recreation, and has returned reinvigorated, as it seems, from his improved appearance.

Mr. FRANK FARLEY is employed in the Western Union office at Shreveport, La.

Mr. C. E. REHLE, lately of Terre Haute, Ind., has been appointed to a position on the night force of the St. Louis, Mo., Western Union office.

Mr. CHARLES E. DODD has resigned his position with the Western Union Co. at Kansas City, Mo., to accept a situation at Emporia, Kansas, with the A. T. and S. F. R. R.

Mr. W. H. BANCROFT has been appointed Superintendent of the St. Louis, Lawrence and Western R. R., also Superintendent of Telegraph at Lawrence, Kansas.

Mr. FRANK GWYNN is engaged in constructing a telegraph line from Houston to Harwood, Texas.

Mr. W. H. BENTON has resigned his position with the Western Union Co. at Macon, Georgia.

Mr. F. G. BEACH has resigned his position with the Atlantic and Pacific Telegraph Co. at Cleveland, Ohio, to engage in other business.

Mr. A. V. CARR has been appointed Manager of the Western Union office at Shawneetown, Ill.

The Telegraph.

The Pneumatic Tube Experiment.

THE preparations of the Western Union Telegraph Company for their experiment with pneumatic tubes for connecting their main and certain branch offices, in the lower part of the city, are nearly completed. The contracts for laying the tubes has already been signed, and operations will be immediately commenced, and the tubes are expected to be ready for use about the first of the new year. There will be two tubes, each of which will consist of a lead pipe having 2 1/4 inches inside diameter, encased in an iron pipe, having an interior diameter of three inches, the latter being designed as a protection to the lead. The cylinders of the air pump for compressing and exhausting the air in the tubes have a diameter of 35 inches. Messages from the main office will be despatched by means of compressed air through one of the tubes, while those to be returned to the central office will pass through the other tube, by exhausting the air—the engine, pumps, and valves all being placed in the central office. The carriers are made of gutta percha, covered with felt cloth, the forward end being sufficiently enlarged to fill

the tube, and thus prevent the passage of air in either direction beyond the carrier. It is estimated that the time occupied in sending a message from the central office to the office in Broad street will be about 25 seconds, while the arrangement will be such that one carrier, if necessary, can immediately follow another.

The Atlantic and Pacific Telegraph Company.

Mr. E. D. L. SWEET has resigned the position of General Superintendent of the Atlantic and Pacific Telegraph Company. Mr. Sweet retains his connection with the company as its second Vice-President and Director, and will, it is understood, continue active in its interests.

Mr. Charles A. Tinker, formerly Manager of the Washington, D. C., office of the Western Union Telegraph Co., but for the last two or three years Chief Train Despatcher and Superintendent of Telegraph of the Central Vermont Railroad lines, has resigned that position, and has been appointed to succeed Mr. Sweet as General Superintendent of the Atlantic and Pacific Division. Mr. Tinker took charge of the division on the first instant. Mr. Tinker is a young man, but has shown good executive abilities in the various telegraphic situations which he has filled, and has had much telegraphic experience, and will doubtless prove an excellent General Superintendent.

New York Telegraphic Notes.

PERHAPS one of the most exhilarating and enthusiasm-inducing sights of a large and well behaved office like New York, on a dull night, is the appearance of a steady going pounder of brass sedately marching up an aisle with a wrong checked message in his hand, and a slip of paper pasted or pinned upon his back, bearing the laconic yet suggestive words, "No bugs here"—or, perchance, "Here I go, what do you want?"—or again, "I want to be an angel," etc., placed there by some mischievous biped of the distributing genus employed in the room. The poor pounder never finds the man he is looking for till he has gone all over the office, and been greeted with smiles at every turn. He soon takes in the joke, however, and is as quiet as if he had got a cold by drinking from a damp glass. Another pleasant diversion of the force is to besmear with tobacco juice one side of an envelope well filled with blanks and sealed, and addressed to some operator in another part of the room, and holding the soiled side down, pass it carelessly to the next operator, who makes a pointed and scriptural remark, expressive of unmitigated disapproval, and drops it while a crowd gathers, and shouts of "What's the 18, Jim?" re-sound to the delight of the old salts, who are suddenly restored to gravity and decorum by the distant cry of a chief, "Are you busy?" or, perhaps, that of some more conscientious plume, who calls out, "Answer Chicago." Let a chief look for a man, or some wire need answering, and a crowd collected for joking purposes fades away like a beautiful summer's dream, and instantly every man is apparently industriously working as if his honor, reputation, or situation depended on it.

Advices from Chicago say that Johnny Kemps was married a day or two since, and that Jerry Mereness has gone home suddenly, on account of his father's death.

Messrs. D. B. Burnett and Sam. Wallace now take Western press on alternate nights at Chicago; mean while the Chicago end of our first duplex with that place suffers for the want of a solid man in Sam's place.

Good scheme, that billiard tournament among the boys. Messrs. Landy, Sprague, Merrill, Mitchell, Risdon and Horn, of the W. U. night force, are about to settle it among themselves who is the best player, and who will be entitled to a certain amount of money in the pool, after a series of thirty games shall have been played. The tournament is expected to last about a week, and much interest is manifested therein already. The players are about equally matched as far as known, and there seems to be fun ahead. Next week's paper will give a graphic account of the several successes and reverses experienced by the boys.

Mr. Jas. H. Lyman, manager Downer's efficient clerk, has gone the way of the world, and now spends his evenings happily at homo with his wife. Joy be with them.

Smith's new quad. is now used on the Albany circuit with great success.

The Atlantic and Pacific Telegraph Co. Sued for Infringement of the Page Patent.

A COMPLAINT was recently filed in the United States Circuit Court in this city by the Western Union Telegraph Company, against the Atlantic and Pacific Telegraph Company, for infringement of the Page patent. The reply of the defendants will among other points claim that Prof. Page was not the first inventor of the device which his patent covered, and for which an action for infringement is brought; that he practically abandoned

his inventions to the public, and that the special act of Congress under which his patent was issued did not authorize a patent covering these devices, and that, therefore, in any event the patent is void, so far as it applies to apparatus employed in telegraphic operation.

Messrs. Porter, Lowery, Soren, and Edward Dickerson appear for the Western Union, and Messrs. Leonard Myers and Everett P. Wheeler represent the Atlantic and Pacific Telegraph Company.

The American District Telegraph.

THE printing department of the American District Telegraph Company in this city during the last year consumed about 200 reams of paper, and printed upwards of a million call tickets, and a great quantity of other blanks and miscellaneous matter. The most remarkable feat of moving and entirely refitting five district offices and opening two new ones was accomplished in six weeks without inconvenience to the business. The average duration of a cell of battery in the American district lines is over seven months, and the cost of material consumed is \$1.11 per cell. Only one man is required to keep in order 1,077 cells. The average weight of copper (chemically pure) deposited per cell is three-quarters of a pound, and its value from 60 to 80 cents per pound.

Over 3,000 messengers have been employed since the company commenced business. During the last year 1,334 were hired and 585 resigned, principally to engage in other business. The average number of messengers constantly employed during the year was 427, of this number 116 are officers, and do not perform messenger services. The average monthly pay rolls for messengers was \$7,800, or about \$93,600 for the year. The total amount lost by the company through accident, embezzlement, or dishonesty of messengers, does not exceed \$100 per year.

The total number of calls delivered was 1,107,454. Of these 580,886 were American district, and 526,568 Western Union.

During the year 1,890,600 circulars, wedding cards, etc., were delivered, and the total time occupied in their delivery was 10,890 hours. The largest delivery was made on Nov. 2d, 145,000 having been delivered on that day.

The Third District (No. 6 Broadway) is the largest and contains about 500 instruments. The fluctuations of the service in this district are very great; notwithstanding a regular force of about 50 boys is employed, it frequently occurs that an extra detail of 80 boys is obliged to be made to meet the calls upon it. The greatest number of calls ever received in one hour was 100; for six consecutive hours calls have been received at the rate of 63 per hour, or more than one a minute. The company have recently added to their printing department an improved quarto medium Gordon press.

Foreign Telegraphic Notes.

DIRECT telegraphic communication is now established between Martin Garcia and Buenos Ayres. The new telegraph was inaugurated by the Minister of War asking the President of the Republic to send the first message. Mr. Charles Burton, the Director General of Telegraphs, Mr. Crowley, Electrician of the Torpedo Division, and nearly all the Foreign Ministers were present.

With the object of providing Indian students with a channel for the free exchange of ideas and the discussion of all questions relating to electricity, a bi-monthly magazine has been started, under the title of *The Indian Telegraphic Journal*.

Finding it impossible to organize in so short a time the exhibition of all kinds of electrical and telegraphic apparatus, announced to be opened in Paris in December, the promoters have postponed the opening of the exposition until July, 1877, when it will be opened at Palais de l'Industrie. Count Halez d'Arros has been appointed Director-General, and the President of the French Republic is at the head of a Committee of Patronage.

Telegraphic messages for North America are now received at postal telegraph offices in the United Kingdom, for transmission by either the Anglo-American Telegraph Co. *via* Valencia, or by the Direct United States Cable Co. *via* Ballinskelligs.

The Hibernia, with the remainder of the New Zealand cable, has left the Thames. She was unfortunate enough to run ashore in a fog, but got off without damage.

The traffic receipts of the Direct Spanish Telegraph Company for the month of October were £1,550, against £1,386 in the corresponding period of last year.

At the adjourned meeting of Hooper's Telegraph Works, the report of the committee of investigation was adopted, and it was proposed to raise about £50,000 on debentures.

The receipts of the Submarine Telegraph Company for

the month of October, 1875, amounted to £10,918, against £9,910 for the corresponding month of last year.

The traffic receipts of the Great Northern Telegraph Company for the month of October amounted to 387,084 francs, against 420,885 francs last year; and the total traffic receipt, from 1st January to 31st October, amounted to 3,574,032 francs, against 3,748,925 francs last year.

The Eastern Telegraph Company's receipts for the month of October amounted to £35,750, against £32,853 in the corresponding period of 1874; and those of the Eastern Extension, Australasia and China Telegraph Company to £19,604, against £16,584 for the corresponding period last year.

The *Telegraphic Journal* states that "Mr. Moxon has introduced, on the Lancashire and Yorkshire Railway, a new right and left Morse printing apparatus. The characters are not made in dots and dashes, but in dots only, on different lines, in what is known as Steuheil's alphabet. The messages as recorded are very compact and legible, and there can be no doubt that considerable speed is gained. It is of use in a busy single needle circuit, for it is worked by the same means and the same alphabet as the single needle instrument."

Legislation for the Telegraph.

THE new constitution which is to be submitted to the people of Alabama for their approval some time during this month contains the following section in relation to lines of telegraph within that state:

"Any association or corporation organized for the purpose, or any individual, shall have the right to construct and maintain lines of telegraph within this State, and connect the same with other lines, and the general assembly shall, by general law of uniform operation, provide reasonable regulations to give full effect to this section. No telegraph company shall consolidate with, or hold a controlling interest in the stock or bonds of any other telegraph company owning a competing line, or acquire, by purchase or otherwise, any other competing line of telegraph."

The New Zealand Telegraph.

THE Eleventh Annual Report of the Acting Commissioner of the New Zealand Telegraphs, for the year ended the 30th of June last, states that during the year 917,128 messages were transmitted—an increase of 164,299, or more than 17 per cent. over the previous year. Taking into account the value of general government messages transmitted (£13,679 10s. 9d.), the total earnings of the department for the year amount to £69,536 12s. 3d., which, after deducting the cost of the signal department, maintenance of lines, etc., leaves a balance of £9,460 13s. 4d. as interest upon the capital expended.

During the past year 456 miles of new lines, carrying a single wire, have been erected, and 988 miles of wire have been added to the original lines, making a total addition of 1,444 miles of wire.

There are now opened to the public throughout the colony 127 stations, 21 of which have been opened during the past year.

At the close of the year 2,986 miles of lines, carrying 6,626 miles of wire, were in circuit, showing an increased mileage upon the previous year in line 456, and wire 1,444.

The numerical strength of the department, including linesmen and inspectors, on June 30, 1875, was 509, against 388 of the previous year.

The duplex system of telegraphy, mentioned in the last annual report, has been in successful operation on the No. 3 wire in the Cook Strait cable since June 18, 1874, and the advantage of speedy communication consequent thereupon has been very obvious. Instruments are now ready, and the system will be immediately introduced on the No. 3 wire north to Napier, and on the No. 3 wire between Blenheim and Christchurch. With the additional wires erected between Napier and Wellington, it is anticipated that this will greatly facilitate the transmission of the increasing work now offering. It is proposed to introduce shortly the automatic system on some of the longer circuits, instruments for this purpose having just arrived from England.

The British Postal Telegraph.

In the report of the British Postmaster General for 1874, it is stated that "there has again been a large increase in the amount of postal telegraph business, the number of messages (exclusive of newspaper telegrams) having last year been above 19,000,000, or about 10 per cent. more than in 1873. In the number of postal telegraph offices there was, however, no material change, owing in great measure to the fact that—previous to its commencement—the telegraph system had previously been extended to all places in the kingdom of considerable size. Although the year has not been signalized by any

material changes in the mode of carrying on the telegraph service, numerous minor improvements have been effected, which have enabled the department to afford increased facilities to the public, and in many cases materially to lessen the cost of working. Of these, the principal have been the further application of the system of 'duplex' telegraphy, and the more general use of the so-called 'sounder' instrument—a form of apparatus greatly in favor in the United States."

There has again been a large increase in the rental from private wires, the sum having risen from about £47,000 to about £53,000, or about 12 per cent.

Quotations of Telegraph Stocks at N. Y. Stock Exchange.

Showing Lowest and Highest Prices each day during week.

Table with columns: Nov., WESTERN UNION, ATL. AND PAO., AMER. DIST., GOLD AND STOCK. Rows include dates from Nov 25 to Dec 1 with bid and asked prices.

The Telegraphers' Mutual Benefit Association.

RECEIPT OF ASSESSMENTS.

NEW YORK, Nov. 24, 1875.

ASSESSMENT No. 79.

5, 19, 39, 59, 84, 100, 103, 114, 122, 136, 139, 206, 228, 252, 316, 328, 366, 371, 441, 456, 482, 516, 556, 557, 617, 652, 690, 701, 710, 712, 722, 781, 783, 786, 800, 802, 809, 836, 838, 871, 904, 906, 926, 929, 934, 944, 980, 1000, 1002, 1014, 1016, 1041, 1057, 1085, 1099, 1105, 1106, 1107, 1108, 1209, 1110, 1112, 1113, 1115, 1117, 1119, 1120, 1122, 1123, 1125, 1131, 1141, 1152, 1167, 1194, 1224, 1251, 1255, 1256, 1266, 1277, 1281, 1283, 1284, 1235, 1286, 1339, 1340, 1342, 1344, 1346, 1348, 1349, 1350, 1351, 1352, 1366, 1405, 1412, 1421, 1426, 1427, 1430, 1432, 1433, 1437, 1465, 1469, 1471, 1474, 1476, 1481, 1497, 1513, 1528, 1529, 1530, 1571, 1572, 1573, 1586, 1597, 1600, 1603, 1616, 1619, 1626, 1632, 1649, 1653, 1657, 1666, 1672, 1690, 1691, 1700, 1701, 1704, 1733, 1737, 1746, 1747, 1750, 1751, 1753, 1754, 1755, 1756, 1757, 1758, 1759, 1760, 1769, 1771, 1785, 1798, 1799, 1802, 1809, 1813, 1828, 1854, 1895, 1915, 1922, 1924, 1926, 1982, 2004, 2015, 2023, 2083, 2085, 2112, 2141, 2171, 2190, 2221, 2226, 2227, 2248, 2253, 2266, 2267, 2275, 2277, 2284, 2286, 2293, 2300, 2324, 2325, 2326, 2349, 2360, 2395, 2397, 2698, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2425, 2432, 2433, 2456, 2457, 2458, 2459, 2460, 2461, 2463, 2470, 2471, 2475.

ASSESSMENT No. 78. 1490.

Members of the Association who look to THE TELEGRAPHER for receipt of assessments paid will please take notice that an acknowledgment of the receipt of one assessment should be taken as a receipt for all previous assessments.

New Patents.

OFFICIAL COPIES of any U. S. Patent issued since July 31st, 1871, including drawings, specifications and claims in full, sent free to any address for 25 cents each. Address F. L. POPE, Elizabeth, N. J.

For the week ended Oct. 26, 1875, and bearing that date.

169,077.—ELECTRIC BURGLAR-ALARMS A' D ANNUNCIATORS. Joseph T. Bedford, New York, N. Y. [Filed July 9, 1875.]

Breaking of circuit at door or window releases an armature, which allows a swinging plate, covering an indicator, to fall. Circuit to alarm completed through a spring, which is held out of contact with the armature lever, through which current passes by the swinging covering plate when in its normal position. The armature lever of the alarm and the circuit breaker are also novel features.

- 1. The switch X, composed of the cam shaft Z2, the cam Z1, the spring plate Z, and the wires x y z, connected respectively with the wires K K2, and the negative wire of the operating battery C, constructed and operated as and for the purposes set forth.
2. The combination of the distributing and returning wires of battery C, and the connecting wires of battery C', the binding screws, the armature magnet J1, and the spring I4, substantially as and for the purpose described.
3. The double acting spring I4, in combination with the lever of the alarm bell, and with the screws i a, constructed and operated substantially as and for the purpose specified.
4. The combination of the cover P, having tail piece o and hook p, the spring N, the rod E2' and bar e', constructed and operated substantially as and for the purpose specified.
5. The circuit breaker, consisting of the plate B1, the spring R2, and the plate R3, substantially as described.
6. The spring R2 fastened to the plate I4 which covers it, and bent as shown, so as to avoid much cutting away of the sash, in combination with the plate R3, substantially as herein described.

7. The combination of the springs N and Q and indicator covers P, whereby a simultaneous operation of the said indicator covers and a closing of the circuit for the alarm magnet is effected, substantially as hereinbefore specified.

For the week ended Nov. 2, 1875, and bearing that date.

169,387.—APPARATUS FOR LIGHTING LAMPS BY ELECTRICITY.—J. A. Voisin and P. Dronier, Paris, France. [Filed May 1, 1874.]

The sheath or case carries the conducting wires leading from the battery to the platinum coil and lamp to be lighted. The combination, in an apparatus for producing a flame of light by means of electricity, of the sheath or case f', provided with an isolating or resinous substance, wires d d', tubes b b', and the platinum wire or strips z, all as shown and set forth.

169,506.—MAGNETO-PRINTING TELEGRAPHS.—George L. Anders, Boston, assignor to E. B. Welch, Cambridge, Mass. [Filed March 25, 1873.]

- 1. The type wheel of a printing telegraph instrument, operated or controlled by currents from a magneto-generator, without the use of a relay or galvanic battery.
2. The combination of a type wheel and printing mechanism placed in the same circuit, and both operated or controlled by currents from a magneto-generator without the use of a relay or galvanic battery.

Born.

BARRETT.—At East Somerville, Mass., Nov. 27th, to Mr. JAMES C. BARRETT, operator in the Boston, Mass., Western Union Telegraph office, a daughter.

Married.

OSTRAND—PHELPS.—At Watertown, N. Y., Nov. 24th, by Rev. Mr. Bruce, Mr. DEXTER VAN OSTRAND to Miss AGNES PHELPS, all of Watertown.

THE AUTOMATIC FIRE SIGNAL TELEGRAPH CO.,

OF THE CITY OF NEW YORK.

General Superintendent's Office, 206 Broadway, N. Y.

NEW YORK, Nov. 26th, 1875.

EUGENE F. PHILLIPS.

Dear Sir: For eighteen months I have used your Rubber Insulated Copper Wire. During this time I have had strung several thousand feet, and it has not failed to give perfect satisfaction. I have yet to learn of the first instance where the insulation has cracked or peeled. I send you herewith a short section of this wire that has, for the time above mentioned, been constantly exposed to the weather—drawn tightly three times around a "Rubber Hook Insulator." It is as perfect as the day it was put up, save where I have, since it was taken down, cut the insulation to give it a closer examination.

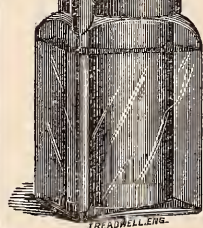
Yours, &c., J. E. FENN, Gen'l Supt.

THE POCKET GALVANOMETER. PRICE REDUCED.

The Pocket Galvanometer manufactured by LENNERT & DECKER, finely finished and nickel plated, sent by mail to any part of the United States on receipt of ONE DOLLAR. To Canada, ten cents extra, to pay postage. May be seen at the office of THE TELEGRAPHER, and will be forwarded as above on application to

J. N. ASHLEY, 38 Vesey street, New York. P. O. Box 5,503.

THE LECLANCHÉ BATTERY. THE WORLD RENOWNED Open Circuit Battery.



NO ACIDS! NO SULPHATE OF COPPER! DOES NOT FREEZE!

Will last from six months to several years, WITHOUT RENEWAL.

IS ESPECIALLY ADAPTED TO Electric Bells, Hotel and House Annunciators, Burglar Alarms, Medical Apparatus and all kinds of Open Circuit Work. ADDRESS,

LECLANCHÉ BATTERY COMPANY, No. 40 West 18th Street, or L. G. TILLOTSON & CO., Sole Agents, 8 Dey Street, New York.

BRADLEY'S APPARATUS FOR ELECTRIC MEASUREMENT, COMPOSED OF HIS Tangent Galvanometer and Rheostat.

(Patented January 7th, 1873.)

Widely known and used among telegraph companies for practical work; also in colleges and other institutions of learning as a means of instruction and scientific experiment. Invaluable to experts or students in electrical science.

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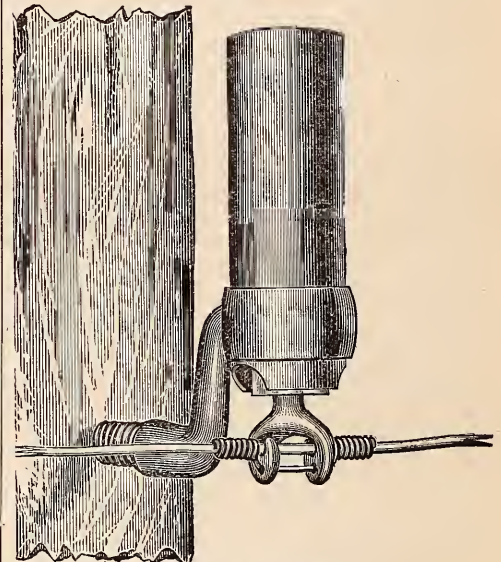
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Manufacturers of Telegraphic and Electrical Instruments supplied at low rates. For prices and pamphlet descriptive of apparatus, apply to

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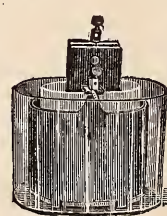
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TO ELECTRICIANS.



BASTET'S NEW IMPROVED BATTERY

is the most powerful, constant and durable power in the market; never crystallizes in the porous cup. This Battery, and Electrical Fluid to charge the same, is only sold at our store.

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No. 1 Cell, \$5.00. No. 2 " 10.00.

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LEWIS' TELEGRAPH MANUAL.

A few copies of the last edition of THE TELEGRAPHIC MANUAL, by Mr. WALTER O. LEWIS, remaining, may be had of THE TELEGRAPHER, 38 Vesey street, at fifteen cents each. Will be forwarded by mail postpaid on receipt of price.

CHARLES T. CHESTER,

MANUFACTURER OF TELEGRAPH INSTRUMENTS,

104 CENTRE STREET, NEW YORK.

BATTERIES of every description for TELEGRAPH and ELECTRO-PLATING purposes, best ENGLISH and AMERICAN TELEGRAPH WIRE, LINE TOOLS, INSULATORS, etc., etc. DIALS and PRINTING INSTRUMENTS for PRIVATE and MUNICIPAL lines.

Especial attention is called to the **CHESTER PIN DIAL** (patented), designed expressly for **POLICE and LAW TELEGRAPHS**. Works more than twice as fast as the Dial used at present for Police purposes, and with main battery only, thus doing away with the expense and care of local batteries. For call purposes a Bell Magnet is attached to each instrument by an Automatic Switch, so arranged that when the lid is closed the Bell is in circuit, and when opened the Dial is thrown in and the Bell cut out. Nearly every large city in the United States having a Police Telegraph is using the "Chester Police Dials," which have thereby earned a well established reputation for reliability and efficiency.

ELECTRO-MECHANICAL GONG STRIKERS,

for Railway Signals and Fire Alarm purposes, with Gongs ranging from 16 in., the engine house size, to 8 in., for house purposes. These are capable of striking very rapidly—at least two blows in a second. These vary in price according to size.

ELECTRO-MECHANICAL BELL STRIKERS,

for striking heavy bells, with hammers weighing as high as 200 lbs. These can also, if desired, be made to strike at "less than two seconds' interval." They are invaluable for Fire Alarm purposes, and can be furnished at very reasonable prices, varying according to size.

ALSO,

CHESTER'S PATENT NON-INTERFERENCE STREET BOX FOR FIRE ALARM TELEGRAPH;

so arranged that it is utterly impossible while one box is in operation to start another, thereby preventing any confusion of alarms.

ALSO,

REGISTERS, RELAYS, CALL BELLS,

and every description of Central Office apparatus, at most reasonable prices.

Particular attention is given to MUNICIPAL CONTRACTS.

THE NEW STYLE OF REGISTER, "THE EUROPEAN"

in which the spring takes the place of the weight, is enclosed in a metal and glass case; is noiseless in its action, and of great beauty and finish, and is specially recommended to *Shippers, to whom the most liberal discounts are offered on every line of telegraph goods and supplies.*

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OR UPON THE AUTOMATIC PLAN, is now in operation in the following Cities, to which referencels made for evidence of its great

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| Alleghany, Pa., | New Bedford, Mass., |
| Boston, Mass., | New Haven, Conn., |
| Bridgeport, Conn., | Newark, N. J., |
| Buffalo, N. Y., | Nashville, Tenn., |
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| Chicago, Ill., | Newport, Ky., |
| Cincinnati, Ohio, | Omaha, Neb., |
| Columbus, Ohio, | Philadelphia, Pa., |
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The Distinctive Features of these Systems of

Fire Alarm and Police Telegraphs

ARE,

- First**—The Automatic Repeater, through which the apparatus may be distributed in a combination of circuits, and the entire system successfully worked, without the constant personal attention of either operators or watchmen.
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It is a sufficient vindication of the claims which are made by the Proprietors of these systems of

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that they have sustained the test of more than twenty years of practical use, and that the efforts which have been repeatedly made to supplant them by other inventions have

COMPLETELY FAILED;

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Messrs. **GAMEWELL & CO.** are the owners of the original **FARMER & CHANNING PATENTS**, one of the most important of which has just been extended for seven years, and during the past seventeen years have spared no expense or effort to secure improvements, and the Systems are now covered by

MORE THAN TWENTY PATENTS.

The most important improvement which the Proprietors have adopted and introduced is the

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The American System of

FIRE ALARM AND POLICE TELEGRAPHS

has met with the universal approbation and commendation of the

People, Municipal Authorities,

AND THE

PRESS

throughout the **UNITED STATES** and **CANADA.**

NO EFFORT, TROUBLE OR EXPENSE

is spared by the Proprietors to obtain and secure **ANY POSSIBLE IMPROVEMENT** which shall increase the

EFFICIENCY, RELIABILITY and ECONOMY

of the system. They intend that, as far as possible, it shall be

ABSOLUTELY PERFECT!

The amount of property which has been saved from destruction, and the number of lives which have been preserved through the general adoption of this system, throughout the **UNITED STATES** and the **DOMINION OF CANADA,**

CANNOT EASILY BE ESTIMATED,

but that, in every community where it has been introduced for any considerable length of time, they have been enormous, **THREE CAN BE NO QUESTION.**

The cooperation of **TELEGRAPHERS** in securing its introduction into their localities is cordially invited, and

their efforts will be duly appreciated and compensated.

Any information desired in regard to the above system will be cheerfully and promptly furnished upon application at the office.

A pamphlet, setting forth more fully its advantages and superiority, has been printed, and will be supplied to Municipal Authorities and others interested in **Fire Alarm and Police Telegraphy**, upon application as above.

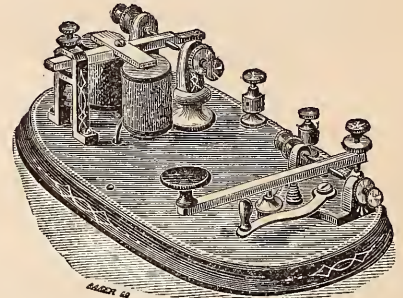
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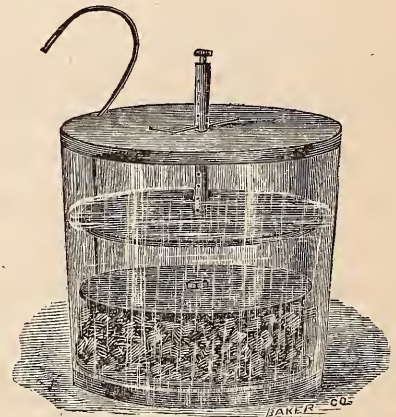
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This instrument is mounted on an iron base and finely finished. It gives a clear, loud sound. It is made to work on a line from a few feet to ten miles in length.



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This battery took the first premium and a silver medal for force, constancy and economy at the Cincinnati Exposition.

With each "Private Line Oufit" is furnished one Private Line Instrument, one Cup Reservoir Battery, the necessary Chemicals, Wire for connections and a Manual.

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THE TELEGRAPHER

A JOURNAL OF

ELECTRICAL PROGRESS.

J. N. ASHLEY, PUBLISHER.

SATURDAY, DECEMBER 11, 1875.

VOL. XI. WHOLE No. 491.

Original Articles.

Haskins's Duplex Telegraph.

SINCE the first patent was taken out in this country for duplex telegraphs by Moses G. Farmer, in 1858, nearly forty other patents, including reissues, have up to this time been granted in the United States for inventions of this kind, mostly within the past five years. We have from time to time published in THE TELEGRAPHER diagrams and descriptions of several different methods of duplex telegraphy, including most if not all of those which have been employed in actual telegraphic service in this country, with the exception of the one which forms the subject of the present article.

The apparatus we are about to describe was invented in the early part of 1874 by Mr. C. H. Haskins, General Superintendent of the lines of the North Western Telegraph Company at Milwaukee, Wis. It is one of the simplest in principle, as well as one of the most effective in operation, of the numerous inventions of the kind now before the public. The novelty of the invention may be said to consist principally in the peculiar manner in which the receiving relay is constructed and operated, and we will, therefore, give a somewhat detailed description of this part of the apparatus before attempting to explain the general principle of operation.

The accompanying illustration is an end view of the relay, the connections and other parts of the apparatus being shown on a small scale and in outline, for convenience of explanation. The relay consists of two spools or helices, A A₁, which are placed parallel to each other, and connected together at the point 2, so as to form a continuous circuit from 1 to 3, precisely in the same manner that the helices of an ordinary relay are arranged. Instead, however, of connecting the two cores together by means of a yoke piece or back armature, so as to form a single electro-magnet, as is usually done, semicircular pole pieces of soft iron, C and C₁, are attached to each end of the core of each helix. Therefore each core, with its pole pieces and helix, in reality constitutes a distinct electro-magnet, having four poles, the two poles at one end having always a magnetic polarity opposite to the two poles at the other end, whenever a current is passing.

Between the two helices A A₁, and parallel to them, is a shaft or axis d, carrying at each end a permanently magnetic bar n s, which may be termed a polarized armature. In the drawing, n represents the north pole and s the south pole of one armature, the former being at the top and the latter at the bottom. The position of the armature at the other end of the axis is exactly the reverse of this, the south pole being at the top and the north at the bottom. These armatures are arranged as shown in the figure, their poles being situated directly between the poles C C₁ of the electro-magnets which face each other. A contact arm e, rigidly attached to the axis d, projects upward at a point midway between the two polarized armatures, and is provided with a contact point. The arm e plays between the adjustable stops f and f₁, the latter being insulated, and opens and closes the local circuit of the receiving sounder in the same manner as an ordinary relay. An adjustable spiral spring s₁ retains the armature in the position shown in the figure, the local circuit being open when no current is passing. The coil A is mounted in a frame a, which slides in a bed plate b, and is capable of being moved by means of the screw h to or from the other coil and the armature. Thus it will be seen that the adjustments are virtually the same as in the ordinary relay.

The arrangement of the connections is indicated in outline in the figure. The main batteries at each end of the line are placed with their unlike poles towards each other, precisely as in the usual arrangement for a Morse circuit. When both keys are at rest, the main line is to ground at each end through both helices A A₁ of the relays, and also through the resistance r. The key merely serves, when depressed, to connect the battery to the main line at a point between the helices of the relay.

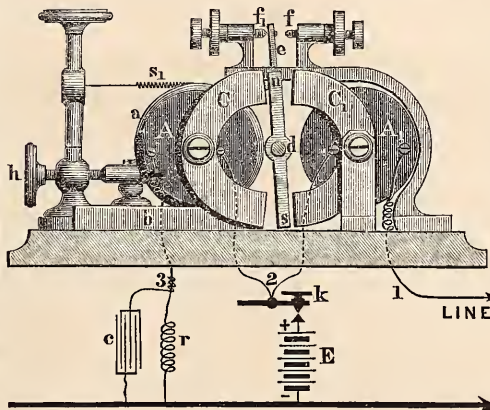
There are but three different electrical conditions of the line possible when this apparatus is working, which are as follows:

I. When the home key is open and the distant key closed. If each battery consists of say 100 cells, the resistance of the line is 1000 ohms, rheostat r 1200, and relay helices 200 each. The strength of current in this case will be $1000 \div (200 + 1000 + 400 + 1200) = 0.35$. This current will go to earth at the home station through both helices of the relays, and the force acting upon the armature n s in opposition to the spring s₁ will be $0.35 + 2 = 0.70$ when the distant key is closed, and nothing when it is open.

II. When the home key is closed and the distant key open. The current from the home battery divides at the point 2, and to avoid complexity we will assume that the battery has no internal resistance. The strength of the current going to line will be $1000 \div (200 + 1000 + 400 + 1200) = 0.35$; which will therefore act in one coil A₁ of the home relay in opposition to the spring s₁ with a force of 0.35. The other branch of the current going through the rheostat at the home station, has a force in A of $1000 \div (200 + 1200) = 0.71$, which is double that of the current going to line, and acts in the same direction with spring s₁. Thus the armature of the home relay is held still with a force of 0.36 whenever a current is sent to line.

III. When the home and distant keys are both closed. In this case the line current, in consequence of both batteries being on, becomes $2000 \div (200 + 1000 + 200) = 1.66$; which acts upon the coil A₁ upon the line side, but is opposed by the current in A on the rheostat side in both relays. This, as in the former case, amounts to 0.71. Therefore, the effective force acting upon each armature in opposition to the spring, to give a signal, will be $1.66 - 0.71 = 0.95$.

Thus, in this arrangement we would have, under the conditions stated, an effective force acting upon the armature n s, varying from 0.70 to 0.95. It will at once be seen that this great margin enables the operators to work freely over escapes and changes of resistance in the line, which would be impossible in the case of most of the other systems. Thus, in the case cited, in order to dis-



turb the balance of the sender's relay, so as to give him back his own signals, the resistance of the line must be diminished sufficiently to increase the strength of current from 0.35 to 0.71—more than double—which would require a very heavy leakage. In practice, the resistance of the rheostat r is made a constant quantity, all necessary adjustments being effected precisely as in an ordinary instrument, and with no more inconvenience.

The condenser c may be applied when necessary, in the manner shown in the figure, for the purpose of neutralizing the static discharge. This is effected in this apparatus by causing the condenser to discharge directly into the line wire, so as to destroy the charge coming therefrom, instead of the usual arrangement in a differential duplex, which consists in discharging both the line and the condenser into the earth through the opposing coils of the relay.

This improved duplex was patented by Mr. Haskins in the United States on the 24th of August, 1874. It has been used for two years with great success upon the lines of the North Western Telegraph Company, including some long circuits, like that between Milwaukee and St. Paul. By a recent improvement the apparatus is now operated without the use of a condenser, or analogous device for neutralizing the static discharge, even upon the longest circuits ordinarily worked. Any further information respecting this invention will be cheerfully furnished by Mr. Haskins, who may be addressed at Milwaukee, Wis.

Knox's Prayer.

By "BE," Chicago.

O! thou fast sender, do not make me
Lose my now most "brilliant" name;
Thy fast transmitting makes me break thee,
And "Knox" away my hopes of fame.

A New Agency Discovered!—The Electric Telegraph Outdone!—Something that will Overturn all the Railroads and Explode the Present System of Steamships!

[From the New York Moon of Nov. 31st.]

WE hasten to lay before a breathless and eager public the full details of a new and wonderful discovery, which, in its sublime possibilities,

TRANSCENDS THE LIMIT OF HUMAN INTELLECT!

This magnificent invention or discovery was accidentally made while the inventor,

MR. TOMCAT E. ADISON,

was experimenting with a common Morse key in one of our large telegraph offices, in order to ascertain what in thunder made it stick so. In the course of his investigations it became necessary to attach a gum band to the rear screw of the key. This operation, common enough in itself, unexpectedly led to the

GRANDEST RESULTS!

Accidentally releasing the hand, it instantaneously quitted the key, rebounded, and struck the astonished inventor with tremendous force

SQUARE IN THE FACE!

He at once commenced an inquiry into this strange result. Placing one end of the gum band in his message hook, he inserted the end of a pen-holder in the other. Then, quickly releasing it, the pen-holder was thrown with violence

ACROSS THE OFFICE,

a distance of some seventy-five feet. He then left the office very suddenly, and has since been engaged in the development of this new power, which he names

ETHEREO-GUMELASTIC FORCE.

This morning we despatched a reporter to Hoboken, where the inventor resides, for the purpose of getting a full description of the workings of this new and surprising agency.

The distinguished inventor, Mr. Adison, was discovered hard at work in his laboratory, which is at the very top of one of the commonest boarding houses in Hoboken. He was dressed in a torn coat, extremely dirty shirt, and wore one boot and one shoe. This eccentricity is a common accompaniment of genius. The laboratory has a sloping roof, touching the floor at one side. Various strange and wonderful apparatus encumbered the room, some of which bore an astonishing resemblance to old trunks, dilapidated furniture and antiquated hoop skirts. At one end of the apartment an assistant was engaged in a curious experiment with a black junk bottle and a broken tumbler.

The inventor was husily employed in stretching an immense ruhher hand, fastened by one end to a nail in the ceiling. He placed a small iron hall in the loop of the band, pulled it out to its extremest length, then suddenly released it. The hall was projected with frightful velocity through the sash and out into the air, where it described a parabolic curve, finally passing through the plate glass window of the shop opposite.

"This is but a small example of what may be done with this powerful agency," Mr. Adison observed.

There is not sufficient room in our paper to give a full account of the wonderful things the inventor claims may be done by means of this power. We, however, subjoin a few of the most astonishing. By the use of a gum hand of sufficient size, he says he can hurl a car filled with freight or people from New York to San Francisco,

SHEER ACROSS THE CONTINENT,

in less than twenty seconds! Hollow iron balls containing messages may be sent from

BOSTON TO LONDON

in less than a tenth of the time it now requires. Armies in the field will be scattered like leaves by a force a thousand times greater than gunpowder.

The mind fails to grasp the extent of this stupendous discovery. It will certainly revolutionize all existing systems of travel and communication. Rapid transit will then become a reality. A man of business will step into his arial chariot down town and be with his family in less time than it takes to tell it.

We leave the subject thus. Words cannot do justice to it, and no honors can be too great to pay to the distinguished inventor.

The President's Message and Cable Telegraphs.

In his annual message to Congress the President treats at some length the subject of ocean cable telegraphy. He says:

"The electric telegraph has become an essential and indispensable agent in the transmission of business and social messages. Its operations on land and within the limit of particular States is necessarily under the control of the jurisdiction within which it operates. The lines on the high seas, however, are not subject to the particular control of any one government. In 1869 a concession was granted by the French government to a company

which proposed to lay a cable from the shores of France to the United States. At that time there was a telegraphic connection between the United States and the Continent of Europe (through the possessions of Great Britain at either end of the line), under the control of an association which had, at large outlay of capital and at great risk, demonstrated the practicability of maintaining such means of communication. The cost of correspondence by this agency was great—possibly not too large at the time for a proper remuneration for so hazardous and so costly an enterprise. It was, however, a heavy charge upon a means of communication which the progress in the social and commercial intercourse of the world found to be a necessity, and the obtaining of this French concession showed that other capital than that already invested was ready to enter into competition with assurance of adequate return for their outlay. Impressed with the conviction that the interests, not only of the people of the United States but of the world at large, demanded or would demand the multiplication of such means of communication between separated continents, I was desirous that the proposed connection should be made. But certain provisions of this concession were deemed by me to be objectionable, particularly one which gave for a long term of years the exclusive right of telegraphic communication by submarine cable between the shores of France and the United States. I could not concede that any power should claim the right to land a cable on the shores of the United States, and at the same time deny to the United States or to its citizens an equal right to land a cable on its shores.

The right to control the conditions for the laying of a cable within the jurisdictional waters of the United States, to connect our shores with those of any foreign State, pertains exclusively to the government of the United States, under such limitations and conditions as Congress may impose. In the absence of legislation by Congress, I was unwilling on the one hand to yield to a foreign State the right to say that its grantees might land on our shores, while it denied a similar right to our people to land on its shores, and, on the other hand, I was reluctant to deny to the great interests of the world and civilization the facilities of such communication as were proposed. I therefore withheld resistance to the landing of any cable on condition that the offensive monopoly feature of the concession be abandoned, and that the right of any cable which may be established by authority of this government to land upon French territory, and to connect with French land lines and enjoy all the necessary facilities or privileges incident to the use thereof, upon as favorable terms as any other company, be conceded. As the result thereof the company in question renounced the exclusive privilege, and the representative of France was informed that, understanding this relinquishment to be construed as granting the entire reciprocity and equal facilities which had been demanded, the opposition to the landing of the cable was withdrawn. The cable, under the French concession, was landed in the month of July, 1869, and has been an efficient and valuable agent of communication between this country and the other continent. It soon passed under the control, however, of those who had the management of the cable connecting Great Britain with this continent, and thus whatever benefit to the public might have ensued from competition between the two lines was lost, beyond having the greater facilities of an additional line and the additional security in case of accident to one of them. But these increased facilities and this additional security, together with the control of the combined capital of the two companies, gave also greater power to prevent the future construction of other lines, and to limit the control of telegraphic communication between the two continents to those possessing the lines already laid.

Within a few months past a cable has been laid, known as the United States Direct Cable Company, connecting the United States with Great Britain. As soon as the cable was reported to be in working order the rates of the then existing consolidated company were greatly reduced. Soon, however, a break was announced in this new cable, and immediately the rates of the other line, which had been reduced, were again raised. This cable being now repaired the rates appear not to be reduced by either line from those formerly charged by the consolidated companies. There is reason to believe that large amounts of capital, both at home and abroad, are ready to seek profitable investment in the advancement of this useful and civilizing means of correspondence. They await, however, the assurance of the means and conditions on which they may safely be made tributary to the general good. As these cable telegraph lines connect separate States, there are questions as to their organization and control which probably can be best if not solely settled by conventions between the respective States. In the absence, however, of international conventions on the subject, municipal legislation may secure many points which appear to me important, if not indispensable, for the protection of the public against the extortions which may result from a monopoly of the right of operating cable telegrams, or from a combination between several lines.

First.—No line should be allowed to land on the shores of the United States under the concession from another power, which does not admit the right of any other line or lines formed in the United States to land and freely connect with and operate through land lines.

Second.—No line should be allowed to land on the shores of the United States which is not by treaty stipulation with the government from whose shores it proceeds, or by prohibition in its charter, or otherwise to the satisfaction of this government, prohibited from consolidating or amalgamating with any other cable telegraph line, or combining therewith for the purpose of regulating and maintaining the cost of telegraphing.

Third.—All lines should be bound to give precedence in the transmission of the official messages of the governments of the two countries between which it may be laid.

Fourth.—A power should be reserved to the two governments, either conjointly or to each, as regards the messages despatched from its shores, to fix a limit to the charges to be demanded for the transmission of messages.

I present this subject to the earnest consideration of Congress. In the meantime, and unless Congress otherwise direct, I shall not oppose the landing of any telegraphic cable which complies with and assents to the points above enumerated, but will feel it my duty to prevent the landing of any which does not conform to the first and second points as stated, and which will not stipulate to concede to this government the precedence in the transmission of its official messages, and will enter into a satisfactory arrangement in regard to its charges."

Correspondence.

We do not hold ourselves responsible for the opinions of our Correspondent. Our columns are open to free discussions on all telegraphic subjects, without distinction of person or opinion.

No notice will be taken of anonymous communications.

Personals.—A Liberal and Satisfactory Arrangement.—A Telegraphic Artist's Production.—Complimentary Presentation to a Female Telegrapher.

CHICAGO, ILL., Nov. 10.

TO THE EDITOR OF THE TELEGRAPHER.

AMONG the visitors to this city the past week was Mr. Nichol, manager of the W. U. Telegraph Office at Hennepin, Ill. On the 26th he called at the W. U. office and was shown around the room by Manager Maynard.

Mr. W. A. Gardner is the operator in charge of the telegraph office in the general freight office of the Illinois Central Railroad in this city; Mr. Whitehead having been promoted to a position in the "out" freight department. Mr. Gardner, I understand, is also a fine phonographer and a perfect gentleman.

The following duplicate of a letter from Supt. Wilson to Manager Maynard was posted in the Western Union office here to-day:

"CHICAGO, November 1st, 1875.

"H. C. MAYNARD, ESQ., Manager.

"Dear Sir—In consideration that employes in your department shall hold themselves in readiness to perform any reasonable extra service the company may require from time to time, compensation for such extra service will be made on the following basis:

"The rate per day to be computed from the monthly rate with the Sundays deducted; eight hours during the day and seven by night to constitute a day's "extra service," with an additional allowance of ten per cent. to the regular monthly pay. When supplying vacancies, extra pay will be only equal to the deduction made from the absent pay.

"Yours, respectfully,

"J. J. S. WILSON, Supt."

This makes quite an advance for the extra work done by regular men over the prices ever paid here by the company; fifty cents an hour being the highest ever paid heretofore in the palmiest days of extra work.

Mr. J. P. Mansfield, who, with his brothers, owns a fine farm in Winnebago County, in this State, and who, on account of poor health, has been rusticated there for the past five months, has again returned to his old place in the Sherman House Western Union office, in this city, improved in health, and as ready to wait on customers or smile on a friend as ever.

Mr. A. L. Kissinger, who has served a good apprenticeship as an old R. R. operator on the C. B. & Q., has given up R. R. telegraphing for the present and accepted a position with the Metropolitan Company in Skinner's Hotel, this city.

Mr. D. E. Risdorph is the gentlemanly night manager in the M. C. R. general R. R. telegraph office in this city, and Mr. I. C. Showerman keeps things from getting

tangled there during the day. This is one of the prettiest and most tidily kept office of the kind in the city.

Miss Allie Ward is the latest addition on the Metropolitan force in the Western Union main office in this city. Miss Fitzpatrick, of the same force, had the misfortune to lose her mother, who died in Canada recently, a very amiable lady. Miss F. has the heartfelt sympathy of the fraternity in this section.

Probably no gentleman's departure from Chicago telegraph circles in a long time has caused the regret which was felt when Mr. Paul Bossart resigned his position on the day force of the A. & P. office to accept a position with the Western Union in Pittsburg. Paul seems to be a universal favorite wherever he goes.

I have been presented recently a crayon sketch of Mr. Cuthbert, of the A. & P. office here, as executed by one of the artists in that office, picturing Mr. C. as he appears promenading one of the west side streets with his Mary Jane. She looks happy and so does he. She carries her poodle under her right arm, while with her left she lovingly clutches C.'s right. The cane C. carries in his left hand is a beauty. I would send you the picture, but I am afraid the dog might gnaw through the envelope and eat the cream of the joke.

In these days of selfishness, etc., it is refreshing now and then to hear of a case of deserved esteem like the following, which I clipped from the South Bend, Ind., *Morning Herald* of the 22d ult. The lady mentioned is a cousin of Mr. Samuel Bracken, of the W. U. office in this city:

"Miss Rebecca Bracken, the lady telegraph operator at Niles, on the M. C. R. R., was yesterday made the recipient of a very fine A. No. 1 Elgin gold watch, presented to her by the freight conductors of the middle division of the road. On the inside was engraved: "To Miss R. Bracken, from the freight conductors of the middle division, M. C. R. R." Miss Bracken possesses that rare talent among operators generally of civility to all; a civil question will insure a courteous response. She has been long and favorably known on the road, and is highly esteemed by the officers and respected by the men. May she ever enjoy her popularity and live long to hear the tick of her handsome present. *Vive la Beck.*

OCCASIONAL.

Marriage of Sup't Van Ostrand.—Gerritt Smith's New Quad.—Interruption of Telegraph Communication.

ALBANY, N. Y., Nov. 30.

TO THE EDITOR OF THE TELEGRAPHER.

ANOTHER happy man—one of the fraternity, too. Take courage, ye bachelors. Go and do likewise—if the opportunity offers. Mr. Dexter Van Ostrand, Superintendent of the Rouse's Point and Oswego District of the Montreal Telegraph Co., on Wednesday, November 24th, took unto himself, as a better half, Miss Agnes Phelps, daughter of Mr. Geo. B. Phelps, of Watertown, N. Y.

Mr. Van Ostrand was originally from Evans' Mills, N. Y., and was for several years manager of the Watertown, N. Y., office. About two years ago he was appointed Superintendent of the above named district of the Montreal Co. Van is well known as one of the finest operators in the country, and is altogether a gentleman whose social and business qualities challenge esteem and respect from all who have met or had to do with him in any capacity.

His numerous circle of telegraphic friends will feel sincere pleasure to know that the lady of his choice is in every way worthy, and that more brilliant prospects were scarcely ever vouchsafed to matrimonial voyagers.

Among the numerous and choice presents was a solid silver jelly bowl and ladle, and a set of solid silver forks from the gentlemen in Mr. Van Ostrand's district. The ceremony took place at the residence of the bride's parents on Stone street. The happy couple are to occupy a newly fitted and furnished residence in Watertown, N. Y., immediately upon their return from an extended tour to New York, Washington and elsewhere.

And now that this new duplex has been placed before your readers, there yet remains a few items which are clamoring for notice. The first is, we have a new quad. The last Edisonian bridge quadruplex, of which we can learn, has at last stepped down and out, to make room for the superior arrangements which have recently been invented. And, by the way, quads. seem to be multiplying like toads after a summer shower. (No disrespect to the quadruplexism intended by the comparison.)

We hear of the invention of new quads, from the banks of the sacred Gauges to the azure waters of Lake Michigan. This one, which has now dawned upon us in material shape, is known as Mr. Gerritt Smith's bugless and bridgeless *ne plus ultra extrabus goodabus quadabus*. When it is adjusted properly it is a success, and makes all the boys scramble for a chance to receive on it, owing to its somewhat complicated mechanism. The following notice, couched in the well known language of our former manager, C. S. Jones, is posted on the table:

"HANDS OFF THE BRASS."

Another fact which pleases us, but is of no particular in-

terest to any one else, unless it may be to make 'em jealous, is that our heater pipes and radiators are real gilt edged, bronzed in the finest style, and look well—simply gorgeous; in fact they appeared so fine, when the workman was laying on the gold, that some of the boys got out their watches to have them transformed into gold chronometers.

On Monday, Nov. 29th, a heavy wind prostrated all of the W. U. wires on the central route between Albany and Utica. The break occurred at 8:30 A. M., and communication was more or less interrupted until late in the afternoon. The heavy wind broke down poles in all directions, and caused considerable delay to business. At the time of this writing the thermometer stands about 7 degrees below zero, and all the W. U. wires on the Harlem route, between Albany and New York, and also between Albany and Boston, are broken; caused, probably, by the extreme coldness of the weather. Two little bulls and we are done: "A. McLark" when corrected, read "A. M. Clark," and "Mr. Edward Barould" read—well, "M" stuck to it, "that's the way it came," and so you will have to imagine what it is should have been

DOUBLE SIX.

Visitors.—Telegraph Pedestrian Achievements.—The Book-keeper's Department of the Chicago Western Union Office.

CHICAGO, ILL., Nov. 20.

TO THE EDITOR OF THE TELEGRAPHER.

AMONG the noted telegraphers who visited our city recently were Mr. Johnson, manager of the St. Petersburg, Pa., Western Union office. He was shown the wonders of the W. U. main office by the gentlemanly W. U. managers here.

Pedestrianism is all the rage here now. Everybody has got the fever, even our friends. Chas. Catlin, chief receiver, and G. B. Simpson, manager of the book department of the Western Union office, seem to be afflicted with it. No one wonders that George can walk fast and well, for he's built like a race horse; but how Charlie can manage to carry that "corporation" along at the pace he does, is a source of wonderment to the oldest inhabitant. On Sunday, the 7th inst., they walked from Chicago to Englewood and return, coming back by way of the Union Stock Yards, a distance of 18 miles; and on the 24th ult. they walked from Chicago to Evanston and return, a distance of 24 miles. I have not been able to obtain the exact time made, but I understand it was such as might put some of the professionals even to shame.

As the Western Union book-keeper's department is one of the main departments of the Western Union service here, I have taken the pains to write it up, thinking, no doubt, it would be interesting to your many readers elsewhere to know how the leading telegraph company arranges its book-keeping work here.

Mr. G. B. Simpson is the head book-keeper, and in charge of the room. Mr. De Alton Clark is in charge of error desk, assisted by Mr. C. T. Whittenhall, who also looks after the tariff books. Messrs. J. M. Kelsey, L. Baker, F. J. Loesch, and R. W. Chapman, post the registry books into the ledger. Mr. W. Ed. Bell foots books and checks off Northwestern and Metropolitan. Mr. J. S. Wilson, Jr., looks after the C. N. D. S. Mr. E. W. Lattey, though by no means a dead head, looks after that business, and sees that no one steals a pass. Mr. Arthur Gray is Northwestern man. Mr. Leslie Voorhees is Metropolitan book-keeper, and takes a turn at the key on stated evenings by way of amusement, and to put in a little extra. The registry force consists of Mr. Jos. Uhrig, champion sorter and lightning registrar, he having booked 7 pages in 55 minutes. Mr. John Richard James, who also figures the specials, and Messrs. F. D. Willis, B. C. Richards, and Charley Frendeuberg—the three latter all new men. Mr. T. G. Colburn books the board of trade business. Mr. Con. Olson, who can dance a jig or do a highland fling with the next one, counts specials and takes a hand at anything he sees to be done; and Master Eddie Lynch always answers promptly to the call of "check."

OCCASIONAL.

Personalities in Correspondence.—A Filthy Habit Abandoned.

NEW YORK, Dec. 6.

TO THE EDITOR OF THE TELEGRAPHER.

YOUR Chicago letter from "Priscilla" (a very well written article, too, by the way) reminds me that I also have something to say concerning the ungentlemanly conduct the fair writer refers to. I'm glad that one of the "weaker sex" has had the courage to come into the arena with such a fierce opponent. Take care, Miss Priscilla, that his filth does not contaminate you, however, more than your words of truth can shame him. I'm surprised to hear that in Chicago office they have not yet adopted the New York plan of prohibiting spitting. The chewing still goes on here, sad to say. I gave up the

filthy practice when I came into the office; not because I felt forced into it, but because a lady friend wanted me to. She got around me by telling me I was a perfect gentleman in every other respect, and this nice little bit of flattery couldn't be refused, so I succumbed, and am not sorry for it. I advise all the rest to follow my noble example, assuring them that in this case it is not similar to the fable of the fox who lost his tail in the trap and wanted all the rest to cut theirs off to be like him. "Priscilla," I greet you. Here's my hand for assistance in all war waged against defamers of your sex.

CANDOR.

An Excuse that Wouldn't Work.—An Error of "Occasional."—The Force of Habit.

CHICAGO, ILL., Oct. 29.

TO THE EDITOR OF THE TELEGRAPHER.

The shades of night were falling fast
As 'round and through the aisles he pass'd;
A man who carried (holding like a vice)
A book, and on it this device—
"Lost and extra time."

MR. EDITOR: That man was Mr. Cobb. There was going to be a rush and he wanted some of the day men to work extra. He was around trying to press every one but the ladies, and as he's married he "dassent" do that. You've hear'n tell of "Jack" Riley, not "N. Y." Jack, "The Traveller," but *our* Jack. Since Jack got on days he has become wealthy—not any extra, if you please, in his. As he saw "Lost and Extra" bearing down on him, all sails spread, etc., he began wondering what kind of a stand-off he'd give Cyrus this time, as he had about exhausted the ordinary stock of headaches, sore arms, engagements, etc. A happy thought strikes our hero. It wasn't Whitford, Billy Walsh nor Hoffman, and consequently it didn't hurt him or "A. M." I'll come the poverty dodge on him, says Jack to himself.

"Well, Jack, I guess you'll have to work to-night," says Cyrus. "You haven't worked extra in a good while."

"Well, I would just as soon work extra to-night as not," replied Jack, "but I ain't got a cent, and if I go home at six I can walk, or some of the boys will help me out on the street car; and if I worked extra I would miss them going home and have to walk away out on the west side."

Cyrus didn't put his finger alongside his nose exactly, but kind o' left a blank space on the extra list, and walked away with that knowing look of his. Just as Jack was putting on his overcoat at 6 P. M., and chuckling over the dodge he gave Cyrus, he was handed a nickel by that gentleman and mildly informed he would lend him that and place him on the extra list. This was too much for Jack; he sent out for a sandwich and took in the extra.

"Dear me, who is that nice, pleasant looking young man sitting there," asked one of our young ladies a few evenings ago, as we passed a group of them in the office, pointing to the seat occupied by the signal observer.

"Why, don't you know?" one of the others replied; "that's Mr. Clifford."

"Why no! I thought he wore side whiskers and a moustache?"

"So he did, but he has changed to those little side whiskers, and that makes his moustache appear so much larger," replied her companion.

"Why, he's a real—"

I was obliged to pass on for fear I would be detected eavesdropping and lose my *incognito*; but oh! "Clif" "Clif," you're too bad.

"Occasional" has made a mistake of a week in the age of Mr. York's baby. It was born a week earlier than he has given it credit for, and if I'm any judge of babies, and I guess I am, George has reason to be proud of it, as it's one of the prettiest babies on the west side.

Mr. Samuel Bracken has been transferred from the night to the day force, the transfer taking place about the same time as "Jack" Riley's.

Probably the force of habit is no better illustrated than in the way "Qn" office is run. The boys say "Q" was so accustomed to being inquired of why he was late in the main office, that he gets before his pocket looking glass if he's a minute late and (being manager, clerk, operator, etc., all combined himself) lectures himself for hours on account of being late. WESTERN UNION.

Life in the United States Signal Service.

TO THE EDITOR OF THE TELEGRAPHER.

HOPING that a few notes from this section will not be considered *mal à propos*, I will undertake to tell you something of signal life. By signal life I mean we are all signal service U. S. A. operatives.

Our line extends from Denison, Texas, on the north, to Ft. McKavitt, some 380 miles. At Jacksboro there is a line running north to Ft. Sill, Indian Territory, 80 miles north of Jackson. On this line we have some 10 offices,

with a stock of fair operatives. Our chief business is the interception of cattle, horse, and other kind of thieves, and dangerous characters generally. Though we do a good share of ordinary business, our best time is made when a few Indians break from the restraints of the reservation. Not long since the noted horse thief, Joe Hodner, was liberated from jail at Jacksboro by force, through some of his friends. He fled west and cut the wire five miles west of Jackson. Some 20 miles further west, he met the repairman, and told him where to find the trouble, but added not to be in any great hurry to repair it, for if he did he would only have to cut it again. The repairman left, and when he was out of sight, Hodner lassoed an insulator and cut the wire twice more, and then rode off laughing.

These are only some of our troubles, as the greasers make a practice of cutting the line every time they think of it, and they are seldom forgetful when devilry is concerned.

We are enlisted for a period of 5 years, and you can't well imagine what a great reformer it is. As we are only private soldiers, we are subject to punishment for neglect of duty, or whenever an officer believes we need it.

One man, ex-operator at this place, has been in the guard house for 3 months for taking a jamboree to the detriment of the service. His duties now are to drive a cart, and haul garbage from the officers' quarters. The most of us are old W. U. men, and could generally make fair salaries in the East, till the d— tempted us to roam and try our luck in Texas. Mr. King, of New York, is now at Denison; Mr. Partrick, of Philadelphia, at San Antonio; Mr. Milburn, of Washington, at some Mexican town opposite Ft. Duncan; Mr. Cundall, of N. Y., at Ft. Concho; and Lengthy Shock, at Graham. They say he is "long" for Texas (some six feet five); Sergeant (dubbed General) Rowley is in charge of us, and is stationed at Denison. The wire was completed from Ft. Clark to Ft. Duncan to-day.

Our pay is fair, but for goodness sake, boys, don't come here. "Oh, to be once a free born American, and not to have a fostering Uncle Sam." More when needed.

VOLCANO.

"Emma." A New Telegraphic Drama.

BY GNIMMUC.

ACT 1ST.—*Scene First.*—Operator receiving a telegram, which reads as follows after copied:

"Brooklyn, Oct. 1st.

John F. Brown — West 41st st., N. Y.:

Meet me at the same place at the usual time to-morrow. (No Sig.)

11 paid. EMMA."

Scene Second.—American District messenger boy delivering the above. Brown not at home. His wife receipts for same, tears off envelope, and, after reading contents, faints conveniently into the arms of a—cousin. (Curtain falls to weird music.)

ACT 2D.—*Scene First.*—Parlor of Brown immediately after his arrival. Stormy interview between man and wife. He tries to explain that that is a usual method his partner has of telegraphing, but she points to the truth-telling "Emma," and demands an instant and satisfactory explanation. This he is unable to give, and, seizing his hat, rushes frantically out.

Scene Second.—Same telegraph office. Brown rushes in and inquires for man who received that despatch, as he wishes to skin him alive. Mild looking youth steps to front, and inquires reason for the great row. Telegram produced, and the word "Emma" after check pointed out. Brown wants to know if that ain't a nice trick to play him? Operator laughs, and tells him that what he (Brown) supposes to be a lady's name is merely the signals of the sending and receiving operators, and that the message had no signature. Disgust and confusion on the part of offended party; a roar from the company's employees. (Curtain falls to lively music.)

A Matrimonial Incident.

At a certain hotel, not a hundred miles from Hamilton, there dwelt an heiress possessed of about \$35,000, who, when it was made known that she commanded so many shekels, became the attraction of several marriageable young men, more especially a certain book-keeper in a wholesale establishment. The prize was worth looking after, and the gay ledger keeper was not to be deterred from making an effort to secure that valuable acquisition to a man's happiness. He courted the fair one and she reciprocated his feelings until she found out that he had another string to his bow, very attractive but not possessed of much lucre. The result was that he got the "mitten" from the heiress, who in a few days after married a more worthy young man, honorably employed by a telegraph company, who nobly won her heart, hand and dimes.

THE TELEGRAPHER

DEVOTED TO THE INTERESTS OF THE TELEGRAPHIC FRATERNITY.

SATURDAY, DECEMBER 11, 1875.

THE TELEGRAPHER:

PUBLISHED EVERY SATURDAY at 38 VESEY ST.

ELEVENTH VOLUME.

TERMS OF SUBSCRIPTION.

One Copy, One Year, - - - - - \$2.00.

INVARIABLY IN ADVANCE.

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SPECIMEN COPIES FORWARDED FREE on APPLICATION.

Telegraphers and others are desired to act as Agents in obtaining subscriptions, and will be allowed TWENTY PER CENT. COMMISSIONS in lieu of Premiums or Club rates upon the amount of such subscriptions, which may be deducted from remittances when made.

Any person sending the names and money for FOUR subscribers, at the regular price of subscription, two dollars per year, will be entitled to receive an extra copy free.

SUBSCRIBERS CHANGING THEIR RESIDENCES, AND DESIRING A CHANGE IN THEIR ADDRESS, MUST ALWAYS SEND THEIR OLD AS WELL AS THEIR NEW ADDRESS.

Communications must be addressed to

J. N. ASHLEY, Publisher,

P. O. Box 5503.) 38 VESEY ST., New York.

INDEX TO ADVERTISING PAGES.

Table listing advertising pages for various companies like American Fire Alarm and Police Telegraph, Am. Compound Telegraph Wire Co., Bishop Gutta Percha Works, etc.

THE TELEGRAPHER MAY BE HAD at the news stand in the Receiving Office of the Western Union Telegraph Company, corner of Broadway and Dey street, where it is regularly on sale.

The New Volume of The Telegrapher.

Two numbers after the present will complete the Eleventh Volume of THE TELEGRAPHER. The Twelfth Volume will commence with the number for January 1st, 1876.

THE TELEGRAPHER has long maintained the position of the leading telegraphic journal of the country, and for several years of its publication it was the only paper of its class in the United States. It has been the aim of its several publishers and editors to improve it from time to time, as opportunity offered, and it has reached its present status only by long continued and unintermitted effort.

The prospects of the paper for continuance and usefulness were never better than at the present time. It enters upon its Twelfth Volume vigorous and prosperous, and

with every reason to anticipate a brilliant and successful future.

With the expiration of the volume a large number of subscriptions expire, which it is hoped will be promptly renewed. The commencement of a new year and volume affords an excellent opportunity to solicit and obtain new subscriptions, and we trust that every friend to the paper, and all who deem its continuance as an independent telegraphic journal desirable and essential, will exert themselves to secure it even a more general circulation among the telegraphic fraternity than heretofore.

All subscriptions received between this time and the beginning of the new volume will be commenced from that number, the intervening numbers being furnished free to such subscribers.

It is desirable that subscriptions should be sent in as early as possible, that we may know how large an edition to print during the next year, as usually the supply of some numbers is exhausted, and those subscribing later, and desiring to begin their subscriptions with the volume, cannot be supplied with complete files.

We anticipate a considerable increase of circulation next year, and hope the accessions to our subscription list will be made promptly.

Fertility of Inventions and Inventors.

ALTHOUGH SOLOMON has declared that there is nothing new under the sun, it is certain that if his assertion be accepted as indisputable, that there is in these later years a marvellous activity in reviving as new old devices. In respect to electricity and telegraphy this is especially true. All who are connected with telegraphic management are constantly and forcibly convinced of this fact, for they are continually besieged by inventors and discoverers, each of whom is confident that he or she has invented or discovered some new and inestimably valuable and important improvement, which cannot fail to augment the dividends of any company which shall secure it, and insure wealth and prosperity to all who may become interested in it.

The necessity which has arisen, from competition and the great increase of telegraph business, for increasing the rapidity of telegraphic communication, and more fully utilizing the capacity of telegraph wires and apparatus, has called out a remarkable development of inventive genius. The managers of telegraph companies are constantly besieged by persons who, as they suppose, have made important and valuable inventions to accomplish this. This involves a great deal of patient labor, investigation and experiment on the part of those who are charged with the responsibility of telegraph management, for it is not safe to summarily reject these supposititious improvements, as they may turn out to have merit, and if adopted, perhaps to prove advantageous. We believe that, as a general rule, the telegraph managers are disposed to afford the necessary facilities for such experiments, and investigations necessary to demonstrate the value of such inventions, notwithstanding the fact that most of them prove to be either of no value or merely reproductions of inventions already known and frequently covered by existing patents.

The recent announcement that the Western Union and Atlantic and Pacific Telegraph Companies proposed to try the pneumatic tube system for the transmission of communications between city offices, has brought down upon their officials a new class of inventors and inventions. The new Western Union building, and the office of Mr. GEO. B. PRESCOTT, the electrician of the company, has been beset early and late by inventors of pneumatic tube systems, each of whom had not the slightest doubt but that his particular system was the best, and the only one which could be adopted to advantage. Specimens of tubes of all descriptions and sizes encumbered the offices, and the time of the electrician was largely taken up in listening to the explanations and representations of the different inventions and inventors. Some of these inventions were not without merit, while others were simply absurd. One man, particularly, proposed to substitute hydrogen gas for condensed air, his theory being that compressing the air would cause it to congeal and be the means of greatly interrupting and delaying the passage of the boxes, which difficulty would be obviated by the use of hydrogen gas. How the gas was to be provided was not stated, but it was suggested by some one in the office that the gas evolved from the batteries might be collected and used for this purpose. Upon questioning the astute inventor it was discovered that he knew nothing about the operation of pneumatic tubes in London, where they have been in use for years, or of the degree of compression at which air would be likely to congeal.

The climax was reached, however, at last, when a man one afternoon entered the building, staggering under a heavy load of pipe of the size of sewer pipes, which he had brought for inspection and adoption. With difficulty his load was got up to the third floor of the building, and for some time the inventor was too much exhausted by his labor in transportation to enter upon a description of the advantages of his system, which, it is scarcely necessary to say, were not sufficient to warrant its adoption. As it has been extensively published that the pipe and apparatus to be used have not only been decided upon, and already described in THE TELEGRAPHER and other newspapers, but contracted for, the influx of pneumatic tube inventions has measurably abated, and in this respect the telegraph officials are having a rest.

We have no desire to decry and discourage electrical or telegraphic inventors or inventions, but it would undoubtedly save much expenditure of time, study and money, and prevent severe and discouraging disappointment, if inventors would take means to inform themselves of what has already been accomplished in the direction in which they desire to work. The world is indebted to inventors for the progress which has been made, and every person who really makes a useful improvement in mechanics or the arts should be encouraged and rewarded as a benefactor.

President Grant on Cable Telegraphs.

THE session of Congress commenced at Washington on Monday last, and the Annual Message of the President was delivered on Tuesday. The only allusion to telegraphic matters in the message was to cable telegraphs, which are treated of at some length. We print in full this portion of the message, which will be read with interest.

To the first three recommendations of the President there is no exception to be taken, but the fourth, that "a power should be reserved to the two governments, either conjointly or to each, as regards the messages despatched from its shores, to fix a limit to the charges to be demanded for the transmission of messages," is one which, if adopted, may seriously imperil the value of cable telegraph property. The President evidently considers the present charge of 75 cents (gold) per word for the transmission of communications over the Atlantic telegraphs as excessive, and the ignorant and interested clamor of customers for low and unremunerative rates would be very likely to affect the action of any commission to regu-

late such charges unfavorably to the interests of the cable companies.

It is for the interest of the proprietors of cable telegraph lines to do the business at the lowest rates consistent with the relative cost of doing the business. If competition be maintained, it may safely be left to regulate charges, which, in such case, are not likely to be excessive.

We think the President is in error in supposing that a large amount of capital in this country is ready to seek investment in cable telegraphy. There certainly has thus far been no indication of a desire on the part of American capitalists to invest in cable telegraphs, but quite the contrary. If the power to regulate charges for cable telegraph service should be obtained by the governments, as recommended by the President, it would doubtless prevent any further investment of capital in such enterprises connected with the United States.

The Telegraphing of the President's Message.

THE transmission of the President's message by telegraph from Washington is one of the principal telegraphic events of the season. This year the message was forwarded as usual over the Western Union wires for the Associated Press, and over the Atlantic and Pacific wires for the American Press Association. The message contains about 13,000 words, and the Western Union transmitted it on 18 wires in 31 minutes. Although only three wires were used by the Atlantic and Pacific, one of which was equipped with automatic apparatus, the whole message was transmitted and manifolded for delivery in 77 minutes, and was furnished to the papers of the American Press Association in time to get a portion of it in their first editions. It appeared in these papers in good shape, while it was badly bulled in the Associated Press journals. Who was to blame for this we are not informed.

But for the inexperience of the Atlantic and Pacific official in regard to automatic apparatus, who had the matter in charge at Washington, and consequent delays, that company would, most undoubtedly, have made much better time.

Taken altogether, the feat for both companies was very creditable.

The Reduction of Western Union Salaries.

THERE has been some commotion among the employes of the Western Union Telegraph Company this week, in consequence of a report that there was to be a general reduction of salaries. This was confirmed in the communication made by Mr. ORTON to the Directors at their quarterly meeting, held on Wednesday last. The scale of reduction is to be as follows:

On salaries not exceeding per year \$600, no reduction.	
Over \$600 to \$1,200 per year, 5 per cent.	
" \$1,200 to \$2,500 " " 10 " "	
" \$2,500 to \$5,000 " " 15 " "	
" \$5,000 to \$7,000 " " 20 " "	
" \$7,000 " " 25 " "	

This reduction was entirely unexpected, as the reports showed that the financial condition of the company was good.

We have not time or space to comment on this important movement this week, but shall probably consider it more at length hereafter. It is understood that a similar reduction, to take effect at the same date, January 1st, prox., is to be made by the Gold and Stock Telegraph Company.

Haskins's Duplex Telegraph Invention.

WE print this week a description of the duplex invention of Mr. CHARLES H. HASKINS, the General Superintendent of the North Western Telegraph Company. The scientific and practical ability of Mr. HASKINS as an electrician and telegrapher are generally known and recognized; and of the many important telegraphic inventions which he has made, his duplex is probably the best. He has discovered a method of working the duplex successfully without the use of a condenser, thus avoiding complications with other patents. This duplex, with the latest improvements, is used upon the lines of the North

Western Telegraph Company, and is available for other telegraph companies whose business may require duplexing their lines.

A Bradley Galvanometer For Sale Cheap.

WE would call attention to the advertisement of a set of BRADLEY'S Apparatus for Electric Measurement, offered for sale at a very low price. This apparatus is one of the best ever made by Dr. BRADLEY, is in perfect order, and is offered for sale because the owner has no further use for it. It is an excellent opportunity to obtain a first class apparatus at a low price.

Personals.

Mr. C. D. HAY has resigned his position in the St. Louis, Mo., Western Union office on account of ill health.

Mr. WM. N. MANLEY has resigned from the Houston, Texas, Western Union office, and accepted a position on the night force of the same company at St. Louis, Mo.

Mr. D. C. BLEAKNEY, manager of the Western Union office at Houston, Texas, has resigned, and is succeeded by Mr. DAVID HALL, formerly manager at Shreveport, La.

Mr. W. S. TAYLOR, late manager of the Marshall, Texas, W. U. office, has been appointed manager of the Shreveport, La., office of that company.

Mr. T. W. FURGASON, late manager of the Shawneetown, Ill., Western Union office, has been appointed manager of Marshall, Texas, office of the same company.

Messrs. JOHN RILEY and JOHN BELL have been appointed to positions on the day force of the St. Louis, Mo., Western Union office.

Mr. FRANK BOHLE has been appointed manager of of the Western Union office at the Cotton Exchange, St. Louis, Mo.

Mr. JAMES W. HOLLOWAY, a well known telegrapher of Cleveland, Ohio, was in St. Louis on 19th of November.

The Telegraph.

By Cable.

THE ATLANTIC CABLE COMPANIES AND THE TARIFF RATES.

LONDON, Dec. 4.—There has latterly been a rumor that the Anglo-American Cable Company desires to augment the present rates of telegraphic tolls between Europe and America.

The Daily News to-day, in its financial article, has the following paragraph on what presumably relates to this rumor: "The Board of Directors of the Direct United States Cable Company yesterday refused to accede to certain demands of the Anglo-American Telegraph Company relative to tariffs. The result will probably be a renewed contest between the rival companies and a low tariff."

The Western Union Telegraph Company.—Quarterly Dividend Declared.—A Proposed Reduction of Salaries.

THE regular quarterly meeting of the General Committee of the Western Union Telegraph Company was held yesterday at the office of the company. President Orton presented the following report:

EXECUTIVE OFFICE,
WESTERN UNION TELEGRAPH COMPANY,
NEW YORK, Dec. 8, 1875.

To the Directors.
The Executive Committee submit the following statement concerning the operations of the company for the current six months:

The gross receipts for the quarter ended September 30 were.....	\$2,671,805 93	
Expenses.....	1,762,652 45	
Net profits.....		\$909,153 48
The gross receipts for the current quarter ending December 31, inst. (estimating the December business), are.....	\$2,538,160 26	
Expenses.....	1,694,531 84	
Net profits.....		843,628 42
Total profits for the half year.....		\$1,752,781 90
The amount required for two quarterly dividends of two per cent. each is.....		1,351,200 00
Deducting which from the profits for the half year leaves a balance of.....		401,581 90
Deduct for six months' interest on the bonded debt and for sinking fund accruing during the same period.....		275,000 00
Leaves a net balance of.....		\$126,581 90
The excess of net profits for the current half year over the same period for 1874 is.....		94,451 48

In view of the foregoing statements, the Executive Committee recommend the adoption by the Board of Directors of the following:

Resolved, That a dividend of two per cent. from the net earnings of the three months ending December 31 be, and the same is hereby declared payable on the 15th day of January next.

Resolved, That for the purpose of such dividend the stock books be closed at three o'clock on the afternoon of the 20th inst., and be reopened on the morning of the 17th of January.

The committee also report that a further reduction of the expenses of the company is to be effected by carrying out a plan recommended by the President, whereby the compensation payable to all officers and employes of the company, in excess of the rate of \$600 per annum, is to be reduced, on and after the 1st day of January next, on a sliding scale, from twenty-five to five per cent.

WILLIAM ORTON, President.

Annual Meeting of the Southern and Atlantic Telegraph Co.

THE annual meeting of the Southern and Atlantic Telegraph Company was held at the executive office of the company, 51 New street, in this city, on Thursday, December 2d, for the purpose of electing a Board of Directors to serve during the ensuing year, and transacting such other business as might properly come before it. About 12,000 shares of the capital stock was represented, being more than half the outstanding stock of the company.

The President of the company, Mr. Charles W. Blossom, was called to the chair, and Mr. C. C. Blossom appointed secretary.

The report and statement of the President of the operations of the company, during the year ending Sept. 30th, was presented. The report showed the company to be in a more prosperous condition than at any previous time in its history, and that its lines had been extended to the principal places in the south, and that its business was increasing and profitable. To accommodate the increasing business of the company the duplex telegraph system of Mr. D'Infreville had been adopted, and was found to work satisfactorily and advantageously.

The following gentlemen were then elected directors of the company for the ensuing year: Messrs. Charles W. Blossom, Henry Hentz, Francis Morris, Mathew Maury, Mayer Lehman, Charles M. Fay, Amerton Yale, T. T. Bryce, Philip Tabb, Seth B. French, Frederick Zerega, Ernest Bayer, B. G. Arnold, Lucius Hopkins, Eckstein Norton, J. T. Hanemann, Henry Morgan, Wm. Woodward, Jr.; A. B. Graves, L. M. Calvoceossi, New York; Robt. N. Gourdin, Savannah, Georgia; J. B. Lafite, J. T. Doswell, New Orleans, La.; John B. Palmer, Columbia, S. C.; F. E. Stollenwerk, Mobile, Ala.; John W. Durr, Montgomery, Ala.; C. H. Strong, Atlanta, Georgia; Geo. H. Hazlehurst, Macon, Georgia; W. J. Middleton, Charleston, S. C.; W. F. Herring, Augusta, Georgia.

On motion, it was unanimously

Resolved, That the thanks of the stockholders be and are hereby tendered to President Charles W. Blossom for the attention given to the business of the company, and for the able manner in which he has conducted its affairs; and, be it further

Resolved, That this resolution be entered upon the minutes of this meeting.

New York Telegraphic Notes.

THE President's message was handled last Tuesday by the Western Union Company in a marvellously rapid manner. Eighteen wires were used in getting it from Washington, the time occupied in receiving it being, on an average, 30½ minutes. The quickest time was made by Baldwin and McCarthy, both finishing in 28 minutes. It was sent east to Boston, Hartford, New Haven, Worcester, Springfield and Providence on eight wires, and also west to Chicago on eight wires, four of which went by the Pittsburg route, and four by the Central route via Buffalo. The arrangements throughout were most complete, and by the time it was received from Washington, Boston and Chicago had nearly a third of the whole message. The copies made by the operators receiving were unsurpassed in the history of the annual spurges made in this direction, and the time beats anything yet made in Morse telegraphy.

The President's message was transmitted by the Atlantic and Pacific Telegraph Company from Washington over three wires, one automatic and two Morse. Owing to lack of experience more time was occupied than would be the case on a repetition of the effort. About 9,000 words were sent by automatic, and the balance by the two Morse wires. The whole time occupied, from the commencement until the last of the message was ready for delivery, was 77 minutes. Six operators, nine punchers, and fourteen copyists were employed.

Annual Meeting of the International Ocean Telegraph Company.

THE annual meeting of the International Ocean Telegraph Company was held at the office of the company in the new Western Union building in this city on Tuesday, the 7th instant.

The statement presented to the stockholders of the business of the company for the past year exhibits gross earnings of \$303,000, and net earnings \$190,000.

The Board of Directors was reelected, viz: Messrs. Wm. Orton, Norvin Green, A. B. Cornell, Cambridge Livingston, Edwards S. Sandford, Augustus Schell, Harrison Durkee, Cyrus W. Field and James H. Scrymser. The majority of the stock of this company is owned by the Western Union Telegraph Company.

The Atlantic and Pacific Telegraph Company.

Mr. JAMES G. SMITH, Superintendent of the Franklin and Atlantic and Pacific Companies between Boston and Washington, has resigned that position, and retires from the service of the companies at the end of this month.

Mr. W. C. HUMSTON, District Superintendent, west, has removed his headquarters from Detroit, Mich., to Cleveland, Ohio.

Foreign Telegraphic Notes.

ADVICES from China, via San Francisco, to Nov. 3d, states that the telegraph builders have again been driven from their work near Foochow, and the Amoy officials protest their inability to control the populace.

At the second meeting of the Institution of Civil Engineers in London, the paper read was "On the Pneumatic Transmission of Telegrams," by Mr. R. S. Culley and Mr. R. Sabine. The paper showed that there are twenty-four pneumatic tubes in London, of an aggregate length of nearly eighteen miles, four tubes in Liverpool, three in Dublin, five in Manchester, three in Birmingham, and one in Glasgow. The general opinion that pneumatic was more costly than electric transmission was shown to be erroneous, as the total expense of the former in London was barely two thirds of the amount which would have been required to pay the salaries alone of the clerks needed under the latter, irrespective of the cost of wires and instruments. The paper then went on to prove that the smaller the tube, consistent with proper conveyances for messages, the greater the power and more economy in working.

It has recently been announced that a joint stock company has been formed in London, with a capital of one million dollars, for the manufacture of Gramme's magneto-electrical machines, which, it is confidently expected, will be widely applied to the production of light, to the electro deposition of metals, and to various chemical manufactures, etc.

The Telegraphic Billiard Match.

THE agitated question of premiership in the handling of the ivories among the telegraphers of this city, and among whom there are many fine players, was settled last week. Something of this nature has long been mooted, and has many times fallen through; but it has transpired at last, and most successfully, too. There are few professions of as confining a nature as telegraphy which can boast of more really fine billiardists, and the late exhibition of skill but makes good this assertion.

As was announced last week, Messrs. Merrill, Mitchell, Landy, Sprague, Horn and Risdon met at Reeves' billiard rooms, on Broadway, Wednesday, D. c. 1st, at 2:30 P. M., and arranged preliminaries.

The French, or 3-ball carom game was played, the first game being between Merrill and Sprague, resulting in a victory for the latter by a score of 75 to 64, 75 being the game. Best runs—Merrill, 31; Sprague, 26 and 23.

The second game was a closely contested one between Risdon and Horn, the former choking Horn off by 9 points only. Runs—Risdon, 27; Horn, 24.

The third game was between Landy and Mitchell, and was rather uninteresting to those present, as Landy seemed to have it all his own way. Mitchell was a little off, and scored but 47 to the winner's 75. Landy's highest was 28; Mitchell's, 25.

The fourth game of the day was between Risdon and Sprague, and was full of interest, from the fact that there were no wide gaps in the score, the men playing so evenly that they were rarely, if ever, more than 4 points apart. Risdon pulled up ahead by one, and scored his 75 when Roscoe was on his 74th.

The fifth and last game of the day was between Sprague and Mitchell, and resulted in a quick victory for Mitchell by a score of 75 to 42.

The second day found the men on hand eager for the fray. All the force who were off, or could get off, were on hand too.

Landy and Sprague opened, the former winning the game by 30 points; Mitchell and Horn followed, the lat-

ter being defeated by a score of 75 to 48. Landy then defeated Horn, 75 to 63, as also did Merrill by 30 points. The last game of the day was between Landy and Risdon, when the former scooped Risdon in to the tune of 75 to 41.

The third day the excitement ran high. Mitchell and Landy had each won four games, and both were confident of victory. Merrill and Landy played the first game: Merrill winning by a score of 75 to 41, thus making him even with the best scores, and giving him a good show for first money. He played Risdon next, and defeated him quickly by a score of 75 to 40. Sprague and Horn next had the table, and the latter was again laid under, 75 to 49. The remaining two days were interesting and exciting to those participating.

Mitchell and Landy played the last game, they having led each other on the whole number of games won. It was a hot fight, as the first and second money was at stake. Landy played his usual strong game, and was as cool as possible—so also was Mitchell, but not quite equal to his antagonist in skill it seemed, for Landy took the first money by 22 points, leaving Mitchell to roll up the second heap. The affair all through was most harmonious, pleasing and successful, and nothing occurred to mar the fun. There was a great deal of skill displayed, and none participating need blush for their record. The following is the

SUMMARY.

	Won.	Lost.
Landy.....	5.....	1.....
Mitchell.....	4.....	2.....
Merrill.....	3.....	2.....
Risdon.....	2.....	3.....
Sprague.....	2.....	3.....
Horn.....	0.....	5.....

Quotations of Telegraph Stocks at N. Y. Stock Exchange.

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Dec.	WESTERN UNION.		ATL. AND PAC.		AMER. DIST.		GOLD AND STOCK.	
	Bid.	Asked.	Bid.	Asked.	Bid.	Asked.	Bid.	Asked.
2	74 3/4	75 3/4	18 3/4	18 3/4	25	25	65	65
3	75 3/4	76	18 3/4	18 3/4				
4	75 3/4	76 3/4	19 3/4	20 3/4				
6	75 3/4	76 3/4	19 3/4	20 3/4	25	25	65	65
7	76	76 3/4	19	20				
8	76 3/4	77	19 3/4	19 3/4				

Born.

GIBSON.—At Maysville, Ky., Friday evening, October 29, 1875, the wife of Mr. JOHN B. GIBSON, telegraphic operator, of a daughter.

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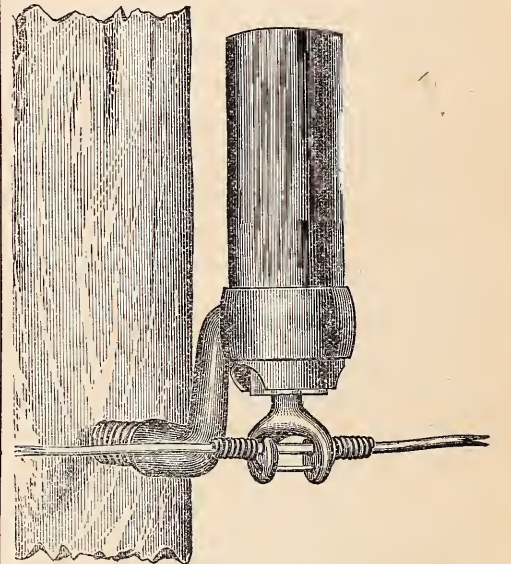
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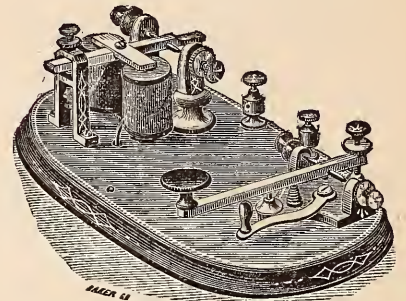
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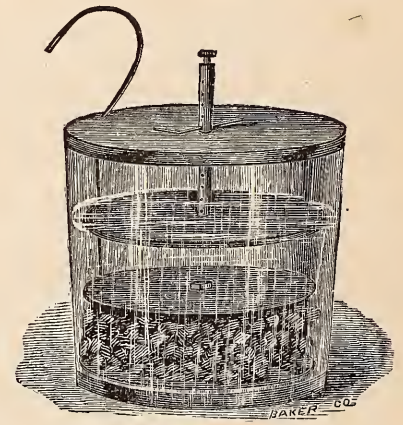
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THE TELEGRAPHER

A JOURNAL OF
ELECTRICAL PROGRESS.

J. N. ASHLEY, - - - - - PUBLISHER.

SATURDAY, DECEMBER 18, 1875.

VOL. XI. WHOLE No. 492.

Original Article.

Momentous Discussion.

By GNIMMUC.

THE salary question came before the meeting at its last conclave, and various were the opinions expressed on all sides.

Bime, 33, ventured to suggest that it would have been better for the majority to have reduced the force instead of the salary.

Sig. Rossi hereupon remarked that the first speaker's force didn't seem to have been reduced any, so that he still was head and shoulders in the majority.

Mons. Coax said it being evidently a forcible reduction, he did not see that the gentlemen gained anything by their hair-splitting arguments.

Knibbs, seeing a hot time ahead if the discussion be allowed to run in that rut, changed the current of thought by asking O. K. Fib what was going to be his little economy.

Fib, aggrieved and astonished, exclaimed, "Economy! Don't ask me. Beer sull five cents, and lunch tickets gone up!"

Mickzer here wanted to know why the lowest cut was different from the segars they would presently be smoking?

All being too thickheaded for this, the answer came, "because one is five per cent., and the other one cent per five."

Knibbs said this was nearly as good as "what's the difference between a high toned young lady of their acquaintance and the stipend alluded to?"

The answers were various, one being, "because she is flighty;" another, "because she's here to-day and gone to-morrow;" but the true one was given, "one is airy Sal, and the other sal-ary."

The prize-fighter then inquired if she was a miss. Roxy said, "yes, if you spell it with a y and a lisp, myth."

Knibbs propounded a new conundrum. "Why is the discoverer of *etheric force* like a patent cough mixture?"

Cunny, cute as ever, came to the front with the answer, "because he (it) is Tom Edison (tar medicine)," and it was pronounced the best contribution of the evening.

The man whom Shakespeare makes Hamlet mention in the first line of his famous soliloquy, called them back to the original question, and proposed they should strike; but there being no one willing to be struck, the plan was abandoned.

A lively sally of wit from the P. P. (Paripatetic Puster) to the effect that all things were not going as *Merrily* as might be wished, but that there was no use *Warren* against the powers that be, caused H. R. Knibbs to nearly *Borst* with laughter, which so much agitated the company that the meeting broke up.

The Telegraphers.—Action of the Cincinnati Meeting.

A MEETING of the employes of the Western Union Telegraph of this city was held Sunday forenoon, at eleven o'clock. There were some seventy-five persons present, including G. T. Williams, Superintendent Seventh District, F. A. Armstrong, manager, and other officials. Mr. George Gilliland was called to the chair, and Mr. C. E. Higdon appointed secretary. The object of the meeting was to take action upon the proposed general reduction of salaries of all employes exceeding \$600 per annum. Animated speeches were made by Messrs. Y. T. Williams, F. A. Armstrong, Newton, Mattoon, Furr, Hockett, McKenna, Hall, and a number of others. The unanimous feeling prevailing was that of presenting an earnest but respectful remonstrance against the reduction. A committee of five, composed of Messrs. McKenna, Waddell, Hockett, Dunlap and Hall, was appointed to draft resolutions. The committee retired, and soon after returned with the resolutions. The discussion then was chiefly upon the technical wording and effective phraseology of the various preambles and resolutions, but without ma-

terial dissension in views. After one or two minor amendments, the following preambles and resolutions were unanimously adopted:

Whereas, We are informed by the despatches of the Western Associated Press that at a meeting of the Board of Directors of the Western Union Telegraph Company, held recently, a general reduction of salaries of all employes of this company was decided upon, to take effect January 1st, 1876; and

Whereas, The published reports of the financial condition of the company show a healthy condition of its business, and do not indicate the necessity of such reduction; and

Whereas, The expenses of living are not less than six years ago; that among those of us who have families to support our necessary expenses are not decreasing; and

Whereas, We believe, as a class, we are poorly compensated for the responsible duties performed, and many of us having become veterans in the service of said company, we do not believe said resolution an act of justice; and while we have no intention of taking any action that would embarrass the business of the company or the public at large, we earnestly ask a reconsideration of the action of said Executive Board, believing that the true interests of the company will not suffer in consequence, and that a feeling of harmony may be cultivated and fostered between the employers and employes to the mutual advantage of both by the said reconsideration; therefore,

1. We would respectfully request that you will join with us in procuring an anulment of the action referred to.

2. That these resolutions, as passed at this meeting, be submitted to George T. Williams, Superintendent, and be circulated in the Seventh District for signatures of the employes.

J. A. MCKENNA, O. J. WADDELL,
J. E. HOCKETT, S. M. DUNLAP,
J. C. HALL, Committee.

Similar meetings were held in Chicago, St. Louis, Nashville, Memphis, Washington, and various other large offices over the country, and it is hoped by those interested that they will have due effect with the Directors.—*Cincinnati Enquirer*.

[From the Cincinnati Commercial.]

The Trouble with the Telegraph.

THE recent action of the Executive Board of the Western Union Telegraph Company, after declaring their usual quarterly dividend of two per cent., in passing a resolution to reduce the salaries of all employes from five to twenty-five per cent., is creating much excitement among their employes in all parts of the country. Unlike the strike of six years ago, the movement for an emphatic protest includes superintendents and office managers as well as operators. In the southern division a large reduction of salaries was made last summer by the superintendent, who acted upon his own responsibility, and at the same time promised that no further reduction would occur. Now the action of the Executive Board fails to sustain him, and he is considerably exercised over it. The appliances of the company furnish ample means for concerted action on the part of the employes, who are busily communicating over the wires regarding the situation, and have called a meeting in their respective offices for to-morrow morning, to unite in a firm and emphatic protest against this action of the company. While the hot-headed ones talk "strike," there are enough left of those with cooler judgment who have not forgotten their failure in January, 1870, and it is hardly probable that the business of the country will be again embarrassed as it was then. It might also be mentioned that the quarterly dividends of the company amount to 8 per cent. per annum on the stock, which was quoted yesterday at 76½—equal to 10 1-3 per cent. per annum. The stock advanced 1½ per cent. on the strength of this new move by the company.

The Telegraphers' Mutual Benefit Association.

RECEIPT OF ASSESSMENTS.

NEW YORK, Dec. 10, 1875.

ASSESSMENT No. 79.

2, 6, 27, 98, 148, 175, 178, 237, 238, 242, 246, 258, 273, 274, 294, 312, 347, 361, 461, 453, 455, 457, 466, 468, 469, 470, 471, 475, 481, 514, 527, 542, 560, 594, 691, 692, 714, 725, 766, 787, 801, 813, 869, 873, 899, 920, 977, 1093, 1102, 1127, 1134, 1135, 1136, 1143, 1153, 1200, 1273, 1449, 1489, 1559, 1601, 1610, 1611, 1612, 1663, 1697, 1698, 1699, 1715, 1716, 1731, 1742, 1786, 1900, 1907, 1917, 1974, 1976, 2037, 2038, 2048, 2063, 2086, 2089, 2094, 2095, 2165, 2177, 2182, 2197, 2256, 2261, 2309, 2319, 2320, 2328, 2351, 2353, 2364, 2365, 2380, 2381, 2396, 2440, 2447.

ASSESSMENT No. 78.

1144, 1160, 2376.

Members of the Association who look to THE TELE-

GRAPHER for receipt of assessments paid will please take notice that an acknowledgment of the receipt of one assessment should be taken as a receipt for all previous assessments.

Correspondence.

We do not hold ourselves responsible for the opinions of our Correspondents. Our columns are open to free discussions on all telegraphic subjects, without distinction of person or opinion.

No notice will be taken of anonymous communications.

Proceedings of the Western Union Chicago Employes Upon the Proposed Reduction of Salaries.

CHICAGO, ILL., Dec. 13.

TO THE EDITOR OF THE TELEGRAPHER.

IMMEDIATELY upon the receipt of the Associated Press despatches from New York, a few days ago, announcing the contemplated reduction of salaries on a sliding scale of from 5 to 25 per cent. on all salaries over \$600 per annum by the Board of Directors of the Western Union Telegraph Company, the Western Union operators of this city began to stir themselves to action, and, although nothing looking towards a strike was hinted at, there was a firm determination to manfully protest against the proposed reduction. The matter did not take shape, however, until the following circular, which emanated from Washington, D. C., and which was sent from there to New Orleans and thence to Cincinnati, west and south, to Chicago, and from Chicago to New York, was received. The circular read as follows:

"The following is being distributed from Washington. If approved, spread:

"There is a great deal of indignation among all hands regarding a proposed reduction of salaries, to take effect Jan. 1. It is proposed to call a meeting at every office of all employes of this company to protest in the strongest manner against it. Our manager here advises that this should be done at once, and meetings should be held not later than Sunday next, and the result of the meeting be sent to the Board by the Managers of the respective offices.

"This includes all grades of employes, from superintendent to janitor, and the executive committee should understand that it means business.

"It is thought united action in this way will have a telling influence. This course is approved by managers at all leading offices north, south and west, and simultaneous meetings will be held at all points on Sunday morning.

"We would like to have you all fall in line and do the same. We are advised that the best thing, and in fact the only thing to be done, is to make a bold, decided stand against it, and protest in a firm but respectful manner, and there is a strong chance that united action on our part will effect a repeal of the order. Please do what you can to have meetings held at all points and cooperate."

A letter was then drawn up addressed to Manager Maynard, requesting him and his assistants to be present at a meeting to be held Sunday morning, the 12th inst., at 10 A. M.; also requesting him, for them, to invite Gen. Stager, C. H. Summers, and Gen. Stager's staff, Col. Wilson and his assistants, Manager Felton and his assistants, and the employes of his department to meet with them for consultation.

Permission was obtained from the owner of the building occupied by the Western Union Company to meet in Room 31. A favorable reply from Mr. Maynard being received through their representative, Mr. Stanberry, the following notice, by permission of the management, was posted on the office bulletin board and copies sent to the afternoon papers. It was also posted in the receiver's and book-keeper's rooms. It read as follows:

"NOTICE.—All operators and others interested in the proposed reduction of salary are earnestly requested to be present at a meeting to be held in this building to-morrow (Sunday morning) at 10 o'clock.

"The object of this meeting is to exchange views upon the subject of reduction, and to take such steps as, after consultation, may be deemed necessary.

"It is expected the heads of departments will be in attendance.

"Chicago, Dec. 11, 1875."

At the meeting yesterday morning there was a large attendance of operators. Every one present was convinced that the step contemplated by the company was harsh and uncalled for, and all were desirous that a strong protest should be drawn up at once, but there was scarce an operator in the room who hinted at a strike as a means of retaining their present salaries. After a great deal of discussion it was

RESOLVED TO PROTEST,

and to suggest to the Board of Directors that the "present system of filling up vacancies at reduced salaries sufficiently guards the interests of the company."

The meeting was called to order by Mr. W. C. Long, and, on motion, Mr. A. L. Baker was elected chairman, and Mr. H. Stanberry, secretary.

On motion of Mr. Long, a deputation was sent to Col. Wilson, district superintendent, and Mr. Jones, assistant manager, to request their presence at the meeting. These gentlemen came in shortly after this notification.

The chairman said

THE OBJECT OF THE MEETING

was to learn the general feeling among the operators in regard to the proposed reduction of salaries. It was not, he thought, proposed to make any general protest until something more definite was learned relative to the matter. Remarks from gentlemen present would be in order.

Mr. Whitcomb explained how the circular from Washington got to Chicago.

Mr. Long said some of the older operators had thought it advisable to go slow. It had been decided to hold the present meeting, and to ask the presence and counsel of the general and district superintendents. If any action were necessary, they wanted it to be taken in proper form and after due deliberation.

Col. Wilson, district superintendent, upon invitation, favored the meeting with his views upon the subject. He said he had been advised to be present, and would like to hear an expression of opinion before saying anything. No official information has been received of the reduction. The receipts have fallen off very largely of late, and there would seem to be some reason for making a reduction; but the matter was simply a rumor, and scarcely properly before them at present. In reply to a despatch to Gen. Stager, who was in New York, he replied that he had not seen the Washington circular, and advised the operators to go slow rather than act on a rumor. He had attended the meeting on invitation, and not as a participant. It seemed to him rather early to take any action in regard to this matter. He could not see that anything would be accomplished by it. Any threat or menace to the company, as matters stood, would be poor policy. Besides, the company would not be swayed by threats. If they had taken the step, they had acted with some good motive, for they have every reason to study the interests of the employes as well as their own. If the report should prove to be correct, the question will then come up whether their action is not proper in view of the state of business affairs in the country. In reading the Associated Press despatch, it seemed to him that the intention had been to spread the reduction as lightly as possible on the operators—much more so than on the officers of the company. He did not believe there was any question but that the company, if they had decided upon this reduction, had acted upon a principle which, if understood, would probably be satisfactory to everybody.

Col. Wilson went on to show that the receipts of the company had decreased to a great extent during the past few weeks, and that the directors must make a corresponding reduction in expenses. It was better, he thought, to make a slight reduction all round than to cut down expenses by the removal of individuals. He had been practicing economy in the office for some time, but it appeared that his efforts were not sufficient in that direction. It had been stated that the rate of salary paid telegraph operators was higher than any other business in the country, but, of course, a higher order of talent was required than for most branches of industry. There was not another office in the United States which was in such complete harmony as the Chicago office, and he would regret if anything should occur to disturb it.

The Secretary thought the reduction of salaries ought to be

LEFT IN THE HANDS OF THE SUPERINTENDENTS,

who were better qualified to judge where a reduction could be made than the directors.

Col. Wilson.—All corporations make these reductions occasionally. If any one has found bed rock, I should like to know where it lies. [Laughter.]

In reply to a suggestion of an operator that the company had been paying large dividends, Col. Wilson said that for several years everything had been expended in extension and repairs, and the stockholders were now anxious to have some return for their capital.

Mr. Long, to show the meeting that the Chicago office was not the only one moving in this matter, read a protest just agreed upon at a similar meeting in Baltimore. He thought the Board of Directors ought to have left this matter entirely to the discretion of superintendents and managers, and they should not be surprised if they received a strong protest. He knew of no other class of men, after serving an equal number of years in, and making a study of a business, who were so poorly remunerated as telegraphers. There was ground for a protest.

Mr. Armstrong expressed himself in favor of protesting, but would oppose a strike. He struck five years ago and got sick of it. [Laughter.]

Mr. Long said it was distinctly understood that a strike was not in view. He thought proper resolutions pro-

testing against the reduction, would be entitled to consideration and would receive it from the directors. He suggested the organization of some kind of society—an open one, and without any thought of resorting to a strike. At least a permanent organization might be had, consisting of a president and secretary who should have the power of calling meetings in case there should be necessity for them.

A suggestion that nothing be done rashly, or until General Stager's return, was heartily adopted.

Mr. Whitford said if they intended protesting it ought to be done very quickly. There was no sense in waiting until the reduction was made.

The following despatch, which had just been received from Peoria, Ill., was read:

"PEORIA, Ill., Dec. 12.—We propose to send in about the following. See if you think it is about correct, and answer quick.

We, the undersigned, comprising the entire force of W. U. T. Co. in this city, in meeting assembled, decide that—

Whereas, The executive committee and directors have decided to reduce our salaries on a sliding basis of from 25 to 5 per cent; and

Whereas, The said W. U. T. Co. are doing a larger business than they ever did before; and

Whereas, The said Western Union Telegraph Company are scarcely paying many of their employes enough to live on at present, the undersigned included; and

Whereas, The great responsibility that hangs on our shoulders being so greatly in excess of any other business; therefore, be it

Resolved, That we, the undersigned, do respectfully request the said executive committee and directors to let the salaries remain where they are at present, or increase them to such an extent that its employes can live as well as men in other employment; also,

Resolved, That we respectfully notify the said executive committee and directors of this company that we will not willingly submit to this reduction, but will do all in our power to have our salaries adjusted, so that each man will feel that he is not a slave to monopoly; also,

Resolved, That if the said executive officials resist our appeal, which we make in all due respect, that we shall find other employment and

LEAVE THE SERVICE.

Resolved, That a copy of these resolutions be forwarded to President Orton forthwith, and we respectfully request his decision as early as possible.

E. B. MEYERS,
E. P. DELANO,
F. DELANO,
A. ALLEN,
FRANK GUILL,
PETE ROWE."

The reading of this was received with laughter and applause.

The question of forming an organization was then debated, and Col. Wilson said that it was of course their right to protest or object if they choose, but a great many persons were attracted to organizations of the kind proposed, and undue excitement was created, which was neither to the interest of the employer or employes.

The chairman said that when the news was received, there was a widespread disposition to take a decided stand against the reduction, but, upon maturer consideration by the older men, it was thought advisable to quietly submit.

A number of gentlemen present expressed themselves of the opinion that it would not be improper to pass a resolution requesting the directors to rescind the order. If the operators were reduced, they would lose considerable interest in their work, and there was no knowing what might follow. There were not men enough to supply the demand if they should all leave the business.

The Chairman.—From information I received I regard the proposed reduction of salaries as a fixed fact, not to be withdrawn on account of any protests originating with the operators alone. The Executive Board have undoubtedly considered well their action, and will hardly be moved to reconsider, and I believe the wisest course to pursue is that of

QUIET SUBMISSION.

It seems to me a misfortune to the operators that cannot be altogether consistent with the best interests of the company. I mean by this that a reduction now in the beginning of winter of the little more than plain living salaries of the Western Union employes will have the effect to deprive them of many of their expected comforts. And, what is more to be regretted, they will lose all confidence in any future advancement. With these discouraging prospects in mind, unrest and dissatisfaction must follow, and the general efficiency of the service of the company may be more or less impaired by the retirement from the business, as soon as practicable, of many of the best men to engage in pursuits more profitable. This may seem more likely when it is known that those most seriously affected are those who have worked long and faithfully for late promotions to lose all their pecuniary advantages by the reduction.

A despatch from Memphis, just received, was read, stating that the Western Union employes there had organized and wished the cooperation of the Chicago telegraphers.

Mr. Knox moved that they elect permanent officers, but take no decided action. When the reduction came, the officers could call a meeting without going to the trouble of circulating a petition.

The motion prevailed.

Mr. Long moved that the present chairman and secretary be made the permanent officers, and empowered to call a meeting upon the request of five operators. Carried.

Mr. Long then moved the appointment of a committee of five to draw up resolutions expressing the sense of the meeting.

Assistant Manager F. W. Jones paid a high tribute to the manner in which the operators here had performed their several duties during the great grain excitement and rush of business which we had just passed through here, and said he could safely refer to Superintendent, Colonel Wilson, who would agree with him that the work was done faithfully and well, the operators holding themselves in readiness to work early and late. He thought a protest would have a good effect, but in all the deliberations he counseled moderation.

Mr. Lattey submitted the following:

Resolved, That it is the sense of this meeting that a sweeping and indiscriminate reduction of salaries, such as is reported to be contemplated by the directors of the company, will entail considerable hardship on those who have long and faithfully served the company, and receives our respectful protest. Managers and superintendents may safely be empowered to use their discretion in filling up vacancies at prices such as the labor market may command.

Resolved, That a copy of these resolutions be forwarded through the proper channel to the Board of Directors.

Mr. Long pressed his motion for a committee, which could pass upon the resolutions presented. Carried.

It was some time before this committee was constituted and got to work. Several men were placed on it who declined serving, on the ground that any action was premature.

Mr. Loesch, one of the committee, fired up at these repeated declinations, and made a strong speech in favor of a prompt protest. It might be, he said, that the order was thrown out as a feeler, and would be quickly withdrawn if met with firmness on the part of the men. He quoted statistics to prove that the company was in a good condition, with increasing business. He would not countenance anything like a strike, but they should not submit tamely to a reduction.

This speech infused both courage and energy into the meeting, and the following committee was then got to work: Messrs. Lattey, Strong, Loesch, McRobie, and Hamilton.

After an absence of fifteen minutes, the committee brought in the following report, which was adopted unanimously:

THE RESOLUTIONS.

"*Whereas*, A report has been circulated through the Associated and New York Press to the effect that a sweeping reduction of salaries over \$600 of from 25 to 5 per cent. is contemplated by the Board of Directors of the Western Union Telegraph Company; therefore, be it

Resolved, That it is the sense of this meeting that the sweeping reduction of salaries contemplated will entail great hardship on those who have long and faithfully served the company, and we protest against it.

Resolved, That we consider the present system of filling up vacancies at reduced salaries sufficiently guards the interests of the company.

Resolved, That a copy of these resolutions be forwarded through the proper channel to the Board of Directors for their favorable consideration."

The meeting then adjourned, subject to the call of the President and Secretary, after passing a resolution to the effect that the permission of the management be obtained by the Secretary to forward the result of this meeting to all offices that had signified their desire to hear from us.

After adjournment, the chairman was notified of similar meetings in Cincinnati, Philadelphia and Springfield, Ill., in addition to those reported during the meeting; and copies of the resolutions also sent the chairman, which appear in this morning's dailies here, and will no doubt be sent to you from those places.

The editorial remarks of the editor of THE TELEGRAPHER of Saturday, the 11th inst., which were telegraphed to the papers last night, are very highly commended by the fraternity here.

This will set at rest all doubts regarding the reduction being simply a rumor. OCCASIONAL.

Ike Partington's New Discovery.

TO THE EDITOR OF THE TELEGRAPHER.

I RED last week in the papers about a new spark which that grate inventor Edison, of Newark, had

found, and was going to send messages with it. Now, Mr. Editor, I don't pretend to be much of an inventor, but I think I have found a spark as good as his'n, and if he can use it to send messages, he is welcome to it, cause I can't make it work worth a cent, and he has got a better chance to experiment, for he's got a *Gold Leaf Calsonimeter* and *I ain't*. The way I git my spark is this. First take a cat (a Thomas one is the best), hold the tail with one hand and rub the fur towards the ears with the other, and if the cat is in a dark place you will git a spark every time. No matter if the cat objects, science must be attended to—and the best way is to cut off her claws and tie up her mouth before commencing operations, 'specially if you've got no court plaster in the house. Now I think this must be a new invention, 'cause it ain't in none of Edison's patents, so I thought I would send it to your paper, and if it meets his i he can go for it, or anybody else that wants it. I shouldn't wonder if this discovery would be made to work on the complex. Just imagine, Mr. Editor, an operator at each end of a line rubbing the fur, or pulling the tail of a cat a few times to send messages both ways—what a saving of battery it would be. Cats don't cost nothing, and when the fur of one is worn off, it's easy to find another. Why, I've worn the fur off six different cats, trying experiments, and as I ain't succeeded in sending any messages yet, I thought I would turn it over to Mr. Edison, and see if he can't do something with it.

I've named this new discovery *Grimalkinism*, 'cause its from a cat. IKE.

P. S. Don't let Berg no 'bout this, he might block the whole thing. IKE.

Etheric Force.

TO THE EDITOR OF THE TELEGRAPHER.

THE professor's discovery is a wonderful thing, especially the retroactive part. In effect, it's like that gun, which,

"When aimed at duck or plover,
Recoiled and kicked its owner over."

Or like the old woman's remedy for constipation or—otherwise. It was peach bark. "Scrape it *down* and it'll physic ye! Scrape it *up* and it'll vomit ye!"

Every one has wondered how the professor could invent the quadruplex three or four times, and sell it each time. Bewildered heads have ached, trying to understand the secret of the professor's "greased lightning," that makes the stylus slip on the paper. Likewise, his exploits in automatic, by which seven million words per minute are sent on one wire, or one million on seven wires, indifferently, coming out at one end considerably faster than they were crammed into the other.

Also, the light and airy manner in which the professor has flitted from flower to flower in the electrical garden, touching with his magic wand the obscure buds here and there, and making them bloom forthwith like a rose.

And lastly, among these many wonders, his most astounding modesty!

No one could ever understand it.

But we do now! It is *Etheric Force!*

That it is that has assisted him through all these years of unappreciated wisdom.

And now the dear blessed man, in a spirit of pure philanthropy, has given it to the world without money and without price.

May he be wafted on the wave of his etheric force to that blessed niche in the temple of fame, where his two illustrious friends have already secured a permanent abiding place. Ye gods, what a trio!

Paine! KEELEY! EDISON!!

But the greatest of these is Edison!

MACK.

Telegraphic Matters at the Capital.—Telegraphing the President's Message.—The Reduction of Salaries.

WASHINGTON, D. C., Dec. 13.

TO THE EDITOR OF THE TELEGRAPHER.

THE opening day of Congress having come and gone, and the telegraph business just coming out of the stupor it has been in for the past summer months, perhaps no more fitting time could be had to assume the responsibility of giving you the news in telegraph circles.

The A. and P. have removed from their old quarters, No. 609 Penna. ave., and fitted up an office near Willard's Hotel, having their receiving office in the hotel. To do this it became necessary to rebuild their wires, supply new poles, etc., which has been done at considerable expense. They have also laid a new six-wire cable, connecting their wires with the Capitol, as required by law. In the Capitol their main office is in the room adjoining the room occupied by the W. U. as their press office. They have fitted up a new and very neat office in the corridor of the House and are soon to open an office in the Senate. Beside the Capitol, they have distributed about the city ten branch offices. Naturally, of course, long before Congress convened, the main topic of conversa-

tion was the forthcoming President's message. Speculations and rumors were rife as to how it would be handled, but when it became known that our energetic Superintendent, Mr. D. H. Bates, was to be present on the eventful day, all felt that it could get in no better hands, and that it would be handled as best suited his judgment. It was handled by ten perforators, two Morse operators, and twelve copyists, representing the automatic, and by six Morse operators (three sending and three receiving), representing that system. When the result was announced that our papers were on the street twenty minutes ahead of the W. U., all prejudice and sectarian feeling was laid aside and one and all congratulated each other and themselves.

The S. and A. still paddle their own canoe, the paddles manipulated by ten employes to the tune of a very heavy business, both night and day. Experiments on their lines with the D'Infreville duplex have proven very satisfactory, the duplex working well on six hundred miles of wire.

There is considerable excitement here to-day over the reports of meetings being held yesterday along the lines of the W. U., to take action in regard to the reported reduction of salaries. This calls to the writer's mind the discussion that appeared some time since in THE TELEGRAPHER in reference to a union of telegraphers for the protection of their interests; and it cannot but appear to me that the coming year of 1876, the one hundredth birthday of our independence as a nation, would be a most fitting and appropriate time for an organization expressive of our independence as a fraternity. One can hardly attach blame to the telegraph companies for employing the same class of men who will work for \$50 per month in preference to those who are worth double that sum. The hundreds who express themselves willing to work for nominal salaries may be forced to it from want of means of support; but would it not be better for their future interests to seek employment at other trades, and thus save depressing the interests of the thousands within the ranks. Unity of action is the key that will unlock the great barrier that has stood between us and our liberty for so long, and which, when once removed, will reveal to us the sweets of freedom and of independence which we all hope for, yet dare not demand.

I sincerely hope that those more able than I will give this subject their thoughts, and your readers the benefit of those thoughts, and that it may end in something more substantial than discussion.

But pardon me for straying so far from my subject. I have already consumed so much of your space that I shall be obliged as well as pleased to acquaint you with the inside workings of the several offices at a future day. OPERATOR.

Telegraphing the President's Message East.—Telegraphic Personals and Gossip.—The Reduction of Salaries.

BOSTON, MASS., Dec. 8.

TO THE EDITOR OF THE TELEGRAPHER.

ANOTHER year has rolled away and another presidential message has been transmitted to the people through the medium of the telegraph. The message was received in Boston on four single (way) wires and two quadruplex circuits, making eight in all. Messrs. Kelley, McMahon, McFarland, Davin, Hoogs, Beardslee, Colsou and Kettles receiving from Messrs. Wood, Habelstein, Brandy, McInroe, Robinson, Miller, Read and Largay, in New York. The time of transmission was one and a half hours, commencing at 1:30 and closing at 3 P. M. It was copied on manifold and sent to newspapers without being recopied by the Associated Press, as is usually done. Although the *Boston Journal* says the message was badly "mangled" in transmission, I am inclined to believe that the *Journal's* chronic grumbling propensities leads it to exaggerate, and I think the message was very well handled by the Western Union operators. I notice that the *Boston Globe* makes quite a splurge over the style in which the document was handled by the automatic process, but very wisely neglects to say how many persons were engaged in punching and copying. Presumably double the force was required than by the Morse method. Mr. D. B. Grandy was sent to Worcester to officiate there in a receiving capacity. A new arrangement is working with Philadelphia over one side of the new New York quadruplex. No regular operator has as yet been assigned to this circuit. There is considerable speculation as to who will be the lucky man.

It is said that in the spring time a young man's fancy turns to thoughts of love, etc., but in the case of telegraphers in Boston the poet seems to be at fault. Within the past few months several of the craft have been struck by the arrowy missiles of the blind and winged god, and have entered into matrimonial bonds. The gossips says quite a romantic attachment exists between a well known telegrapher and a young lady clerk in the ladies' department, and that the enamored swain will lead his fair innamorata to the altar on Christmas Eve.

Mr. C. D. Stanford is very busy filling orders for crayon portraits, in which department of art he is an expert. Mr. J. H. Milliken has composed a beautiful and suggestive waltz for the telegraphers' ball in New York next month. Messrs. J. J. Guthridge and J. A. McGee are making great progress in the study of elocution. Both these gentlemen display a great deal of in-born talent in this direction.

Mr. Green has been transferred from the main office to the Post-office.

Mr. J. B. Phillips, who has been very ill for some weeks with pleurisy, is now able to work part of the time. It is to be hoped he will soon fully recover his health.

The air is full of rumors regarding a cut down in salaries, founded on an article in the *N. Y. World*. I hardly think the company can, with justice, reduce salaries to a lower point than at present. During the past few years they have made sweeping indirect reductions in the operating department, and in many instances a still further reduction would cause a good deal of suffering among the never too well paid slaves of the key and spark. ARISTIDES.

How Western Union Employes Regard the Reduction.

NEW YORK, Dec. 11.

TO THE EDITOR OF THE TELEGRAPHER.

NOW that the reduction of salaries made by the Western Union Company for stock-jobbing purposes has been fully promulgated, would it not be well for telegraphers everywhere to seriously consider their position, and make some safe provision for their future protection?

For the present we do not see that the employes of the Western Union Company can do anything but remain passive. They are without organization, and, what is of far greater importance, they are without means. No concerted movement can therefore be made.

What is needed—and what can be had in every large city—is an organization or union with a central head controlling all minor organizations, proper officers, dues, etc. That telegraph men need a protective union is shown not only by the late reduction, but by numerous and unmerited abuses and indignities to which they are continually subjected by petty officers. The intelligence of the telegraphic fraternity cannot endure these things much longer, and something should be done speedily.

These questions deserve the earnest consideration of operators and telegraphers generally, and the experience of the past five years may teach them that this is, perhaps, only the beginning of the end. IVAN.

The Atlantic and Pacific Arrangements.—Personals.

ST. LOUIS, MO., Nov. 25.

TO THE EDITOR OF THE TELEGRAPHER.

ON the 9th instant the Atlantic and Pacific Telegraph Company laid their cable across the Mississippi by the St. Louis elevator to that of McCormick, Adams & Armington, directly opposite. The main office is at 210 North 3d street, and has been tastefully and well fitted up. The room is large, with high ceiling, marble floor, and plate glass front. There are two receiving counters, one from off Third street and the other from the large and spacious hallway. Both are surrounded by elegant and graceful counters surmounted with ground glass. The front part of the room is occupied as the operating department; the back part for delivery, book-keepers, &c., while in the extreme back part, elevated about three feet above the front office, and divided from it by a glass partition, is the manager's office. Branch offices have been opened "on 'Change," Southern Hotel, corner Secoud and Vine, and National Stock Yards, East St. Louis, and expect to open several more soon. Mr. Charles W. Hammond, one of the oldest operators and most expert electricians in the country, has been appointed manager; Mr. George E. Miller, chief operator; Messrs. W. H. Spencer, G. P. Menuir, C. M. Carr and Frank Castle, operators.

In the Western Union office Mr. Charles T. Day, of the "short horn," has been assigned to duty on New York "duplex," vice E. A. Keene, resigned. Mr. John W. Hayes, of the night force, takes the "long horn" days. Wm. J. Foy transferred from the "long horn" to the "short" one. Michael Tully has been promoted from the night to day force.

Business with both companies is good and steadily increasing. I almost forgot our friend Charles J. Lawson, who has returned to us from the Pacific coast with his hair full of gold dust and pockets lined with 20 dollar gold pieces, looking handsomer than ever, and has been assigned to duty on the second Texas wire, nights.

Here comes "Van," the Apollo, his face wreathed in smiles, his hand full of sealed envelopes, which means that one half of us are off for the day. With a nervous hand I draw—open. Oh, ye gods, 'tis "off!" So here I go to punish turkey &c. FORTUNATE.

THE TELEGRAPHER

DEVOTED TO THE INTERESTS
OF THE
TELEGRAPHIC FRATERNITY.

SATURDAY, DECEMBER 18, 1875.

THE TELEGRAPHER:

PUBLISHED EVERY SATURDAY at 38 VESEY ST.

ELEVENTH VOLUME.

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THE TELEGRAPHER MAY BE HAD at the news stand in the Receiving Office of the Western Union Telegraph Company, corner of Broadway and Dey street, where it is regularly on sale.

The Reduction of Salaries.

THE announcement in the last number of THE TELEGRAPHER of the general reduction of salaries of the employes of the Western Union and Gold and Stock Telegraph Companies, determined upon by the managers of those companies, to take effect from and after the first of January next, has, naturally, caused much dissatisfaction among those interested. We have since learned that this reduction will also extend to the employes of the International Ocean Telegraph Company, of which, as well as the Gold and Stock Company, the Western Union Company holds a majority of the stock. This reduction causes the more surprise, as, from the financial condition of the companies, as exhibited in the recent reports, no necessity apparently exists for it in that respect.

This reduction has long been contemplated, but has been opposed, as we have reason to know, by the President, until such opposition was futile, and it has been carried finally by the action of the Executive Committee and the Board of Directors of the company, for reasons which are no doubt satisfactory to them, however unsatisfactory they may be to those who are injuriously affected. The executive officials of the company have been opposed to reduction, not especially because it would operate on

their own salaries, but because they realize the importance of securing and retaining in the service experienced telegraphic talent, and because they understand more fully than the directors can the injurious effect on the service of the universal dissatisfaction and demoralization consequent upon such action, and know that it will prove far more damaging than beneficial to the interests of the company eventually. They also know that telegraphic salaries, especially those of operators and subordinate employes, are not now by any means excessive, but rather, from the nature of the work required, if anything lower than they should be.

We are, of course, all aware of the business depression which has existed for over two years past, and the shrinkage in values which has been going on, inevitable in getting down from the inflation incident to great and protracted wars in all countries to a sound financial basis. Apparently, telegraphic interests have not heretofore suffered so much directly as others in this process, although it has undoubtedly retarded to some extent the development and increase of telegraphic business which would otherwise have been realized.

For some time past a gradual reduction of salaries has been going on, by filling at a lower rate of compensation situations that became vacant. To this but little objection has been made, as those who accepted the reduced compensation did so understandingly and under agreements voluntarily entered into. Recently also the salaries on the Southern lines of the company, where a higher standard prevailed than elsewhere, have been equalized and considerably reduced, and we believe the same is true of the Pacific Coast Division. The reduction comes particularly hard upon these employes, being in fact an additional slice off of salaries only recently reduced, and they accordingly feel specially aggrieved.

The exemption from reduction of employes where salaries are not in excess of \$600 per year, of course, narrows the effect of the measure, and so far as they are concerned they have personally no cause of complaint. The reduction upon operators, most of whom come within the five per cent. rate, is not excessive, if any reduction was necessary. But for the reasons above stated it is not generally regarded as necessary, and small as is the amount individually, many of them can but ill afford it.

The sliding scale adopted, reducing the higher salaries in larger proportion as they increase in amounts, may be regarded as the sugar coating to the bitter pill; but there are two sides to this even, and it is not perhaps as strictly just as may at first sight be supposed.

The schedule was prepared by Mr. ORTON, probably with the idea of making it as light as possible for the lower salaried men, with the understanding that those receiving the higher compensation could better stand the greater loss. A simple statement will, however, show that, although the intention was a good one, the result is not strictly just. If the higher salaried officials and employes have been receiving a larger proportionate compensation than their services entitle them to, it is of course right that they should be reduced to a greater extent, but we do not understand that this is claimed. It appears to be a species of agrarianism, which we imagine would hardly receive the approval of the wealthy gentlemen who compose the directorate of the Western Union Company if applied to them individually. Suppose the same principle were introduced in municipal taxation, and the tax assessors should assess Commodore VANDERBILT, for instance, because he holds five or ten millions of property liable to taxation in the municipality ten per cent., while JOHN SMITH, who owns only the house he lives in, is assessed only one per cent.; would not Mr. VANDERBILT regard this as unjust oppression and unjustifiable? We cannot perceive any difference in the principle governing this supposititious case and that adopted in dealing with the employes of their companies; if one is right certainly the other is. The justification for a larger proportionate reduction of the higher salaries of course must be that those receiving them can better afford the larger amount. Is it not also true that Commodore VANDERBILT can better afford to contribute more largely

in proportion to his means to municipal expenses than JOHN SMITH, whose whole property consists of his residence?

There is another aspect in which this general reduction should be considered, and that is its effect upon the service of the companies. Of course it was considered, in taking this action, that it must be submitted to, however unwillingly, on the principle that "half a loaf is better than no bread;" but it will tend to discourage and demoralize the employes. A superficial knowledge of human nature even would demonstrate that these employes, believing that their compensation has been unnecessarily and arbitrarily reduced, will not labor as earnestly, and with as much regard to the interests of their employers, as heretofore. The companies in question have had the pick of telegraph employes, because their service was regarded as the more permanent and reliable, and the scale of compensation, to the better class especially, has been more liberal than was easily obtained elsewhere. The reduction in working expenses, which has been shown in the financial statements, has been attributable in no small degree to the faithfulness and ability of the employes. The success of a telegraph company and its efficiency depend to a great extent upon the character and the good will of those who serve it. Of late there has been very little complaint or dissatisfaction, so far as their employes are concerned, with the management of the companies. Of course, there have been exceptions to this, but they have been local and exceptional. It is probable—in fact, it is evident—that such is not now the case, and the effect cannot but be unfavorable to the interests of the company; and it is not impossible that the financial results may fail to realize the anticipation with which the reduction was determined upon. It must be understood in this connection that we are not stating what *should* be, but what, from the frailties inseparable from human nature, it is *likely* to be.

Another unfavorable effect will be to drive out of the service many of the best telegraphers now engaged in it. They will naturally seek other employment less exacting and equally or more remunerative, and with better prospects in the future. It is a well-known fact that it is not the inferior and less desirable class of employes who go out of the telegraph service, but the better class, whose abilities create a demand for their services and command larger compensation in other employments. This class cannot well be spared, but they are the ones who abandon the business, and this action will, we fear, accelerate their withdrawal.

The Atlantic and Pacific Telegraph Company has already announced that it does not intend to follow the example of its rival and reduce the compensation of its employes. This will, even if the actual scale of salaries of that company be no higher than that of the Western Union, give its service the preference, as it will be considered that although less prosperous, it is doing all it can, and will not assess its employes to secure dividends to its stockholders.

In regard to the Gold and Stock Company, this reduction seems to be particularly unfortunate. In proportion to its business the number of its employes is not large, but they are men whose experience is of great value and importance, and, as we have reason to know, they have generally served the company with a zeal and fidelity which deserves recognition and reward. In this specialty, more than in commercial telegraphy, success is dependent upon the fidelity and zeal of its employes. Under the liberal management of its President, GEN. MARSHALL LEFFERTS, a corps of employes has been secured whose services are exceedingly valuable, and it is but justice to him to state that the reduction is not approved by his better judgment. Under the circumstances the Gold and Stock employes regard the reduction as peculiarly hard and unjust, and will submit to it only from necessity.

The action of the Boston and Providence Railroad Company recently, upon a similar proposition, is in marked contrast to that under consideration. For several years the B. & P. R. R. Co. has paid its stockholders annually

ten per cent. upon their stock. On account of the depression of business only nine per cent. was earned for the current year. At the annual meeting held a few weeks since, in view of the reduced earnings, a stockholder moved a reduction of the wages of its employes. Mr. CLIFFORD, the president of the company, opposed this in an earnest speech, saying the employes had served the company and the public honestly, intelligently and faithfully, and that their compensation was as low now as it ought to be, or they could afford to have it, and that it was better that the stockholders should submit temporarily to lower dividends, rather than make them up by assessing upon the subordinates the loss experienced from a general depression of business. Other leading stockholders also opposed it, and the proposition was finally withdrawn. Can there be any doubt as to the excellent influence of such justice and liberality upon the employes of the company and their future service?

For the above reasons, and for many others which we have not space to set forth, we cannot but regard the proposed reduction as an error which it would be wise to correct. We hear of protests and indignation among the employes of the company, of all grades and from all quarters, and some threats in regard to future action. We trust that they will be governed by wisdom and coolness and do nothing rashly. They have persistently refused in the past to do anything to protect themselves, and much as they may regret it now, they cannot improvise an organization which will be effectual. We sympathize with them in their trouble, and so far as THE TELEGRAPHER can aid them its columns are at their service. It cannot be said that the company has done this hastily or unadvisedly, for it has been under consideration for two years past, and every director who voted for it must of course have anticipated the storm which it has aroused, and have been prepared for it. Under these circumstances those who counsel hasty and violent action on the part of the employes either exhibit a lack of judgment or cannot be regarded as their real friends. The time may come when the directors will see that their action is injudicious even from the stand-point of the interests of the company, but it will not be until after the experiment of reduction has been fully tried. As the real friend of those interested, and despising a demagogical spirit which would seek to make temporary capital or popularity by urging them on to violent and hasty action, we counsel them to bide their time and do nothing rashly. Let them consult together and listen to the cooler-headed and wiser of their number, and be guided by them, and the final result will be far more advantageous and satisfactory than it otherwise would be.

The Telegraphic Director of the Centennial Exhibition.

It is announced that the position of Telegraphic Director of the Centennial Exhibition at Philadelphia has been tendered to, and accepted by W. J. PHILLIPS, Superintendent of the Police and Fire Alarm Telegraph of that city.

This is an excellent appointment, and the telegraphic and electrical department of the Exhibition will be efficiently and satisfactorily managed by Mr. PHILLIPS. His qualifications for the position are of the best character, and his extensive acquaintance with telegraphers and electricians will be of advantage to him and them, as well as to the interests of the Exhibition.

Mr. PHILLIPS was one of the first HOUSE Printing Telegraph operators, and put in operation the first HOUSE Printing Telegraph line established in this country, which connected New York and Philadelphia; and was the general manager of that line until 1855. In that year he resigned to take charge of the construction of the Police and Fire Alarm Telegraph of the city of Philadelphia, which was completed and put in operation in 1856. He was appointed Superintendent, and has been continuously in charge of that department from that time until now. He has also given attention to the construction of private telegraph lines, and is a joint inventor with Mr. W. P. PHELPS of what is known as the PHELPS and PHILLIPS'

printing telegraph instrument, which is largely in use in Philadelphia and elsewhere.

More recently, the American District Telegraph Company, of Philadelphia, was organized by Mr. PHILLIPS, and under his efficient management has become one of the most prosperous institutions in that city, and bids fair to rival New York, especially during the Centennial year, in the extent of its business.

From the above it will be seen that Mr. PHILLIPS brings to the honorable position tendered to him mature experience as a telegraphic engineer and electrician, which is supplemented by rare executive ability.

The Direct Cable Again Broken.

THE Direct United States Cable is again broken and communication suspended until it can be repaired. Ill fortune seems to pursue this enterprise to a degree which has scarcely been equalled by that of any other telegraph company.

This last break occurred at 4 P. M. on Friday, the 10th inst., and has been located between Tor Bay, Nova Scotia, and Newfoundland, 136 miles east of the former place. It is in shallow water, the depth in this vicinity varying from 50 to 70 fathoms, and it can be easily raised and repaired as soon as the Faraday can reach the spot. The break was caused probably by some vessel anchoring or dragging in the vicinity. The Direct Cable Company have offered a reward of £1,000 for the discovery of the vessel by which the break was made, and it is hoped that this liberal offer will secure the desired information.

Advices from London of the 14th inst. state that the Faraday will leave to repair the break in three weeks, or sooner if she can be got ready.

A Speculative Cable Charter Asked For.

In the United States Senate, on Wednesday, the 8th inst. Mr. Spencer, of Alabama, introduced a bill granting to W. Cornell Jewett and his associates charter rights for telegraph ocean communication between the Pacific coast of the United States and Asia. It grants to them all rights, favors and privileges necessary to lay, land and use, as well as operate, ocean cables on the Pacific coast of the United States, from some point or points in the Pacific Ocean. The associates of Mr. Jewett are not named in the bill.

Of course Mr. Jewett's associates are not named in the bill, for he has none. All he wants is something to trade on. It is about time that Congress was relieved from the consideration of such bogus applications for charters by persons who cannot command capital to build a mile of cable telegraph, and whose only object is to get privileges which they hope to compel capitalists to purchase of them.

Illness of Mr. David Brooks.

WE regret to learn that Mr. DAVID BROOKS, of Philadelphia, has been dangerously sick for the last three or four weeks. His disease is typhoid, complicated with rheumatic fever, and for some time his life was considered in great danger. Within the last two or three days, however, he has improved somewhat, and it is thought he is out of immediate danger, though it will probably be some weeks yet before he entirely recovers. His numerous telegraphic friends and acquaintances will sympathize with him and his family in their trouble, and hope for his speedy restoration.

The New York Telegraphers' Ball.

WE are requested to state that telegraphers outside of the city desiring tickets for the Telegraphers' Ball, which is to take place at Ferrero's Assembly Rooms, on the evening of January 21st, can be supplied on application to Mr. T. G. SINGLETON, Secretary of the New York Telegraphers' Association, Auditor's Department, in the New Western Union Building, corner of Broadway and Dey streets.

Personals.

Mr. JOHN BRAXTON, formerly of the Lumber District, Albany, N. Y., office is now stationed at Lake George, N. Y.

Mr. G. M. CHAMBERLAIN, who for thirteen years has been manager for the Western Union Company at Englewood, N. J., is now with the Atlantic and Pacific Company at the same place.

Mr. F. M. THOMPSON is operator on the Chicago, Ill., Metropolitan line, at the Metropolitan Hotel, and is doing a thriving business in connection with his cigar and news stand.

Miss SNELL, who has been at Racine, Wis., Western Union office for some time past, has taken a vacation for the winter and returned to her home in Chicago, where she was warmly greeted by her many friends.

Mr. E. PAYSON PORTER has given up his Telegraph college in that city, known as "Porter's National Telegraph College," and accepted a position as operator on the day force of the Chicago, Ill., Western Union office. Mr. PORTER says it's of no use to try to run an honest telegraph school as long as there are so many humbugs in that line in existence.

Mr. CHARLES ANDRAS, of St. Louis, Mo., has been appointed night report operator, Sedalia, Mo., Western Union office, *vice* Mr. Leuchtenmeyer, resigned.

Mr. MICHAEL HOLLOHAN, late Manager of Western Union office, Southern Hotel, St. Louis, Mo., has been appointed to a position on the day force at the main office of the same company.

Mr. J. E. CLARKE, train despatcher of the Cairo and St. Louis Railway, at St. Louis, Mo., has been promoted to the position of master of transportation of that road.

Mr. FRANK P. ROSS, of the cable department, Western Union office, New York, has resigned and gone to his home, Columbus, Ohio, to take charge of the night force in that office. New York thus loses one of her finest operators.

Mr. G. D. MERRILL is transferred to the cable department, *vice* Ross, resigned, and Mr. CHAS. H. DAVIS goes from the 12 to 9 trick to regular nights to fill Merrill's place on the Chicago wire.

Mr. FRED. RECTOR is back to New York again, and resumes his place on the day force, W. U. office.

The Telegraph.

By Cable.

A REWARD OFFERED FOR THE DISCOVERY OF THE VESSEL WHICH BROKE THE DIRECT CABLE.

LONDON, Dec. 15.—The managers of the Direct United States Cable Company in this city state that the recent breaking of their cable wire in the Atlantic cannot be accounted for in any other way than that the break was caused by some vessel, but whether from accident or design is not at present known, and they decline to express any opinion on the subject. They declare, however, that the cable on examination recently was in perfect order, and that considerable force must have been used to disarrange it.

The company offered a reward of £1,000 for the discovery of the vessel which broke the cable.

Election of Officers of the Southern and Atlantic Telegraph Company.

At a meeting of the board of directors of the Southern and Atlantic Telegraph Company, held Thursday, Dec. 9th inst., at the office of the company, 51 New street, in this city, the following officers were elected for the ensuing year:

Charles W. Blossom, President; Henry Hentz, Vice-President; C. C. Blossom, Secretary and Treasurer; G. H. Grace, General Superintendent.

Executive Committee.—Messrs. Henry Morgan, Amerton Yale, J. T. Hanneman, Meyer Lehman, and Francis Morris.

The President and Vice-President are also *ex-officio* members of the executive committee.

New York Telegraphic Notes.

As an inducement to the Western Union operators to familiarize themselves with the higher branches of the service, it is rumored in the operating rooms that any employes who can pass a satisfactory examination in

setting up and adjusting quadruplexes will be allowed a further reduction in his salary varying from "5 to 25 per cent," according to his proficiency.

It will be matter of surprise if the late move of the Western Union directors does not have the practical result of reducing the speed of transmission over their wires from "5 to 25 per cent." If they undertake to reduce employes down to the rate of wages prevalent in Europe they will be likely to get the same slow, inefficient and blundering service.

Laying of the Pneumatic Tubes Postponed till Spring.

In consequence of the lateness of the season it has been found necessary to postpone laying the pneumatic tubes which are to connect certain down town branch offices of the Western Union Company until spring. The work will be done as soon as the frost is out of the ground in the spring, so that it can be performed satisfactorily.

Serious Accident to a Lineman.

On Sunday, the 12th inst., while Dennis Donlay, one of a gang of Western Union linemen, was engaged in changing wires between Chatham and Albany, N. Y., the pole upon which he was working broke, precipitating him to the ground, a distance of some twelve feet. The ground was frozen hard, and Donlay struck on his heels, smashing the bones in a terrible manner, and giving his body a severe jar. He was conveyed to St. Peter's Hospital at Albany, where he now lies in a critical condition, having sustained severe internal injuries.

Foreign Telegraphic Notes.

The traffic receipts of the West India and Panama Telegraph Company amounted, in July, to £3,554 as compared with £2,884 in the corresponding period of 1874; and in August, to £2,992, as compared with £2,339 in the corresponding month last year.

The traffic receipts of the Brazilian Submarine Telegraph Company for the month of October, 1875, were £10,576, against £10,581 for the corresponding period of 1874.

The traffic receipts of the Eastern Extension, Australasia and China Telegraph Company for the month of October, 1875, were £19,604, against £16,584 for the corresponding period of 1874.

The receipts of the Submarine Telegraph Company for the month of October, 1875, were £10,918 1s. 11d., against £9,910 14s. 4d. for the corresponding period last year.

It is stated that it is the intention of all the foreign cable companies after the 1st of January, 1876, to receive only dictionary words of ten letters each, names of persons and places excepted. All words of more than ten letters will be charged double rates. This rule will be adopted in order to obviate the frequent mistakes caused by the use of cipher telegrams, which contain long, unintelligible or foreign words.

Not Inclined to the Military Service.

MR. P. KEARNEY, who has furnished us our dispatches for nearly a year, and our predecessor before us for ever so long, retires from the position of agent and operator at Prescott and Fort Whipple, in consequence of an order requiring all operators of the signal service and military lines to enlist in the army. This Mr. Kearney was unwilling to do. The service will be very fortunate if it finds another as gentlemanly and efficient in the position as Mr. K. He is one among ten thousand for correct business habits and all the moral and social accomplishments that go to constitute the gentleman. We sever our pleasant business relations with him with regret.—*Arizona Weekly Miner.*

Quotations of Telegraph Stocks at N. Y. Stock Exchange.

Showing Lowest and Highest Prices each day during week.

Dec.	WESTERN UNION.	ATL. AND PAO.	AMER. DIST.		GOLD AND STOCK.	
			Bid.	Asked.	Bid.	Asked.
9	76% ... 77%	18% ... 19%	20	.. 25	..	..
10	76% ... 76%	18% ... 18%	20	.. 25	..	.. 70
11	76% ... 76%	18% ... 18%	20	.. 25	..	.. 70
13	76% ... 76%	18% ... 18%	20	.. 25	..	.. 70
14	75% ... 76%	8 ... 18%	20	.. 25	..	.. 70
15	75% ... 76%	18% ... 18%	20	.. 25	..	.. 70

New Patents.

OFFICIAL COPIES of any U. S. Patent issued since July 1st, 1871, including drawings, specifications and claims in full, sent free to any address for 25 cents each. Address F. L. POPE, Elizabeth, N. J.

For the week ended Nov. 2, 1875, and bearing that date.

169,509.—ELECTRIC RAILWAY SIGNALS.—E. E. Bean, Boston, Mass. [Filed Jan. 26, 1874.]

Battery and signal instrument on train; one pole of battery to ear h through metal of train—other pole to projection i on side thereof; posts at each section along track. Each post has magnet, whose circuit extends to a preceding or succeeding post, or both, and through a bent lever, s t, metallicly connected to ground. This lever is normally in such position that projection i bears it against it, closing circuit of signal on train if everything is clear. Projection i bears it to such position that lower end s is locked away from where the projection i of a succeeding train can touch it, as shown in fig. 5, until the train has sent back an impulse from another station.

1. In combination with a battery, its projecting pole i, and the operating levers s t, as described, an additional projection, v, on the engine or other moving part of a train, for the purpose set forth and described.

2. The stationary posts p p', with their electro-magnets q q', armature r r', rocking levers s t s t', springs x x, or their equivalents, and wires v v, in combination with a movable battery, as and for the purpose set forth.

4. The combination, with a switch or other movable part of a railway, of connections 2 7, receptacles 4 6, with their flexible diaphragms, support 10, and connecting pipe 5, or their equivalents, as and for the purpose set forth and described.

169,513.—ELECTRIC TELEGRAPHS.—Robert K. Boyle, New York. [Filed March 30, 1875.]

1. In a telegraphic apparatus, the combination of two induction coils, one in each terminus of the line, with a battery in the line of the telegraph, the current of said battery being closed continually over the line wire, and being made to act on the pen or stylus of a chemical writing instrument, while its force is alternately increased and then neutralized by the currents induced in the induction coils, whereby signals are recorded by breaks in the line drawn in the paper moving under the pen or stylus, as shown and described.

2. The combination, in a telegraphic apparatus, of induction coils B C, line battery A, circuit breaking armature F, local battery G, and induction coil E, substantially as and for the purpose set forth.

169,514.—ELECTRICAL INDUCTION APPARATUS.—Robert K. Boyle, Brooklyn, New York. [Filed March 16, 1875.]

In a series of induction coils, secondary helices connected to one conductor; primary helices alternately brought into action, so as to give a steady induced current.

The combination of a series of induction coils with one or more brushes or keys, and with a surface composed of alternating segments of a non-conducting and conducting material, either the keys or the surface being made movable, substantially in the manner and for the purpose herein shown and described.

169,529.—GALVANIC BATTERIES.—C. Duhem, Denver, Col. [Filed July 9, 1875.]

The supplementary electrode is hung on pivots, and by a lever arm can at pleasure be moved into contact with the positive plate, for the purpose of increasing the quantity of the current.

The application to any galvanic battery of a positive supplementary electrode, capable of being easily and quickly connected or disconnected with the positive plate of a battery within the liquid, as described.

Died.

Co K.—At St. Louis, Mo., Nov. 25th, 1875. Sarah, wife of T. P. Cook, of the Western Union Telegraph Company, of hemorrhage of the lungs.

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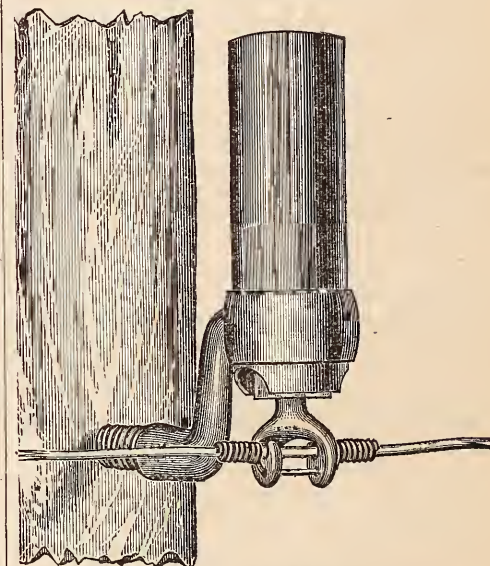
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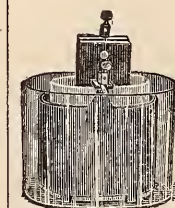
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for Railway Signals and Fire Alarm purposes, with Gongs ranging from 16 in., the engine house size, to 8 in., for house purposes. These are capable of striking very rapidly—at least two blows in a second. These vary in price according to size.

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for striking heavy bells, with hammers weighing as high as 200 lbs. These can also, if desired, be made to strike at "less than two seconds' interval." They are invaluable for Fire Alarm purposes, and can be furnished at very reasonable prices, varying according to size.

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in which the spring takes the place of the weight, is enclosed in a metal and glass case; is noiseless in its action, and of great beauty and finish, and is specially recommended to Shippers, to whom the most liberal discounts are offered on every line of telegraph goods and supplies.

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It is a sufficient vindication of the claims which are made by the Proprietors of these systems of

FIRE ALARM
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POLICE TELEGRAPHS,

that they have sustained the test of more than twenty years of practical use, and that the efforts which have been repeatedly made to supplant them by other inventions have

COMPLETELY FAILED;

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Messrs. **GAMEWELL & CO.** are the owners of the original **FARMER & CHANNING PATENTS**, one of the most important of which has just been extended for seven years, and during the past seventeen years have spared no expense or effort to secure improvements, and the Systems are now covered by

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the introduction and operation of which involves so little expense, compared to the benefit which it confers, that even small communities can profitably adopt and maintain it.

The American System of

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has met with the universal approbation and commendation of the

People, Municipal Authorities,

AND THE
PRESS

throughout the **UNITED STATES** and **CANADA.**

NO EFFORT, TROUBLE OR EXPENSE

is spared by the Proprietors to obtain and secure **ANY POSSIBLE IMPROVEMENT** which shall increase the

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RELIABILITY and
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of the system. They intend that, as far as possible, it shall be

ABSOLUTELY PERFECT!

The amount of property which has been saved from destruction, and the number of lives which have been preserved through the general adoption of this system, throughout the **UNITED STATES** and the **DOMINION OF CANADA,**

CANNOT EASILY BE ESTIMATED,

but that, in every community where it has been introduced for any considerable length of time, they have been enormous, **THREE CAN BE NO QUESTION.**

The coöperation of TELEGRAPHERS in securing its introduction into their localities is cordially invited, and their efforts will be duly appreciated and compensated.

Any information desired in regard to the above system will be cheerfully and promptly furnished upon application at the office.

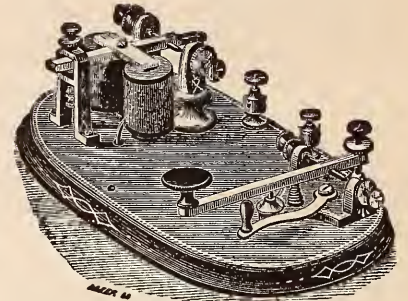
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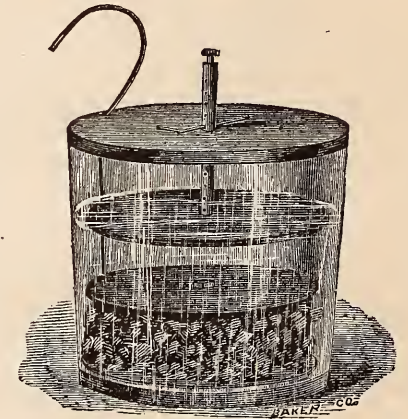
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THE TELEGRAPHER

A JOURNAL OF
ELECTRICAL PROGRESS.

J. N. ASHLEY, PUBLISHER.

SATURDAY, DECEMBER 25, 1875.

VOL. XI.

WHOLE No. 493.

Poetry.

Reduction.

BY "BE," CHICAGO.

With lightning and awful mien
That depressing word "Reduction"
Has come, and been an earnest theme
Of many a rank discussion.

Upon this point all do agree,
We would choose to do without it;
But th' standing question seems to be,
"What 'ye going to do about it?"

Protesting plaints are all in vain,
How'er sanguine the reformer;
All the satisfaction he can gain
Is in the above rejoinder.

"Retrenchment" seems the only way
To fill in the vacant places;
And "policy," the "old heads" say,
Is to keep within the traces.

To "go slow and learn to peddle"
When we had form'd a rapid style;
And to work for a leather medal,
Appears hardly worth the while;

Yet, a necessity must teach us
When nothing certain can be done;
'Tis better halt a foot should reach us,
Than be loaing 'round with none.

A Death Message.

A Collision.

Th' night was dark on that distant shore,
The waves rolled on with mournful roar;
The lightnings flashed, the thunders roared,
The midnight clock the hour toll'd;
The tempest swept o'er hills and dales,
The whirlwinds rush'd thro' silent vales;
With fight the wild beasts sought their lair,
The lion king and timid hare
Were wont to lie down side by side,
As lightning gleamed through th' heavens wide;
On th' plains below ran th' midnight train
With whirlwind speed through blinding rain;
A wailing cry the tempest bore,
Th' rumbling train through th' darkness tore;
The engines met with dreadful clash,
The lightning leaped with vivid flash;
A shock was felt and all was o'er,
The tempest wail'd as't wail'd before;
A mournful wreck lay th' midnight train,
The billows surg'd with piteous strain;
The dead and dying together lay,
But who that picture can portray?
It makes the soul within us shrink
To gaze upon—yes, even think
Of many who that night were slain;
Death's icy hands, e'en on the plain.
In th' midst of life we are in death,
It's but one short, one fleeting breath;
Life's but a race that all must run,
Yet ended while 'tis scarce begun.

Your Son Killed.

Dead, did you say? our only lad,
The direful thought will drive me mad;
Alone, unwept for, no friend near,
Rendless, cold these words appear.
Dead, did you say? our only boy,
A father's pride and mother's joy,
Across the vale to world's unknown,
On death's dark wing's forever flown,
It cannot be; ne'er see him more.
Oh! fatal day he left our shore,
His manly form no more to view,
Our only child, adieu, adieu!

Buried To-morrow.

Behold that lonely cottage train,
It winds its way across the plain.
No friends are there to mourn the dead,
Dark strangers walk with solemn tread;
No pomp or grandeur there display'd;
No costly plumes the hearse array'd:
A lonely tree by the murmuring wave,
Is all that marks the stranger's grave.
He's passed away from earthly sight,
No more we'll see his shining light,
Till time has ceased and earth decay,
The mountains fall and pass away.

Ottawa, Canada.

J. A.

[From the New York Tribune.]

The New Electric Development.—Result of Physiological and Other Experiments.—Characteristics of the Alleged Force.—The Apparatus Used.

To the Editor of the Tribune.

SIR: On reading the account of the alleged discovery by Mr. Edison of a new force, it occurred to me that it would be well to submit it to physiological tests. I have spent several nights with Mr. Edison and his assistants, John Bachelor, experimenting in their laboratory, and have also experimented with Prof. J. E. Smith in the establishment of Mr. Chester, and also in my own office. I may say that I studied the phenomena without reference to any theory for or against the claim of Mr. Edison. The results of the physiological experiments are as follows:

1. The force is conducted by the human body. This was proved by taking hold of the conductor—a wire, iron bar or gas-pipe—that was in connection with the apparatus, evolving the force by one hand, and with the other touching the blade of a knife to a stove or block of metal. Sparks appeared, though somewhat smaller than when the force did not traverse the body. In some of these experiments, which were tried on several individuals, the body was insulated by a large block of paraffine six inches thick. When the distance for the force to travel through the body was reduced one half by making the connection at the back of the neck or in the mouth, a somewhat larger spark was produced than when the whole resistance of the body from hand to hand was included. It was clear, therefore, that the body conducted the force, though not so well as metals. A person standing on an insulator, with the conductor in hand, does not, on dropping the conductor, give any evidence of being charged; he can give no sparks to any other person or to any metal. I have also found it impossible to charge metals.

2. The force in passing through the body produces no demonstrable physiological effects. While we have the evidence of the sparks that the force is traversing the body, yet wherever directed it causes no sensation, not even on the tip of the tongue, no muscular contraction anywhere, no tremor, no erection of the hair, no flashes of light, no sour taste, no dizziness—in short, none of the usual physiological reactions of the different forms of electricity. Mr. Edison had supposed that in his own case contraction of the muscles of the tongue was produced when he applied the tip to the conductor, and his head did really move up and down as though the muscles were affected; but on my breaking the connection unknown to him, his tongue kept moving as before, synchronously with the respiration. It was a case of mind acting on body—he expected some effect, and unconsciously produced it himself. Mr. Edison and two of his collaborators were taken sick in various ways one night, and it was supposed that the illnesses were caused by the force, but in this also they were probably mistaken—mind acting on body or coincidences may account for their symptoms. It is certain that I have experimented many hours on several occasions with this force, and a considerable portion of the time it was passing through me or into me, and I was not unfavorably affected, nor were any of those employed in the establishment, including Mr. Edison and the others who fancied their illness was caused by it. What effect force evolved from a much more powerful apparatus, and passed through or into the body for a long time, may have primarily or secondarily, I cannot say. Some who tested the matter thought that a very slight tingling sensation was experienced on the tongue, but closer examination did not confirm this.

3. The force passed through a galvanoscopic frog either caused very slight contraction or none. The galvanoscopic frog is a test for electricity of exceeding delicacy. Dr. Wilkinson estimates it as 56,000 times more delicate than the most sensitive condensing electroscope. This experiment I repeated several times, as did also Mr. Edison and Mr. Bachelor. We tested the frog used in these experiments, and found it so sensitive that one electrotonic cell, placed in a circuit having a resistance of 400,000 ohms, or nearly 35,000 miles of telegraph wire, caused contraction, and yet it did not contract when this force was passed through it. That the force in these experiments passed through the frog (which was insulated) is proved by the spark that appeared at the distal end. In this experiment, the result of which was most remarkable and unexpected, all conceivable elements of error seemed to be excluded. Subsequently, with a different apparatus—a Ruhmkorff's coil—a contraction of the muscles of the frog was obtained. The experiment was made at the establishment of Mr. Chester. The same experiment repeated in New York gave the same result. Mr. Edison suggests that induction from the battery may explain the inconsistency of the results.

In a subsequent series of experiments made with Mr. Edison, contractions were obtained in the frog's leg, although the apparatus was most thoroughly insulated. As galvanoscopic frogs are susceptible to mechanical irritation, it was suggested that possibly the vibrations

from the apparatus communicated through the wire caused the contractions, and on using the key instead of the self-vibrator the same force caused no contractions. Returning to the self-vibrator, contractions appeared. When the wire connecting the apparatus with the frog was shortened the contractions increased in vigor. That the frog was susceptible to vibrations was shown by striking a very large tuning fork and touching it to the sciatic nerve, and sometimes contractions appeared when the vibrating fork did not touch the nerve, but was held at a distance of one half or three quarters of an inch from it. The conceivable element of error from induction had been excluded by perfect insulation; when the vibrations through the wire were excluded no contraction was seen; in proportion as the wire connected with the vibrating apparatus was shortened, in that proportion the contractions increased in vigor. There was no apparent escape from the conclusion that this force, as then and there produced, although it gave very distinct sparks, and could traverse long distances and overcome great resistance, yet did not affect the galvanoscopic frog. On testing this frog by the galvanic current it was found that one electrotonic cell, after going through a resistance of over one million ohms, or about 75,000 miles of telegraph wire, easily caused contraction. These experiments were made in the presence and with the co-operation of the well known expert in practical acoustics, Mr. Rebert Spice.

The apparatus for generating this force consists simply of a large self-vibrating electro-magnet, run by several (from 5 to 20) electrotonic cells. Considerable, but not enormous battery power is needed. The force can be obtained from any self-vibrating electro-magnet, or from an electro-magnet operated on by a key. All that is necessary is to connect a wire to the core of a magnet, or any metal in connection with it; or it may be generated by a piece of cadmium, or a copper rod surrounded by a helix of wire, placed in a battery circuit and interrupted by a key. Cadmium in this arrangement seems to give a somewhat better spark than any other metal, but it is not necessary to use it. The Ruhmkorff coil will answer very well, and it was used in the experiments at the establishment of Mr. Chester; but inductive electricity is thrown out from it to a degree that may complicate the experiment. The ordinary batteries used by physicians are not sufficiently strong to give the spark, at least according to any experiments thus far. Very fine iron wire, rubbed against rough iron, as a stove, file, gas pipe, or rusty knife, brings out the largest sparks. The batteries and all the appliances should be well insulated to guard against possible error from inductive electricity. To see the spark readily, when it is not large, the room should be somewhat darkened, or a hat on the hand may be held over the place where it is looked for; but large sparks may be seen in the light. Sparks are obtained by the edge of a knife or the end of a lead pencil drawn lightly along the wire or conductor. The spark is the only evidence we have of the existence of this force, since there is at present no other known phenomenon by which it can be detected or measured. It is supposed that electric force, acting on the apparatus above described, is transformed into this new force, which in turn is transformed into light, and thus we are enabled to detect its presence. These sparks have been seen, even if not noticed, by every one who has had much to do with batteries.

Out of a very large number of other experiments I may mention the following: I stuck a penknife in a large block of paraffine, and connected it with the battery, drawing the wire up and down the blade. No sparks appeared. When a long file was substituted for the knife, sparks were abundant and were kept up as long as the connection was made. Where, then, did the power go to? Into the air or the earth? I suspended them by silk rolls of wire of various sizes, and allowed them to strike against the connection. With small coils sparks rarely appeared, with the larger coils they were abundant. It would seem, therefore, that a certain size is necessary in the conductor in order to get the sparks. At one time we led the wire through a large vessel filled with water, and pieces of iron and bars of iron of various sizes were placed across its track and resting upon the wire, and the wire was wound round an iron press, and yet at the end the spark appeared. Mr. Edison took the wire out of doors, ran it along the ground and in a ditch on a rainy night, and brought it up stairs several rods from the battery, and the spark was seen by him, by his assistant and by myself in the dark box above described; but it was not constant, and required a nice adjustment of the carbon points to bring it out. Query: If this was ordinary electricity, where was the circuit completed? Can there be any circuit? The evidence is that the force indicated by the sparks coming from the apparatus above described is a new force, or, at least, a form of electricity not generally recognized.

First.—It gives no evidence of polarity, and cannot, by known laws of electricity, complete a circuit, and it does not decompose iodide of potassium—a test, as all electricians know, of exceeding delicacy. Mr. Edison

says that he passed the force through iodized paper for three hours, and no effect was produced. I tried this test, as also did Professor Smith, but not for a long time.

Second.—It has no demonstrable physiological effects. Electricity of any form giving such a spark as this would be felt on the tip of the tongue if touched lightly, even if no other physiological effects were appreciated. A current from 2,500 very small water cells is of such small quantity and high tension that it is little if at all felt on the tongue, as Professor Smith tells me, but it is not claimed that such a current would not respond to the other tests of electricity.

Third.—It will pass through insulators better than electricity. A dry, hollow glass tube, half an inch in diameter and two feet long, showing that it is not easily insulated, does not prevent the passage of the force. The spark weakens, however, after the force has passed through the rod, just as after it has passed through the body. In these tests the spark is studied at the point of contact of the sharpened ends of the lead pencils enclosed in a dark box with a small hole in the top.

Fourth.—It does not charge a Leyden jar nor deflect the needle of Thomson's mirror galvanometer. Mr. Edison tested these instruments by the force many times, and has performed the experiments in my presence. The great delicacy of Thomson's mirror galvanometer is well known.

Fifth.—The spark that comes from it resembles in appearance the spark that comes from dynamic electricity, and not the spark of inductive electricity, in a state of high tension. It scintillates, and does not jump through the air, but requires actual contact, and in that respect differs from the spark of inductive electricity. If it were inductive electricity at high tension it would jump through the air. The facts which favor the theory that the force may be some form of electricity are these:

First.—The spark resembles the electric spark, and especially that of galvanism of moderate tension.

Second.—It has a relative velocity apparently equal to that of electricity. At short distance at least it is practically instantaneous.

Third.—It is best conducted by metals, as iron and copper.

Fourth.—It is resisted by the same substances as is electricity; namely, glass, rubber and air, though in a much less degree.

The theory that it is electricity in small quantity and high tension is untenable, for its phenomena do not resemble those of very high tension electricity. To complete the circuit through air and earth it would be necessary for it to traverse immense distances; and experiment shows that a few inches of air resists, if it does not obstruct it. I have thought that it might be electricity in an electrostatic state, with air as a dielectric, as Thomson has suggested might be the case with atmospheric electricity; but this hypothesis does not seem to harmonize with all the phenomena or with the established laws of electricity, and it certainly cannot be demonstrated. If it be electricity it appears in an unrecognized form, and might, perhaps, be regarded as a new force, differing from magnetism, statical electricity and galvanism as much as they differ from each other.

If it be assumed that this force is inductive electricity, which returns to the battery by the same conductor on which it leaves it, as the water in a fountain returns to the spout whence it issues, then we have a hypothesis that would account for many if not all the phenomena. Electricity, thus travelling back to the magnet by the same road on which it leaves it, and being rapidly interrupted, would give sparks on passing between the breaks in the conductor; would not seek the earth any more than any other conductor until brought into direct terminal contact with it.

Electricity of this kind would not affect the galvanometer or charge the Leyden jar or manifest electrolytic powers, and might not cause contractions in the galvanoscopic frog, although it would be likely to do so, and it could be drawn off by good conductors at any part of the main conductor. It would give no evidence of polarity, and would be conducted by the human body, and might or might not produce physiological effects, according to its strength. It would be limited in the distance it would go by the force of the battery and the nature of the conductor. It would come only from interrupted currents, and it is noticeable that this force only appears when there is interruption in the current wherever it is derived.

The object of this communication is to request those who are accustomed to electrical and physiological investigation to repeat the experiments here recorded and to devise others. Unless some subtle sources of error have escaped our notice, and even our suspicion, these results will be obtained by all who, with proper apparatus, rightly pursue the same line of research. If any fail to obtain the spark from apparatus, as above described, it may be because the battery is too weak, or possibly too strong, so that the inductive electricity may appear to complicate the experiment. In the more delicate tests with the pencil points in the dark box, the points should be gently rubbed together for a long time,

and with various changes of position before deciding that no spark can be produced. The nature of this force can be made quite clear by comparing it with heat. Like heat it seems to radiate, but with incomparably greater velocity and to an incomparably greater extent. Like heat, also, it radiates unequally through different substances; it prefers metals, and apparently remains in them in preference to other substances; but, as has been stated, it passes readily into glass or the human body. It gives no evidence of polarity, although, like light and heat, it may yet be susceptible of polarization; and I have suggested the term apolic force (apolia) as preferable to etheric force, which Mr. Edison provisionally employs for the reasons mainly that the term ether has already been employed in physics and in medicine, and that want of polarity appears to distinguish this force from the different forms of electricity to which it is related.

With electricity under any of the known forms—magnetism, galvanism, induction, statical, atmospheric, and thermo-electricity—the idea of polarity is always associated, and this polarity, or force exerted in opposite directions, enters into all the phenomena. But this force, in its phenomena as thus far studied, does not suggest polarity. We draw it from the conductor as we draw water from a spout, or gas from a pipe. There is no more apparent need of a circuit through the battery, in the ordinary sense of the term, than there is when we draw heat from a stove by holding a metal in contact with it.

I have here discussed the subject as one of science purely, with the purpose of enlisting the cooperation of scientific men. It is possible that the discovery may be of the highest practical value also, but as yet there are in that direction only strong suggestions, no positive proofs. The subject was quite unfortunate, as it seems to me, in the manner in which it was introduced to the public. Newspaper reporters, who are not expected to be familiar with physics or physiology, have prepared, as best they could, most of the articles that have been published, with such fragmentary assistance as might be given by those engaged in the experiments, and while yet the results of some of the tests were undecided, and it was natural that there should be some confusion of statements, as well as positive blunders and unwarranted generalizations. It is not yet proved that the force is retroactive, or turns back on itself. It is true that where the wire is turned back on itself a spark appears at the extremity, precisely as it would do if the force were retroactive; but the spark probably indicates merely a branch current. The broad statement that the force does not seek the earth is not established and is probably untrue. It is not yet shown beyond possibility of error that the force as now generated can send sparks through the wires or through railway tracks for very long distances. Sparks have been received over half a mile of telegraph wire, and received outside of the earth circuit, and have been transmitted at the same time with messages through the circuit by the ordinary system of telegraphy. If coming experiments with different and more powerful apparatus shall show the possibility of sending sparks with great rapidity through the outer wires of the Atlantic cable, or through long land lines, the subject must command the attention of practical telegraphers. If important physiological or therapeutical effects can be produced by it, then physicians, and especially medical electricians, will make it a subject of thought. But at present the important questions presented by these experiments are mostly scientific in their character, and as such are suggestive in innumerable ways. In the public discussion of the matter two errors have appeared. Riess, the great German authority on statical electricity, has recently published a paper containing an account of researches on "weak sparks," which some one, unacquainted with either subject, has unwittingly confounded with these experiments. Again, this force is confounded or compared with the so-called "odic force" of Reichenbach, which was utterly a delusion. Sensitive people, when shut up in a dark room, as I have proved by many experiments, see whatever they are told to see, hear what they think they ought to hear, and experience any sensation that they expect to. The experiments of Reichenbach were worthless, for the reason that he did not eliminate the error that comes from the mind acting on the body. It is believed that the experiments here recorded are in the main both new and true, and that, whatever results may flow from them, they will be confirmed by all competent physicists and physiologists who feel sufficient interest in the subject to give it patient attention. In conclusion, I may say, in reply to the very natural suspicion of trickery, that Mr. Edison, to whom I was personally a stranger, gave me every possible opportunity to revise his experiments, assisted me in making new ones, submitted to any and every test suggested, and made no secret to any scientific inquirer of his apparatus or his methods. Although I at first deceived him and his assistants by cutting the wires, and in various ways, in order to guard against any possible deception, intentional or unintentional, yet it was very soon demonstrated that any precautions against trickery were superfluous. Many of my own experiments were made with Prof. Smith in the establishment of Mr. Chester, where the results were

as surprising as those made in Newark. There is probably not a large physical laboratory in the country that does not contain all the apparatus necessary for the study of these phenomena. GEO. M. BEARD, M. D.

New York, Dec. 6, 1875.

In a subsequent communication to *The Tribune*, dated Dec. 9th, Dr. Beard says in relation to the hypothesis that this force is inductive electricity:

"I may say, in addition, that in advancing this hypothesis I do not overlook the difficulties in the way of its acceptance. It may possibly be used as a working hypothesis, by the aid of which subsequent experiments can be guided and interpreted. Conceive, that with the opening of the current waves of force are, so to speak, shot out from the magnet or coil through a metallic conductor in connection with it, and that with the closing of the current waves return to the coil or magnet, and that this process takes place rapidly and continuously, so long as the interrupted current from the battery goes through the coil, and we have a theory that would perhaps make clear and consistent the experiment I have described. If this theory be the correct one, it will be found on further experiment that this force, whether it be called apolic force, as suggested, or inductive electricity in a non-polar state, will be limited, and demonstrably so, by the size of the magnet or coil and the battery power, and that with even good conductors of great length there will be found a point beyond which no spark appears. This question will be settled by experiments now in preparation. Prof. Smith is endeavoring to obtain this force from one pole of a very large number of galvanic batteries united for tension; if my hypothesis is correct, he will not succeed. Prof. Smith informs me that he has this afternoon made this experiment with 84 Smee's cells and failed. A statical charge may be obtained in this way which may go through long wires not connected with the earth, but there will be no continuous action of this charge, and it will conform to the ordinary laws of electricity. If this theory of the nature of this force is true, it will have no electrolytic effect on any chemical substance, although it may have a slight thermic or heating effect; and it will probably have, even when generated from larger coils, little, if any, physiological or therapeutical action. Experiments are now going on in all these directions, and it will soon be known how far these theoretical predictions will be verified."

A Drama in Two Acts.

Scene First.—Time, 2:45 P. M.; date omitted.

Trouble on Cincinnati Quad. Chief Operator Pettit rushes to 18; asks operator there, "Are you single?"

Lady operator.—"None of your business. (Bursts into tears.) I will report you immediately to the chief operator. Sign."

Jim signed, of course; and he's warned, too.

Young lady reports "L" to Mr. Johnson.

End of Scene First.

Interval of 15 minutes.

Scene Second and last.—Manager Maynard at Chicago end quad.; Chief Operator Johnson at Cincinnati end.

Chief Operator Johnson to M.—"What does your operator on 18 mean by asking our lady operator if she's single? She feels very much insulted."

Explanations follow; quad. is balanced; all serene. Happy denouement.

End of Drama.

Correspondence.

We do not hold ourselves responsible for the opinions of our Correspondents. Our columns are open to free discussions on all Telegraphic subjects, without distinction of person or opinion.

No notice will be taken of anonymous communications.

The Official Organ and the D'Infreville Duplex Invention.

NEW YORK, December 20.

TO THE EDITOR OF THE TELEGRAPHER.

THERE appears in the last number of the *Journal of the Telegraph* an article on "Duplex Telegraphy by constant currents," which contains certain statements in regard to the invention of my duplex telegraph system, recently described and illustrated in THE TELEGRAPHER, and imputations upon me as an inventor, which are not warranted by the facts, and to which I desire space in your columns to reply. I shall also send to the editor of the *Journal* a similar communication, which doubtless, in justice, will be printed in that paper, but as its next appearance will not be till January 1st, and it is desirable to make public the facts as soon as possible, I avail myself of your columns for that purpose also.

On February 12, 1873, two weeks before the date of

Mr. Winter's English patent, which is cited in the *Journal* as anticipating my invention, I deposited with Mr. William Stockmayer, Notary Public, 232 Avenue A, of this city, a description, sealed, and which is still in his possession with the seal unbroken, of two duplex telegraph inventions which I made some time before. One is the system for which I applied for a patent, on April 25, 1873. This will establish its validity under the United States patent laws, and at the most afford ground for no more serious charge than that of simultaneous invention by Mr. Winter and myself.

It was not until some time in the first part of the year 1874 that I knew of Mr. Winter's first method of duplex, which was shown to me in presence of Mr. Wm. N. Armstrong, my partner, by Mr. Geo. B. Prescott, the electrician of the Western Union Telegraph Company, described in the sixth edition of Mr. Culley's book, which he had just received from the author.

As Mr. Prescott failed to recognize the practical difference which existed between my system and that of Mr. Winter, I proceeded to perfect the second method, which I had invented in all its essential features while endeavoring to apply my first method practically to long lines.

My last patent, which contains in the drawing and in the specification an improvement on Mr. Winter's second system as printed in the *Journal*, which brought me the first knowledge of it, may be properly re-issued in accordance with the United States patent laws.

Geo. D'INFREVILLE,
Electrical Engineer.
129 Broad street, New York City.

Justice and Injustice, and their Results.

TO THE EDITOR OF THE TELEGRAPHER.

THERE is a wide-spread feeling of dissatisfaction among Western Union employes with reference to the proposed reduction of salaries. Superintendents, managers of offices, operators, and all alike, speak of the proposition in terms of earnest disapproval, and stigmatize it as an act of the grossest injustice. Nor is this feeling confined to employes whose pockets are to be depleted; almost the entire press of the country have spoken of the proposition in sharp tones of disapprobation. Such headings as the following in leading dailies have come to my notice: "Rich, but Stingy," "Rank Injustice," "Nett Earnings over a Million and a Half in Six Months," "Employes Proffered a Reduction Pill as a New Year's Gift," &c.

Under the circumstances there is not the shadow of an excuse in favor of the company. Were they poor and not earning money by the millions the case would be different, and I doubt if there would be heard a dissenting voice. What has become of the proposition to make the employes' interest identical with the employers? Does this look like it? Mr. Orton, please look upon this picture.

1st of January, 1876, your proposed reduction goes into effect. Employes who have served the best years of their lives in the employ of your company at barely living salaries, although they cannot do otherwise than submit to the power which screws them down and robs them of a portion of their just dues, become dilatory, a feeling of hatred is kindled, they take no interest in their employers' business, they cannot forget the hand that smote them, they curse the brain that conceived and the hands which put into execution this scheme. The employers' business suffers. It cannot but suffer, and in the end it will be an actual loss to the company rather than a gain.

Now look upon this other picture: 1st of January, 1876, salaries all increased on the same scale as the proposed reduction. Your gray-haired, faithful employe goes to his duties with a smile of love and gratitude, and his duty—aye, and more than his duty is performed with perfect cheerfulness. His employers' interests will not be allowed to suffer under any consideration. He will work all night with no word of fault-finding; he is prompt, correct, gentlemanly, and Mr. Orton has a warm corner in his heart.

How does Mr. Orton like the two pictures? Does he for a moment doubt that these pictures are correct sketches of the future? An increase of the salaries of employes on the 1st of January, 1876, in place of a reduction will put money into the company's coffers.

JUSTICE.

The Old Plan of Reducing Salaries More Objectionable than the Last.

TO THE EDITOR OF THE TELEGRAPHER.

THE resolutions adopted by the Chicago operators on Sunday the 12th inst., relating to the proposed reduction of salaries were, to say the least, of a decidedly weak character. The matter would scarcely merit ordinary attention were it not for the second resolution which read—"That we consider the present system of filling up vacancies at reduced salaries sufficiently guards the in-

terests of the company." This is simply a recognition of the right and justice of reducing salaries by the aforesaid pernicious "system"—a system which in effect is even more objectionable than an openly declared reduction. It may be a little slow, but it is certainly very sure, as its results have fully demonstrated within the past year or two. The Chicago men are so anxious to "guard the interests of the company" that they apparently lose sight of their own. Such unselfishness in this corrupt age of ours is certainly remarkable and may possibly be considered very pretty, but in my humble opinion it is extremely foolish. Doubtless, the members of the executive board will appreciate the consideration shown them by these gentlemen, though it is barely possible that they may slightly differ as to the correct meaning of the word "sufficiently." Let us hope, however, that they will listen to the kind suggestions of the Chicago men and instead of an open reduction favor(?) us by adhering to the "present system." Of course it amounts to the same thing in the end, but then it is done so quietly and politely that it is almost a pleasure to submit to the extortion. Won't some of the advocates of the "present system" please show up its beauties through the columns of THE TELEGRAPHER?

WOLVERINE.

Telegraphers' Balls, Past and to Come.—A Thieving Check Boy.—Additional Precantion.—Visit of a Former Chief Operator.—A Pleasant Affair.

CHICAGO, ILL., Nov. 30th.

TO THE EDITOR OF THE TELEGRAPHER.

WE are beginning to experience some winter weather. Navigation is almost closed and business is rapidly decreasing.

Hearing some talk recently regarding the starting of a Telegraphers' Club for the purpose of having one or more grand balls this winter, calls to memory the last Telegraphers' Ball held in this city. The following message head was used at that ball. "Chicago, Calumet and Oshkosh Telegraph Company. All messages taken by this company subject to the following terms: To guard against mistakes, the sender of a message should deliver it in person, if otherwise engaged, they should have it repeated six or eight times. For such repetition nothing will be charged, providing the office student be so far advanced as to be able to manage a register. And it is agreed between the sender of the following message and the company, that said company shall not be liable for interruptions in their office, or eruptions outside their office, nor for delays arising from the use of messages for kindling wood.

"Correctness in the transmission of messages to any point on the lines of this company can be insured by leaving provisions and articles of juvenile wearing apparel at the residence of the manager.

"The company will not be liable for damages in any case where Horace Greeley's chirography is concerned, nor for errors arising in the transmission of diagrams; neither will it be liable for damages arising from sudden in junctions and cross bills, and in no case will damages be adjusted unless the claim is presented previous to the delivery of message from which said damages arise.

"RIP VAN WINKLE, Prest.

"By Telegraph from . . . To . . ."

A wire was stretched around "Crosby's" Music Hall where the ball was held (this was, of course, before the "great fire" in December, 1869), and a great deal of telegraphing was done by the "knights of the key." Very few of the prominent ones of that day remain among us, but no doubt there's enough back bone left in the fraternity here to get up a club which could have fully as creditable a ball as this one was.

Since the theft of the two coats in the Western Union office here, it has transpired that an all night check boy, who was discharged a short time previously, has turned out to be a regular sneak thief. He and a lot of other sixteen to eighteen year old thieves having been arrested recently for robbing a jewelry and clothing store on the north side. They hired rooms on the south side, and were endeavoring to dispose of the goods when detected and arrested. It was thought at the time the coats were taken that some one must have been pretty well posted as to the habits of the "boys," etc., to make such a successful venture; and it is now readily conceded that he either was one of the party, or the thieves were instructed by him how to proceed. The W. U. Co., in order to protect their employes in the operating room from any further depredation of the kind, and at the same time, more fully provide for the observance of the rule prohibiting any one but employes from visiting the operating room without a permit from the superintendent, have had a heavy wire railing constructed and placed on top of the walnut railing at the head of the stairs leading to the operating room, in such a manner that it is almost impossible for any one to get up stairs that way without alarming the office. Two large doors of the same ma-

terial are placed at the head of the stairs, locked securely with a heavy padlock. In order that persons who have a right to enter the room may not be put to unnecessary trouble by mounting three or four flights of stairs (instead of coming up in the elevator), and finding the entrance to the room barred, an automatic signal bell, worked with a button from the outside of the door, has been placed in the office, which can be rang, and is immediately answered from the room. This precaution prevents mischievously inclined persons from meddling with the jars of gravity battery placed all around inside the entrance at the head of the stairs.

The meeting of the Telegraphers' Mutual Benefit Association of this district, called for Sunday last at 11 A. M., to hear the report of the delegates to the annual convention, was so poorly attended (there being but three members present) that no action was had in the matter.

Mr. Jones's system of quad, has been put in successful operation between here and Milwaukee.

Louisville and Indianapolis are also worked on this system—Indianapolis having in repeater there, works with Chicago on the one side, and on the same side with Louisville, while Louisville and Chicago are working on the other side. Chicago, Detroit and Buffalo work the same way, Detroit having in repeater for Buffalo. Prominent among the visitors here recently was Mr. F. S. Kent, now manager of Cairo, Ill., W. U. office. Mr. Kent was, years ago, a chief operator in the W. U. office here, when there were but ten wires in the office. His surprise can be imagined when he beheld over a hundred wires, working quads, duplexes and Morse wires. Fred likes a good story and can tell a joke about as well as the next best man. The boy whose duty it was to serve lunch from a neighboring restaurant to the boys then on duty with Fred here, was in the habit of calling him Fred Cent and had him down so on his book. I will have to reserve some of the jokes I've heard of Fred until another time, as this letter is too long already and I "Kent" tell you now.

The following, clipped from the *Chicago Tribune* of Sunday, shows how the boys, imitating the example of "WEBFOOT'S" friends are doing it. The "affair" took place a week ago Wednesday and was done very quietly.

"A pleasant affair—for the contemplation of young people certainly—was a wedding-party a few days ago at the residence of Mrs. Atteridge, when John M. Kemp and Miss Lizzie M. Atteridge were made one through the offices of the Church administered by the Rev. Mr. Taylor. There were a goodly number of friends present, and much rejoicing. The employes of the Western Union Telegraph Company everywhere wish 'Johnny' Kemp and his bride a happy life."

Unlike a great many of the boys who get married on the spur of the moment without any preparation, "Johnny" has a home for his accomplished bride, and immediately after the ceremony there was a house warming, and the happy couple are keeping house in their snug home on the north side like old married folks.

This "affair" occasioned "Johnny's" return to day work. "Fatty" Steward with whom he changed off some time ago going back on the night force again

OCCASIONAL.

Disagreeable Weather.—Transfer of the Baltimore and Ohio Railroad Lines to the Atlantic and Pacific Company.—Quad. Arrangements.

CHICAGO, ILL., Dec. 10.

TO THE EDITOR OF THE TELEGRAPHER.

WE have been having the most disagreeable spell of weather for the past week I ever witnessed here.

The Atlantic and Pacific Company have succeeded in getting control of the Baltimore and Ohio Railroad to build and operate their lines along that route. All the offices of the B. & O. in this city are now worked as A. & P. branch offices, instead of Western Union, as heretofore, and the wires of that road have been taken out of the W. U. office.

The Board of Trade W. U. office now sends and receives business from the main office through two tubes, one used for receiving alone, and the other for sending. The arrangement is new and novel, differing materially from the old method single-pipe arrangement.

By switching in a loop at the W. U. main office at Detroit, Detroit Dock Office sends business to Chicago on the quadruplex, "De" main office leaving his key closed and giving O. K. to the Dock for Chicago. The same arrangement was affected at Cincinnati with the Board of Trade and another branch office. The Cincinnati offices not only sending to Chicago, but by running them on a local loop attached to the local wire in the main office, they also receive from Chicago office on the "Quad."

OCCASIONAL.

It has been demonstrated that for all telegraphic purposes the English language is from 25 to 33 per cent. cheaper than the French, German, or any other language.

THE TELEGRAPHER

DEVOTED TO THE INTERESTS
OF THE
TELEGRAPHIC FRATERNITY.

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THE TELEGRAPHER.

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OF THE

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of Electrical Science and the
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TWELFTH VOLUME.

With the number for

JANUARY 1ST, 1876,

THE TELEGRAPHER will commence its TWELFTH VOLUME. It is, and will continue to be a thoroughly

INDEPENDENT TELEGRAPHIC NEWSPAPER,
bound to or in the interest of no TELEGRAPH COMPANY, CLIQUE
OR COMBINATION, but honestly devoted to the interests of
PRACTICAL TELEGRAPHERS.

Its columns are at all times open to the freest and fullest discussion of all questions of interest and importance to the Fraternity, or the Telegraphic Art and Electrical Science in connection therewith.

As heretofore, no LABOR, TIME, OR EXPENSE, warranted by the patronage received, will be spared to improve its character and add to its interest, and to sustain its reputation as the ONLY FIRST CLASS INDEPENDENT

ELECTRICAL AND TELEGRAPHIC JOURNAL
UPON THE
AMERICAN CONTINENT.

All the popular and valuable features of the paper will be retained and it will continue as heretofore to labor for the best interests of the TELEGRAPHIC FRATERNITY and the advancement of ELECTRICAL SCIENCE and the TELEGRAPHIC ART.

TERMS OF SUBSCRIPTION.

ONE COPY, ONE YEAR.....TWO DOLLARS
SINGLE COPIES.....FIVE CENTS
which includes Postage to Subscribers in the United States and Dominion of Canada.

RATES OF ADVERTISING.

One Square (twelve lines Nonpareil) each insertion.....\$1 00
One Quarter Column, each insertion..... 2 50
One Half Column, " "..... 4 00
One Column, " "..... 8 00

A Liberal Discount on Advertisements continued for four or more insertions, but no Advertisement inserted for less than ONE DOLLAR per insertion.

Specimen Copies will be forwarded free on application.

Telegraphers and others are desired to act as Agents in obtaining subscriptions, and will be allowed TWENTY PER CENT COMMISSIONS in lieu of Premiums or Club rates upon the amount of such subscriptions, which may be deducted from remittances when made.

Any persons sending the names and money for FOUR Subscribers, at the regular price of subscription, two dollars per year, will be entitled to receive an extra copy free.

SUBSCRIBERS CHANGING THEIR RESIDENCES, AND DESIRING A CHANGE IN THEIR ADDRESS, MUST ALWAYS SEND THEIR OLD AS WELL AS THEIR NEW ADDRESS.

Remittances for subscriptions may be made by mail, by post-office order or registered letter, at the risk of the Publisher, but no responsibility will be assumed for money sent without such precaution. On remittances of not less than FIVE DOLLARS the order or registration fee may be deducted from the amount.

Advertisements are solicited, and will be inserted at reasonable rates; but no Advertisement will be inserted for less than ONE DOLLAR per insertion.

All communications relating to or intended for THE TELEGRAPHER must be addressed to

J. N. ASHLEY, Publisher,
(P. O. Box 5503,) NEW YORK.

To Subscribers.

AS usual at the close of the year and volume a large number of subscriptions to THE TELEGRAPHER expire, Unless these are renewed the paper will be discontinued, and those who may fail to receive it will understand the reason.

We hope that few of these who are now receiving the paper will fail to renew their subscriptions promptly, and that they will also bring it to the notice of those who do not now receive it, and secure as many additional subscriptions as possible.

Prospectus of "The Telegrapher" for 1876.

We desire to call attention to the Prospectus of THE TELEGRAPHER for 1876, which will be found on this page. The commencement of a volume affords an excellent opportunity to obtain and begin subscriptions.

We hope that every person into whose hands this paper may fall will realize the importance of securing the widest and most general circulation possible for the next year, which is likely to be of more interest in telegraphic matters than the last two. There will probably be considerable extension of telegraphs and telegraphic facilities during the coming year, and those who are instructed in such matters will find THE TELEGRAPHER the only complete record thereof published.

The First Number of the New Volume.

THE first number of the new volume of THE TELEGRAPHER, which will be issued on Saturday next, will contain much valuable and interesting matter, some of which we are obliged to omit from the present issue on account of lack of room, including several communications on the "Reduction of Salaries." No telegrapher can afford to be without the paper, and to secure it, subscriptions should be sent in promptly so that we may know in time how large an edition will be required to supply the demand.

The Title Page and Index to Volume XI.

THE Title Page and Index to the Eleventh Volume of THE TELEGRAPHER will be issued with the next number. Should any who are entitled to and desire it fail to receive it they will be supplied on application.

To Our Correspondents.

IN consequence of the pressure upon our columns this week we have been obliged to postpone the publication of several interesting communications, including a reply to "Priscella" from "Western Union," and one from "Double Six," with other interesting matter, all of which will appear next week.

The Close of the Volume.

WITH this number of THE TELEGRAPHER the Eleventh Volume is closed. It affords us much satisfaction to be able to state that, notwithstanding the general depression in business has continued, and many newspapers have been forced to suspend publication, THE TELEGRAPHER has received a steady support, and enters upon its Twelfth Volume hale and vigorous, and with pleasant prospects of future prosperity and usefulness.

To those who have aided in its support by their patronage and efforts to increase its circulation, or by contributions to its columns, as well as to those who have kept its advertising columns so well filled, we avail ourselves of this opportunity to return our sincere acknowledgments. It is entirely dependant upon them for support, and THE TELEGRAPHER is the only publication of its class in the world, so far as we know, that has thus been permanently supported.

We have been cheered and encouraged in our labors and in our efforts to maintain a telegraphic journal of a high character, devoted primarily to the interests of the practical telegraphers, by the kind commendations which they constantly receive from those whose commendations are of value, as well as by practical co-operation. These have satisfied us that the paper is doing a good work, and that its publication is not in vain. That it shall even more in the future merit such commendation and support is the sincere and earnest desire of its publisher and editor.

The past year has, as many of our readers are personally aware, been one of great pecuniary depression, which has been continued now for over two years, and which has affected telegraphic as well as other interests. The compensation of telegraphic employes has been gradually diminished, and a diminution in the demand for telegraphic services has lessened the chances for remunerative employment. In this respect, however, we believe telegraphers have suffered less than many others, but yet much more so than is pleasant or satisfactory. The reduction of salaries by the Western Union Telegraph Company, to take effect with the new year, is not calculated to make its advent particularly happy. We sympathize with those who are affected by this reduction most sincerely. It demonstrates, however, the necessity for maintaining a journal in which they can be heard, and of a character which shall command the respect and secure a hearing from those in whose keeping their interests are to a great degree placed. Such a journal is THE TELEGRAPHER, and while a closer economy will no doubt be necessary in the year to come, it cannot advantageously be applied to a curtailment of its circulation and influence.

We have every reason to anticipate an even wider and more general circulation of the paper in the coming year, and that it may be assured, we look for the active and practical co-operation of telegraphers in every section of the country. Its past record is a guarantee of what it will be in the future. That it has constantly improved in character from the first year of its publication is generally conceded, and we do not mean that the coming volume shall be an exception in this respect.

With these brief remarks we close our journalistic labors for the year, and complete the volume with the satisfaction which arises from the knowledge that they have not been wholly in vain, and that THE TELEGRAPHER will enter upon the new year and volume firmly established in the regard and affections of the telegraphic fraternity as the exponent and promoter of its real and permanent interests and prosperity.

In closing we would improve the opportunity to hope that, notwithstanding adverse influences, our readers may, one and all, enjoy a MERRY CHRISTMAS, to be succeeded by a HAPPY NEW YEAR.

The Reduction of Salaries.

We print this week several communications in regard to the reduction of salaries of employes of the Western Union Telegraph Company, and have several more on file for insertion next week. Those affected do not seem to get reconciled to it, and the opinion is very generally entertained and expressed that this action of the directors of the company is, to say the least, a mistake, and that it is not likely to prove advantageous eventually.

We expressed our sentiments very fully on the subject last week, and have but little to add to what has already been written. We are yet of the opinion that the company might and should have found some other means of retrenchment, if a reduction of expense was absolutely necessary, which would have been less sweeping and general in its operations. Such a step is the last one which a great and prosperous corporation should resort to, and one which should only be considered when other means had failed if retrenchment was unavoidable.

It affords us pleasure to be able to give the fraternity a chance to be heard on the subject, and also to note that very little disposition is shown to indulge in violent denunciation or hasty action on their part. It is not too much to say that the telegraphers have done themselves honor by their attitude, and that they have secured the respect and sympathy of the business public to an unusual degree thereby. A reduction of income to many of them means a reduction of comforts for themselves and families which it comes hard to dispense with, and creates a necessity for greater economy where economy has necessarily always been the rule. We hope that better times will come soon, and that telegraphers and others will share in its advantages. Until then, or until some remedy can be devised, nothing can be done except to submit under protest, and look for other and improved chances.

The New Electric Development.

On our first page we print a communication from Dr. GEO. M. BEARD "on the result of physiological and other developments" of the newly discovered electrical manifestation which has been termed "etheric force," that will be read with much interest. It is the first article on the subject having any pretensions to scientific accuracy which has yet appeared, and its statements and suggestions are certainly worthy of consideration, and will doubtless lead to careful study of the phenomena in question, and further and more conclusive experiments to determine the actual nature and practical use, if any, of the alleged force.

The manner in which this matter was heralded to the public, and the well known character of the putative discoverer, has caused it to be received with less consideration than it otherwise would have been by scientists and telegraphic experts. That it has any practical value has not been demonstrated by any experiments which have as yet been tried. All the indications so far are that while it is a very curious development of some hitherto unknown property of electricity, it is, in fact, nothing more, and that its utilization for practical purposes is, to say the least, exceedingly problematical. If it can be utilized, it undoubtedly will be by some one or more of the numerous individuals who are now, or soon will be testing it and experimenting with it.

These sparks have frequently been observed heretofore, but seem to have been passed over without special notice, or regarded merely as a product of electricity or magnetism of a not essentially different nature from those already known. They are likely now to get all the attention and consideration that they really deserve.

We are not disposed to treat with indifference any electrical discovery, but the ridiculous suggestions evidently emanating from the professor of duplicity and quadruplicity that this was a new force destined to rev-

olutionize the telegraph system, solve the problem of cheap ocean telegraphy, enable insulated conductors to be dispensed with and the railroad tracks to be used for telegraphic purposes, etc., before anything was really known about it, have caused it to be received with incredulity and sarcasm by electricians and practical telegraphers. Had some more scientific and reputable person made this discovery, and, instead of rushing into print, carefully experimented with it to determine its nature, qualities and uses, it would doubtless have met with a very different reception. The well-known characteristic and unreliable scientific qualifications of the professor taint with suspicion, and justly so, this as well as other pretended discoveries of his, which prove generally to have been derived primarily from his extensive reading of electrical and telegraphic works of our own and European electricians and telegraphers.

L. G. Tiltson & Co. to the Front.

THOSE (if there are any) who have supposed that L. G. TILTONSON & Co. had become less enterprising than formerly, will see their mistake when they read their mammoth advertisement which is issued with this number of THE TELEGRAPHER. An examination of this announcement will demonstrate the fact that a stock of first-class telegraph goods to satisfy any demand may be found at their establishment, No. 8 Dey street, New York, and 54 South Fourth street, Philadelphia. Besides the usual telegraphic apparatus, material and supplies, numerous specialties are announced, manufactured and sold by this enterprising firm, which are worthy of special notice. We do not propose to enumerate these, but they will be found fully set forth and pictorially illustrated in the supplement which we print to afford space for this advertisement.

The advantage derived from liberal and judicious advertising is amply shown in the immense and increasing business of this successful firm, which is equally liberal in its dealings with customers. The present customers of TILTONSON & Co. will need no assurance of the fairness and liberality which characterises its dealings, but those who have not dealt with them heretofore may be certain of honesty and liberality, as well upon orders by mail or telegraph as upon personal application.

It should be mentioned in this connection, that this advertisement represents only one department of the business of the firm, as it is equally prominent as a dealer in railroad supplies, etc., as in telegraph goods.

The Direct Cable.

As will be seen from the cable despatch from London, the steamship Faraday sailed on Tuesday last for the location of the break in the Direct Cable. If she has favorable weather she ought to be able to get the cable in operation again within the next two weeks. The break is in shallow water, and can probably be easily repaired when the Faraday once reaches the locality.

Cedar Telegraph Poles.

As there is a prospect of considerable telegraph construction during the next year, the advertisement in this number by Mr. A. A. COLBY of Toronto, Canada, of cedar telegraph poles will be of interest. The poles furnished by Mr. COLBY are of superior quality, and delivered on very reasonable and advantageous terms.

A Cincinnati Electric and Telegraphic Manufactory.

THE manufacturing of electric and telegraphic apparatus and supplies, formerly carried on by JAS. T. GILL-LAND & Company, at No. 166 Race street, Cincinnati, Ohio, has been taken by Messrs. J. O. SHIRAS & Co., as will be seen from their advertisement to which we call attention, and bespeak for them a share of patronage. Their instruments and supplies will be found of superior excellence and at reasonable prices.

Personals.

MR. W. W. WELLS has been appointed master of transportation and superintendent of telegraph of the Rockford, Rock Island and St. Louis R. R.

MR. M. C. LAVEN, manager of the Dominion Telegraph Company, at Hamilton, Canada, has been appointed superintendent of the southwestern division of the same company. This is a good appointment and a deserved promotion.

MR. C. J. MCPHERSON has been appointed train dispatcher and superintendent of telegraph for the Illinois Midland Railroad.

MR. HARRIS, of the L. S. & M. S. wire, and Miss MUGROVE of the Freeport and Dubuque wire, in the Chicago, Ill., Western Union office, have exchanged places.

MR. BANGS has been promoted from the Metropolitan to the Western Union day force in the Chicago, Ill., office, and sends reports to Milwaukee as well as taking a turn at the way business all over the room.

MR. R. B. PEARSON, formerly of the extra force of the Chicago, Ill., Western Union office, has accepted the management of "Qr." branch office in connection with his position with the American District Company, which leaves him no time for extra work.

MESSRS. HAZLETON, GRAY, NULL and RILEY, have been relieved from the regular extra force nights of the Chicago, Ill., Western Union office, and take their chances to get work as they are wanted from time to time. Mr. HAZLETON intends accepting a position in the Atlantic and Pacific day force in the Chicago office of that company.

MESSRS. EVERHAM, CARROLL, HENDERSON, and CHILDS, have been assigned to regular night work in the Chicago, Ill., Western Union office.

MESSRS. AUSTIN, of the Western Union night force, and CUTBERT, of the Atlantic and Pacific night force at Chicago, Ill., are quite seriously ill.

MR. JAMES FISH, of the Chicago, Ill., Western Union day force, who was obliged to quit work some time ago on account of his lungs, has not been able to resume work yet, and is still with his friends in Wisconsin.

MISS ELLA GATELY has been added to the metropolitan day force in the Western Union main office, at Chicago, Ill., and Mr. TRUNKLE, on the night force.

MR. F. C. TALLEY is the obliging and gentlemanly operator in the Grand Pacific Hotel, Atlantic and Pacific office, Chicago, Ill.

The Telegraph.

By Cable.

THE DIRECT CABLE. THE FARADAY ABOUT TO PROCEED TO REPAIR IT.

LONDON, Dec. 20.—The steamer Faraday having completed her preparations for repairing the direct cable, cleared to-day for New Providence, Bahama Islands.

SAILING OF THE FARADAY.

LONDON, Dec. 21.—The steamship Faraday sailed to-day to repair the direct cable. She will proceed directly to the location of the break, and with good weather, no trouble or delay is anticipated after her arrival.

Proposed Extension of the Dominion Telegraph Lines.—The Directors Authorized to Issue Bonds.

A SPECIAL general meeting of the shareholders of the Dominion Telegraph Company was held at the head offices of the company, at Toronto, on Wednesday, the 15th inst., which was largely attended. The object of the meeting was stated by the President, Hon. John McMURRICH, to be to authorize the directors to raise additional capital by the issue of stock or bonds—or both, as might be deemed expedient, to the amount of \$300,000. This amount was required to pay for necessary extensions of the present system through the maritime provinces of the Dominion, and to connect directly with the direct cable at Tor Bay. For this purpose he offered the following resolution:

Resolved, That the directors of the company be, and they are hereby authorized, under the power conferred by the charter and amendments thereto, to increase the capital stock of this company by the sum of three hundred thousand dollars, making the full share capital one million of dollars; or the directors may, at their option, in lieu of so increasing the capital, borrow on the bonds or securities authorized by the charter a sum or sums, not exceeding the sum of three hundred thousand dollars,

or may increase the stock for part of the amount required and raise by the bonds of the company the balance.

Mr. Swinyard, the general superintendent of the company, by request addressed the meeting at some length on the necessity which existed for extending and completing the system of the company as proposed, and giving the details of the extensions proposed.

The additional capital was required, first, for the new line it was proposed to build from Montreal to Quebec, via the North Shore Railway. Secondly, for a new line from Quebec to Tor Bay and Halifax, in connection with the Direct Cable Company; and, thirdly, for a new line from Montreal to the boundary line, in direct connection with the Vermont International Telegraph Company's system, whereby direct communication would be established with Montreal, Boston, Portland, New York, and the Eastern States generally.

After some further amicable discussion of the proposition the resolution was seconded by the Hon. M. C. Cameron, and carried unanimously. The meeting then adjourned.

New York City Telegraphic Notes.

THE second eastern press wire, on which Filibuster the Mighty so extinguished himself, has again been started for the winter, and Thos. J. Tobin hands the matter cast "to" the boys, and does it in such a solid manner that the interposition of a four inch plank in the circuit would scarcely affect the adjustment of the relays.

Misses Emery and Salisbury have been transferred from the Montreal and Saratoga wires to the Albany quadruple, were it is said they are to remain all winter. They are, without doubt, the best lady telegraphers in the country, and make copies which compare favorably with the best in the W. U. office. This is a decided step towards putting female telegraphers on the heavy wires, and it is productive of the most satisfactory results so far. It seems that the time is not far distant when the brothers and sisters of the craft will be working side by side in New York office.

Establishment of the American District Telegraph in Troy, N. Y.

A COMPANY has been organized for the purpose of introducing the American district telegraph system at Troy, N. Y., and is now locating branch offices in various parts of that city. The headquarters and principal office of the company are in the new Savings Bank building. Mr. A. D. Collins, superintendent of the Fire Alarm Telegraph, has been appointed electrician of the new company.

The Reduction of Salaries.—Action of a Meeting of Western Union Employees at Springfield, Ill.

A MEETING of the employees of the Western Union Telegraph Company was held at Springfield, Ill., on Sunday the 12th inst., at which the following resolutions were adopted and forwarded to the president and executive committee at New York:

Whereas, It is the intention of the company, in the face of its prosperous and steadily increasing business, to materially reduce the salaries of its employees, and

Whereas, The year 1876 will, by reason of its being the Centennial and national campaign year, be especially prosperous to the company in the augmentation of its business, and will entail additional and more arduous labor on its employees without materially enhancing their compensation, and

Whereas, Employees are not now employed, worked or paid on any general system based on reasonable equality and justice, but are subject to local circumstances, and in consequence are paid all sorts of salaries, do all sorts of work, and at all sorts of hours, especially so in what are termed "way" or medium offices; therefore

Resolved, That for the above reasons there is not, in our opinion, any just or reasonable cause for the company to inflict these summary and wholesale reductions of salaries on its employees.

Resolved, That we firmly, yet respectfully, protest against these reductions.

Resolved, That our art being a special one, and essentially in the hands of one organization throughout the country, and we being without the advantages that other arts and trades possess, in having competition for our skill, intelligence and labor, the telegraph company should recognize these facts, and not indiscriminately curtail the incomes of such employees as has given many years to its service, and who have few or no hopes of promotion by reason of the compact consolidation of its labor.

Resolved, That before reductions of salaries are made, the status of the various employees of the company should be clearly defined, and their rank, duties, privileges and salaries should be placed in proper and equalized classifications, irrespective, as far as possible, of the localities in which they may chance to be situated.

Resolved, That as a necessary preliminary to carry out the resolution immediately preceding, a general system, embracing skill, experience, merit, term of service and faithfulness in the discharge of duty is essential.

Resolved, That, having been faithful in our service to the company in years past, we will continue faithful in the years to come.

W. W. KELCHNER, Manager.
FRANK B. SMITH, Operator.
CHARLES G. SMITH, Operator.
GEO. C. KELCHNER, Operator.
ASA N. FESSENDEN, Clerk.

Quotations of Telegraph Stocks at N. Y. Stock Exchange.

Showing Lowest and Highest Prices each day during week.

Dec.	WESTERN UNION.		ATL. AND PAC.		AMER. DIST.		GOLD AND STOCK.	
	Bid.	Asked.	Bid.	Asked.	Bid.	Asked.	Bid.	Asked.
16	75 3/4	76 3/4	18 1/2	18 3/4	20	25		
17	75 3/4	75 3/4	17 3/4	18				
18	75 3/4	76 3/4	18 1/4	18 1/2				
20	75 3/4	76	18	18 1/4				
21	73 3/4	74	18 1/4	19				
22	72 3/4	75 3/4	18	18 1/2				

CEDAR TELEGRAPH POLES FOR SALE.

Five to six inches at top, with bark pulled off, twenty-five, thirty, thirty-five and forty feet; and duly got out to order, delivered at Lake ports between Oswego and Chicago on opening of navigation. Address

A. A. COLBY,
Toronto, Ont.,
Canada.

THE ELECTRIC AND TELEGRAPHIC WORKS

OF

CINCINNATI, OHIO,

No. 166 RACE STREET, ESTABLISHED 1866.

We manufacture and deal in all kinds of

ELECTRIC AND TELEGRAPHIC APPARATUS AND SUPPLIES.

J. O. SHIRAS & CO..

SUCCESSORS TO

JAS. F. GILLILAND & CO., formerly

E. T. GILLILAND.



THE LECLANCHÉ BATTERY.

THE WORLD RENOWNED

Open Circuit Battery.

NO ACIDS!

NO SULPHATE OF COPPER!

DOES NOT FREEZE!

Will last from six months to several years, WITHOUT RENEWAL.

IS ESPECIALLY ADAPTED to Electric Bells, Hotel and House Annunciators, Burglar Alarms, Medical Apparatus and all kinds of Open Circuit Work. ADDRESS,

LECLANCHÉ BATTERY COMPANY,

No. 40 West 18th Street, or

L. G. TILLOTSON & CO., Sole Agents,

8 Dey Street, New York.

BRADLEY'S APPARATUS FOR ELECTRIC MEASUREMENT,

COMPOSED OF HIS

Tangent Galvanometer and Rheostat.

(Patented January 7th, 1873.)

Widely known and used among telegraph companies for practical work; also in colleges and other institutions of learning as a means of instruction and scientific experiment. Invaluable to experts or students in electrical science.

APPARATUS COMBINING

WHEATSTONE'S BRIDGE,

Also GALVANOMETERS for special purposes designed and furnished at short notice.

BRADLEY'S CELEBRATED

NAKED WIRE HELICES,

for Electro-Magnets, wound to any given size and resistance.

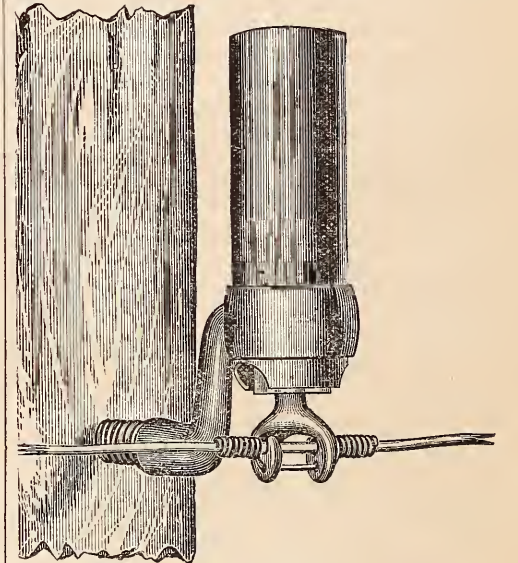
Manufacturers of Telegraphic and Electrical Instruments supplied at low rates.

For prices and pamphlet descriptive of apparatus, apply to

L. BRADLEY,

9 Exchange Place, Jersey City, N. J.

BROOKS' PATENT TELEGRAPH INSULATOR WORKS,



AND AGENCY FOR THE SALE OF

SIEMENS' UNIVERSAL GALVANOMETER.

Resistance Coils, Submarine Cables,

AND EVERY VARIETY OF

ELECTRO-METRICAL APPARATUS MANUFACTURED BY SIEMENS BROS.

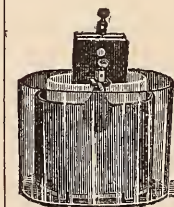
DAVID BROOKS, Proprietor,

22 SOUTH TWENTY-FIRST ST.,

PHILADELPHIA.

TO ELECTRICIANS.

BASTET'S NEW IMPROVED BATTERY.



is the most powerful, constant and durable power in the market; never crystallizes in the porous cup. This Battery, and Electrical Fluid to charge the same, is only sold at our store.

PRICE LIST.

No. 1 Cell, - - - \$5.00.
No. 2 " - - - - - 10.00.

L. BASTET,

619 Broadway, New York.

LEWIS' TELEGRAPH MANUAL.

A few copies of the last edition of

THE TELEGRAPHIC MANUAL,

by Mr. WALTER O. LEWIS, remaining, may be had of THE TELEGRAPHER, 38 Vesey street, at fifteen cents each. Will be forwarded by mail postpaid on receipt of price.

CHARLES T. CHESTER,

MANUFACTURER OF TELEGRAPH INSTRUMENTS,

104 CENTRE STREET, NEW YORK.

BATTERIES of every description for TELEGRAPH and ELECTRO-PLATING purposes, best ENGLISH and AMERICAN TELEGRAPH WIRE, LINE TOOLS, INSULATORS, etc., etc. DIALS and PRINTING INSTRUMENTS for PRIVATE and MUNICIPAL lines.

Especial attention is called to the CHESTER PIN DIAL (patented), designed expressly for POLICE and LAW TELEGRAPHS. Works more than twice as fast as the Dial used at present for Police purposes, and with main battery only, thus doing away with the expense and care of local batteries. For call purposes a Bell Magnet is attached to each instrument by an Automatic Switch, so arranged that when the lid is closed the Bell is in circuit, and when opened the Dial is thrown in and the Bell cut out. Nearly every large city in the United States having a Police Telegraph is using the "Chester Police Dials," which have thereby earned a well established reputation for reliability and efficiency.

ELECTRO-MECHANICAL GONG STRIKERS,

for Railway Signals and Fire Alarm purposes, with Gongs ranging from 16 in., the engine house size, to 8 in., for house purposes. These are capable of striking very rapidly—at least two blows in a second. These vary in price according to size.

ELECTRO-MECHANICAL BELL STRIKERS,

for striking heavy bells, with hammers weighing as high as 200 lbs. These can also, if desired, be made to strike at "less than two seconds' interval." They are invaluable for Fire Alarm purposes, and can be furnished at very reasonable prices, varying according to size.

ALSO,

CHESTER'S PATENT NON-INTERFERENCE STREET BOX FOR FIRE ALARM TELEGRAPH;

so arranged that it is utterly impossible while one box is in operation to start another, thereby preventing any confusion of alarms.

ALSO,

REGISTERS, RELAYS, CALL BELLS,

and every description of Central Office apparatus, at most reasonable prices.

Particular attention is given to MUNICIPAL CONTRACTS.

THE NEW STYLE OF REGISTER, "THE EUROPEAN"

in which the spring takes the place of the weight, is enclosed in a metal and glass case; is noiseless in its action, and of great beauty and finish, and is specially recommended to Shippers, to whom the most liberal discounts are offered on every line of telegraph goods and supplies.

ELECTRO-SURGICAL APPARATUS

OF EVERY VARIETY AND DESCRIPTION.

HOTEL ANNUNCIATORS.

Simple, reliable, and never get out of order. The following Hotels are fitted with our improved patterns: Grand Union, Saratoga; A. T. Stewart's Hotel, corner Thirty-fourth street and Fourth avenue, N. Y.; Willard's Hotel, Washington, D. C.; Galt House, Louisville, Ky.; Teft House, Buffalo; and many others. Proprietors and keepers of Hotels most liberally dealt with.

THE "COUNTING ROOM BELL MAGNETS,"

for communicating instantly to clerks and employes, by means of a keyboard, in any desired place.

ALSO,

BELL MAGNETS AND PUSH BUTTONS,

for connecting Rooms or Stables to houses; very cheap. Nickel plated and best material and workmanship, from \$5.00 upwards.

Sole Agent of the

WILSON ELECTRIC GAS LIGHTING CO.,

for Halls, Theatres, Churches, etc., etc. Inducements offered to any persons obtaining contracts for lighting.

Something New for

LIGHTING FACTORIES, MILLS, ETC.

By simply pushing a button on his bench the operator lights a section of burners.

Very slight consumption of Battery, and very cheap.

SEND FOR A CATALOGUE AND PRICE LIST.

They contain no munificent offers of 20 % discount on prices 25 % in advance of the trade, but the net prices will be found to be reasonable and satisfactory to all.

P. O. Box 2768,

104 CENTRE STREET.

JUST OUT.

NEW AND ENLARGED EDITION OF

SMITH'S

MANUAL OF TELEGRAPHY

CONTAINING

Complete Directions for Self-Instruction in Telegraphy, Instructions for Building and Operating

SHORT LINES OF TELEGRAPH,

Diagrams showing the manner of connecting wires, batteries instruments, &c.

Descriptions and cuts of all forms of telegraph instruments, batteries, &c.

Cuts, descriptions and prices of the

BEST LEARNER'S APPARATUS

AND

SHORT LINE INSTRUMENTS;

Together with full explanations of everything necessary for the

AMATEUR TELEGRAPHER

To know.

Every operator and every student of telegraphy should have one

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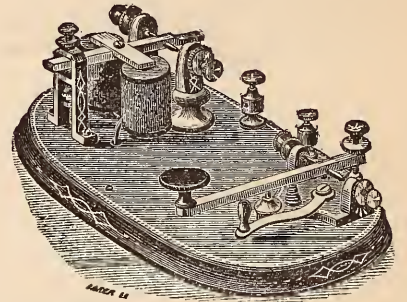
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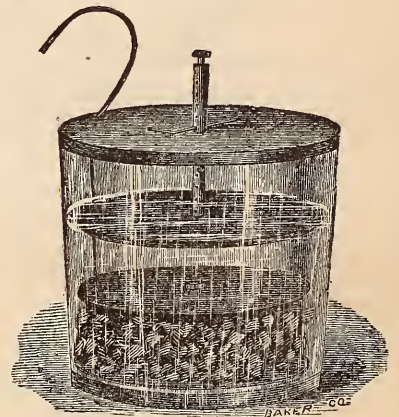
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