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# THE TELEGRAPHER:

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THE UNIVERSITY OF CHICAGO

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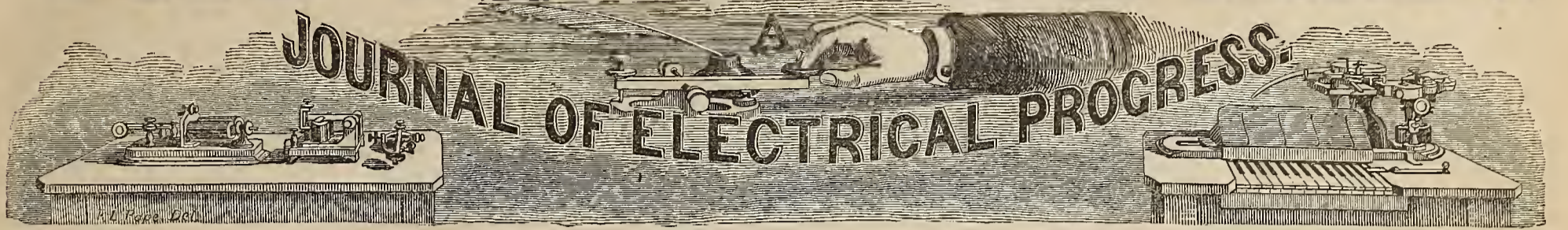


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# THE TELEGRAPHER.



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Whole No. 59.

## Telegraph Insulators at the Paris Exhibition.

IN view of the increasing interest in the important subject of insulation which has manifested itself among the members of the telegraphic profession for some time past, we have concluded to devote some space in the present number of THE TELEGRAPHER to the description and illustration of some of the leading forms of insulation used

to which it is exposed from accidental causes, or from the mischievous attacks of stone-throwing school-boys.

In most of the European insulators exhibited, this combination of strength and insulating qualities is sought to be obtained by the use of a single material, usually porcelain or brown earthenware. In the only American insulator on exhibition two different materials, each possessing

obtained by coating the bolt or supporting pin with vulcanized rubber. The rim of the outer cup is rounded off inside, for the purpose of preventing the sprinkling of the interior with rain-water when a drop hanging upon the edge is blown off by the wind. If it happens to hang upon the windward side of the insulator, it is driven up a little distance between the two cups, but does not burst

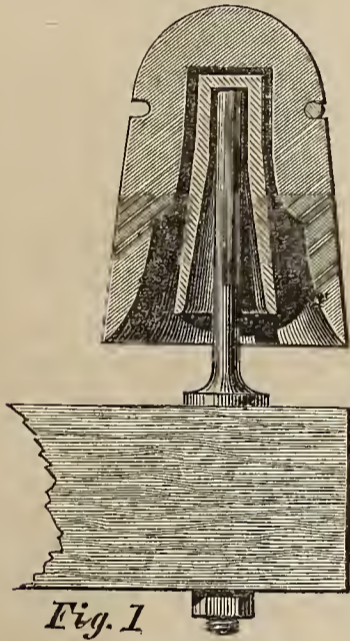


Fig. 1

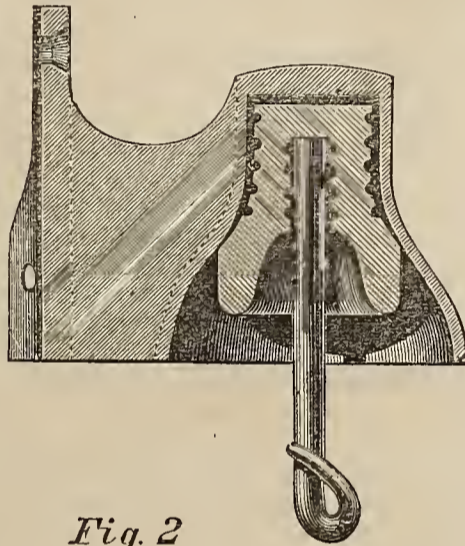


Fig. 2

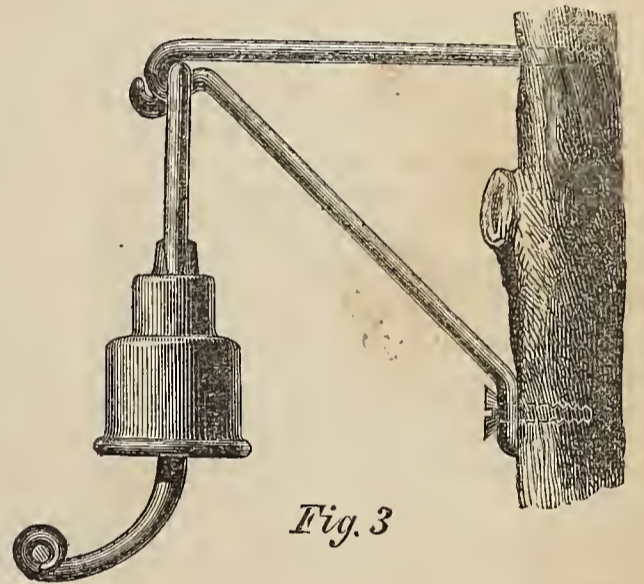


Fig. 3

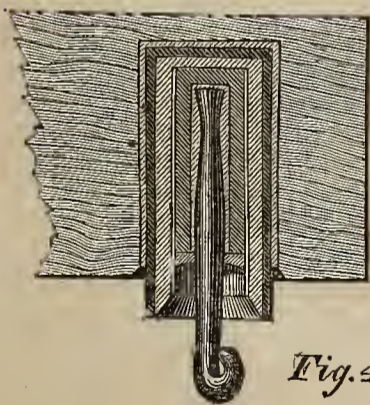


Fig. 4

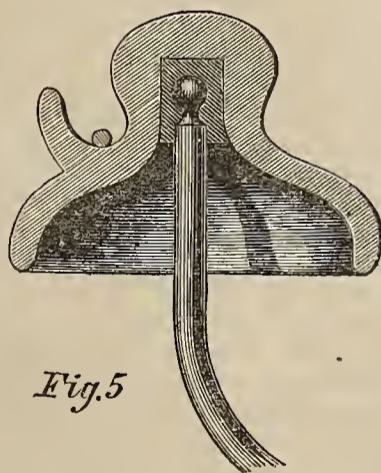


Fig. 5



Fig. 6

in different countries, as represented in the great exhibition at Paris. In regard to telegraphic apparatus in general there is not much on exhibition that may be called strictly new, although many modifications and improvements of well-known forms of apparatus are to be seen. The improvement most particularly noticeable is in the perfection of design and workmanship to which the makers of telegraphic apparatus have attained. Referring more especially to the subject of insulators it may be remarked that the first requisite in an insulator is, that its substance should not transmit electric currents, and that after long exposure its surface should remain in a similar condition, even when exposed to rain or the moisture deposited from damp air of a warmer temperature than the insulator itself. The second requisite is that it should possess sufficient mechanical strength to support the wire and withstand the danger of fracture or injury

one of the above qualities in perfection, are combined together in order to produce the same result.

We have had the fine illustrations annexed to this article engraved for the purpose of explaining more clearly than could otherwise be done, the peculiarities of some of the leading forms of insulators in the exhibition.

Figure 1 represents the English insulator known as VARLEY'S, which is extensively used in that country. This consists of two separate cups of brown earthenware cemented together with sulphur or plaster of Paris. The outer cup is provided with a groove to which the line wire is bound. The whole is dipped in and thoroughly saturated with melted paraffine, the most perfect insulating material of which we have any knowledge.

A wrought-iron bolt is cemented into the recess of the inner cup, by which the insulator is attached to the cross-arm, as seen in the figure. An additional insulation is also

and sprinkle the interior of the cup. The great superiority of this insulator is due to its compound character. Before the current can escape it is obliged to surmount the insulation of two concentric earthenware cups, as well as the paraffine and the rubber-covered pin.

Figure 2 represents SIEMENS' and HALSKÉ'S celebrated insulator, which is extensively used in all parts of the Old World. It consists of a cast-iron bell with a flange attached, by which it is screwed to the post. Inside the bell is cemented a white porcelain cup, ribbed inside and out to give a good hold to the cement. Into this cup is cemented the wire hook, the stem of which is covered with vulcanized rubber. The parts are put together while hot with a cement composed of sulphur and oxide of iron.

Figure 3 is an insulator invented by Lieut.-Col. CHAUVIN, Director of Prussian Telegraphs, intended for attachment to living trees when they are used as supports for



telegraph lines. The insulator is hung upon a hook, free to swing, and the wire-holder is bent in a curve away from the stem of the tree, so that it cannot come in contact with it. This would be a capital arrangement for many lines in this country. Wires attached to living trees are almost invariably broken by the swaying of the trunk without some movable joint is introduced.

Figure 4 is BROOKS' American insulator, which has been fully described in a previous issue of THE TELEGRAPHER. It consists of an iron hook sulphured into a glass cup, which is again sulphured into a cylindrical iron cup, the whole being thoroughly saturated with paraffine.

Figure 5 is the insulator commonly used on the French lines. This is simply a cup of white porcelain of the shape shown in the figure cemented on to an iron bracket with sulphur. The porcelain of the insulators on exhibition is of poor quality, porous, and not very well glazed. The administration have the insulators on exhibition fixed on poles, with the wires also attached in proper form.

Figure 6 is the Prussian insulator, made of white porcelain in the form of a double bell. This insulator was originally patented by CLARK in England, and was afterwards adopted by the Prussian administration in a slightly modified form. The porcelain of which these insulators are composed is of excellent quality, of fine close texture, and well glazed; there is much room, however, to doubt the perfection for any great length of time of an insulator whose non-conducting qualities depend upon a mere glazed coating which will sooner or later inevitably crack and admit moisture into its pores.

White porcelain insulators of various forms are exhibited by Russia, Switzerland, Spain, Italy and several other countries.

An English manufacturer of earthenware exhibits a great variety of different forms of insulators made of this material which seems to be a great favorite in England though little used in other countries. This material appears to be the same as that of which blacking and beer bottles are commonly made.

The two best insulators in the exhibition are unquestionably those of VARLEY and BROOKS. Their superiority over others is not only owing to the use of paraffine, but to their scientific design and construction.

Mr. BROOKS has invented an important improvement in his insulator, rendering its non-conducting qualities far superior to those of the specimen shown in the exhibition, which we shall illustrate in an early number of THE TELEGRAPHER.

### The Laying of the Cuban Cable.

WE are enabled to lay before our readers in the present issue of THE TELEGRAPHER some particulars of the laying of the submarine cable between Cuba and Florida. As has been previously announced, the steamship *Narva*, under command of Lieutenant DOWELL, arrived off Havana July 26, having the cable on board. The *Narva* is an iron screw steamer, and is well-fitted for the service in which she is engaged. She is chartered by the India Rubber, Gutta-Percha, and Telegraph Works Company, who are the contractors for making and laying the cable, and is under the direct orders of Mr. F. C. WEBB, the contractors' telegraphic engineer—a gentleman of great experience in submarine cable work. The *Narva* is provided with a double supply of men, and nineteen cable hands.

The cable is composed of a seven-strand copper conductor, insulated with three coatings of gutta-percha. The core thus formed is again covered with hemp. The armor is composed of galvanized iron wires laid spirally. The cable is made of three distinct sizes, the shore-end being about two inches in thickness, and weighing two tons per mile; the medium-size cable is an inch and two lines in diameter, weighing one and three-quarter tons per mile; while the deep-sea, or center portion of the cable, is ten lines in diameter, and weighs one and one-quarter tons per mile. The Key West and Punta Rosa cable is 133 miles long and nine lines in diameter, weighing three-quarters of a ton per mile.

The contractors guarantee the working of the cable for fifteen days. It is considered the most perfect submarine cable ever manufactured.

While the *Narva* was lying off Havana, she was joined by General W. F. SMITH, the President of the Interna-

tional Ocean Telegraph Co., Vice-President J. C. NENNINGER, SENOR ARANTAVE, Inspector of Cuban Telegraphs, W. E. EVERETT, the company's engineer, and others, and on the same evening sailed for Key West, where she arrived early on the morning of the 27th.

The erection of the paying-out machinery, which was described in a late number of THE TELEGRAPHER occupied an entire week.

Everything being at last in readiness, the *Narva* steamed out to a buoy, five-eighths of a mile from the island, at daylight on the 3d of August, accompanied by the U. S. war-steamer *Tahoma*, and the lighthouse steamer *Fountain*. The Spanish man-of-war *Francisco de Asis*, which arrived on the previous Thursday, followed the telegraph fleet, with a number of the Cuban officials on board, to witness the laying of the Key West end of the cable. At half-past six A. M. the *Narva* commenced paying out the shore-end, which was coiled upon a lighter, and sent ashore, a distance of five-eighths of a mile. At one P. M. the cable was landed, and soon after communication was established between the ship and the telegraph house on shore.

On the morning of the 4th, the *Narva* sailed at half-past six, paying out the cable at the rate of three and a-half miles per hour. After paying out seven miles of large, twelve and a-half of medium, and one of deep-sea cable, the end was let go, and marked with buoys. The *Narva*, accompanied by the *Tahoma* and *Francisco de Asis*, then proceeded to Havana, arriving off the city at daylight of the 5th, and, after a few hours' delay in arranging preliminaries, fell down to Chorrera, the point selected for the Cuban end, four miles west of Havana, where a small inlet puts in about five hundred meters, and upon which stands the old Spanish castle of the Torreón. The point is well chosen for the reception and preservation of the cable.

Only a single wire now connects Havana with Chorrera, but the company contemplate putting down a subterranean wire two feet in the solid rocky formation, which will enable them to work in all weather, and give them an entire submarine and subterranean line from Cuba to Punta Rosa, not subject to atmospheric influences, and proof against rain, lightning and thunder, which in this part of the country are very frequent and severe.

Shortly before one o'clock P. M. the Cuban shore-end was coiled into a launch, and at half-past three was started ashore, towed by a number of boats accompanied by Mr. WEBB, Mr. PREECE and Captain POLO, in a gig. The cable was landed and placed in a trench running to the telegraph house, and at half-past six communication with the ship was established through the whole length of the cable. Mr. HENRY DONOVAN remained on shore at Chorrera to test the cable, with Mr. CROOKS, the operator on board the *Narva*.

At half-past four o'clock on the morning of the 6th Mr. WEBB's men stood by the cable; the *Narva* moved off, slowly tightening up the slack, and gradually increased her speed to two knots. At four o'clock and fifty minutes the large size went over the stern sheave, and the medium-size commenced, the vessel increasing her speed slightly. At twenty minutes to six P. M., the medium-size ended, and the deep-sea cable came bearing down the cylinder at a rapid rate as the *Narva* gradually increased her speed to three, four and finally to five knots.

The *Tahoma*, with General SMITH on board, left early in the evening, to go forward to the buoy as a pilot for the *Narva*, the *Francisco de Asis* remaining in company.

During the entire night the cable run out finely at an average of about four and a-half knots, but the lights of the *Tahoma* were lost sight of, and as Mr. WEBB was under the impression that an easterly current was driving the vessel to the westward, he deemed it advisable to change her course more to the east. At half-past six A. M. on the 7th about eighty-one miles of the cable had been paid out, and there were no signs of the buoy, Sand Key, or the *Tahoma*. As the distance was about seventy-four miles from Chorrera to the buoys, and the *Narva* had run fully that distance, the vessel was stopped, and the *Francisco* was consulted as to the bearings. It then became evident that the *Narva* had sailed too far to the eastward, and it was also discovered that there was not sufficient of the cable left to reach the buoys which had been placed at the outer end of the cable laid from Key West, and the Punta Rosa cable was accordingly spliced

on. About noon the *Narva* signaled the British steamer *Alice*, who came alongside and gave her the bearings, from which it appeared that the *Narva* was many miles off her course.

At a quarter-past twelve P. M., she again commenced paying out the cable, heading west northwest by west. At a quarter past three the *Tahoma* was sighted, and the buoys were reached at 5 P. M., making the trip from Chorrera twenty-four hours and twenty-five minutes, including stoppages. Preparations for making the splice were at once commenced, but while drawing in the slack for this purpose, the cable unfortunately parted about half a mile from the ship. This occurred at half-past seven P. M. The high wind made it impossible to grapple for the lost end that night, but operations were commenced on the morning of the 8th and continued during the whole of that and the succeeding day without success, the wind being very heavy and the sea rough. On the 10th and 11th the weather was so stormy that no effort was made to grapple for the cable. On the 14th the work was again commenced, and after several days and nights of hard work, difficulty and discouragement, the lost cable was recovered, early on Sunday morning, the 18th ult., and dragged to the surface amid the cheers of the men engaged in the work. The weather being favorable a perfect splice was made, and the cable again committed to the deep. Upon being tested the cable was found to be perfect throughout its entire length. The following messages were exchanged during the afternoon:

E. O. GWYNN, Mayor of Key West, to the Gobernador Politico, Havana:

SIR—As our facilities of intercourse, so may our mutual interests and prosperity increase.

The Captain-General replied as follows:

Mr. E. O. GWYNN, Mayor of Key West:

SIR—I rejoice at the success of the enterprise, which, while it will facilitate the most rapid communications, will powerfully contribute towards the development of our mutual interest and prosperity.

The Captain-General JOAQUIN DEL MANZANO.

On the evening of Wednesday, the 21st, the *Narva* sailed for Havana, arriving off the port early the next morning. She took in sixty tons of coal and started on her return to Punta Rosa the same evening.

By the most recent telegraphic advices we learn that the shore-end of the Punta Rosa cable was landed at that place on the 25th, the *Narva* lying seven miles out from the shore in consequence of the water being very shallow. A dispatch from Punta Rosa, August 27, says that the *Narva* was in readiness to commence paying out the cable to Key West, but it had just been discovered that two men who had died that morning had the yellow fever, and that other hands have it. Mr. WEBB was then considering the advisability of cutting and buoying the cable and running to sea till the epidemic abated. The two men who died were WILSON, colored, and Mr. ELLIS, cable carpenter. Both were buried on shore.

Written for The Telegrapher.

### Vacations.

THE most conspicuous act of oppression which has been imposed upon the telegraphers of the United States, is now being experienced by them in the absence of their usual summer vacations. The fact that we have tamely submitted to this deprivation is not lost sight of by those who instigated it; indeed we may look upon it as a forerunner of greater evils which are to follow. Having themselves—most of them—served as operators, the officers of the different telegraph companies well know with what exuberant spirits we have heretofore looked forward to our annual respite from arduous and confining duty. None know better than they the value we have set upon these few days of recreation. This has been proven during the present season by the active demand for substitutes which has arisen, to supply the places of those who are determined not to forego their customary summer tour, though they can but ill afford the expense which it now entails upon them.

There cannot be a doubt but that this uncharitable act on the part of our employers has been launched forth as a "feeler," to ascertain not only the *esprit de corps* which pervades our ranks, but the strength of the Union as well.

The result of this experiment is as disgraceful to ourselves as it is flattering to those who originated it. Our



quiet acceptance of this bitter potion exposes our weakness and tempts our employers to test our forbearance by still further and more flagrant exhibitions of their power. The motive of economy was not the sole reason which prompted official action in this particular direction. We shall yet see the startling array of abuses, which are now deemed practicable, and which will soon follow in the wake of our first universal experience of the selfish policy of a "monopoly." Depriving operators of their vacations is a very slight retrenchment compared with what might be deducted from the operating expenses of a company by a universal reduction of salaries. This is certainly the unavoidable contingency toward which we are drifting.

We cannot ask for vacations as a boon to which we are entitled. They were given to us by our former employers as a token of appreciation for the services which we rendered. They were granted to us at a time when every operator was needed at the post of duty; yet I have never learned that the public suffered through any neglect of business during the summer months; neither has any report reached my ears of the diminution of receipts which could be traced directly to that cause.

Many of us confidently expected that this kind and humane treatment would be bequeathed to us, as a dowry from the good fathers of the American Telegraph Company, when the marriage ceremony was solemnized, which not only changed its name, but, alas for us! its identity.

There was, however, no such clause in the contract; avarice and aggrandizement have dethroned that liberal policy which taught us that capital was our friend, and we should feel thankful that the privilege of hiring substitutes has not also been wrested from us.

But it is useless to waste words in denouncing such instances of oppression. It is but natural that advantage should be taken, when our weak position actually invites attack; but let us maintain and strengthen the Union, so that we may ever present an undivided front, and the loss of our vacations will, let us hope, be the last grievance these columns shall be called upon to record.

"CENTRIPETAL."

## 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.*

### Another View of a Familiar Subject.

TO THE EDITOR OF THE TELEGRAPHER:

IN several of its recent numbers THE TELEGRAPHER has endeavored to show that there exists a necessity for competition in telegraphy in this country, and that superior lines, well managed by practical and experienced telegraphers, will prove remunerative investments.

One of your contemporaries has spent a great amount of hard talk in endeavoring to show that competition is not only *not* needed, but that it would not pay; that the public is as well served now by the present self-abnegating monopoly as it is possible for it to be; and that supposing a superior opposition line should be built and succeed in crowding the Mammoth off the track and effecting its ruin, a monopoly would still remain, and the public would be no better off than before.

At the expense of your space let us examine this subject in another light.

Providing for the necessities of the public, and the duty to crush monopolies, are very good cries to go before the public with, but—however praiseworthy the one or noble the other—are either of them a proper motive to action? Both may enter into the plans of competitors, but is not selfishness the prime motive? Not that low element in our mental composition which makes us mean and hoggish, but rather self-preservation and a desire to earn and enjoy for ourselves as telegraphers what we now earn for others to enjoy.

I would enlist in no crusade against capital. When labor aims to strike down capital, it injures itself by the recoil. Capital is too often arrogant, overbearing and tyrannical. Labor is as often bigoted, unreasoning, suspicious and unscrupulous. If the two by compromise

can pull together, profit accrues to both. If open enmity and war are inaugurated, loss and ruin ensue alike to both.

But compromise in this matter, as in politics, is an error. There is a right and a wrong side to the question. To compromise the right or compromise with the wrong are alike fatal.

There is a solution of the problem, however. Let capital and labor consolidate. Let the capital of the telegrapher be his labor, and his labor be his capital. There will be no clashing of interests then. Cooperation is the order of the day in all branches of industry. The telegrapher must adopt the plan and look to it as his only road to perfect success.

As intimated before, the telegrapher can have no feeling against an individual who happens to be a stockholder in the Western Union monopoly, nor against the monopoly itself, excepting where it seeks to injure him; neither can he deem it his individual duty to crush it, or aid others in crushing it, out of "pure-cussedness," or pure magnanimity to the dear public.

Telegraphy is a broad field open to all comers. No one person nor company has the exclusive right to occupy the field. It is perfectly legitimate for the telegrapher, singly or in combination, to enter this field and solicit patronage; and it would be as wrong for the occupants of the territory to attempt to crush out the young life of its competitor, as for the old established dry-goods merchants of a city to combine to strangle at birth the aspirant to a share of the city's tape trade.

The question narrows down to this: Will a competing line pay?

The Western Union Company, through the columns of its organ, labors to show that it will not. That journal pretends to speak for and advise the telegraphers of this country. But when the fact is known that its editor occupies a high clerical position in the executive office of the Mammoth, I am sure its statements will be taken, not as the expression of the sentiments of the genial gentleman who wields the quill—for in his long intercourse with telegraphers he has shown himself kind-hearted and generous, and has the respect of all who know him—but as the mind of the "power behind the throne."

Enterprises like the late United States, the Atlantic and Pacific, the Pacific and Atlantic and others in the Eastern States, are a damage to telegraphers and a loss to the stockholders. They are built solely in the interest of the projectors and contractors, and are turned over, sickly offspring, which if they escape the perils of infancy, never reach the vigor of youth without an entire rebuilding. The holding up to the gaze of telegraphers and capitalists these failures, as warnings, is a wile of the adversary. Yet from them much can be learned; and ALLIANCE, in an article in a recent number of THE TELEGRAPHER, has rendered valuable service, not so much by showing the chances of success to a new enterprise, but by exposing the weaknesses and causes of failure in previous ones, warning the next one to avoid the rock upon which they split.

Let telegraphers combine, shunning as they would ruin, the contract system, poor insulation and cheap construction, suspending entirely or reducing to its lowest terms the free list, forming an alliance with the press and leading transportation lines, and by fair dealing making them friends, not aping the lofty pretensions, high rents, commanding locations and countless auxiliary offices of the Mammoth, but choosing accessible offices, and seeking by promptness, accuracy and reliability to get and retain the business which will inevitably flow to them. Success by this plan is as certain as failure has been heretofore, where these self-evident truths have been either entirely ignored or disregarded.

Will not the telegraphers shake off their apathy and seize upon the opportunity that offers itself. Let us agitate. Let us familiarize ourselves with the idea of independence, and when it is thrust upon us we shall not be awkward in its presence.

I will not occupy your columns to the exclusion of more valuable matter, but I would make an earnest appeal to the fraternity to emulate the example of those in other callings who are less intelligent as a body than we are, who have less to inspire them, not so noble a future before them—for ours is a science, and as we advance,

new beauties are unfolded—who can command less means, and who in their controversy have the vigor of a *hundred cents on the dollar* to oppose, while we have only the decrepitude of *forty and fifty cents on the dollar* to meet.

The Mammoth casts an immense shadow that darkens the whole land! Are we children to be afraid in the dark?

The air is full of rumors here of changes high and low, and our poor brains are almost turned for fear that some of us may be called to "bear the cross and wear the crown" of superintendents, or circuit managers, or chief operators, or assistants. We shall all be easier when the agony is over and we find so few of us have been hit.

It is said our Major-General Superintendent has sold out his Western Union stock and goes with the Atlantic and Pacific line. The first may be true, for it is said the new administration doesn't please him, but the last is simply absurd. In the event of his retiring, his place could not be better filled than by the efficient superintendent of the second division. For this last vacancy there are so many aspirants and they all lack efficiency in so eminent a degree, it is pretty hard to guess who will be the unfortunate. If my advice was asked I should suggest the cutting up of the division into small pieces and selling it out to the highest bidder. NAT. H. would get a slice, and SIM. M. another, and SID. G. another, and other smaller fry would get a bite. Then what is now a well-managed system of through wires, under one responsible head, would be a lot of independencies, up and down, which the Superintendents would strut their brief hour and die, and the business gradually go to the opposition.

Yours,  
Buffalo, Aug. 15, 1867.

TELEGRAPHICUS.

### Co-operation in Telegraphy.

CHICAGO, Aug. 21.

TO THE EDITOR OF THE TELEGRAPHER:

THE communications of ALLIANCE have attracted much attention, and given great satisfaction here. The satisfactory exposition which he has given of the *real* causes which led to the sudden and unexpected absorption of the United States Telegraph Company by the Western Union, has shed much needed light over that hitherto (to many) inexplicable transaction. The result of that promising enterprise has been used with great effect by the advocates of a monopoly against a renewal of the contest, and it needed just such an exposure by some one fully posted up in regard to the interior workings of the United States Company, to refute the arguments against competition which have been derived from its experience. It is believed by those who knew something of that company, that more remains to be revealed of its secret history, and if so, ALLIANCE will give us *all the facts*.

It is time that some general and vigorous effort should be made to establish needed competition in the telegraph business of the country. The interests of the telegraphic fraternity and of the public, now subordinate to one great monopoly, require this. There should be intelligent and effective cooperation between the telegraphers and capitalists, for the construction and permanent establishment of a general system of competing lines. The West is ready to take hold with energy and determination to accomplish this. Will not the East and South cooperate with us?

SYDNEY.

### Letter from St. Joseph's.

ST. JOSEPH'S DISTRICT, Aug. 6, 1866.

TO THE EDITOR OF THE TELEGRAPHER:

AT our last regular District meeting—the day appointed for the election of a delegate—we, the members, learned with much regret and mortification that we were not entitled to a delegate, because there were only eleven members in good standing on the rolls. The announcement was received with feelings of deep regret, but there was no way of getting around it. We then discussed measures best calculated to regain our lost strength. It was decided, and acted upon immediately, that a committee be appointed to speak to the many operators working within our District limits, and awaken an interest in them, by setting forth the advantages gained, etc., if they would join us. The workings of this plan are being felt already at this end of the District. Every operator qualified for admission has handed in his *application* for membership,



except one, and from him I have a partial promise of application. Do other Districts take enough interest in this matter? I think there are hundreds of operators that would join our brotherhood if some friend would speak to them, telling them of the benefits obtained thereby. We of this District intend giving a good report of ourselves before another year passes. I would like to ask our Convention a question: Is it right and just that a District with as many members as St. Joseph's District has, should go unrepresented? or should any District which has enough members to make it a District, that pays money into the Treasury and supports the Union—I ask, is it right that they should be debarred from a seat in the Convention? I hope there will something be done to give all good members a voice in our "Congress."

Very respectfully, "Hook."

## OBITUARY.

### Professor Michael Faraday.

A DISPATCH by the Atlantic cable announces the death of MICHAEL FARADAY, the eminent English chemist, electrician and natural philosopher, which took place on the 27th of August:

He was born September 22, 1781, in the parish of Newington, Surrey. His father being a poor smith, young FARADAY'S education was of the most ordinary description. At fourteen he was apprenticed to learn the business of a bookbinder and bookseller. During his term of apprenticeship he read with avidity all books on natural sciences that fell into his hands, and his favorite amusement was to make rough experiments in chemistry. In the early part of 1812, he was enabled to attend four lectures by Sir HUMPHREY DAVY, of which he took careful notes, interspersing them with such drawings as he could make in illustration of their contents. In the December following he wrote to Sir H. DAVY, inclosing his notes and drawings, and praying for his patronage. The reply was immediate and favorable. Early in 1813, his patron, acting for the managers of the Royal Institution, procured for him the situation of Chemical Assistant under himself as Honorary Professor. Mr. FARADAY, who at once became the favorite pupil and soon the friend of Sir H. DAVY, took up his residence at the Royal Institute, where, except for a short interval, he had resided ever since. In 1824 he began to deliver morning lectures to students in the laboratory; in 1825 he was chosen a Fellow of the Royal Society; in 1832 the University of Oxford conferred upon him the honorary degree of Doctor of Civil Law, and in 1833 he was appointed First Professor of Chemistry at the Royal Institute. He was also made a Knight of the Prussian Order of Merit, a Knight of the Italian Order of Sts. Maurice and Lazarus, and one of the eight foreign Associates of the Imperial Academy of Sciences at Paris, where he was also appointed a Commander of the Legion of Honor, in 1855. He was likewise chosen a member of a very large number of learned societies in various countries of Europe and America.

The great scientific achievements of Dr. FARADAY, began in 1820, with the discovery of the chlorides of carbon. In the next year he discovered the mutual rotation of a magnetic pole and an electric current; in 1823, the condensation of the gases. In 1820, while laboring on the production of optical glass, he produced the heavy glass which proved of immense assistance to him in his magnetic investigations.

He was early interested in electrical researches, assisting DAVY in 1820 in prosecuting those first entered upon by OERSTED on the relations of electricity and magnetism; and in 1821 he performed for the first time the remarkable experiment, developing the close connection of those two forces, of causing a magnet floating on mercury to revolve continuously round a conducting wire, and again a conductor to rotate round a fixed magnet. The magnet, still more wonderfully, was made to revolve with great rapidity when an electrical current was passed over half its length. In 1831 the first of the series of papers afterwards collected and published in separate form under the title, "Experimental Researches in Electricity," appeared in the *Philosophical Transactions*. They were contained in this and other scientific journals, and were finally collected in three volumes, 8vo. (Lon., 1839,

'44, '55.) They contain the results of a series of original and systematically conducted investigations, extended through many years in one of the most obscure fields of physical research; and they abound in brilliant discoveries, the credit of which no one contests with FARADAY. The most important of these researches relate to electrochemical decomposition; the induction of electric currents from other currents and from magnets, leading him to the discovery of magneto-electricity; the influence of the magnet on all bodies, leading to the division of magnetism and diamagnetism, and the optical changes induced by magnetism. His experiment showing that the amount of any compound substance decomposed by an electric current is proportional to the quantity of electricity employed, and that the elements separated in the same time are in proportion of their atomic weights, make it highly probable that electricity is the same force as chemical affinity, and that it is generated by chemical action only. The fact which he discovered, that just enough electricity is generated by the oxidation in the battery of one atom of zinc to decompose one atom of water, is additional proof of the same conclusion. He proved, moreover, the identity of the nature of electricity, whether derived from the battery, the fractional machine, thermal or magnetic action on animal bodies; and explained the wonderful differences in their manifestations resulting from its development in intensity or in quantity. Dr. FARADAY'S researches and discoveries raised him to the highest rank among European philosophers, while his high faculty of expounding to a general audience the result of recondite investigations, made him one of the most attractive lecturers of the age. Until quite recently he made it a practice to give lectures one evening in the week, not exclusively for the benefit of the classes of the institution, and the interest he excited in these caused them to be regarded among the attractions of London in the winter season. Few scientific men have received so many distinctions from learned societies and institutions. His great achievements were recognized by the learned societies of every country in Europe, and the University of Oxford, in 1832, did itself the honor of enrolling him among her doctors of laws. The many distinctions, however, failed to tempt him from the post into which he was installed by his early patron, or to deprive him of the natural modesty and artlessness of character that secured to him an esteem more desirable than that called forth by the highest talents. The Queen of England allotted to Dr. FARADAY, in 1858, a residence at Hampton Court, and since 1835 he has received a pension of £300 a year.

## FACETIÆ.

A BOSTON correspondent sends us the following:

"A merchant in this city received the following dispatch recently:

"CHICAGO, July 24.

"JENNIE is good—now six dogs regularly."

"His surprise was great. What JENNIE was good for he could not imagine, and six dogs regularly was incomprehensible, unless it referred to diet, and then it was monstrous and astounding. After some conjecture he telegraphed for an explanation and was relieved by the following correction:

"CHICAGO, July 24.

"Time is good—now six days regularly."

"The subject in question was the time occupied in shipment of goods to the West. JENNIE was an irrelevant female introduced by the operator; and as for the dogs, they were a pure invention."

An old lady living on one of the telegraph lines leading from Louisville, in the early days of telegraphy, observed some workmen digging a hole near her door, she inquired what it was for. "To put a post in for the telegraph," was the answer. Wild with fury and affright, she seized her bonnet and ran off to her next neighbor with the news. "What do you think?" she exclaimed in breathless haste; "they're setting up that paragraph right agin my door; and now I reckon a body can't spank a child, or scold a hand, or chat with a neighbor, but that plaguy thing'll be blabbing it all over creation. I won't stand

it. I'll move right away where there ain't none of them onnateral fixins!"

THE *Titusville Herald* tells a story of a young gentleman in that ilk, whose occupation was such as to frequently give him the privilege of "dead-heading" messages over the Western Union line, and who wanted to notify a person in a neighboring city—who was soon to become his brother-in-law—that he would be on hand to assist at the performance of the ceremony. Accordingly he sent him the following laconic dispatch:

"Second epistle of John, 12th and 13th verses."

For the benefit of those of our readers, if there be such, who have not a copy of the work referred to in their offices, we give the extract indicated:

12. Having many things to write unto you, I would not write with paper and ink; but I trust to come to you, and speak face to face, that our joy may be full.

13. The children (brothers and sisters) of thy elect sister (wife) greet thee. Amen.

In the course of human events, the original copy of this message reached the dead-head bureau of the Western Union Company at New-York, in accordance with the Medio-Persianic laws of the said company (see book of rules and regulations), from whence it was returned to the manager of the office where it originated, accompanied by the information that the Western Union Company was not incorporated for the gratuitous dissemination of the Gospel (that's so), and that the message must be paid for. Next time he will try "paper and ink" most likely.

THE wits of Persia are telling a good story about the Shah of Persia. It appears that the Shah rather pooh-pooed a proposal to introduce the telegraph into his realm, and his consent was by no means hearty. When the line was completed, the Shah was at his palace in Sultaneiah. Prince ALI-KOULI indited the first dispatch. It was this: "The melons are ripe at Kasehan." Instantly the possible uses of this invention of the infidels flashed across the royal mind, and ALI-KOULI received this agreeable answer: "I appoint you Minister of the Sciences."

## DISTRICT PROCEEDINGS.

PEORIA DISTRICT.—Regular meeting held July 20. Meeting called to order 11:25 A. M. Seven members present. Report of Treasurer read. M. A. WHEELER, Chatsworth, J. E. POPKISS, State Line, and J. G. GORM, Washington, elected members. The following nominations were made for District officers for ensuing year: Director, S. F. BOYD. Treasurer, T. O. CORD. Secretary, F. C. BELDEN. Delegate, D. K. SMITH. ALBRIGHT and SMITH appointed committee to receive and count votes. Adjourned.

Special meeting, August 11. Called to order 11:30 A. M. Ten members present. Upon counting votes for District officers the following persons were found to be elected: S. F. BOYD, Director; T. O. CORD, Treasurer; F. C. BELDEN, Secretary; D. K. SMITH, Delegate.

E. S. NEEDLES, of Gilman, was proposed for membership, and BOYD, SMITH and ALBRIGHT appointed committee to investigate and report at next meeting. Adjourned to first Saturday in September.

CHICAGO DISTRICT.—Regular meeting, August 12. District Director in the chair. Minutes of last meeting approved. The Treasurer being absent, his report was suspended. An application for membership was received from A. G. STOLBRAND, which was referred to a committee.

S. E. FRENCH was granted an honorable withdrawal from the Union.

Mr. J. H. KINGWILL, having left the telegraph business, was also granted an honorable withdrawal from the Union.

At the annual election, the following officers and delegates were elected: District Director, GEORGE C. YORK; District Secretary, H. W. NICHOLS; District Treasurer, O. JENNINGS. Delegate to Annual Convention, A. H. BLISS; Alternate, J. B. COWLAM.

DETROIT DISTRICT.—Regular monthly meeting held August 4. Minutes of previous meeting read and approved. Treasurer's annual report read and accepted. District Director presented a lengthy report, which was ordered to be placed on file, and a copy forwarded to each member of the District.

Resolutions were adopted tendering thanks to District



Director, Secretary and Treasurer, for the able and efficient manner in which they performed the duties of their respective offices during the past year. The Director announced that since the last meeting he had appointed Messrs. CORBETT C. FOX and LEE a committee to receive and count votes for District officers and delegate for ensuing year. Adjourned.

Special meeting held August 5, to receive report of Committee on Election, and the following-named gentlemen having received the largest number of votes were declared elected: District Director, T. W. PRIEST; District Secretary and Treasurer, JOHN C. SULLIVAN; Delegate to Convention, T. W. PRIEST; Alternate Delegate, D. W. CHALMERS.

BOSTON DISTRICT.—Annual meeting August 5. Called to order 8 P. M. Director in the chair. District Director's annual report, and District Treasurer's monthly report, read and accepted.

W. W. ASHLEY, being over nine months in arrears, and refusing to pay his dues, was expelled.

Committee appointed to receive and count the votes for delegate and District officers reported as follows:

For delegate: Whole number of legal votes, 41, of which J. W. DUXBURY received 20, and H. W. WHEELER, 21. Mr. WHEELER declared elected.

For substitute: Whole number of votes, 34, of which, 20 were for a member who was ineligible for office, and W. P. PHILLIPS having received all the remaining votes (14) was declared elected.

The following District officers were elected for the ensuing year: C. G. L. POPE, Director; J. E. WRIGHT, Secretary; H. W. POPE, Treasurer.

In accordance with the suggestions of the Director, Mr. J. A. ELMS was chosen to act as a reporter of the meetings of the District, and furnish each non-resident member with a full report of the proceedings of each meeting.

Mr. H. W. POPE was chosen to act as agent, to solicit subscriptions for THE TELEGRAPHER. Messrs. J. W. DUXBURY, T. A. DAVIN, W. P. POTTER, W. P. PHILLIPS and J. G. TOBEY were elected correspondents of THE TELEGRAPHER, with the understanding that they shall, in regular rotation, furnish an article for the paper once a month, neither of the correspondents, therefore, being expected to furnish an article oftener than once in five months.

The rest of the evening was occupied in discussing the various topics which are likely to come before the St. Louis Convention.

The meeting was well-attended and was an unusually interesting one. Adjourned 11 P. M.

PHILADELPHIA DISTRICT.—Regular stated meeting of the District held August 8. Mr. BUCKWELL in the chair. Minutes of previous meeting adopted. After remarks by the chair, the District Treasurer presented his annual report, which shows the District to be in a flourishing condition, there being in the treasury \$459 93 and no liabilities. The annual report of the District Director was then read.

On motion, all delinquents over nine months in arrears were expelled, and all over six months suspended.

The election of officers for the ensuing year followed, when, on motion, the rules were suspended, and the following gentlemen were elected by acclamation: District Director, JACOB R. WOODRUFF; District Secretary, JOS. S. GREENE; District Treasurer, R. J. BLACK; Delegate, JAMES PARTRICK; Alternates, M. D. BUCKWELL, FOSTER W. DAVIS.

Resolved, That this District will, if necessary, pay the expense of an operator to take the place of our delegate or alternate, while absent at the Convention.

Which was adopted.

Resolved, That the members of this District return their thanks to Mr. M. D. BUCKWELL, District Director, and Mr. G. S. MOTT, District Treasurer, for the able and efficient manner in which they have at all times attended to their respective duties.

Which was adopted.

There being no further business the meeting adjourned. [We exceedingly regret that the pressure upon our columns compels us to omit the able and interesting report of the Director of the Philadelphia District, at the above meeting, which was kindly forwarded to us.—ED. TELEGRAPHER.]

CORRY DISTRICT.—Regular meeting, Aug. 7. Meeting called to order at half-past 8 o'clock P. M. District Director in the chair. Ten members present. Minutes of

previous meeting read and approved. The District Director offered a few remarks. Reading of Treasurer's report dispensed with. Declaring election of officers for next year postponed, and special meeting called for Aug. 14, meeting adjourned.

Special meeting, Aug. 14. Called to order at half-past 8 o'clock P. M. Director in the chair. F. H. McDONALD appointed Secretary *pro tem*. Result of election declared—which resulted in the choice of J. J. HENDRICKS, District Director and Delegate; W. C. LONG, District Treasurer, and J. W. N. GILDS, District Secretary. Meeting adjourned.

WASHINGTON DISTRICT.—Special meeting held July 22. Eleven members present. The Director as acting Treasurer, presented his report, showing considerable improvement in the finances of the District. The meeting decided to postpone nominations of District officers until the next regular meeting.

Forty-first regular meeting, held Aug. 3, 1867. The following nominations were made for District officers: For Delegate and Alternates, G. C. MAYNARD, WILLIAM H. YOUNG, T. H. SHERMAN and M. MAREAN; District Director, T. H. SHERMAN and WILLIAM H. YOUNG; Treasurer, J. F. HAHN and A. S. ADAMS; Secretary, J. H. TOWNSHEND and W. C. HALL.

Several resolutions, containing instructions to the delegate, were offered, discussed and referred to all members of the District entitled to a vote, for their opinions. This District is entitled to one delegate.

#### Anglo-American Telegraph Company (Limited).

THE general meeting of the above company was held at the London Tavern on the 3d of August, Sir DANIEL GOOCH, Bart., M. P., in the chair.

The report, which was taken as read, showed that the 11 months ending June 30 last exhibited a net profit for that period more than sufficient to meet the sums of £125,000 and £25,000 payable to this company as a first charge upon the working of the two cables and the lines of the New-York, Newfoundland, and London Telegraph Company.

The directors were in hopes that a recommendation of a joint committee of both boards, made in January last, would have been adopted, whereby the charge would have been reduced to £5 for a message of ten words, with free address, and the charge for code discontinued, and that a large accession of traffic would have accrued therefrom. The Atlantic Telegraph Company, however, were unwilling to risk that portion of the revenue which was coming to them; and the directors were therefore compelled with regret to acquiesce in a policy which they considered detrimental to the permanent welfare of all interested in the Atlantic cables, and to the maintenance of the route via Ireland and Newfoundland. The following tabular statement shows the progress of the traffic since the opening of the line:

Proportion of the traffic receipts accruing to the Atlantic and Anglo-American Telegraph Companies, between Valentia and Newfoundland (exclusive of the subsidy of £25,000 per annum payable to the Anglo-American Company):

Average per day for the three months ending 31st October, 1866, at £20 per message of 20 words.....	£520
Average per day for the three months ending 31st January, 1867, at £10 per message of 20 words.....	485
Average per day for the three months ending 30th April, 1867.....	646
Average per day for the month of May, 1867.....	702
General average from 28th July, 1866, to 31st May, 1867.....	559
Average from 28th July, 1866, to June 30, 1867.....	571

Early in May, the cable of 1866 was seriously damaged by the grounding of an iceberg, about 5½ miles from the station at Newfoundland; but it was repaired by the 18th of the same month. The entire cost, including about 21 purchased miles of new cable stored at Newfoundland, amounted to between £11,000 and £12,000. This charge would not interfere with the sums of £125,000 and £25,000 payable to this company. Both cables were in perfect order up to the afternoon of the 20th ult., when the cable of 1866 was suddenly injured, at a distance, as shown by the tests from both sides, of about 50 miles from Heart's Content. At this point, which is near the entrance of Trinity Bay, the depth of water is only about 110 fathoms, and immediate steps will be taken to effect the necessary repairs. The land lines upon the American side have for some time past been working with much regularity; and it is expected that the submarine cable from Placeutia to Sydney will be laid in the course of a month or six weeks.

The lines between Valentia and London will be worked by the staff of this company from and after the 1st of August. At the last general meeting special attention was drawn to the 28th article of the Articles of Association, which directs that "a sum equal to 10 per cent at the least of the annual net profits of the company should, until a general meeting otherwise determine, be set apart as a reserved fund." This article had been acted upon on the present occasion, but the directors had to state that in their judgment it was not necessary under existing circumstances to accumulate a larger sum than now at the credit of the fund, which they considered ample to meet all contingencies; they therefore recommended the meeting to pass a resolution accordingly. The directors recommended that a dividend of 25s. per share be declared, payable on the 6th proximo, which, with the 20s. already paid, both free of income tax, would make nearly 23 per cent for the year. They further recommended that the sums of £209 2s. 5d. and £10,680 4s. 6d. be carried forward to the credit of next year's revenue.

The chairman, in moving the adoption of the report, expressed his regret at the absence of Mr. STEWART, especially as that absence was occasioned by illness. He then proceeded to say that it was the desire of this company to reduce the tariff one-half, but the Atlantic Telegraph Company were unwilling to accede to that proposal. He hoped, however, that by the 1st of September the reduction would be effected. No accident had taken place to the cable of 1865, which had been laid in clear weather and in the proper depth of water. A vessel would leave on the 8th or 9th of this month with a sufficient amount of line to make the repair of the injured line in a proper and effective manner. The lines were capable of doing fourteen to fifteen times their present work, and if the reduction in the price of tariff took place he believed that the profits would be much greater than they were, although they stood at present in a satisfactory position.

Sir ROBERT GLASS seconded the motion.

Mr. PARSONS gave it as his opinion that any reduction in the rate of tariff would be injudicious.

Sir C. LAMPSON, the deputy chairman of the Atlantic Telegraph Company, believed the reduction of the rate was one of very doubtful policy. He was willing to try it, however, but only as an experiment. There was a falling off in the earnings for the last four months from £1000 to £800 per day, and in the face of that they were advocating the policy of a reduction of rates. They had reduced the Government charge one-half. He thought they were wrong in making that reduction. But, as he said, he was willing to try the reduction of £10 to £5 for every message of twenty words, for a time.

A prolonged discussion then arose upon a suggestion that had been made to the effect that the number of directors should be reduced. This, however, was overruled by a large majority, and, ultimately, the following resolution, moved by Sir DANIEL GOOCH and seconded by Sir R. A. GLASS, was carried unanimously:

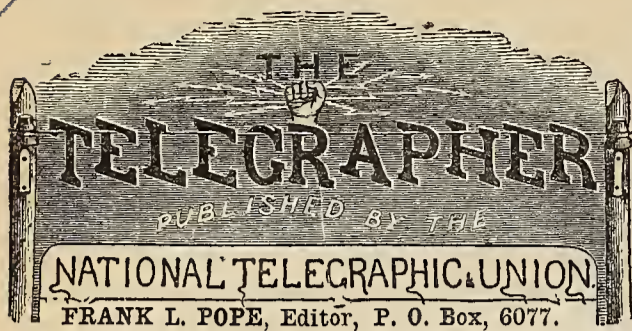
"That the accounts and report of the directors submitted to this meeting be, and the same are hereby, received and adopted, and that a dividend of 25s. per share, free of income tax, be and the same is now declared, in respect of the profits of the company up to the 30th of June, 1867, in addition to the 20s. per share dividend, on account, paid in February last."

A second resolution, moved by the chairman, and seconded by Capt. HAMILTON, was also carried. It was to the effect: "That no part of the profits of the company, after the 30th of June, 1867, be carried to the reserved fund referred to in Article 28 of the Articles of Association."

The retiring directors were then re-elected, and the usual vote of thanks to the chairman closed the business.

USE OF NICKEL IN TELEGRAPHY.—One of the English scientific journals thinks that among the various developments of electro-telegraphy it is possible that some useful practical applications might be found for this metal. It seems to possess at least one valuable property, when used for an electro-magnet—that of bearing little or no residuary magnetism on the stoppage of the current. This is probably due to its being of a more homogeneous character than wrought iron, and would seem to render it useful for certain delicate purposes.





SATURDAY, AUG. 31, 1867.

#### PERSONAL.

THE readers and friends of our paper will learn with profound regret, that, owing to continued and increasing ill-health, Mr. L. H. SMITH has been compelled to relinquish the editorship and management of THE TELEGRAPHER.

Mr. SMITH has been identified with this paper from the issue of its first number, and its present success is principally owing to his untiring energy and perseverance. Commencing nearly three years ago without a dollar of capital, and amid many difficulties and discouragements, and devoting all his leisure time to it, during the first year without remuneration, Mr. Smith at length succeeded in placing upon a permanent foundation the first successful telegraphic newspaper in this country.

The best wishes of all the readers of THE TELEGRAPHER for the speedy and complete restoration of his health will follow Mr. SMITH in his retirement, for a while, from the scenes of active business life.

The undersigned, in taking charge of THE TELEGRAPHER for a time, feels that he is not an entire stranger to its readers, and trusts that he will be able to make it as acceptable to the telegraphic profession in the future as it has heretofore been. Confidently relying upon the cordial support of the fraternity throughout the country, no effort will be spared to make THE TELEGRAPHER, in every respect, worthy of their patronage. FRANK L. POPE.

#### OUR NEW VOLUME.

WITH the present issue THE TELEGRAPHER commences its fourth volume. We are happy to state that its prospects for continued prosperity and success were never brighter than at present. We have taken advantage of this opportunity to make several improvements in the paper which we are confident will meet with the approval of our patrons. It has been decided to issue THE TELEGRAPHER hereafter as a weekly of eight pages, and by the use of smaller type we shall be able to give a considerably increased amount of reading matter per month. With its new dress and new and tasteful heading, THE TELEGRAPHER will not be surpassed in the beauty of its typographical appearance by any other paper published in this country. These improvements have been attended with some expense, but we are confident that our friends will help us to increase our circulation to such an extent as to fully reimburse us for the outlay.

THE TELEGRAPHER is a paper that should be in the hands of every operator in this country, and we are confident that the greater portion of them would become subscribers if their attention was once called to the matter.

It is our intention to make further improvements in the paper as rapidly as the increase in our cir-

ulation will warrant the expenditure. Will our friends who are interested in making this the model telegraphic newspaper of the world come forward and aid us?

#### THE TELEGRAPH AND THE SABBATH.

It would be a source of gratification to all telegraphers if, at the coming Convention, the subject of Sunday work should be taken in hand. There can be no object more worthy the attention of the Union, and no movement it may make will receive such universal sympathy and support.

Much has been said and written, yet nothing has been *done* to remove this grievance, which has existed over six years, and has become so firmly rooted that it is now useless to attempt its abolishment by the mere assumption that it is a moral wrong.

We need just such a reform to awaken the slumbering energies of hundreds of our members who will willingly support their delegates in any proper legislation having in view the eradication of this unnecessary evil.

This good work cannot be accomplished unless it be first inaugurated by the united action of operators, who feel and know the immoral influence which they undergo, through the agency of compulsory Sabbath-breaking.

We need bring no arguments to prove why the Convention should agitate this matter. The facts are patent to all, and every delegate should feel that he fails in his duty toward his constituents, unless he uses his utmost exertions to relieve them from this odious task, which is supported neither by the law of man nor the law of God.

With regard to the means which it would be most desirable and appropriate to use in bringing about this reform, there will probably be considerable difference of opinion. We would suggest that a committee be appointed by the Convention to draw up a dignified and respectful protest against the opening of telegraph lines for business upon the Sabbath, addressed to the various telegraph companies, and accompanied by a petition for the abolishment of Sunday labor upon their lines, the only exception being that of the press-wires during the evening, which seems to be an unavoidable necessity. Let this petition be thoroughly circulated throughout the country, so that every operator in the United States may have an opportunity to sign it before it is presented. To this course no one can take exceptions, and in such a movement we may count upon the moral support of the greater portion of the community. It may be objected by some, that such a course would produce no effect upon the managers of the telegraph; but this remains to be proved. In our opinion, a universal petition of this kind would have great weight with them. In the event of its failure, we shall at least have the satisfaction of knowing that the fault is not our own, and it will then be proper to devise other means, which will readily suggest themselves. One thing is certain, that we can expect no assistance from the press in carrying out this reform. We must fight the battle unaided, except by the moral support of a generous public. Every influence will be used by the principal Sunday patrons of the lines—newspapers and speculators—to oppose the movement and perpetuate the present abuses.

We have heard it asserted by telegraph officials in high positions, that operators and clerks had no moral sentiment on this subject—that their only object was to get rid of one day's labor per week. This may be true of some, but speaking for the brother-

hood as a whole we indignantly deny it. To prove our assertion we need only to cite two instances which at this moment occur to us. One was an operator who gave up a position where the duties were easy and pleasant and the salary \$110 per month, and accepted another at a salary of \$60 per month, for no other reason than that of being compelled in his former position to work on Sunday evenings. Another and more flagrant case will be found among the items in a recent issue of THE TELEGRAPHER, and which moved us to indite this article. Here is an operator who is favored with "a peremptory demand to work Sunday nights or resign." To his honor be it said that he chose the latter alternative. We wish some one would send us a full statement of this case, that the public may know who the responsibility of such a disgraceful act rests upon. It is a burning shame that, living in the nineteenth century, and in a professedly Christian community, we should be obliged to chronicle such an item as the above. It is fully time that a vigorous movement was made in this matter.

The lines of the late New-York, Albany and Buffalo line, under the superintendency of J. D. REID, were always closed on Sunday until after they passed under the control of the Western Union Company. Yet we never heard of any very serious complaint of the matter on the part of the public. The Bankers' and Brokers' line has also steadily refused to open for business during any part of the Sabbath day. The truth is that the public do not require the telegraph lines to be opened on Sunday, and have never asked for it. Every operator knows well that ninety-nine one-hundredths of the messages sent on this day might as well be sent the next day.

It is eminently proper that the National Telegraphic Union should take this matter in hand. Gentlemen, delegates to the Convention, let us say to you, that if the "Union" accomplished no purpose except this during its existence, it will not have lived in vain.

#### THE CUBAN CABLE.

THE completion of the International Ocean Telegraph Line, connecting the city of Havana and the hitherto isolated system of telegraphs in Cuba with those of the United States, marks another important era of progress in the telegraphic history of this country. This is the most considerable piece of submarine work which has yet been undertaken in this hemisphere, and the successful completion of the enterprise will, ere long, lead to the extension of telegraphic communication by means of submarine lines to the principal West India Islands and the adjacent coast of South America. Indeed we understand that the Government of Venezuela have already contracted for a cable to connect that country with Cuba, and consequently with the telegraphic system of the whole world, for which it is to pay \$30,000 quarterly for thirty-three years, all Government dispatches being transmitted free of charge. The Argentine Government has also made a liberal grant to establish a telegraph line between Buenos Ayres, and the projected coast line from Valparaiso to Panama will place the southwestern and eastern coasts of South America in direct connection with the United States and Europe.

The International Ocean Telegraph Company was organized in 1865 by Captain JAMES A. SCRIMSER and ALFRED PELL, Jr., Gen. WM. F. SMITH subsequently becoming associated with them and assum-



ing charge as President of the company. A line was first built through the State of Florida, some four hundred miles in length, from Lake City to Punta Rosa. This part of the work was performed by the well-known telegraphers, WM. H. HEISS and WM. W. SADLER, formerly of the American Telegraph Company in this city. The cable was manufactured in England, and detailed accounts of the laying of it, as far as have yet been received, will be found in another column. At the time of writing this, no report has yet been received of the opening of communication between Key West and Punta Rosa. This part of the work, which is the only link not yet completed, presents no difficulties of any moment, the delay being attributable to other causes. The other and by far the most difficult section of the work—that between Key West and Cuba is already in perfect working order. By the time this paper reaches the hands of our readers, New-York and Havana will in all probability be placed in complete telegraphic communication.

WHERE ARE THEY?—A weekly, which claims to be published in the interest of “the whole telegraphic fraternity,” recently declared that “there are thousands seeking employment, as intelligent, as active, and as capable as those now in (telegraphic) service, who, in certain events, may soon be trained for substitution.” What will the telegraphers of the country who have spent many years of their lives in learning the business say to that?

“FOREIGN” INTELLIGENCE.—One of our contemporaries has a scribbler who seems to be very much exorcised over the Dutch origin of the chief contractor of one of the new lines now building. We think a Dutchman is as good as an American, or even an Englishman, provided he behaves himself. And if not, why not?

QUERY.—Is it absolutely necessary that the Western Union Telegraph Company, in repeating messages originating on opposition lines, should send the year 1867 with the date, charging thereon as for three or four words? We have heard complaints of slowness in the transmission of dispatches over the lines of that company, but a message left with them in July or August ought surely to reach its destination before the opening of a new year could render the “1867” in the date of any importance.

PERSONAL.

L. L. SKILTON has resigned his situation in Chicago to engage in the dry-goods trade.

FRANK D. GULES has accepted a place in the Chicago city office.

GEORGE THODE has resigned the managership of the Peoria, Ill., office to engage in other business at Secor, Ill.

J. E. RANNEY succeeds THODE in the above position.

JIM DONNELLY, formerly of Grand Haven, has taken charge of the Kellogg, Io., office.

FOWLER BRADNOCK, formerly of Buffalo, N. Y., has accepted a position as operator in the Fall River, Mass., office Western Union Co.

R. C. EDWARDS, of Philadelphia, WM. TUTTLE, of Burlington, Vt., F. STEWART, of Worcester, T. P. NIGHTENGALE, of Albany, and C. C. KING, of St. Albans, Vt., are acting as substitutes in the Boston office of the Western Union Company.

H. E. SHETLER has resigned his position as operator in W. U. Co.'s Boston office and will leave the business.

THOMAS P. NIGHTENGALE, for several years night report operator in the Albany, N. Y., office has resigned his position and gone to Boston.

F. E. ANGEL, of Cleveland, who has been working as substitute in the above-named office the past few weeks, takes the position vacated by NIGHTENGALE.

C. H. COTTREL, formerly of Atlanta, Ga., has accepted a position as “report” operator in Worcester, Mass., vice ASHLEY, discharged.

PHIL. FALL, manager of the W. U. office at Houston Texas, has not gone to Grand Junction, Tenn., as erroneously reported in a late number of THE TELEGRAPHER.

J. E. POPKES has been appointed operator at State Line, Ind., vice GEO. HUDDLESTONE, removed.

GEO. D. BELDEN has been appointed operator and agent at Watska, vice D. B. LEBER, arrested for theft.

W. R. ALBRIGHT has been transferred from the telegraph office at the T. P. & W. Railway shops at Peoria, Ill., to the Superintendent's office. He is succeeded by F. C. BELDEN.

J. S. DURET, of “X” office, Peru, Ind., has accepted a position in the County Treasurer's office.

B. C. KEELER, formerly manager of “K” office, Kokomo, Ind., takes the office vacated by DURET.

[The following items were sent in by a correspondent, who is unknown to us. We publish them; not, however, without many misgivings that they may have been intended for the columns of some other paper.]

MR. BAGLEY has returned from breathing the pure air of New-England.

MR. FINNEGAN, who performs circular work at 145 Broadway, will change his boarding-house on the 1st prox. He informed us that although not objecting to hash for seventy or eighty meals, he doesn't like it for a steady diet.

WE understand that MARK ANTHONY, office boy at the Franklin office in this city, contemplates spending next Sabbath at Newark, N. J. He will embark at the foot of Cortland street, at 5:30 P. M., his hour off duty.

THE assistant operator at Squankum, N. J., will hereafter go to dinner at 1 o'clock instead 12, as formerly.

WE are pained to hear that JOHN SMITH, an operator at Bullfrog Bayou, La., lost a ten cent stamp a few weeks since. This unfortunate occurrence leaves MR. SMITH in very destitute circumstances.

MISCELLANEA.

NOTICE.—The regular monthly meeting of the New-York District N. T. U. will be held Tuesday evening, September 3, at 8 o'clock, at No. 622 Broadway.

TO CORRESPONDENTS.—A. M. V., Wisconsin. We are informed that it is nearly finished to Buffalo. Will most probably reach Chicago this fall. To your other question we cannot answer positively. It looks doubtful at present. Will try to keep our subscribers informed in regard to it.

DON'T DO IT! People who send us “communications” for publication ARE “requested” not to “quote” and underscore so MUCH. THIS is about the way A good deal of “matter” would LOOK if we “printed” it as WRITTEN.

READ our prospectus on the ninth page of this paper.

A TELEGRAPH REPAIRER SCALPED BY INDIANS.—A man named WILLIAM THOMPSON who was employed as a telegraph repairer on the Union Pacific Railway, while on a hand-car with five others, looking after a break in the line beyond Plum Creek station, was attacked by Indians, shot and scalped. He managed to escape alive, after incredible suffering, bringing with him his scalp, which the Indians had dropped. The physicians who are attending on him at Omaha feel confident of being able to replace the scalp and think that he will entirely recover from his injuries.

A MURDERER CONVICTED.—WILLIS McNAMAMY, who it will be remembered was arrested for the murder of JAMES A. JOHNS, station agent and operator at Gosport, Ind., a few months since, has been tried, convicted, and sentenced to the State Prison for life.

THE NATIONAL GAME.—A few days since the Telegraph nine, composed of the employes of the Western Union Telegraph office in Buffalo, challenged the “creamers” of the Niagara club to a game of base ball. It resulted in more sport than ball, though a considerable number of runs were made, as the score will show:

NIAGARAS.		R.	O.	TELEGRAPH.		R.	O.
Gunnison, s s . . .	9	4	Barker, c . . . . .	8	0		
Van Martin, p . . .	9	4	Warren, c f . . . . .	1	6		
Lewis, 1st b . . . .	12	1	Anderson, 3d b . . .	4	4		
Peabody, 1 f . . . .	12	2	Hebard, p . . . . .	6	2		
Maynard, c . . . .	12	2	Bissel, 2d b . . . . .	4	4		
Laverack, 2d b . . .	11	2	Joyce, s s . . . . .	7	1		
Michael, r f . . . .	8	5	Thomas, 1 f . . . . .	3	5		
Warner, c f . . . .	9	4	Slacer, 1st b . . . .	7	0		
Greenman, 2d b . . .	12	3	Tillinghast, r f . . .	2	5		
Total . . . . .	94	27	Total . . . . .	42	27		

PROGRESS OF THE ELECTRIC TELEGRAPH.—Telegraphs have of late been extended in all parts of the civilized world with marvelous rapidity. The total length of the telegraphic lines of the world was, according to a German statistician, at the beginning of the past year, about 180,000 miles, of which 45,300 were in the United States, 24,248 in Germany, 19,664 in Russia, 15,992 in France, 13,936 in Great Britain and Ireland. This refers to the length of routes covered, not to the mileage of wire.

EXTENSION OF THE TELEGRAPH IN PRUSSIA.—The Government of Prussia, always intent upon perfecting every department of civil administration, has just officially announced that it will extend the telegraphic system to every town with a population of 1500. Thus the Prussians will have better telegraphic facilities than any other nation of the world.

A PRESENTATION INSTRUMENT.—We were shown a few days since an elegant pocket instrument which is intended for presentation to Mr SCANLAN, the manager of St. John's N. F. office, by some of his friends in this city. The magnet is constructed with BRADLEY's patent helices and is enclosed in a glass case, which together with a key is fitted into a neat rosewood box, upon which is a silver plate engraved with the name of the recipient. For beauty of design and excellence of workmanship, we have rarely seen its equal. It was constructed by Dr. BRADLEY, of Jersey City.

NEW OFFICES.—The following offices have been opened by the W. U. Company. Fisherville, Forest Grove and Newfield, N. J., Waterloo, Penn. Bentley Springs, Md. Doctortown, Thomasville, Quitman and Valdosta, Ga. Madison, Fla. Dirck Hill, Miss. Blissfield and Ferrysburg, Mich. Fort Harker and Ellsworth, Kansas, and Julesburg, Col. By the International Ocean Telegraph Company: Jacksonville, Tuckers and Bartows, Florida. The following offices on the Western Union lines have been closed: Plumer, Pa., Knights, Mich., and Vernon, Ind.

A CABLE has recently been laid across the Ohio River at Cairo, by the Western Union Telegraph Co.

THE Western Union Company have opened a telegraph office in the Merchants' and Brokers' Exchange in Hartford in Charge of Mr. HEMPSTEAD.

THE Deseret Telegraph Company, of which BRIGHAM YOUNG is President, have lines in operation from Salt Lake City to Cache Valley in the northern and St. George in the southern portion of Utah Territory.

A THIEF OVERHAULED BY A “PLUG.”—A young chap named D. B. LEBER, who was formerly employed on the Merchants' National Telegraph at Pittsburg, has got himself in trouble by stealing a package containing \$250 from the express agent at Watska, Ill., where he was employed as operator. He also at the same time forwarded a package to the secretary of the telegraph company purporting to contain \$62, but which was filled with blank paper. He then left by train for Chicago, calculating that as there was no other operator at Watska that he would have time to effect his escape. But he was caught by means of another man there, whose knowledge of telegraphy was confined to making the alphabet, but who, upon the discovery of the theft, opened the key and sent a message three or four times, to nobody in particular, informing whoever it might concern, that LEBER had skedaddled with the cash as above related. He could get nothing that was said to him, and continued to “break” everybody on the line, by occasionally repeating his announcement, until a man was sent there by train to shut him off.



His timely information, however, resulted in the capture of the thief, who was arrested at Chicago, and the money recovered.

M. A. ZABRISKIE has returned to this country from Brazil, and has, we understand, succeeded in obtaining important concession from the Government respecting the establishment of a system of telegraph lines in the Brazilian empire.

A GENEROUS SUPERINTENDENT.—The operators in the main offices of the third division of the Western Union Co. are receiving two weeks' vacation each, through the kindness of their superintendent, Mr. JAS. S. BEDLOW.

THE FRANCO-AMERICAN TELEGRAPH CABLE.—A dispatch from London, August 27, says that the new Transatlantic cable from Brest to New-York is to be laid in May next. The northern route has been selected as the safest and most practicable. The steamship *Great Eastern* has been chartered to perform the work.

SINGULAR EFFECT OF LIGHTNING.—A young man in one of the English telegraph offices was transmitting a message during a thunderstorm, when the electric fluid entered the office and struck from his hand an open pen-knife which he was holding. The knife struck against the wall of the office and rebounded, striking the operator on the back of the wrist, which immediately became very much swollen. The lightning did no further damage.

THE SOCIETY OF ARTS ALBERT MEDAL.—We learn from our London exchanges that the Albert medal has this year been awarded to Mr. WM. FOTHERGILL COOKE and Professor CHAS. WHEATSTONE, F. R. S., in recognition of their joint labors in establishing the first electric telegraph in that country. In making the award this year, the council were placed in a somewhat peculiar position, inasmuch as by the terms upon which the medal was established they could only make one award, while the great object accomplished was due to the combined labors of two men. They felt, however, that so great a national work as the electric telegraph was especially worthy of reward by this society, and that the Albert medal could not be more worthily bestowed than in recognition of the services of those to whom the introduction of the telegraph was due. The award having been made, they have directed that the medal be struck in duplicate, and a copy, with suitable inscriptions, be presented to each of the above-named gentlemen.

A PACIFIC SUBMARINE TELEGRAPH.—The project of a submarine telegraph to the Sandwich Islands, Japan and China is beginning to attract attention in California. *The San Francisco Bulletin* thinks it not only practicable, but certain of execution. It recalls the fact that some years ago the United States surveying schooner *Fenimore Cooper*, Lieut. BROOKE, took soundings between the Farallones and Honolulu; and the surveying officer said that there would be less real difficulty in laying a cable from California to the Sandwich Islands than between Newfoundland and Ireland. About three hundred miles west of the Golden Gate, and parallel with the Coast Range and Sierras, a submarine range of mountains was found, with an average depth of water on their tops of two miles. Beyond the submarine mountains mentioned the bed of the ocean was found to be a nearly level plateau to within a short distance of the Sandwich Islands, BROOKE went from the islands to Japan, taking, as is supposed, deep-sea soundings all along the route—the data of which are believed to be still on file at Washington.—*N. Y. Times*.

THE PACIFIC OVERLAND TELEGRAPH.—It may be of interest to state that from Chicago (the initial point) there are two independent lines through Iowa to Omaha, besides a third via St. Joseph; from Omaha there are two lines, one via Fort Laramie, and the other via Denver to Salt Lake City; from Salt Lake two wires to Virginia City, Nevada, and from this latter place five wires (by three routes) to Sacramento and San Francisco. Salt Lake has telegraphic communication with Montana, besides Brigham Young's wires to the more important Mormon settlements north and south. Virginia City, Nevada, has a wire to the Humboldt mining district.

The California State Telegraph Company, now controlled by the Western Union, takes in all the important towns in California, Nevada, Oregon and Washington Ter-

ritory, terminating at New-Westminster, B. C., with a branch to Victoria. The Western Union extension towards Behrings Straits commences at New-Westminster, and extends up Frazer River to Quesnel, and thence 450 miles northwesterly into the wilderness. The material purchased for the Russian extension will probably be used in the construction of a new line from Los Angeles, the southern terminus of the California lines, by way of Arizona and Texas, to New-Orleans.

#### Telegraph Prizes at the Paris Exhibition.

We find in *The Journal des Telegraphs* the following list of prizes awarded in the telegraphic department of the Paris Exhibition:

GRAND PRIZES. Cyrus W. Field and the Anglo-American and Atlantic Telegraph Companies.—David E. Hughes (New-York), Printing Telegraph.

GOLD MEDALS. Digney Bros. & Co., Instruments.—Rattier & Co., Cables.—W. Hooper (London), Cables.—J. Casselli, Autographic Telegraph.—L. Guyot D'Arlineourt, Printing Instrument.

SILVER MEDALS. Lenoir, Autographic Telegraph Instrument.—Felton Guillanne, Cables.—W. J. Heuley, Cables.—Dumoulin Froment, Instruments.—Leopolder (Vienna), Instruments.—Hipp (Neufehatel), Instruments.—J. Thompson (Copenhagen), Polarizing Battery.—Clæsener (Liege), Instruments.

BRONZE MEDALS. Delperdange (Brussels), Tubes for Cables.—P. A. J. Dnjardin (Lille), Printing Instrument.—W. Waleker (Paris), Instrument for signaling by compressed air.—A. Joly, Printing Instrument.—C. A. De Bergmuller (Vienna), Telegraph for municipal service.—P. D. Prudhomme (Paris), Electric Bells.—G. Gurtl (Berlin), Instruments.—W. Horn (Berlin), Instruments.—W. Devos, Saint-Josse-ten-Noode, Switch, with Lightning Arrester.—Leelanehé (Paris), Polarizing Battery.—Levin (Berlin), Electro-magnetic Instruments.—Mme. C. Bonis (Paris), Insulated Telegraph Wires.—Grenet (Paris), Instruments and Batteries.—Bell (Aix-la-Chapelle), System of Alarm Signals.—Morenes (Madrid), Instruments.—P. Guillot and J. Gatget, Electro-magnetic Apparatus.—Bernier, Instruments.—C. J. Vogel (Berlin), Insulated Wires.—B. Behrend, (Coeslin), Instrument Paper.—D. Nicoll (London), Insulated Wires and Cables.—A. Holtzmann (Amsterdam), Subterranean Cables.—A. F. Cacheleux, Instrument.—A. V. Cacheleux, Charts.—A. V. Bigant, Charts.—C. J. B. A. Roussy, Charts.—Longoni and Dell'aqua (Milan), Instruments.—Pieco (Alexandria), Multiple Lightning Arrester.—J. Poggioli (Florence), Morse Instruments.—J. Pilo (Varsovia), Instruments.—A. Caumont (Paris), Instruments and Bells.—Bonet (Madrid), Instruments.

It will be noticed that both the Grand Prizes were awarded to our own countrymen, which should be a just source of national pride and gratification. It is our intention, in a future number, to give an illustration and description of the Hughes Instrument as now used in France and England.

#### The Newfoundland Lines and the Atlantic Cable.

MR. CYRUS W. FIELD has recently visited Heart's Content and St. John's, N. F., making a thorough examination of the Newfoundland telegraph lines in company with the Superintendent, Mr. A. M. MACKAY. He has also obtained valuable information in regard to the Atlantic Cable from personal examination made at Heart's Content, where Mr. FIELD and his party were received with hearty and becoming honors by all present connected with telegraphing by sea and land. Compliments were exchanged between his party and friends across the ocean with as much facility as the same could have been accomplished by any land line. An investigation made into the management of cable business is in the highest degree satisfactory. At all points Mr. FIELD was received with great respect by private parties, and in several instances with public honors. Arrangements have been completed for having three distinct lines in operation early in October, between Heart's Content and Plaister Cove, in the Strait of Canso, where the Western Union lines meet the Newfoundland line. By this means the serious interruptions which occurred during the past

winter will be avoided in future, and the rapidity of communication greatly facilitated. The steamer *Chiltern* sailed from Greenwich, August 13, for Placentia, in Newfoundland, with three hundred and twenty miles of submarine cable, manufactured for the New-York, Newfoundland and London Telegraph Company, to be laid from Placentia, to the island of St. Pierre, a French colony in the Gulf of St. Lawrence, and thence extended to Sydney, in Nova Scotia.

The laying of the cable will be commenced at Placentia immediately upon its arrival, weather permitting. This cable will enable telegrams to be sent independently of the old land lines in Newfoundland, so that the risk of interruption by snow-storms and floods is much reduced.

#### A Bold Telegraph Swindle.

A BOLD and successful swindle, which is not the first of a like character perpetrated through telegraphic orders for the transmission and delivery of money by express, has just been fully exposed. On the 23d of June last, a business firm in Toledo, who are largely engaged in the grain trade, received what purported to be a dispatch from a correspondent named WILSON, at Jackson, Mich., stating that there was a good opening at Dexter for purchasing wheat, and requesting the Toledo firm to send him \$1000 by American Express, and to notify him by telegraph when the money was sent.

A package containing the amount required was accordingly placed in the express office at Toledo, addressed to Mr. WILSON, Dexter, and a telegram also sent to WILSON, notifying him of the fact. About the same time the express agent at Dexter received a telegram from Jackson, signed WILSON, directing him to deliver the package to a man who would call for it, describing in the telegram minutely a man who afterwards called, asked for, and received the \$1000 package. For a week or two the Toledo firm quietly awaited advices from WILSON in reference to his wheat purchases, and in the meantime the parties who had sent forged telegrams and obtained the money, felt so jubilant at their success that they told a confidential chum at Jackson how they had operated.

The Toledo firm, having ascertained from correspondence with Mr. Wilson that he had not ordered or received a package of \$1000, applied to the express company, to trace the matter up. The express company, through their detective, R. H. BEST, of Buffalo, and E. H. RAYMOUR, of the Northwestern Detective Police Agency of this city, took the matter in hand, and after an investigation of the facts, arrested a telegraph operator and two confederates. The proofs of guilt are very strong. As the case comes up for examination this afternoon, we defer commenting on the important bearings of the case until the testimony is given.—*Detroit Free Press*.

#### LITERARY.

MANUAL OF TELEGRAPHY: Designed for Beginners. By PROF. J. E. SMITH. Second edition.

This unpretending little volume is one of the best works we have ever seen of the kind, and though intended for the assistance of beginners, it treats of some matters of which many otherwise excellent operators are lamentably ignorant. The first part of the work is devoted to instructions in the manipulation of the instruments, and in the business forms used in telegraphy. The arrangement of exercises for the use of the student practicing with the key are excellent, as are also the directions respecting the proper method of doing business upon the line and in the office. We may remark, however, that although the author tells the receiving operator, he must always count his messages, he omits to tell him *how* it is done—by putting a given number of words on each line in copying.

The second part is devoted to the practical science of the telegraph, and contains directions for splicing wires, renewing batteries, testing for breaks, grounds, escapes and crosses, as well as the adjustment and care of instruments. The connections of the Morse apparatus are clearly explained and illustrated by diagrams.

In the hands of beginners and inexperienced operators generally, this work will do great good. Something of this kind has long been needed, and we are glad to see the want at length supplied.



**Telegraphic Carelessness.**

LATELY we have had an illustration of the gross and palpable carelessness of the Western Union Telegraph Company. Dispatches of the Saratoga races, placed in their office at that place, were fully one hour and three-quarters and two hours in reaching us during the six days of the meeting. The fault is evidently not at Saratoga, but at this end of the line, for our correspondent saw them started, noted the time, and afterwards sent us the precise information in regard thereto by mail. The days in question were clear, and the lines in good working order, so the company can make no excuse on that score.

We went to heavy expense to secure the information, and, when received, it was almost worthless on account of its late arrival. Certainly, not more than fifteen or thirty minutes at the furthest should have been consumed by the messenger in walking from the telegraph office to *The Evening News* office to deliver the dispatches. A screw is loose somewhere, and the sooner it is tightened the better.—*N. Y. News.*

**ELECTRIC BRAKE FOR RAILWAY TRAINS.**—General BEAUREGARD has organized at New-Orleans the "Electrical Brake Company of America," of which he is president, and Colonel BLANTON DUNCAN, of Delaware, superintendent. It is claimed that a railway train running forty-four miles an hour can be stopped by electricity between fifty and one hundred yards.

**COOKING ON A TELEGRAPH WIRE.**—A boy named JOHNSON is amusing himself and the people of South Paris, Me., by Blondin-like feats on a telegraph wire over the river twenty feet above the water. He crosses with his head in a sack, carries out a stove and fuel, and cooks on the wire.

**MARRIAGES.**

**COOK—WARNER**—In Omaha, Neb., at the residence of the bride's father, on Monday, August 12, 1867, by Rev. Wm. H. Van Antwerp, H. H. COOK, Sup't U. P. R. R. Line, and Miss ALICE WARNER.

**ARMOR—GRAFF**—In Pittsburg, Pa., at the Sixth Presbyterian Church, on July 11, 1867, by Rev. W. S. Wilson, TOMMY ARMOR, formerly of the U. S. Military Telegraph Corps, Army of the Potomac, and Miss JULIET E. GRAFF, both of Pittsburg.

**Obituary.**

**DIED**, near Micanopy, Florida, August 4th, Mr. WILLIAM H. KNAPP, aged 33 years. A son of Mr. Knapp died a few days previously.

The announcement of Mr. Knapp's death has caused deep regret to the large number, especially of the telegraphic profession, who knew and loved him. Of a singularly simple, genial, and impulsive nature, he attracted in no ordinary degree the esteem and affection of all with whom he was associated.

Earnest and patriotic in his devotion to his country while yet but a boy, he enlisted in the service of the Government as a private during the Mexican war, and suffered through life from the physical disabilities incurred while serving with our victorious army in Mexico. When the rebellion broke out he ardently desired again to participate in the active defense of the nation, but owing to the disability referred to was obliged to abstain from personal participation in the struggle, but exerted to the utmost his influence to sustain the Government during its contest for existence.

Upon the introduction of the House system of telegraph, Mr. Knapp, with his natural enthusiasm, entered the profession as a printing telegraph operator in the Boston office of the New-York and Boston House Printing Telegraph Line, and achieved a high standing as a practical operator. He adhered to the line during its years of doubtful struggle for an existence, devoted to it and his profession beyond any merely mercenary and pecuniary considerations. When under a new management it had begun to realize deserved prosperity, he retired from the profession for a time, but subsequently learned the Morse system, and for several years was engaged at Newark, N. J., as manager of the Telegraph office and agent of the Associated Press, and in both positions secured the approval and esteem of his employers.

On the conclusion of the war he engaged in the business of cotton raising on a plantation in Florida, in which he had been very successful, and had demonstrated the practicability of successful culture with the labor of freedmen justly remunerated.

He was greatly beloved by the simple and affectionate people with whom and for whom he labored, and they have in his death experienced a severe and deeply-felt affliction.

Mr. Knapp leaves a wife and one child to mourn his early decease, who will have the heartfelt sympathy of his large circle of friends and acquaintances in their great affliction. To them and us there remains the consolatory hope that our loss is his gain. His work is done, his earthly circuit closed. Let us so live that when we are "called" we may, like him, be found "O. K."

**Atlantic and Pacific Telegraph Co.,**  
CAPITAL, \$5,000,000.

Lines in progress from New-York to Chicago.  
A. F. WILLMARTH, President.....New-York.  
C. A. HARPER, Secretary....." "  
CHAS. E. PERRY, Superintendent.....Albany, N. Y.

**Bankers' and Brokers' Telegraph Co.,**  
CAPITAL, \$1,050,000.

Lines extending from New-York to Washington and Georgetown, D. C.  
WM. CALLOW, President.....Baltimore, Md.  
JOHN L. CRAWFORD, Secretary and Treasurer....." "  
J. W. DYER, Acting Superintendent.....Philadelphia.

**California State Telegraph Co.**  
CAPITAL, \$2,500,000.

Lines extending from San Francisco, Cal., to Salt Lake, U. T., and New-Westminster, British Columbia.  
GEO. H. MUMFORD, President.....San Francisco.  
GEO. S. LADD, Secretary....." "  
JAMES GAMBLE, Superintendent....." "  
R. R. HAINES, Assistant Superintendent.....Seattle, W. T.

**Franklin Telegraph Company.**  
CAPITAL, \$1,000,000.

Lines extending from Boston to Washington.  
J. B. STEARNS, President.....Boston.  
J. W. BROWN, Treasurer....." "  
J. G. SMITH, Superintendent.....New-York.

**Illinois and Mississippi Telegraph Co.**  
CAPITAL, \$1,500,000.

[Leased to the Western Union Company.]  
J. D. CATON, President.....Ottawa, Ill.  
T. D. CATLIN, Secretary and Treasurer....." "  
[For Superintendent, etc., see Western Union Company.]

**International Telegraph Company.**  
CAPITAL, \$300,000.

Lines completed from Boston to Brunswick, Me. [In progress.]  
E. K. HARDING, President.....Bath, Me.  
Hon. WOODBURY DAVIS, Treasurer.....Portland, Me.  
CHAS. H. SAWYER, Superintendent....." "

**International Ocean Telegraph Co.**

Lines extending from Lake City to Key West, Fla., and Havana, Cuba.  
WM. F. SMITH, President.....New-York.  
M. M. DELAFIELD, Treasurer....." "  
Superintendent....." "

**Northwestern Telegraph Co.**  
CAPITAL, \$1,500,000.

Lines extending from Milwaukee through Wisconsin, Michigan, Iowa, and Minnesota.  
G. SIMMONS, President.....Kenosha, Wis.  
H. B. HINSDALE, Secretary and Treasurer.....Racine,  
S. ROBERTSON, Superintendent.....Milwaukee, "  
C. C. SHOLES, Advisory Superintendent.....Racine, "

**Pacific and Atlantic Telegraph Co.**  
OF THE UNITED STATES.

CAPITAL, \$3,000,000.  
Lines completed from Philadelphia to Pittsburg and Cincinnati. [In progress.]  
GEO. H. THURSTON, President.....Pittsburg, Pa.  
E. J. ALLEN, Secretary and Treasurer....." "  
A. J. BALDWIN, Superintendent.....Philadelphia, Pa.  
A. Q. CASSELBERRY, Assistant Superintendent.....Pittsburg, Pa.

**Western Union Telegraph Co.**  
CAPITAL, \$40,000,000.

Lines extending throughout the United States, Nova Scotia, and New-Brunswick.  
WM. ORTON, President.....New-York.  
O. H. PALMER, Secretary and Treasurer....." "  
MARSHALL LEFFERTS, Engineer....." "  
THOS. T. ECKERT, General Superintendent.....Eastern Division.  
ANSON STAGER, " ".....Central Division.  
JOHN VAN HORN, " ".....Southern Division.

**DISTRICT SUPERINTENDENTS.**  
EASTERN DIVISION.  
Jesse Hoyt, Halifax, N. C. Chas. F. Wood, Boston, Mass.  
R. T. Clinch, St. Johns, N. B. G. B. Prescott, Albany, N. Y.  
J. F. Bedlow, Portland, Me. R. O'Brien (in charge), New-York.  
G. W. Gates, White Riv. Junc., Vt. D. H. Bates, Washington, D. C.  
J. C. Hinchman, New-York.

**CENTRAL DIVISION.**  
G. W. Balch, Buffalo, N. Y. R. C. Clowry, St. Louis, Mo.  
T. B. A. David, Pittsburg, Pa. R. C. Rankin, Chicago, Ill.  
E. P. Wright, Cleveland, O. W. B. Hibbard, Omaha, Neb.  
D. H. Fitch, Franklin, Pa. E. D. L. Sweet, " "  
G. T. Williams, Cincinnati, O. J. J. S. Wilson, " "  
J. F. Wallick, Indianapolis, Ind. F. H. Lamb, New-Westminster, B. C.

**SOUTHERN DIVISION.**  
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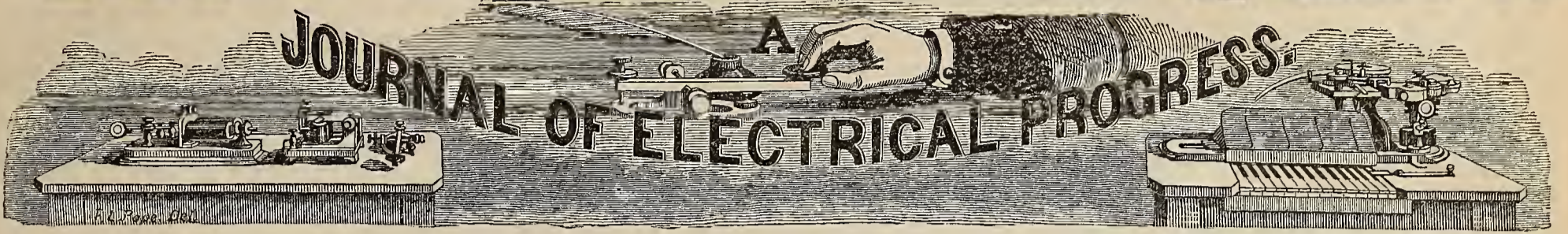
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# THE TELEGRAPHER.



Vol. IV.—No. 2.

New-York, Saturday, September 7, 1867.

Whole No. 60.

## Brooks' Improved Paraffine Insulator.

IN the last number of *THE TELEGRAPHER*, we gave an illustration of this insulator, as exhibited at the Paris Exhibition. This was the old form of construction, similar to that now used on two wires between New-York and Pittsburg, and on many other lines in the State of Pennsylvania. This insulator has proved itself far superior to any other in use in this country, in confirmation of which fact we have the unanimous testimony of all the operators who have worked on the lines on which it is used.

But it would seem that nothing short of absolute perfection can satisfy Mr. BROOKS on the insulator question. Indeed he may almost be charged with being a monomaniac on this subject, to which he has devoted his attention for nearly twenty years. Not content with the success of his original invention, he has, within a few months, made such improvements in it, as to apparently leave nothing more to be desired.

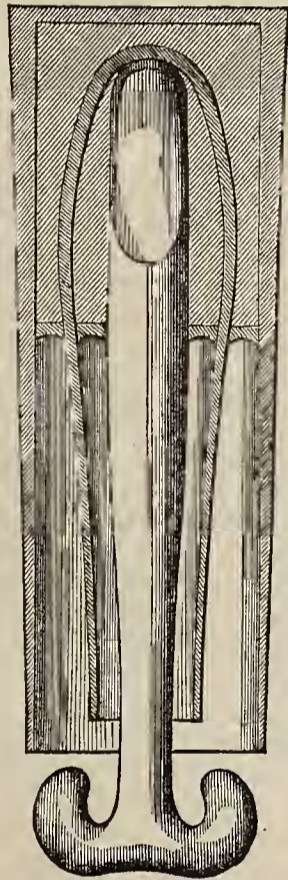
In the annexed cut we give a sectional view of this improved insulator which shows clearly the manner in which its different parts are combined.

The iron hook or wire-holder of the usual form is sulphured into a narrow-mouthed, inverted flask or bottle, of blown glass, which is secured in like manner, into a cylindrical iron cup four or five inches in depth and about two in diameter. This is made slightly tapering towards the mouth, in order to prevent any danger of the weight of the wire tending to withdraw the hook and glass flask from within it. After a few days, when the sulphur has undergone its peculiar shrinkage, or crystallization, melted paraffine is poured in, thoroughly saturating and coating every part of the insulator, including the sulphur.

But the great improvement of this insulator over the old form consists in the addition of the bottle of blown glass. This substance possesses some peculiar qualities which Mr. BROOKS was the first to discover or at any rate to make known, and which render it vastly superior for insulating purposes to the cast or pressed glass which has been invariably employed heretofore. Mr. BROOKS accidentally discovered, in the course of his numerous experiments, that the inner surface of a vessel of blown glass possesses the property of repelling watery accumulations and causing them to unite in detached drops instead of covering the surface with a continuous film, as is the case with that portion of the glass which is brought in contact with the metallic mold, while in process of cooling. As will readily be seen, this is a fact of immense importance in its application to the use of glass for telegraphic insulation. It is well known that paraffine possesses the same quality in an eminent degree. Bearing in mind these facts, it will be seen that owing to the peculiar arrangement of the parts of this insulator, it offers an almost infinite amount of resistance to the escape of the electric current from the wire to the pole and thence to the earth. The current must pass first over the paraffine surface intervening between the stem of the hook and the interior surface of the glass bottle, and along this surface to its mouth, and thence along its exterior surface, and over another surface of paraffine, before it can reach the exterior iron case.

It might perhaps be supposed that a glass bottle thus situated would be liable to fracture, but such is not the case. The editor of the *Franklin Institute Journal* in speaking of this insulator, remarks that "those who are

acquainted with the behavior of this substance (glass) under like circumstances will remember its wonderful tenacity. A glass tube rigidly clasped in a solid cap or covering is one of the most troublesome things to break out that has ever tried our patience. In fact these insulators will bear an immense strain without fracture, as we have seen by repeated experiments; or if they should in some cases yield, we know from analogy, that the crack would run around the bottle, and would thus do no harm to the insulation, which only fears a lengthwise fissure through which external moisture may penetrate. Brown earthenware, from its softer nature, crushes under like conditions, and is destroyed by a strain which the glass endures with perfect impunity."



It will be observed that the bell or umbrella form which is used in the majority of insulators is dispensed with. This is simply for the reason that it is better to let the rain-drops come nearer and pass by, than to stop them, even at a little distance, and by dashing them into fine spray, get them into the very condition best fitted for penetrating the mouth of the cup and bottle. The form adopted is also much stronger than the bell, and better adapted to resist external violence. The danger of injury from lightning has been guarded against in this insulator by making the distance less between the wire hook and the lower edge of the iron cup, than it is between the upper end of the stem and the top of the cup. As lightning always moves in the direction of the least resistance, it is evident that it will leap from the wire hook to the edge of the cup rather than at any other point.

The manufacture of this improved insulator was only commenced a short time since, and it has therefore not as yet come into extended use. One line of sixty miles in length, however, which we tested, showed no perceptible

escape during a most severe storm, the wire working as clear as on a frosty morning in midwinter.

The new private line of HARRISON BROS. & Co., between New-York and Philadelphia, uses this insulator, and we predict that the working of it will be found to more than verify all the statements we have made in regard to its merits.

It is not creditable to the enterprise or scientific knowledge of the managers of our American telegraph companies that this insulator, whose superiority over all others is an undisputed fact, should be used almost exclusively by railway and private lines, and almost entirely ignored by the different telegraph companies. We think they will have good cause in the future to regret the short-sighted policy that now prevails in relation to this and similar improvements.

## How the Atlantic Cables are Worked.

A CORRESPONDENT of *The New-York Herald*, who accompanied Mr. CYRUS W. FIELD on his Newfoundland trip, has written a very interesting letter to that paper, from which we make a few extracts, descriptive of the station at Heart's Content, and the manner in which the cable is worked:

### THE CABLE STATION.

This building is spacious and admirably suited for the purposes for which it is occupied, at any rate in the summer season; for it is very eligibly situated to receive the summer breezes, whatever may be its condition to withstand the wintry blasts; and it should be remembered there is a very great difference between the two seasons here. A partition running the extreme width of the building separates the cable operators from the land line operators. After the reception of messages in the cable room they are handed through a slide in the partition into the land room, where the hour of their reception (both in London and New-York time), the date, the names of sender and to whom sent, the number of words, etc., are all carefully recorded. Every precaution is taken to secure the utmost fidelity and accuracy, both in the reception and transmission of messages. To this end the most accomplished and faithful operators both in England and America are employed for the services. It is no disparagement to the shore staff to say that the cable staff comprise a class of gentlemen from abroad who are well educated, of refined manners, and at all times courteous in their demeanor toward each other as well as to strangers. It is a pleasure to witness the harmony that prevails between the two staffs, each seeming to rival the other in acts of urbanity and hospitality. This friendly feeling contributes greatly to the dispatch with which the cable business is executed at this station. A portion of each staff is constantly on duty, day and night. This, in connection with lack of society, the bleakness of the place, the temporary nature of their accommodations—it being difficult to boil a kettle of water over a hot fire in the depth of winter, so poorly protected are their quarters from the freezing winds—and the difficulty of procuring supplies of fresh provisions will show that their occupation is no bed of roses. As there is no telegraph line of the same extent that costs so little to work as the cable, the company ought to be liberal with their employes, and not oblige them to live at the outposts of creation in buildings not even plastered. They all seem,



however, to be a happy and contented set, and enjoy their modest mess with an unction that you will rarely meet with in a party dining at Delmonico's. The chief of the cable staff is Mr. WEEDON, who is well known in Europe as an electrician, having calculated the locality of faults in the cable by his system of testing with wonderful accuracy. The rest of the cable mess are Mr. DICKINSON, electrician and mechanic; Messrs. CHARLES TRIPPE, FRANCIS PERRY, JAMES BARTLETT, RING CROCKER, WILLIAM WOODCOCK, GEORGE UNICUM, JOHN SULLIVAN (book-keeper), Mr. CHARLETON, an old and useful cableman, understanding all cable work, splicing, etc. The American or land staff is composed of Messrs. JOHN WADDEL, chief; MATTHEW DAVIN and SAUNDERS, operators; SMITH, EARLE and HUTTON. The American operators have eight hours on and eight off, and the line, when not interrupted by the aurora or other causes, works as fast between Heart's Content and Port Hood as the line between Washington and Boston does. Having taken this general view of the cable premises, now let us take

#### A PEEP BEHIND THE CURTAIN.

Looking under a curtain into a darkened apartment, say some two feet wide by six long, your eye will be first attracted to a small perpendicular ray of light upon a strip of white paper about an inch wide. To give you a familiar idea of this little light you can take a lamp and place it before any small aperture leading to a darkened room, and you will observe the light reflecting upon a whitened wall opposite, only that in the former case the light is the reflection of a reflection, as we will presently show. You will observe that this little ray of light—we mean that in the cable department—is for the time perfectly steady. You see nothing in particular, but hear the manipulator at the sending instrument near at hand transmitting a message to Valentia. Suddenly, and as if by magic—indeed, just as in your youth you have enjoyed the illusions of the magic lantern—you observe this little ray of light skipping about to the right and left as if it were afraid to remain an instant upon a single spot, like a frightened canary in his cage—which, by the way, might be a good term by which to designate the darkened cable apartment. What does all this quivering mean? Be quiet, and you will hear in a moment a voice which, like Bottom's, you cannot "see," read out, in a clear and measured tone:

"Compliments of Mr. FITZPATRICK to Mr. and Mrs. F—, bidding them a cordial welcome from Valentia to Heart's Content."

And the magi of the cable speak again:

Heart's Content says: "We have given three cheers for Mr. and Mrs. F—."

Valentia instantly replies: "Three more from Valentia."

As if two persons were conversing side by side in a room, instead of being separated by the sea two thousand miles. But you must remember that the electric spark lingers not an instant on its passage upon the cable through the caverns of the ocean. Certainly, you will say, this is miraculous! Aye; almost as miraculous as Scriptural revelation. You will then withdraw your head once more from darkness, with its wonderful ray of mystic light, into the broad light of day, with a sensation of bewilderment not easily defined.

#### THE APPARATUS.

We will now endeavor, as familiarly as possible, to dissect or describe the scientific apparatus by which this marvelous work is accomplished. The principal instrument is called a galvanometer. The galvanometer itself consists of a number of layers of fine wire wound round a bobbin. A hole is drilled through the center of the bobbin, into which is fitted a brass barrel or plug reaching from the back half way through the bobbin. On the inner end of this barrel, suspended by a fiber of silk—resembling a fine, silky, gray hair—is a small circular mirror with a convex lens, about the size of one of our old three-cent pieces, at the back of which is affixed horizontally a small magnet—both mirror and magnet weighing but one-third of a grain.

At a distance of about four feet from the galvanometer stands a scale made of wood, painted black, with a strip of white paper—as we have mentioned—reaching from side to side. In the center of this scale a small vertical aperture, termed a "slot," is cut; and behind the scale is

a lamp so arranged as to throw a light through the slot on the mirror in the galvanometer. The mirror then reflects a "spot" or ray of light on the strip of paper opposite, the shape of which is determined by the slot through which the lamp shines.

In addition to the above there are a "signaling key," and a "switch." The former has two levers, which are used for sending. The latter is used for short circuiting or cutting out the galvanometer while sending.

#### HOW MESSAGES ARE TRANSMITTED.

On depressing the right or left hand lever at Valentia a current is sent from a battery there through the cable to the galvanometer at Heart's Content. In going through the galvanometer it attracts the magnet at the back of the mirror and causes the mirror to swing. As the mirror moves, so the "spot" moves along the strip of paper on the scale either to the right or to the left, depending on which lever has been depressed at Valentia. If the right hand lever has been depressed the "spot" goes to the left—the reason of which is that one lever sends a positive and the other a negative current. The alphabet is composed of right and left hand movements of the "spot," averaging about three to each letter. In reading the alphabet, or signals, great accuracy of the eye is essential, in order to obtain a correct interpretation of the message—in fact, requiring the cable operator always to use his eyes in receiving messages, while the land wire telegrapher can use at times both eyes and ears; for he has his ticks, dots and dashes, while the cable telegrapher has only his mysterious flashes to the right and left—which are as noiseless as the light of the stars—to read messages coming over two thousand miles along the bottom of the sea. The expert cable operator can, however, read or send from fifteen to twenty words a minute. Several were sent and received by Mr. FIELD, in the presence of your correspondent, at the rate of eighteen words per minute.

#### INTERRUPTIONS—THE THERMO-ELECTROPILE, ETC.

It sometimes happens that the auroras interfere with the working of the cable, giving what are called earth currents; but with the aid of controlling magnets the effects of the auroras are to a certain extent overcome. There is also danger at times of the cable "burning up," as it did in 1858, by the infusion of a too powerful current. But this danger has been in a great measure, if not completely, met by the thermo-electropile, an instrument employed for testing the heat of the current, the invention of Mr. WM. DICKINSON, the ingenious electrician and mechanic, of the cable company. By this instrument it can be ascertained whether it is necessary to lessen or increase the current. It is a quite new invention, more expensive than those used in telegraphing—bismuth and antimony being employed instead of zinc and copper. It has required great perseverance and constant experiments to bring this instrument to perfection.

#### THE ELECTROMETER.

This is an instrument used for taking "statical" tests on the cable, showing with remarkable accuracy where any damage has occurred. It is supplied with what are called resistance coils, and other scientific apparatus very ingeniously arranged. By the aid of this instrument the point of damage to the cable of 1866 was ascertained very satisfactorily.

#### THE TANK BUILDING

is a large wooden structure, containing a huge tank partly filled with water, in which is submerged twenty miles of surplus deep-sea cable, which is kept constantly on hand for use in case of necessity. There is also a considerable length of the shore cable submerged. It has been satisfactorily ascertained that the deeper the sea the better the cable works, and upon a similar principle this surplus cable is kept perpetually in water, so that it will have become somewhat familiar with its destined element when required for service. It also has been discovered that salt water hardens the gutta-percha covering of the cable rendering it more impervious and protecting the cable from accidents by abrasion.

DEATH OF AN ENGLISH OPERATOR IN CUBA.—By recent advices from Havana we learn that Mr. ROE, the operator for the cable contractors at the Chorrera, has just died of yellow fever. He took the place of Mr. DONOVAN, who left on the *Narva*.

[For The Telegrapher.]

#### "Waifs."

CIRCUMSTANCES introduced me not long since to that phase of the *genus homo* best characterized as stoical ignorance—the man who mentally borders upon the "*non compos*," but is not aware of the fact, and whose self-esteem causes him to retain his blissful unconsciousness. A tall, broad-shouldered, bony individual represented this class of humanity, and with a loose, shambling gait he appeared within my window, with long, unkempt hair that looked like dried meadow grass hanging in graceful negligence from beneath a wide-brimmed straw hat that was put on all over his head, and whilst carelessly picking his pearly teeth with a broom straw held by a hand that resembled a fan-shaped thrashing-flail, drummed with the other upon the counter as he stared about with an affectation of easy indifference and blazè curiosity, and then addressed me with "I say, friend, what do you do in here?" "We converse with all parts of the world," I answered, and he exclaimed, "I want to know! Now that must be a fine trade; 'spose that's why they're beginning to employ the wimmin, eh?" "Perhaps so; but why, sir?" "Because I should think their gift of gab would make them prime upon such a talking machine. But, I say, how long will it take you to send a message to Boston and get an answer? You see I'm in a hurry." "In about ten minutes." He was completely staggered; opened his cavernous mouth and closed it again; pondered a moment, and then said, "Y-e-e-s; well I guess I can't wait so long, anyhow!" and he disappeared. This morning he reëntered again, and had very evidently been enjoying his tea, and apparently not feed. "Good-morning, old fellow. I just came in to have another wink at the telegraph." "Very glad to see you, sir," I replied. "You are at liberty to make all the survey you desire." "You are clever, 'pon my word," and he walked up to a heavily-charged electro-magnetic machine standing on a table in the outer office, and with both hands in his pockets swayed over it a minute in laughable curiosity, and then took hold of the knob, and received a shock that entirely upset his before precarious footing. He sat still a moment, and then with a determination not to be so easily outdone rose and tried it over again, which resulted in a more violent recurrence of the same phenomenon. Considerably sobered, he got up as soon as it was possible without assistance—for we were too much convulsed to render him any—and started towards the door, then halted and said pitifully, "I say, friend, I want to go out of this yer!" "Well, there's the door." "Yes, but you open it." "Oh, open it yourself." "I can't," was the humbled answer. "Why, just turn that knob and it will open itself then." The great head with the hat put on all over it shook with an unutterable expression of dubious negative, and he replied, "N-o-o-o you don't! You see I've been moved around a little too simultaneously already, and you *don't* catch me handling any more hardware in this trap; so just open the door, and I'll go." We complied, and he went.

My youngest sister was conversing with a brother operator whilst I was reading on the other side of the drop-light the other evening, and they were comparing notes of books they had read. In running over a long list, in cross-questioning her he hit upon "Armada." "Had she read it?" "No; but 'Budd' knew him intimately." "Who?" surprisedly. "Why, that Mr. Ar-arma-whatever-his-name is. I often hear him talking about him." There was a puzzled glance of inquiry at me, an effort of comprehension upon my part, and as we '13d,' a mingled shout of laughter. It was an *armature* she meant. Now I seriously object to the teaching of telegraphy in schools, but won't somebody propose for the enlightenment of future ages the teaching of theoretical electricity in our schools? This popular ignorance is as pitiable as it is absurd. 73. O. P. ERATOR.

York, Pa., August 10, 1867.

A CORRESPONDENT at Cumberland, Md., writes that a message was received there the other day to the following effect:

"CAPT. S— wants them."

(Sig.)

NAL. LAMPS.

There was great wondering as to who in the name of common sense Mr. NAL. LAMPS was, till one of the boys suggested that it might be made to read:

"CAPT. S— wants them signal lamps."

And they smiled.



### Velocity of Electric Signals.

At the sixteenth annual meeting of the American Association for the Advancement of Science, recently held at Burlington, Vt., a very interesting paper was read by Prof. GOULD "On the Velocity of Transmission of Signals by the Electro-magnetic Telegraph." A good deal of this had been previously laid before the Academy at its Washington meeting; but its great theoretical and practical interest justified the repetition. The experiments described were made at the time when Prof. GOULD, who has been for fifteen years at the head of the Longitude Department of the Coast Survey, made a new determination of longitude by means of the Atlantic cables. Up to 1849 the velocity of signals through the electric wire was supposed to be extremely great, *i. e.*, too great to be measured. In that year, WALKER discovered, while measuring longitude, a perceptible retardation. Experiments between Washington and St. Louis indicated a velocity not far from 16,000 miles per second, which is confirmed by foreign observations, made with air-lines of telegraph. Those made with submarine lines showed only 8000 or 9000 miles per second. Prof. GOULD found the velocity to be between 7000 and 8000 miles per second, being greater when the circuit was made by the two cables, and less when the earth formed part of the circuit. His arrangements and apparatus were so ingenious and accurate that the personal error in recording was reduced to a small and constant quantity, so that it could be constantly subtracted without danger to the accuracy of his calculations. The longitude as determined by these experiments falls within the limits of previous determinations by other methods. The signals used in the Atlantic cables were not break-circuits, but positive and negative signals, recorded by a galvanometer, which, by an attached mirror, is made to move a beam of light upon a screen. The cells used were MINOTT'S, which are weak, but very permanent. The experiments seem to show that instead of traveling around the entire circuit in one direction, the electric wave or polar influence traveled both ways from the electrode, and the signal was received when the two influences met. Incidentally it was shown that the usual practice of telegraphers to increase the power of their batteries is entirely unnecessary and unwise. A single element is sufficient to produce the signal through 4100 miles of the cable. Prof. GOULD received and sent signals by means of a battery, consisting of a percussion cap, a drop of acidulated water and a piece of zinc no larger than a grain of mustard-seed. On one occasion he received and sent signals (at the time unconsciously) without any battery at all. This was explained by the electric condition of the wire remaining from previous use of the batteries.

### The Pneumatic Telegraph in Paris.

THE number of telegraphic dispatches received at the Central Station in Paris has increased so considerably, that the administration, finding it impossible to send them by porters in all directions to their respective destinations, has adopted a plan which is already in use for the transmission of letters. A continuous series of iron tubes, sixty-five millimetres (two and a half inches in diameter) has been laid down from the Central Office in the Rue de Grenelle St. Germain to the Hotel des Postes and back again to the Central Office. This continuous line touches besides at the Cercle Impérial in the Rue Boissy-d'Anglas, then at the Grand Hotel, the Bourse, Hotel du Louvre, and the Hospital de la Charité. The line is broken at each station which requires an entrance for the dispatch-boxes, which are of a cylindrical form, made of leather and fitting loosely into the tube. Eight or ten of these are placed one behind the other in the tube, the whole being driven by the force of compressed air acting on a metal prism with a leather rim, which completely closes the vertical section of the tube, and is placed in the rear of the dispatch-boxes. The pressure of the compressed air drives the train of dispatch-boxes from one station to another, where the attendant extracts those belonging to his bureau, and adds what he may have for those beyond. Thousands of dispatches may be sent in this way, to and fro in a day, at the smallest possible cost. Of course a reservoir power has to be established at each office, and the method adopted is both simple and economical. The air is compressed by the

force of the water in the main supply pipes of the city, until it approaches a pressure of two atmospheres, which is more than sufficient to give the dispatch trains a speed of 3000 feet per minute. As the distances between the stations average one kilometre (a little over two-thirds of a mile), a single dispatch of twenty words can be transmitted about as quickly as by electricity. In a short time the service will be completed between seven telegraph offices, and it will gradually be extended to all the stations of Paris.

### A Reminiscence.

BY LEW. OGDEN.

THE "string" is clear, I've had "good nite"  
From lightning Bickford's nimble key,  
Yet still I sit, for feelings quite  
O'ercome me when I think of thee.  
Yes, dearest Will, though now you fill  
Another "sit" far 'yond the sky,  
Sweet memories of you often thrill  
Through me and cause an inward sigh.

Three years ago, this very night,  
I met you in the sunny South,  
While we were struggling for the right,  
Impervious to both cold and drouth.  
Methinks, somehow, I see you now,  
As then I did in Tennessee,  
Tap the wire quick, to "gain a trick,"  
When Hardee telegraphed to Lee.

And then, again, I think I hear  
Your manly voice with joy cry out:  
"Hurrah, old sport, away with fear,  
Here's still another rebel rout;  
Our boys are gaining rapidly.  
Call in that 'Glitter Bun,'  
And say to him, most placidly,  
That Hardee's men have run!"

And now again the scene does change;  
I'm with you at your home,  
Watching your pretty little wife  
Tempt you no more to roam.  
Your sister, too, with eyes so blue,  
Our mutual relation,  
Springs up before frail fancy's view  
To aid my cogitation.

But, darling Will, she too has gone  
To meet you and her mother,  
And now, alas! I'm left alone—  
'Tis hard my grief to smother.  
For though I may seem, in my way,  
To be of heart the lightest,  
The song does say hopes which decay  
The first have been the brightest.

The many friends we both have had  
Are now all separated,  
Some 'neath the waves, more in their graves,  
While some (a few) have mated.  
'Tis just midnight. Sad thoughts I'll fight,  
And homeward wend my lonely way;  
Gazing on heaven's stars so bright,  
Of you I'll think, for me you'll pray!

ELECTRICITY ON THE PRAIRIE.—BAYARD TAYLOR, in his recently published work entitled, "Colorado—a Summer Trip," mentions a singular phenomenon which he noticed while traveling through that region. He says:

"I experienced three distinct electric shocks, probably from the fact that I was insulated by the india-rubber cloth upon which I lay, and then touched the earth with my hand. On the snowy ranges, persons are sometimes so charged that there are sparks and crackling sounds at every movement of their bodies. Men unacquainted with the phenomenon imagine that bees have gotten into their hair, and that rattle-snakes are at their heels. Many strange stories are told of the effect of the fluid, which seems to manifest itself in an eccentric, but not a dangerous form."

ASTONISHING EFFECT OF THERMO-ELECTRICITY.—A city paper says that "a latch-key with which a gentleman was opening his door a few days since exploded. The report was as loud as that made by an ordinary pistol, and the force of the explosion shattered the key-ring

and scattered the keys, blowing a button off his glove and injuring his hand. The cause assigned for the explosion was this: The lock was of brass, and had been heated by the sun, and the key being of steel and also heated had by coming in contact, caused a thermo-electric current. This current often causes an explosion, the shock of which is not unlike that of an electric battery."

Moral.—Operators and others should not stay out late, so as to be obliged to carry a night-key. Beware of thermo-electricity.

### DISTRICT PROCEEDINGS.

ST. LOUIS DISTRICT.—The regular annual meeting of this District was held on Monday evening, August 5. Eight members present. The District Director's annual report was read, accepted and placed on file. The report shows that there were at the commencement of the past fiscal year sixty-seven members in the District. There have been admitted during the year by initiation fourteen members, and by transfer one. The number transferred from this District to others, four; withdrawn from the Union, three; expelled for non-payment of dues, thirteen; died, one—leaving sixty-one members now in the District.

The report was quite lengthy and interesting, but principally confined to local matters.

The District Treasurer's annual report shows that there has been received during the year of local dues forty-five dollars and twenty-five cents, and paid out during the same time, twenty-one dollars and thirty cents, leaving a balance on hand of thirty-seven dollars. The report was referred to the Auditing Committee.

A count of the vote for officers for the ensuing year resulted in the election of the following gentlemen: J. McMICHAEL, District Director; R. H. TRACY, District Secretary; M. D. CRAIN, District Treasurer; C. W. HAMMOND, Delegate to Convention, and R. K. PIERSON, Alternate Delegate.

The District Director announced as the Auditing Committee Messrs. HAMMOND, PICKERING and TRISSELL. Mr. TRISSELL declining to act, the District Director (Mr. MCKENZIE) was, on motion, requested to serve in his place.

Meeting adjourned at 9:30 P. M.

BALTIMORE DISTRICT.—At the last regular meeting the following business was transacted:

Minutes of previous meeting read and approved.

This being regular meeting for annual election, the following District officers were elected for the ensuing year: Director, W. H. STEWART; Delegate to Convention, J. J. G. RILEY; Treasurer, C. W. CRUMBACKER; Secretary, J. MCCOLGAN.

A communication was received from Mr. SUTER, and referred to delegate to National Convention.

Resignation of Mr. SHOCK received and referred to Treasurer, with instructions that it stand accepted if gentleman's account is settled.

Mr. YEAKLE offered resolutions regarding delegate to Convention, which were carried.

Mr. YEAKLE announced the death of our late District Director, Mr. P. A. STIDHAM, and after paying a feeling and appropriate tribute to the memory of the deceased, offered the following preamble and resolutions, which were unanimously adopted:

Whereas, This District has learned with profound sorrow of the decease of our late fellow and brother, P. A. STIDHAM; therefore,

Resolved, That the National Telegraphic Union finds in his death cause to mourn the loss of an able and willing advocate of its principles, whose well-directed energies did much for the success of the cause to which he devoted so much of his time and talent.

Resolved, That the Baltimore District especially has sustained an irreparable loss, the fraternity at large a useful and earnest collaborer, whose humane disposition has given us many opportunities to bless in life what we now revere in death.

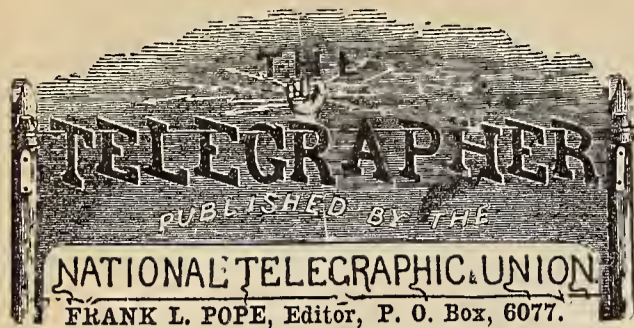
Resolved, That the Secretary be instructed to convey to the afflicted family assurances of our condolence, and while we are incapable of comforting, we may remind them of that Power who has promised *His* comfort to all who come to Him for succor.

Resolved, That a copy of these resolutions be forwarded to the Editor of THE TELEGRAPHER for publication, and that the same be entered on the minutes of this meeting.

Resolved, That as a further mark of respect, we now adjourn.

Adjourned, 9:30 P. M.





SATURDAY SEPT. 7, 1867.

### A TRANSATLANTIC MISSIONARY.

THE advent among us of Mr. CROMWELL F. VARLEY, the distinguished English electrician and telegraphic engineer, seems to have stirred up quite a sensation among the venerable fossils at the corner of Broadway and Liberty street. They have just discovered through Mr. VARLEY the dreadful fact, that we "have no insulation in America." We are glad that they are at last awakened to a realizing sense of this state of affairs, which THE TELEGRAPHER has been laboring with all its might to impress upon their minds for the past two or three years.

Our contemporary who has heretofore advocated the doctrine, that "whatever is, is right," has waked up with the rest, and appears to think that the reason we have no insulation is, because American ingenuity has not yet succeeded in devising an insulator. This oracle, in speaking of the various forms used in this country, says: "All of these are more or less good, but when they get into the hands of the manufacturer, the thing imaged in the mind of the electrician is brought forth with such manifold defects, that the first rain-storm damns their use, and a good idea is cursed for evermore." He then goes on to state that "the great enemy of telegraph lines is our large cities. It would be a benefit to all of them (the cities?) if they were ordered out of every street." We agree with our grammatical friend on this point, if we understand it aright. If all the lines in large cities were run with Bishop's insulated pole wires, or better still, laid under the pavements and properly protected by iron tubes, we should do away with a large share of our troubles at once. But the wretched insulation that prevails on the lines in this country arises from other causes than the "dirty exhalations" that our neighbor complains of, and from which telegraphers are not the only sufferers, in this city at least, as any person with a nose can testify.

We cannot better illustrate one of the other causes referred to, than by relating "a little story" that is told of a correspondence between certain officials of a mammoth telegraph company which shall be nameless. This company has about fifty thousand miles of wire insulated (?) with an arrangement bearing the euphonious appellation of the "niggerhead," which interposes a surface of rough glass about half an inch wide to the escape of the electric current, and is contrived with the greatest ingenuity, so as to prevent the glass from getting dry after being once wet. A certain district superintendent of the aforesaid company found that one of his wires thus insulated, which from its location was frequently exposed to fogs, worked very badly—in fact, not at all—at such times. So, with more zeal than discretion, he wrote to headquarters, strongly advocating the substitution of the paraffine insulator on this circuit, remarking that the "niggerhead" was certainly an

excellent insulator, but it didn't seem to be so well adapted to that particular location. The reply of his superior officer—who by the way is strongly suspected of being the inventor of the "excellent insulator"—was to the effect, that in cases of trouble of that kind it was found to be far more convenient and economical to make a change of *superintendents* than a change of insulators. A word to the wise is sufficient. There was no more trouble with the insulation on *that* line!

Notwithstanding the fact that we have in this country the best insulator in the world—fully equal to VARLEY's justly celebrated insulator in point of electrical resistance, and superior to it in strength and durability—yet the whole past and present history of American telegraphic insulation, exhibits wretched series of blunders, which are anything but flattering testimony to the scientific knowledge of our leading telegraph men. Commencing with the plain glass insulator, they have "swung round the circle" of sulphur, iron caps, vulcanized rubber, "plugs," and "niggerheads," till at last they have got back to their original starting-point of twenty years ago, where they bid fair to remain for all time. We must not forget to mention the genius who held that insulation was a humbug, and in the year of grace, 1861, put up a line between New-York and Boston, on which two wires were fastened with iron staples directly to the poles!

We cannot close without giving the following choice extract from the authority above referred to:

"Mr. VARLEY says we mistake in asserting that glass is a better conductor than porcelain. It is certainly better than any we have ever seen of porcelain in this country. The new processes to perfect porcelain so as to adapt it to the most complete availability as an insulator, have no doubt, accomplished what Mr. VARLEY claims for it. Well, if porcelain is the best, let us have porcelain or its equivalent. One thing, however, we cannot afford to do. In England the insulators are taken down every year and replaced by new ones."

Porcelain, according to Mr. VARLEY, being a better conductor than glass, let us make our insulators of porcelain! Copper is a better conductor than either—with due diffidence we suggest—why not make them of copper?

Are you *quite* sure, neighbor, that Mr. VARLEY came all the way over from England, to tell us to make our insulators of some better *conductor* than glass?

### PERSONAL.

A. A. HOVEY has been appointed night operator at "Sj" office, Chicago, *vice* J. B. FRAYLEY.

ROBERT CASS, of Champaign, Ill., office, has been transferred to Clifton.

MR. MCGREGOR, formerly clerk in the Post-office at Fairburg, has taken the situation vacated by CASS.

A. M. VALENTINE, formerly of Ithaca, N. Y., has accepted a position with the Milwaukie and Prairie du Chien R. R. and Northwestern Telegraph Co., at Prairie du Chien, Wis.

FRANK JAYNES has been appointed cashier of the telegraph office at San Francisco.

CYRUS W. FIELD has returned from his recent trip to Newfoundland.

TO CORRESPONDENTS.—W. B. W., Arkansas. Write to the District Director for information. We have heard nothing of it for some time. You will find list on last page of this paper.

### MISCELLANEA.

COMPLETION OF THE CUBAN CABLE.—A telegram from Key West, September 7, dated 8:30 P. M., says that the shore end line of the Gulf cable between Punta Rosa and Key West has just been landed a mile from the telegraph house, and Mr. WEBB's men have also just connected the wire with the land cable.

The insulation is perfect, and the cable, with all the disadvantages the company have worked under, is a grand success. A week's delay has been caused in laying the seven miles of shore-end, owing to bad weather and a lack of cable. The company had seven miles of Red Sea cable at Havana, which arrived Friday and this has been spliced in to make communication complete between Cuba, Key West and the outer world.

THE MONTANA TELEGRAPH LINE.—This line will be completed to Helena by the first of October. It is nearly six hundred miles long.

A HANDSOME LINE.—The Atlantic and Pacific line through the city of Rochester, is built with forty-foot poles, planed in an octagonal form and painted, presenting a very handsome appearance.

NEW CITY OFFICE.—The Franklin Company have recently opened a branch office (Bx) at 111 Front street, in this city, in charge of V. A. KREPPS, formerly of the Bankers' and Brokers' Line.

REDUCTION IN PRICES.—By referring to the advertisement of L. G. TILLOTSON & Co., 26 Dey street, which will be found on the seventh page of this paper, it will be seen that they have reduced the prices of their instruments and other goods about ten per cent. Send for a catalogue.

THE CUBAN TELEGRAPH CORPS.—A letter from Havana, Cuba, says that the corps of telegraph operators in that island are to be organized on a military footing, and will be obliged to wear a fatigue uniform on duty and a dress uniform with sword and other equipments on State occasions. The discipline established will be very strict.

REPEATERS IN THE CHICAGO OFFICE.—The Western Union Chicago office has just been supplied with another HICKS repeater, making two now in use in that office. The enterprising chief operator, Mr. GEO. C. YORK, has invented a relay attachment to the repeater by means of which any desired number of lines may be worked or "repeated" upon at the same time.

STRUCK BY LIGHTNING.—The Franklin line was struck by lightning near West Brookfield, Mass., a few days since. The fluid followed the wire into the office at Brookfield. The operator was somewhat stunned, and Mr. CHARLES WARREN, who happened also to be in the office, was electrified to such an extent that he did not recover from its effects for three days. No other damage.

THE ATLANTIC AND PACIFIC LINE.—A letter from Western New-York says the wires of this company will be completed and in operation between New-York and Buffalo early in September. The contractors are shipping poles to Cleveland, and expect to open there by October 15. The line is being constructed in an excellent manner with twenty-six-foot poles, set five feet in the ground.

ANOTHER CABLE ACROSS THE HUDSON.—The Franklin Company, in conjunction with Messrs. HARRISON BRO'S & Co., of Philadelphia, have recently submerged a new cable across the Hudson River at the foot of West Thirty-ninth street. The cable was manufactured by the Bishop Gutta-Pereha Company, of this city, and contains three conductors, two of which will be used by the telegraph company, and the third by Messrs. HARRISON BROS. & Co. for their private line between this city and Philadelphia.

ICEBERG VS. CABLE.—Whatever virtue there may be in the glacial theory as explanatory of certain disputed geological phenomena, there can be no question that the remarkable fact that the Atlantic cable of 1866 has been ruptured twice, while that of 1865 remains intact, is due to the circumstance that when the shore-end of the cable of 1866 was laid from the *Great Eastern* the vessel was in a fog, and this part of the line was laid over a shoal patch, about forty fathoms in depth, so that the icebergs which so constantly appear in that region, reaching, as they often do, to the bottom, cut the cable.—*N. Y. Commercial.*



**THE CUBAN CABLE.**—By the most recent telegraphic advices from Key West we learn that the *Narva* arrived there from Punta Rosa on the 1st. All on board were well, and the cable was entirely laid from Havana to Punta Rosa, with the exception of seven miles—the Key West shore-end of the Punta Rosa cable. This was to be laid by the U. S. steamer *Lenapee* on the first favorable day. The Punta Rosa cable ran out splendidly at the rate of four and five knots, there being no stoppages for twenty-four hours. *The Tribune* correspondent telegraphs the following from Key West to that paper:

“Notwithstanding the gulf cable is nearly completed, the Captain-General of Cuba refused to permit press dispatches to be sent over the cable. Your Havana correspondent can therefore send nothing. Senor ARANTAVE is a liberal-minded gentleman, and acts as inspector of dispatches, but Gen. MANZANO is playing a despot's part. He gives as an excuse for his interference that the line is not yet open for business; but I learn that political affairs in Cuba are in an unsettled state, and this is probably the real cause of the Captain-General's action.

**THE CUBAN INLAND TELEGRAPHS.**—At the office of the Havana Cable Company a map has been made, showing in a clear classification, all the telegraph stations in Cuba. This has been done not only for the information of the officers of the company, but also for the use of the merchants who may have occasion to send telegrams to places with whose precise situation they are not acquainted. The great station, of course, is Havana. The first-class stations are: Pinar del Rio, Mantanzas, Bembra, Villa Clara, Sti Spiritus, Puerto Principe, Bayamo, and Cuba. Those of the second order are: San Cristobal, Guanajay, San Antonio, Bejucal, Guines, Cardenas, Colon, Sagua la Grande, Remedios, Cienfuegos, Trinidad, and Las Tunas. Those of the third order are: Consolacion del Sur, Batabano, Ciego de Avila, Guaimaro, and Jiguani. The last and fourth order are: Paso Real, Palacios, Artemisa, Alquizar, San Filipe, Rineon, Guanabacoa, Jarueo, La Isabel Caobillas, El Mulatto, Santo Domingo, Las Cruces, Boca de Sagua, Taguaybon, Las Tunas, Dimones, Oeujal, Sibanieu, Canto del Embarcadero, Palma Soriano, Enramadas, and El Cristo.

**PATENT CLAIMS**

RECENTLY ISSUED FROM THE UNITED STATES PATENT OFFICE.

64,654.—INSULATOR.—George Lloyd, Cincinnati, Ohio. May 14, 1867:

I claim the chambered insulator provided with ledges, H, H', approached by a flaring aperture, F, in the described combination with the two-parted and shouldered shank, the said shank and chamber being ohlong in their horizontal section, all substantially as set forth.

65,429.—TELEGRAPH SIGNAL-KEY.—Frederick B. Porter, Detroit, Mich. June 4, 1867:

I claim, 1st, The supplemental point, or its equivalent, for the completion of the circuit, O, connected, arranged, and operating substantially in the manner and for the purpose described.

2d. The additional spring or its equivalent, R, arranged and operating substantially in the manner and for the purpose described in combination with the above.

65,886.—INSULATOR FOR TELEGRAPH WIRES.—Alfred B. Day, Oak Creek, Wis. June 18, 1867:

I claim, 1st, The lugs, B and F, made of glass or other suitable non-conducting material, in combination with the wooden plug, C, on the inside of the cast-iron cylinder, A, all made and operating substantially as herein shown and described.

2d. So constructing the shell, A, that the cap, G, can be held down by the cross-head, I, when the insulator is attached to the same, all as herein shown and described.

66,453.—INSULATOR FOR TELEGRAPHS.—John F. Boynton, Syracuse, N. Y. July 9, 1867:

I claim, 1st, Supporting an insulating cap, the whole material of which is a non-conductor, by a non-conducting pin, when such pin is constructed separately from the cap, substantially as shown and described.

2d. Securing a non-conducting pin to an insulating cap, both of which are composed entirely of non-conducting materials, by an insulating cement, as herein set forth.

3d. Securing a non-conducting pin, composed entirely of non-conducting material, to the cross-arm, bracket, or telegraph pole by an insulating cement, as set forth.

4th. The combination of a non-conducting pin composed entirely of a non-conducting material, cemented to an insulating cap composed entirely of a non-conducting material, with the slot, A, and binding wire-hole, B, substantially as herein set forth.

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**Bankers' and Brokers' Telegraph Co.,**  
CAPITAL, \$1,050,000.

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WM. CALLOW, President.....Baltimore, Md.  
JOHN L. CRAWFORD, Secretary and Treasurer.....“  
J. W. DYER, Acting Superintendent.....Philadelphia.

**California State Telegraph Co.**  
CAPITAL, \$2,500,000.

Lines extending from San Francisco, Cal., to Salt Lake, U. T., and New-Westminster, British Columbia.  
GEO. H. MUMFORD, President.....San Francisco.  
GEO. S. LADD, Secretary.....“  
JAMES GAMBLE, Superintendent.....“  
R. R. HAINES, Assistant Superintendent.....Seattle, W. T.

**Franklin Telegraph Company.**  
CAPITAL, \$1,000,000.

Lines extending from Boston to Washington.  
J. B. STEARNS, President.....Boston.  
J. W. BROWN, Treasurer.....“  
J. G. SMITH, Superintendent.....New-York.

**Illinois and Mississippi Telegraph Co.**  
CAPITAL, \$1,500,000.

[Leased to the Western Union Company.]  
J. D. CATON, President.....Ottawa, Ill.  
T. D. CATLIN, Secretary and Treasurer.....“  
[For Superintendent, etc., see Western Union Company.]

**International Telegraph Company.**  
CAPITAL, \$300,000.

Lines completed from Boston to Brunswick, Me.  
[In progress.]  
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Lines extending from Lake City to Key West, Fla., and Havana, Cuba.  
WM. F. SMITH, President.....New-York.  
M. M. DELAFIELD, Treasurer.....“  
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**Northwestern Telegraph Co.**  
CAPITAL, \$1,500,000.

Lines extending from Milwaukee through Wisconsin, Michigan, Iowa, and Minnesota.  
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H. B. HINSDALE, Secretary and Treasurer.....Racine, “  
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C. C. SHOLES, Advisory Superintendent.....Racine, “

**Pacific and Atlantic Telegraph Co.**  
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CAPITAL, \$3,000,000.  
Lines completed from Philadelphia to Pittsburg and Cincinnati.  
[In progress.]  
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A. Q. CASSELBERRY, Assistant Superintendent.....Pittsburg, Pa.

**Western Union Telegraph Co.**  
CAPITAL, \$40,000,000.

Lines extending throughout the United States, Nova Scotia, and New-Brunswick.  
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O. H. PALMER, Secretary and Treasurer.....“  
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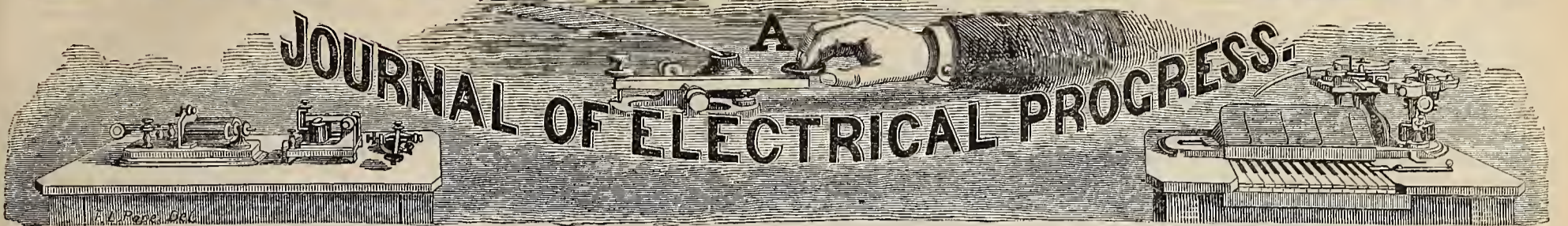
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# THE TELEGRAPHER.



Vol. IV.—No. 3.

New-York, Saturday, September 14, 1867.

Whole No. 61.

[Written for The Telegrapher.]

## Railroad Telegraphy.

WHEN an individual misses the improvement of an opportunity, from ignorance of its advantages or other causes, and learns too late of his loss, he sorrows at the consequences of his lack of knowledge, and guards himself in the future. If he is brought to suffer thereby, the sympathy of friends and the public is awakened; but if experience teaches him no lesson and misfortune deals him another blow, the verdict of "served him right" is universally given.

The attitude in which the railroads of the country stand to the telegraph, as it is represented by the leading companies, and the damaging disadvantage the roads labor under, has suggested the above reflections, and makes them applicable.

Telegraphy has come to be an indispensable adjunct of the railroad. Where at first it was used with distrust and fear, it is now firm in the confidence of its ally.

It has won its way by positive merit, to an acknowledged position in all the railroad enterprises in the land. As soon as its value was discovered, and its aid invoked by one and another company, rival lines availed themselves of its advantages; and thus the connection between the twin systems of progress grew intimate, and the necessity of the telegraph to the railroad was firmly established.

In this rapid growth of railroad telegraphy it is not strange that the railroad companies, in their effort to secure the aid of the subtle influence, should have been considerably careless of their best interests, and have allowed undue advantage to be taken of their ignorance of the new element. Besides, there was at the threshold of any negotiation, the bugbear of patent rights, which forced them to forego the advantages of the telegraph, or take it upon the terms of the patent owners.

In this way, scores of the great railroad lines of the country have virtually given away the most valuable privileges, for comparatively nothing.

As with individuals, so with corporations. If they are not sensitive alike in their souls—for the lack of that organ in the one—they are alike sensitive in pocket, and the rule will apply to both. If wisdom is not learned by experience, then the scholar is alone to blame.

No railroad of importance now-a-days thinks of running without a telegraph line of its own, or under its control. The majority of these lines have been furnished to the railroads by the great telegraph company, which by purchase and consolidation has come into almost exclusive possession of the patents in this country. The conditions of the transfer have been most disadvantageous to the railroads.

The road gets a wire, not always even good, never the best, and generally the worst—for which it pays a round price, besides giving the telegraph company right of way over its road for a longer or shorter period—generally for ninety-nine years—and binds itself to do no commercial business over its wire to compete with the telegraph company; the road in every instance paying the running expenses of its own wire.

What are the advantages lost and gained to the telegraph company in this transaction?

It gains exclusive right of way—a valuable privilege, free transportation for its material and men—extra facilities in construction and repair, and full pay for a

wire, from the railroad company. Over this wire is generally placed a superintendent or managing operator, who is in the interest of the telegraph company, to make it as dependent as possible upon that company—especially fitness not always and not often entering into the account in his selection. It gains in the connection, and at the termini, with a wire which brings many messages during the day from offices supported by the railroad, which are altogether unprofitable singly, but which in the aggregate are quite valuable. For exclusive railroad offices it receives a large percentage of the receipts, and in places large enough to support an office it takes the whole.

For these gains, what does the telegraph company lose? Beyond the few dollars' worth of stationery furnished, and a few per cent commission to the managing operator to keep him interested, and the annual passes to the officers of the road, and the business of the road off its own line—which is generally inconsiderable—nothing.

The arrangement is all one-sided. The telegraph managers took the advantage of the necessities of the railroads and their ignorance of the whole business, and obtained from them these valuable privileges almost criminally.

What does the railroad company gain and lose in the bargain? It gains as above, yearly passes over the telegraph for its officers and foreign business, and a few dollars' worth of stationery, and the right to use the Morse patent. Its gains are inconsiderable and of comparatively no value.

It loses all the telegraph company gains, and more besides. It loses all the commercial telegraphing of the places through which it runs, which belongs legitimately to it, and which would return a splendid revenue to its finances. To what an advantage could the facilities possessed by a railroad company be turned in telegraphy. It owns the right of way. In construction, it has every advantage in transportation and labor. The bugbear of patent rights which the telegraph company has used so effectually against it, is dead. It has office rent free, and many of the expenses of a telegraph office would be abolished entirely, or much reduced, if both were under one administration. It has executive officers, whose cares would scarcely be increased at all by the imposition of the additional duties of the telegraph management. Its secretary and treasurer would have added to their duties simply the care of another set of books and considerably more cash. It would require a superintendent of telegraph exclusive of its railroad superintendent, and in his selection, fitness for the position alone should influence. A large percentage of the receipts from commercial business would be profit; and perhaps upon every railroad in the country, there are large enough towns and villages to make the profit thus returned a very handsome amount, and should tempt the railroad companies to secure for themselves, what they in their short-sightedness are allowing a selfish rival to take.

The railroad companies could not expect to do more than their local business; but right of way for a through line would be eagerly taken by any telegraph company at a handsome rent.

It would seem to be only necessary to call the attention of railroad companies to these facts, to awaken them to the importance of the subject in a pecuniary point of view.

The inefficient management of most of the railroad lines by the managing operator, is a source of great loss, both in time and money. His incompetency leads to abuses upon the wire which are fatal to its perfect success. In many cases no management at all is provided, the operators running the wire themselves. It is not strange that such a line cannot be trusted. The operating talent upon a railroad wire is generally and almost necessarily of a low order; and to make it reliable, the most rigid discipline and the best system must be adopted.

A railroad officer, be he never so efficient in railroad matters, cannot get proper service out of a telegraph line, manned by the ordinary talent. It requires experience in telegraphy; and the thousand or two dollars yearly for such experience is not too much to pay. There are a few railroad and canal companies that own their own lines, and operate them to their own pecuniary advantage; and not many months will pass before the required notice will be given, and contracts cease, and many other railroads assume again the right that in their ignorance and under the pressure of necessity, they gave away.

Buffalo, September, 1867.

## The Jersey City and Newark Pneumatic Enterprise.

At the last session of the New-Jersey Legislature an act of incorporation for the purpose of testing the pneumatic method of transportation, was granted a company of gentlemen, with a view to enabling the State to derive any benefit which may be obtained from that plan in the transportation of mails and packages. Subsequently the company was organized as follows: President and Secretary, JAMES M. TOWER, of Jersey City; Vice-President, R. H. GILBERT, of Elizabeth (Assistant Superintendent of the New-Jersey Railroad); Treasurer, C. M. HARKER, of Mount Holly, and Engineer-in-Chief, Gen. EDWARD W. SERRELL, of Jersey City. The Executive Committee are Messrs. TOWER, SERRELL, GILBERT, and G. W. N. CURTIS, of Camden, Superintendent of the Camden and Atlantic Railroad, and late Speaker of the House of Assembly. The organization of the company being completed, the projectors went to work, first examining the various patents in pneumatic transportation. They found only three worthy of their attention. The first was that of ITHIEL RICHARDSON, of Boston. He proposes to create a vacuum in the tube, and force the car along by the pressure of the air forced in behind it. The second was that of Mr. ROMMELL, an Englishman, who proposes to compress air and blow the car through. The third was the invention of E. P. NEEDHAM, of New-York, who claims to be able to propel packages of all kinds, and particularly mail matter, from place to place, at a very high velocity, and with perfect safety, by means of the continuous motion of air confined in two connected tubes. The essential novelty in Mr. NEEDHAM'S invention is that the air so employed is isolated from the external atmosphere, and forms a continuous circuit. In the matter of safety he claims that it stands foremost. In starting, the power of the rotary pump is gently communicated through the elastic medium, the air in the tube. Although motion is produced almost instantaneously in all parts of the circuit, there is, it is claimed, no jar nor violence sufficient to cause injury of any kind. In stopping the driving disk the car impinges upon a cushion of air at the station, and



this cushion being perfectly elastic, brings the car to rest without the least jar. No collision, it is claimed, can possibly occur, as all parts of the air-chamber within the tube move in the same direction at the same time. The possibility of running off the track is also ingeniously prevented. Mr. NEEDHAM says that the speed is limited only by the strength of the material of the ears and by the power of the rotary pump, but not by considerations of danger nor cost. He says that the minor details, including the operating of side branches, and the employing of auxiliary stationary engines on long reaches, are to be determined by engineers and scientists by the special circumstances in each case. The projectors have looked into all this, and inquired how the best part of each patent can be combined to make a new and beautiful plan. To this end Gen. SERRELL has added his genius by inventing a car with a sag bottom and guiding wheel. The wheels on which the car rests and runs are fitted to a track which is placed on a projection of the staves of the tube on the inside. The company have decided to construct a wooden tube, three feet in diameter, with staves hooped like a barrel, and to extend it between Jersey City and Newark, either insulated, resting on the ground, or elevated. The tube will cost about \$10,000 per mile. The projectors claim that they can transport the mails at the rate of one hundred miles per hour with perfect safety. They also say that if their plans prove good, they will in time go into the transportation of passengers; and they hold that the real estate interest of Newark will readily come forward with funds to aid the enterprise. The company's capital is limited to \$300,000, with the privilege of increasing. It is reported that a United States Senator of the Post-Office Committee has assured the company that they shall receive aid from the General Government as soon as they make it manifest to the public that their project is feasible, and that this aid shall be given precisely as assistance is afforded to the Union Pacific Railroad Company. The company are preparing their books and arranging other preliminaries. Within thirty days the whole Board of Directors will meet for the purpose of immediately putting the work into practical shape.

[For The Telegrapher.]

#### A Batch of "Bulls."

Who has not often heard the shout of merriment arising from a knot of operators called together around some desk, where a message is being sent, in which the transmitter has discovered a laughable "bull" on the receiving operator? Scarcely a day goes by in the history of our large offices but that some member of it is greeted with the familiar cry, "one on you."

Many of these little mistakes which are made, discovered, laughed over, and corrected all in the same room are certainly too good to be lost, and thinking that a collection of such amusing incidents would add to the attractions of the humorous column, we have jotted down a few which have come to our notice at different times.

The first is the case of a good-natured brother operator who was receiving a message signed "TOM," "D. H. Opr.," and got it down "TOM D. HOPPER," only discovering his mistake when some ten or fifteen minutes after he bethought himself that he had received no check for the message, when, on calling up the repeating office to get a correction, the "bull" was discovered.

A telegram received by a prominent commission firm signed, "BUSINEL, SON & Co.," was only made intelligible to them when it was discovered the signature should have been "BUSH, NELSON & Co."

The name of the well-known firm of CARY, MEDCALF & Co., was twice subjected to a change of the firm name, by an operator without any power from court or judge, it having been received "Cary Medical Fees Co."

The name of GESEP SMITH sounded very queer, and provoked a great deal of merriment when it was discovered to be a sad transformation of the name, "Mr. E. P. SMITH." Let all analyze this one.

The term "High School" received "High Sipool" was decidedly rich.

The name of "Dr. J. O. VAN HOVENBERG," converted into "Dr. JOVAN HOVENBERG," gave to the receiving operator the permanent soubriquet of "Dr. JOVAN."

It is a source of wonderment whether a certain prominent clergyman could ever have interpreted the message

which informed him that he could have the M. E. church for his lecture in the words "You may have the *mechaicish* for your *treture*."

The agent of the Kentucky State lottery, was one day unable to prove a list of drawings in which the words "Yee" and "Early" occurred, but they came out all right when the words "Ice" and "Earth," were substituted.

The last but not least is "Kidlaw" which all will recognize as coming from the familiar name, "Laidlaw."

#### Suicide of an Operator.

A FEW days since an announcement was telegraphed to the Eastern papers of the suicide of J. SPENCER KERBEY, late station agent and operator for the Union Pacific Railroad, at Topeka, Kansas. The deceased was well known in Ohio, having for many years worked on the railway lines in that State. During the war he was employed on the Military Railroad lines, and since that time on the Union Pacific Railroad as above stated.

He left his office during the latter part of last month, and for several days his whereabouts was unknown, until one of his friends received a letter stating that a person answering his description had shot himself at Americus, about fifty miles south of Topeka.

Financial embarrassment brought on by the fast living and fashionable dissipation which are becoming far too common at the present day, is supposed to have been the cause of the rash act.

#### The Management of the Atlantic Telegraph.

TO THE EDITOR OF THE LONDON TIMES:

THE persons in charge of the Atlantic cable have at last given the public an installment of those reforms by which, for some months past, they have been promising to widen the usefulness and popularity of the mighty instrument they control. The improvement does not, as might be anticipated, consist in the reduction of rates, fifty per cent, or in the cessation of the charge for the address and signature of a message, or in the abolition of the one hundred per cent imposed upon code or cipher, without the protection of which commercial telegrams, thanks to telegraphic infidelity, lose all the value derived from secrecy. These changes have been too long promised, and are, perhaps, too obvious and commonplace in their appeal to propriety to be adopted; at all events, they are said to be indefinitely postponed. What has been vouchsafed is embraced in a rescript issued last Monday to sub-offices, under the directions of which the clerk to whom a message for America is offered is obliged to exact double rates for the entire message if it contains words he does not understand, or if it contains a word abbreviated or contracted, however palpable the sense. The former regulation presupposes an intelligence approaching omniscience on the part of a half-paid subordinate; the latter calls for every letter of the most ordinary words, and even of words of which the full orthography would, in common practice, be ridiculous. A message has actually been declined at one of the offices this week unless the writer accepted the alternative of giving "Mr" as "Mister," or paying £1 a word for the whole telegram. The only further step possible in the direction of the absurd is to require the clerk, in any case he may choose, to compel the sender of a message to make affidavit that the words mean precisely what they express, under penalty of redoubled charge. When we consider that these regulations are sequels to others where words are restricted to five letters, that the option of charging by words or letter, as may be more profitable, is retained by the companies; and when we know, beside, that the operating staff and a single cable are occupied no more than four hours a day, while the income of the line is daily about £1100, the broad public spirit of the managers, and their eagerness to serve and oblige the business community, would seem to be indisputable. Yet there are obstinate people among their customers, and all I meet are in this impracticable category, who see nothing but excessive rapacity in the innovation, and who believe that, losing faith in the permanence of the cables, or fearing competition, the proprietors are disposed to defy public opinion and make hay while the sun shines.

The public will of course be told as usual by the Anglo-American Company that the Atlantic Company is responsible for these vexations, and the Atlantic folk will retort upon the Anglo-American. In such cases, indeed, much use may be made of the precedent created by SPENLOW & JORKINS.

#### The Cuba Cable.

FORMAL OPENING OF THE LINE—INTERCHANGE OF OFFICIAL CONGRATULATIONS.

HAVANA, Cuba, Sept. 10, 1867.

To Gen. W. F. SMITH, *President of the International Ocean Telegraph Company:*

His Excellency has appointed 3 o'clock for the ceremonies of inauguration. I congratulate you and the Board and Company on our success.

J. NENINGER, Vice-President.

HAVANA, Cuba, Sept. 10, 1867.

Gen. W. F. SMITH, *President:* The cable has been inaugurated, and congratulatory messages forwarded. The line will be opened to the public to-morrow, the 11th inst.

J. NENINGER.

The following dispatches were sent over the Atlantic Telegraph cable, Sept. 10.

NEW-YORK, Sept. 10, 1867.

To H. J. PERRY, *Vice-President, Madrid:*

The International Ocean Telegraph Company congratulate her Majesty Queen Isabella on the completion of the line which establishes telegraphic communication between Spain and its most important colony. The Company offers to her Majesty's Government its sincere thanks for the valuable grants and privileges, without which this communication could not have been made.

W. F. SMITH, President.

[Translation.]

To His Excellency the Minister of the Colonies, Madrid:

The Governor, Captain-General of Cuba, in behalf of all the authorities, felicitates the Government of Her Majesty on the inauguration of the submarine cable, which binds closer the bonds of union between this island and the mother country.

JOAQUIN DEL MANZANO.

Havana, Sept. 10, 1867.

[Translation.]

To His Excellency the Duke of Valencia, Madrid:

The city Corporation of Havana—Health to the Government and peace to the country.

The President Governor, JOSE GUTIERREZ.

Havana, Sept. 10, 1867.

[Translation.]

To His Excellency the President of the Council of Ministers, Madrid:

The Governor, Captain-General of the faithful Island of Cuba has the honor to offer to Her Majesty the Queen, the homage of the most profound respect of all the authorities, corporations, and inhabitants of this Antille on the inauguration of the submarine cable, which unites it from this day to the mother country in the glorious reign of Isabel Second.

JOAQUIN DEL MANZANO.

Havana, Sept. 10, 1867.

The following is a correct copy of the dispatch sent by Secretary Seward to the Captain-General of Cuba:

WASHINGTON, Sept. 9, 1867.

To the Captain-General of Cuba:

Accept my cordial congratulations on the opening of telegraphic communication between the United States and Cuba, which I trust will promote the commercial intercourse and cement still more strongly the friendship between the lands whose civilization and development date back to the enterprise of the great Spanish discoverer.

W. H. SEWARD.

HAVANA, Cuba, Wednesday, Sept. 10, 1867.

The Hon. WM. H. SEWARD, *Secretary of State, etc.:*

I accept your felicitations and congratulate you upon the telegraphic connection now established between this Island, the United States, and the Old World. May it influence the development of commercial interest and friendship between this country and the United States.

JOAQUIN DEL MANZANO BORRONGO.



## 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 Voice from Boston.

BOSTON, Aug. 24, 1867.

TO THE EDITOR OF THE TELEGRAPHER:

It is with sincere pleasure that the recent developments in regard to the defunct United States Telegraph Company in THE TELEGRAPHER have been received. Your contributor evidently knows whereof he writes and telegraphers and the public are to be congratulated that the mystery which has surrounded that concern and its untimely demise has at length been dispelled.

Several parties have been credited with the authorship of this exposé. Whoever he may be, he evidently understands the subject and writes nothing but the truth. His revelations have confounded the advocates of the Western Union, who have heretofore pointed at the unfortunate termination of that enterprise as an unanswerable argument against the feasibility of further efforts to establish successful competition in this country in the telegraph business. I agree with the opinion expressed in your columns by two or three writers, that the time has come for the inauguration of a new and honestly-constructed system of competing lines, having sufficient capital to maintain them against the efforts of the monopoly for their destruction. It rests with the telegraphers themselves to inaugurate such an enterprise. It will have the support of the public and the press, and properly conducted cannot fail of success.

MAGNETO.

## Our Buffalo Correspondence.

BUFFALO, Sept. 7, 1867.

DEAR EDITOR:—The agony is over; and that you may be faithfully posted in reference to matters herabout, I hasten to tell you that not one of us has been hit hard enough to set him up higher—though one or two take a little lower seats in the synagogue. Not one of us has been torn from the home of his choice and compelled to bear the questionable honors of a Superintendent or his unquestionable burdens. With general orders falling around him like leaves of autumn, and check-error sheets, and uncollectable messages and free messages, and a thousand annoyances which cluster around his pathway, his position is no sinecure; and if *any one* earns a small salary, *he* does. But so self-sacrificing are we all, that at a rough guess, there are twenty or thirty of us here who could be prevailed upon to accept the position.

Well, by a general order, the Second District of the central Grand Division has been dismembered, and the greater part of it incorporated with the Eastern Grand Division, under Gen. ECKERT. No doubt Mr. BALCH's retiring from the Superintendency of the district, to engage in other business, was the immediate cause of the rearrangement of the divisions. It has been Mr. BALCH's intention for many months to retire from his position as soon as he could do so honorably. His services to the company have been invaluable. He inaugurated a system upon the wires in his division, which rendered them reliable in an eminent degree, and at the same time, by the most rigid economy, reduced the expenses to the minimum-est figure possible. He has succeeded in getting the most work out of operators upon the least salary of any man in the business; and in the enforcement of the grinding orders of the Executive Board he has out-W. U.-d the W. U. Yet he has been straightforward and conscientious in the discharge of his duties, sacrificing himself and his feelings, and often receiving the execration of his operators, all from a high sense of duty to the company. His successors will find their utmost energies taxed to keep the expenses down to the present low figure; and the Directors will be staggered by the heavy drafts that will be immediately made upon them to put the lines into opposition-fighting condition, and enable them to recover from their late severe attack of economy. Mr. BALCH retires with the best wishes of his friends.

Mr. E. P. WRIGHT takes this office under his wing, his

district having been extended eastward for that purpose. Mr. WRIGHT has risen from the ranks to his present position, by merit alone, and enjoys the confidence and respect of all who know him. We might officially have fallen into worse hands.

Mr. S. B. GIFFORD has been appointed to a district sliced out for him, and numbered the Seventh District, between Buffalo and Utica, including the lateral lines, Mr. GIFFORD has also risen from the ranks, and having enjoyed the advantages of a long tuition under Mr. BALCH, will doubtless administer the affairs of his district to the entire satisfaction of the company.

The remaining territory of the Second District east of and including Utica, has been added to the Sixth District under GEORGE B. PRESCOTT, Esq. Mr. P. is a practical as well as theoretical telegrapher, the author of the best work upon the electric telegraph ever published in this country, and a gentleman of large experience in the business. The wires of the great through northern route to New-York from the West, which form so great a part of his new acquisition, will receive the attention which their importance demands.

So we are once more sailing under new officers. May their bearing towards us be such that we can cheerfully render to the company that service we owe, and not have added to those—often irksome as they are—the disagreeableness of an overbearing, arrogant, fault-finding and unappreciating spirit.

Yours, with a strong battery, TELEGRAPHICUS.

## Some Suggestions to Operators.

TO THE EDITOR OF THE TELEGRAPHER:

WE of the West are watching anxiously the discussion of the chances of an opposition company. We have had occasion to feel, and feel deeply, that the interests of operators as well as of the public demand an opposition to the present monopoly.

In the discussion so far, the point which, to a Western man, seems most prominent, has been entirely overlooked. When a man desires the success of any undertaking, his first question should be, "What can I do to further it?" So far in the discussion we have had no statement of the part operators took in the past struggle and can take in the coming one.

During the existence of the old United States Company the feeling of operators toward the Western Union was of the utmost kindness and good-will. Mr. WADE, by far the ablest man who has ever participated in the counsels of that company, had announced broadly the proposition that if the services of first-class operators were valuable to other parties they certainly were so to the company, and under the influence of liberal salaries and favors granted with no niggardly hand, operators became proud of being Western Union men. How this feeling affected the business of the company, any one can judge who witnessed how earnestly in his own town operators worked to secure the return of customers who had gone over to the opposition, to beat the opposition in the transmission of important business, and to spread wide the knowledge of the fact that they had done so. What wonder that the opposition failed when mismanagement was wasting its resources and the zealous opposition of operators was cutting off its sources of revenue.

If operators now desire the success of a new opposition they can do more to secure it than they did to defeat the U. S. Company. That company had no long list of irritated customers, no history of mismanagement and fraud, no commercial news department, operated intentionally by force and fraud to the great detriment of all private commercial business. It had, in fact, nothing which could be turned against it except the fact that it was untried, that its virtues as well as its vices were unknown. That the monopoly is not thus favored, any one who has been behind the scenes knows full well.

Let, then, operators who desire to make themselves a power in the coming contest, strive to extend the circle of their acquaintance among business-men. Let them gain the confidence of these men, who will argue, "Who should understand the advantages and disadvantages of telegraphing if an operator does not?" Let operators study the management of business in every particular. Let them learn to know everything and study what to tell and what to withhold. Any man who has worked six months in an office should know enough of the management of business to carry the custom of every man of his

acquaintance to either company for which he chose to work. Let but a few good men in every office in the country take hold of this matter earnestly, and they will soon convince either company that it is for their interest to secure the good-will of the men who must handle their business.

ACTION.

Milwaukee, Wis., Aug. 24, 1867.

## Letter from Maine.

TO THE EDITOR OF THE TELEGRAPHER:

MAINE, Aug. 13, 1867.

BEING a "constant reader" of THE TELEGRAPHER, I observe you have correspondence from almost every part of the country except down East. And with the hope that something from this part of the country will prove acceptable, I venture to send you these few lines, although there is nothing very startling to record.

The Western Union Company are at work putting up a new wire from Boston to the cable, having crews at work, I believe, between Portland and Boston and between Bangor and Calais. Judging from their usual rapid method of doing things, and the progress already made, it will be finished about 1870.

The International Telegraph Company is also at work putting up a line from Portland to Bangor, which they intend to work in opposition to the Western Union.

The work being under contract to the irreplaceable A. D. BROWN, Esq., will undoubtedly soon be finished. Whether it will amount to much as an opposition remains to be seen; but if we may judge anything from the kind of operators they are employing to work it, it will not be likely to, as they are mostly recently emancipated office boys from the Western Union, or graduates from Commercial Colleges, not to mention some old stagers, who in years past were in the employ of the old company, but who, on account of unamiability of temper, or may be some little discrepancies in the cash accounts, saw fit to leave.

MR. C. H. SAWYER, as you already know, has resigned his position as Manager of the Portland Office, W. U. T., and accepted the Superintendency of the International. How he will manage their affairs will be seen in the future good or ill success of the line, but from the well-known energy and perseverance of the gentleman, no doubt that company will be able to congratulate themselves upon having secured his services.

MR. C. D. LIVERMORE has been appointed Manager of Portland office, and performs the duties of that difficult position to the entire satisfaction of all.

MR. D. C. SHAW is his assistant, who when he shall have overcome a slight tendency to find fault where there is none, and to indulge in unnecessary controversies over the wires, will make a good officer.

The affairs of the Maine District are not in so flourishing a condition as we could wish, owing wholly to the difficulties we have always labored under—all our meetings being held and business done over the lines. Still the members are all anxious for the success of the Union, and feel if something could only be done to bring the Union a little nearer the every-day work and life of the operators—something tangible, something we could see and feel—it would be the one thing needful; but what that "something" is, no one seems prepared to say.

Where is the "Moses" who will lead us out of the wilderness?  
"Mc."

## DISTRICT PROCEEDINGS.

PHILADELPHIA DISTRICT.—A regular stated meeting of the Philadelphia District was held Sept. 5, in room 30 Merchants' Exchange, J. R. WOODRUFF, D. D., presiding. Minutes of last meeting read and approved.

R. J. BLACK, District Treasurer, presented his bond as security. On motion, bond was received.

The Secretary read letter from L. H. SMITH. On motion, was received and placed upon the Minutes.

Letter from I. A. SHERMAN, District Secretary of Boston, was read. On motion, received and filed.

Auditing Committee through their chairman presented report. On motion, received.

MR. MOTT, late Treasurer, handed over books, papers, moneys, etc., to Mr. BLACK, Treasurer elect.

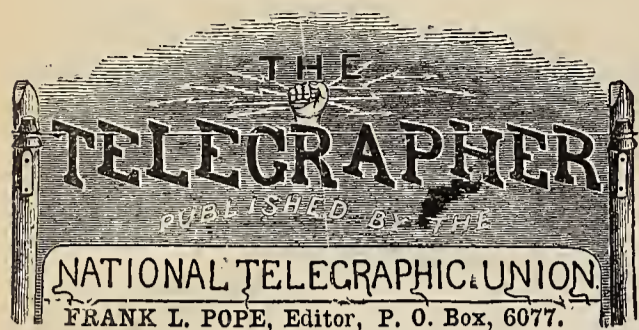
On motion of Mr. PARTRICK, a committee of three was appointed to procure a suitable room, at a rent not exceeding \$200, with power to act in procuring furniture, and that \$125 be appropriated for that purpose. Messrs. J. PARTRICK, J. KENNEDY and J. S. GREENE, were appointed as a committee.

On motion of Mr. PARTRICK, it was voted that the District give a ball during the coming winter.

Motion that committee of five be appointed with full power to act in reference to the ball was carried. The chairman appointed J. PARTRICK, R. J. BLACK, F. W. DAVIS, M. D. BUCKWELL and J. WINTHRUP as said committee.

There being no further business, meeting then adjourned.





SATURDAY SEPT. 14, 1867.

### THE MANAGEMENT OF THE ATLANTIC TELEGRAPH.

In another column of this paper we publish a letter addressed to *The London Times* by a friend in that city, complaining of the vexations and extortions to which the customers of the Atlantic Telegraph are subjected in the transmission of messages to America. The publication of this document has not unnaturally called out a great deal of unfavorable comment in the columns of the public press. It appears the company have made a regulation whereby the receiving clerk is instructed to charge double rates for the whole of any message containing cipher words, or any words which he (the clerk) "does not understand."

*The New-York Times* makes the following remarks upon the subject:

A device for plundering in this fashion is ingenious, and yet it is stupid. If "cipher" could be used with safety—if it were not notorious that telegraph experts can decipher, and that telegraph agencies are leaky, business-men would use it and pay what was charged without complaining. But as it is, the telegraph "cipher" is almost utterly useless for business purposes or for any other purpose. This fact the Directors of the Atlantic Telegraph Company are perfectly well aware of; and probably they imagine they get less than they ought to get from this particular source of revenue. The project, then, of charging double for unintelligible dispatches is explained. If the company can get but little extra plunder from the use of the cipher, they must get it in some other way.

We fully agree with the writer in *The Times*. The charging of double rates for cipher dispatches by the Atlantic or any other telegraph company, is entirely unjustifiable, and should be discontinued. We refer to the ordinary cipher messages composed of English words. In the case of ciphers composed of groups of letters arbitrarily arranged and not forming words, a distinction may justly be made. It is necessary to transmit such messages very slowly, and frequently to repeat them back, and as they occupy double the time passing over the wire that others do, it is quite proper to charge double the ordinary tariff.

The remarks of *The Times* apply equally well to the principal telegraph company in the United States, which has adopted similar regulations. As the publisher of *The Times* is one of the directors of that company, we suggest that he use his efforts towards bringing about a reform in its regulations relative to cipher messages, as well as those of the Atlantic Company.

A WARNING TO TELEGRAPHERS.—We have received a most affecting letter from an intimate friend of J. SPENCER KIRBY, the particulars of whose recent death will be found detailed in another column. In it the writer earnestly asks us to use our influence to check the growing evils of intemperance and fashionable fast living, which are hurrying so many of the most talented members of our profession to untimely graves. Nothing we could say would have such an effect as the mere example of this unfortu-

nate young man, whose career has so suddenly been brought to a close by his own hand. He was a man of amiable and generous disposition and strong social proclivities—one of that too numerous class who delight in the reputation of being a "good fellow;" and as is usually the case, he had many friends—far too many for his own good. In an evil hour he was led astray by them, became involved in his accounts with the company by which he was employed, and was finally driven to seek refuge from his troubles in a suicide's grave, leaving a wife, a brother and sisters to mourn over his sad fate. What words can picture the distress of an aged parent, who, as in this case, is called upon to sustain the loss of a son—to whom he had perhaps looked forward as a comfort and support for his declining years—by the saddest and most melancholy of all deaths, that of a suicide?

Think of these things, young men, and take warning while there is yet time. How many who read these words are going swiftly forward in the same course, and perhaps bringing upon themselves the same fate as that of the subject of this article. This is far from being the first instance of the kind. Would that it might be the last.

### PERSONAL.

OTTO MILLER, formerly night operator at Freeport, Ill., has succeeded E. O. WAIT as Manager of the Western Union Telegraph office in that place.

Mr. E. O. WAIT has been appointed Superintendent of the telegraph line of the Western Union Railroad Company.

L. F. SHELDON, formerly Superintendent of the U. S. Lines, has been appointed train dispatcher of C. B. & Q. R. R. at Galesburg, Ill.

L. C. SPRINGER has resigned his position in W. U. Chicago office.

J. W. UNWIN has resigned his situation at Julesburg and accepted a position in Chicago office.

H. W. NICHOLS has resigned his place in Chicago office, to take effect as soon as he can be relieved. He goes on the Union Pacific Railroad.

H. DAVIS, formerly Manager of the U. S. office at Cincinnati, is Manager, and JNO. MATTOON, of the Western Union office, is chief operator of the Cincinnati office of the Pacific and Atlantic lines.

J. LENHART has resigned his position at Denver, Colorado, and goes to La Porte, Ind.

The notices in the Denver papers praise Mr. L. quite highly for his gentlemanly bearing while in that place.

Mr. KIMBER, of Fort Laramie, occupies for the present the position vacated by LENHART.

C. H. SEAVER, of Lockport, Ill., has accepted a position in the Chicago office.

Mr. ANGUS FOX, Superintendent of the Detroit and Milwaukie Railroad Telegraph, who has been laid up for five months with paralysis, has, we are glad to learn, recovered and resumed his duties.

F. E. ANGEL has given up his position as night operator in the Albany office, and accepted a position in Chicago.

C. C. KING, of St. Albans, Vt., is his successor.

HARRY A. ALLEN of Leavittsburg, O., who has been employed in the Saratoga office during the past summer season, has located in Albany.

GEORGE B. PRESCOTT, former Superintendent of the Northern Division of the Western Union Telegraph Company's wires, has been appointed to the general management of affairs on the Middle Division, embracing the territory between New-York city and Utica, in connection with his former duties as Superintendent of the Northern Division.

Mr. S. B. GIFFORD, of Syracuse, takes charge of the division between Buffalo and Utica.

### MISCELLANEA.

SUBSTITUTE WANTED.—A first-class operator is wanted to work two weeks as a substitute in New-York City. No night work. Address the Editor of THE TELEGRAPHER.

FROM THE CONVENTION.—By a telegram from St. Louis, Sept. 12, we learn that the following gentlemen have been elected officers of the National Telegraphic Union for the ensuing year, by the convention in session in that city:

President, F. G. CHURCHILL, La Porte, Ind.  
Vice-President, W. H. YOUNG, Washington, D. C.  
Recording Secretary, H. W. WHEELER, Boston, Mass.  
Corresponding Secretary, G. B. COWLAM, Chicago, Ill.  
Treasurer, A. L. WHIPPLE, Albany, N. Y.  
Editor of THE TELEGRAPHER, F. L. POPE, New-York.

The Convention adjourned on Thursday and will meet next year at Albany, N. Y.

NEW BRANCH-OFFICE IN WASHINGTON.—The Franklin Co. has opened a branch office corner of Seventh and F Streets, Washington. GEORGE GARLAND is in charge.

OPPOSITION AT CINCINNATI.—The Pacific and Atlantic Lines opened their office at Cincinnati, on the 1st of September. They expect to reach Chicago before winter.

TO CORRESPONDENTS.—B. G. G. and others RA.—I. E. BOSSARD, Poughkeepsie, N. Y., Fifty cents. Tell him he had better advertise.

POSTAGE ON THE TELEGRAPHER.—The attention of our subscribers in Canada and the British Provinces is called to the change in the rates of postage, which will be found in our prospectus. By mistake it was given as \$1.04 per year in our last issue. Hereafter subscribers in Canada and the Provinces will please remit twenty cents only in addition to the subscription price, for prepayment of American postage.

THE NEW CABLE FROM CAPE BRETON TO NEWFOUNDLAND. A dispatch from North Sydney, C. B., dated September 4, says that the new cable manufactured by the Telegraph Construction and Maintenance Company for the New-York, Newfoundland and London Telegraph Company, has just been successfully laid between Placentia, Newfoundland, and that place, thus completing a new route from Nova Scotia to the Atlantic cables, to work in connection with new lines now being constructed by the Western Union Telegraph Company. The cable has been tested, and proves to be one of the most perfect ever made.

ARRESTED.—We learn that the telegraph operator at Clyde, Ohio, on the S. D. and C. Railroad, was arrested a few days since upon a charge of robbing the mail at that place. His examination will come off before the U. S. Commissioner.

REMOVAL OF RONDOUT OFFICE.—The office of the W. U. Company in Rondout, N. Y., has recently been removed from the news-room of WM. WINTERS to the Mansion House, and H. H. BLANCHARD, formerly of Poughkeepsie, placed in charge of it.

The office of the Delaware and Hudson Canal Co. still remains in charge of Mr. WINTERS.

TELEGRAPH CHANGE.—Presentation to D. H. Fitch.—The Sixth District of the Western Union Telegraph Company, late under the superintendency of D. H. FITCH, Esq., and comprising all the offices in the oil regions, has been discontinued and merged in the Third District of the same company, under T. B. A. DAVID, Superintendent at Pittsburg. The employes of the Sixth District purchased and presented their late superintendent, Mr. D. H. FITCH with a solid silver tea set costing \$100, with the subjoined correspondence:

Mr. D. H. Fitch, Superintendent Sixth District W. U. Co.:

Language fails to express our sincere regret to be taken from your superintendence, and we have adopted a mode of expression which we hope will ever prove pleasant to your memory. As an assurance of our high esteem you will please accept this silver tea set, as a token of our consideration which we bear you. May your lines ever be cast in pleasant places, and at last when the currents of our lives are all grounded, may we meet above where there are no earth currents, no crosses, in that bourne from which no traveler has yet returned.

Your sincere friends,

Signed by M. F. ROBINSON, M. A. MCCOY, P. M. BROPHY, ERNEST JEUNOT, E. L. ARMSTRONG, and sixteen other employes of the Western Union Company, to which Mr. FITCH replied:

To the employes Sixth District Western Union Telegraph Company:

GENTLEMEN:—The termination of my services as superintendent of this District has already been announced. In



taking leave of you in that capacity, so many pleasant memories crowd upon me that I am bewildered. I cannot find language to express my thanks for the earnest support that you have given me, which has always made my duties light and pleasant. The only thing I had to regret was that in the capacity I was serving, duties are sometimes required officially which are very unpleasant personally, and on this account I feared that some might feel unkindly towards me; but the beautiful present which I have just received from you dispels all such doubts, and bears token that such fears are groundless. If I could feel that I merited such kindness from you, I should be happy. The token will be sacredly kept in remembrance of you. Again please accept my thanks for the many, very many, kindnesses you have shown me.

Yours truly,  
D. H. FITCH.  
—Titusville Herald.

A QUIANT ILLUSTRATION OF THE TELEGRAPH.—A French savant likens the telegraph to the quickness of volition in animals. When a whale is harpooned, the nerve affected instantly telegraphs to the creature's brain, "Harpoon in tail," upon which the brain telegraphs back, Jerk tail and upset boat."

MARRIAGES.

BARNES—HETFIELD—At Port Byron, N. Y., July 30, 1867, by Rev. Mr. Howd, E. B. BARNES, formerly of Rock Stream, Yates county, N. Y., and Miss MARY E. HETFIELD, of Reading Center, N. Y.

BULKLEY—DEXTER—At Honolulu, Sandwich Islands, June 8, 1867, Col. CHARLES S. BULKLEY, late Engineer-in-Chief of the Russian Extension Telegraph Company, and Miss G. DEXTER, of Martha's Vineyard, Mass., and daughter of Capt. Dexter, of the Clipper ship *Nightingale*.

DEATHS.

MCDONALD—In Albany, on the 28th of August, of consumption, JAMES H. MCDONALD, formerly employed on the Hudson River Railroad Line, aged 22 years.

WALKER—In Harrisburg, Texas, August 23, 1867, of yellow fever, J. T. WALKER, of Wilmington, N. C.

Far from home and relatives, but amid friends, he was called to rest in the tomb.

At a meeting of telegraphers held at Houston, August 31, to take action regarding the death of J. T. Walker, late operator in the Western Union Telegraph office, Harrisburg, Texas, the following resolutions were unanimously adopted:

Resolved, That in the death of our brother telegrapher, J. W. WALKER, we are again called upon to mourn the loss of a dear friend and companion—one who, by his uniform kindness and genial disposition, had endeared himself to all, and one whose place in our hearts and affections it will be hard to fill.

Resolved, That our heartfelt sympathy is tendered to the members of his family in their great bereavement, hoping that He who doeth all things well will minister such consolation as He alone can give.

Resolved, further, That the Secretary be instructed to furnish the family with a copy of the above resolutions, and also cause it to be published in *The Houston Telegraph*, *Wilmington (N. C.) Journal*, and *THE TELEGRAPHER*.

A. J. SHEPHERD,  
L. H. KORTY,  
M. RAPHAEL, } Committee.

J. A. ALLEN, Secretary.

PATENT CLAIMS

RECENTLY ISSUED FROM THE UNITED STATES PATENT OFFICE.

66,001.—ELECTRO-MAGNET.—S. C. Cabell, Quincy, Ill. June 25, 1867:

I claim a compound magnet, consisting of two or more helices inclosed in soft iron tubes, with the tubes so arranged as to separate the helices, and both tubes and helices arranged concentrically around a central tube or bar, as herein described.

66,215.—INSULATOR-HOLDER.—Richard Calrow, Mamaroneck, N. Y. Ante-dated June 22, 1867:

I claim the combination of the block, g, metallic covering, c, and the holder, A, for the purposes set forth.

66,944.—TELEGRAPHIC-BATTERY SWITCH BOARD.—Walter G. Brownson, Wellsville, Ohio. July 23, 1867:

1st. I claim combining the positive and negative poles of any number of batteries, separately, with the lines of a telegraphic system, or with the ground, by means of independent switch buttons, arranged upon a switch board to turn into contact with a point connected with the ground, and with points or plates connected with each line, all substantially in the manner and for the purpose herein set forth.

2d. Combining and uniting any two batteries, connected with the lines of a telegraphic system by means of suitable buttons and points or plates upon a switch board by means of a condensing key or button, H, combined with said board and the battery-connecting device thereon, all substantially in the manner herein set forth.

Atlantic and Pacific Telegraph Co.,

CAPITAL, \$5,000,000.

Lines in progress from New-York to Chicago.

A. F. WILLMARTH, President.....New-York.  
C. A. HARPER, Secretary....."  
CHAS. E. PERRY, Superintendent.....Albany, N. Y.

Bankers' and Brokers' Telegraph Co.,

CAPITAL, \$1,050,000.

Lines extending from New-York to Washington and Georgetown, D. C.

WM. CALLOW, President.....Baltimore, Md.  
JOHN L. CRAWFORD, Secretary and Treasurer....."  
J. W. DYER, Acting Superintendent.....Philadelphia.

California State Telegraph Co.

CAPITAL, \$2,500,000.

Lines extending from San Francisco, Cal., to Salt Lake, U. T., and New-Westminster, British Columbia.

GEO. H. MUMFORD, President.....San Francisco.  
GEO. S. LADD, Secretary....."  
JAMES GAMBLE, Superintendent....."  
R. R. HAINES, Assistant Superintendent.....Seattle, W. T.

Franklin Telegraph Company.

CAPITAL, \$1,000,000.

Lines extending from Boston to Washington.

J. B. STEARNS, President.....Boston.  
J. W. BROWN, Treasurer....."  
J. G. SMITH, Superintendent.....New-York.

Illinois and Mississippi Telegraph Co.

CAPITAL, \$1,500,000.

[Leased to the Western Union Company.]

J. D. CATON, President.....Ottawa, Ill.  
T. D. CATLIN, Secretary and Treasurer....."

[For Superintendent, etc., see Western Union Company.]

International Telegraph Company.

CAPITAL, \$300,000.

Lines completed from Boston to Brunswick, Me.

[In progress]

E. K. HARDING, President.....Bath, Me.  
Hon. WOODBURY DAVIS, Treasurer.....Portland, Me.  
CHAS. H. SAWYER, Superintendent....."

International Ocean Telegraph Co.

Lines extending from Lake City to Key West, Fla., and Havana, Cuba.

WM. F. SMITH, President.....New-York.  
M. M. DELAFIELD, Treasurer....."  
Superintendent....."

Northwestern Telegraph Co.

CAPITAL, \$1,500,000.

Lines extending from Milwaukee through Wisconsin, Michigan, Iowa, and Minnesota.

G. SIMMONS, President.....Kenosha, Wis.  
H. B. HINSDALE, Secretary and Treasurer.....Racine, "  
S. ROBERTSON, Superintendent.....Milwaukee, "  
C. C. SHOLES, Advisory Superintendent.....Racine, "

Pacific and Atlantic Telegraph Co.

OF THE UNITED STATES.

CAPITAL, \$3,000,000.

Lines completed from Philadelphia to Pittsburg and Cincinnati. [In progress.]

GEO. H. THURSTON, President.....Pittsburg, Pa.  
E. J. ALLEN, Secretary and Treasurer....."  
A. J. BALDWIN, Superintendent.....Philadelphia, Pa.  
A. Q. CASSELLBERRY, Assistant Superintendent..Pittsburg, Pa.

Western Union Telegraph Co.

CAPITAL, \$40,000,000.

Lines extending throughout the United States, Nova Scotia, and New-Brunswick.

WM. ORTON, President.....New-York.  
O. H. PALMER, Secretary and Treasurer....."  
MARSHALL LEFFERTS, Engineer....."  
THOS. T. ECKERT, General Superintendent.....Eastern Division.  
ANSON STAGER, ".....Central Division.  
JOHN VAN HORN, ".....Southern Division.

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R. T. Clinch, St. Johns, N. B. G. B. Prescott, Albany, N. Y.  
J. S. Bedlow, Portland, Me. S. B. Gifford, Syracuse, N. Y.  
G. W. Gates, White Riv. Junc., Vt. R. O'Brien (in charge), New-York.  
J. C. Hinchman, New-York. D. H. Bates, Washington, D. C.

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Jas. Compton, Jackson, Miss. D. P. Shephard, Houston, Texas.  
Jas. Coleman, Memphis, Tenn. D. Flanery,.....

THE TELEGRAPHER:

A Journal of Electrical Progress,

PUBLISHED EVERY SATURDAY,

BY THE

NATIONAL TELEGRAPHIC UNION,

AT

No. 16 BROAD STREET, NEW-YORK.

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A FIRST-CLASS TELEGRAPHIC NEWSPAPER.

It will continue to advocate, as it has done heretofore, in an independent and fearless manner the just rights of the TELEGRAPHIC FRATERNITY, to whom it owes its origin and support. It will seek to point out and correct abuses, wherever existing, to elevate the moral and scientific standard of the Telegraphic profession.

It will not support the views of any particular person or corporation, but will discuss all subjects relating to Telegraphy in a progressive, independent, and liberal spirit.

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SPLENDID ORIGINAL ENGRAVINGS

of new and interesting inventions, and other subjects pertaining to Telegraphy, prepared expressly for its columns by the first artists in the country. This is a feature possessed by no other Telegraphic journal in the world.

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Club rates are not allowed to District Directors unless for persons not members of the Union.

THE PAPER WILL ALWAYS BE DISCONTINUED WHEN THE PAID SUBSCRIPTION EXPIRES.

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One insertion, per line..... 15 cents.  
Each subsequent insertion, per line..... 10 "

No advertisement inserted for less than 50 cents.

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Displayed advertisements are charged for the actual space occupied.

Advertisements of Patent Medicines are charged double rates.

Newspapers, by inserting this Prospectus, and sending a marked copy to the Editor, will be entitled to an exchange.

All communications and letters relating to THE TELEGRAPHER must be addressed to the Editor,

FRANK L. POPE,  
P. O. Box 6077, New-York,



BALLSTON SPA TELEGRAPH INSTRUMENT MANUFACTORY.

S. F. DAY & CO.,

MANUFACTURERS AND DEALERS IN ALL KINDS OF

MAIN-LINE TELEGRAPH INSTRUMENTS.

We would call the attention of all Telegraphers and Telegraph Companies to the fact that we are manufacturing

aph Instruments in the country.

THE BEST

We are working all instruments with an ENTIRE NEW MAGNET, excluding thereby all use of Local Batteries. Our Main-Line Registers and Sounders have been put to the SEVEREST TESTS, and are pronounced by competent judges

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We claim to gain more power or effective working force in our Instruments, with ten ounces of wire, than has heretofore been gained by using one pound, as we get rid of the residual magnetism.

We also manufacture a Relay with only ten ounces of wire, thereby putting very little resistance in the line, and doing the work as well, if not better, than those that contain one pound of wire and put a great resistance in the line.

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Camden and Amboy.....
Central R. R. of N. J..... Charles Vogel, Elizabeth, N. J.
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Cincinnati, W. and Zanesville... Geo. T. Williams, Cincinnati, O.
Cin., Ham. and Dayton..... Geo. M. Lane, Dayton, O.
Chicago, Alton, and St. Louis... W. H. Miller, Springfield, Ill.
Chicago, Burl. and Quincy..... Fred. H. Tubbs, Galesburg, Ill.
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Exposition Universelle, Paris, 1867.

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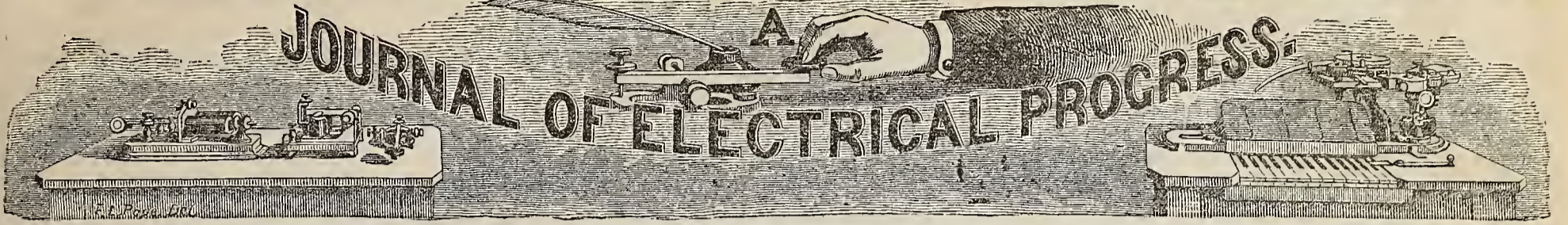
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# THE TELEGRAPHER.



Vol. IV.—No. 4.

New-York, Saturday, September 21, 1867.

Whole No. 62.

## Electricity at the American Institute Fair. I.

THE thirty-seventh annual fair of the American Institute is now open in this city, at the large building in Fourteenth street near Sixth avenue, in which the great Sanitary Fair was held some three years since. From present appearance it will be the most successful fair ever held by the Institute, although the various inventors and manufacturers are somewhat behind time in getting their products in place.

We took a stroll through the exhibition halls a few days since for the purpose of noting whatever there might be on exhibition of interest to the readers of THE TELEGRAPHER.

Taking the show of electrical and telegraphic apparatus as a whole, there is little that can be classed as new. The manufacturers who exhibit at all have, however, as a general thing, made a very creditable display. The Bishop Gutta-Percha Company show a large variety of specimens of different styles of submarine cables which have been made by them, and laid in various parts of this country. L. G. TILLOTSON & Co. have a large case filled with instruments and batteries of various patterns.

Dr. BRADLEY, of Jersey City, shows a variety of instruments of his manufacture, as well as one of his ingenious and excellent galvanometers, or as he terms them, *anthistometers*—measurers of resistance. This is accompanied by a rheostat, or set of graduated resistance scales.

We regret to see that several of the leading manufacturers of telegraphic and electrical apparatus are not represented at all.

We miss the elegant and extensive display of Messrs. C. T. & J. N. CHESTER, which has been one of the most conspicuous features of several former exhibitions. The elegant and finely-finished instruments of WILLIAMS, of Boston, are also nowhere to be seen.

We could wish, too, that Mr. PHELPS had shown one of his unrivaled printing telegraph instruments, which have, in severe and constant service, proved their superiority over all others. The public ought not be allowed to miss an opportunity of seeing this marvelous piece of mechanism, which we venture to say would have proved the most attractive object in the whole exhibition.

We find among other things one self-adjusting magnet, of which we shall have more to say hereafter.

There is very little to be seen in the line of insulators. TILLOTSON shows two or three patterns of "bracket and glass," and there is also one specimen of the unequalled paraffine insulator of BROOKS.

Among the minor applications of electricity we noticed a railway switch alarm and signal, invented by HALL, of Stamford, Conn., and GARDINER'S apparatus for lighting gas by frictional electricity, one of the most elegant applications of this subtle agent for ordinary purposes which we have ever seen. BLACKIE has an arrangement for registering votes by electro-magnetism, which exhibits considerable ingenuity. For a wonder the irrepressible HOLMES, with his electric burglar alarm, has failed to put in an appearance. Were this invention properly appreciated by the public, burglary would soon become one of the "lost arts."

Dr. JEROME KIDDER shows a most magnificent medical electric machine, in rosewood and silver. We have seldom or never seen a more elegant piece of workmanship than this.

We have thus hastily glanced over the principal objects of interest in the electrical department of the exhibition, which like most other parts of the fair at the time of our visit, was more or less in a state of confusion. Next week we shall continue our observations more in detail, it being expected that by that time everything will be in complete running order.

[For The Telegrapher.]

## Telegraphic Competition.

IN presenting this subject to the public, the writer has sought to exhibit such facts only as in themselves should fairly be regarded as tending to show that a system of competing lines to all important points in the United States if properly constituted, equipped, and managed, will prove a source of profit to its stockholders. Regarding the lines of the United States Company as the nearest approach to a general system that has been attempted in this country, and because of the briefness of time which has lapsed since that company was a contestant for public favor, its history seemed to me to furnish a fairer example for comparison than lines of less extent, and operated at a period more remote, and when the public use of the telegraph was far less general, and hence supplying more reliable data for enlightened judgment.

If the editor of the *Telegraphic Journal* finds other and more suitable material from which to argue the certain ruin of all competing lines, and if, as the mouthpiece of the Western Union Company, he regards himself as in duty bound to ignore every fact that shall seem to refute the theory that the true interests of the telegraphic fraternity and of the public require the "guarding carefully and scrutinizingly *one important interest*," then of course we must be content to accept from him any and every trifle that serves to raise a dust and to divert attention from those facts which seem unmistakably to argue that a system of competing lines, properly constructed and managed, will prove a remunerative investment to the stockholders, and the only security of the telegraphic fraternity and the public against the abuses and oppressions of monopoly.

In the *Journal* of August 8, we read: "We are quite willing to admit the healthiness of competition as a general proposition, and have been anxious to discuss telegraph competition, its limits and possibilities."

In THE TELEGRAPHER of August 15, I endeavored to reply to *six queries* propounded by the editor of the *Journal*, so far as those queries seemed pertinent to the question of making remunerative a system of competing lines of the description spoken of by me.

His response seems to be of a somewhat mixed nature, partly of candid admission, partly (in a certain contingency) of a "give up the ghost" order, and partly a sort of indirect begging to learn how the Western Union Company is to exist in a competition of the sort suggested, and a little mingled with the fear that in the struggle, somehow, damage may come upon "employés." Conceding, as he does, that the competing lines "will secure a part of the public business, perhaps divide it with its opponents," and, failing to indicate why a competing system, with no greater amount of wire than that possessed by the United States Company, may not be at least eight times stronger in capacity to compete with the Western Union Company than was the United States, the infer-

ence seems not unwarranted that, after all, the competing system may be successful; then if so, what is to become of the Western Union, for we have the very emphatic denial of that very worthy gentleman, the editor of the *Telegraphic Journal*, "that two competing lines of telegraph can pay." Fortunately for the Western Union Company, the editor is less than a prophet, though whether that organization can successfully contend against such a competition is not for me to say. Let its managers look to that. I may, however, be allowed to express the opinion, that with a *fair business-like policy* that organization will pay fair dividends on a reasonable capital, but if "rule or ruin" shall be their watchword, I do not think their chances for dividends worth hanging the slightest hope upon. If dividends vanished in a contest with such a wretched apology for competition as the United States Company offered, it may require something besides "earnings" to carry it through a war of extermination with such an antagonist as I propose. Will the editor of the *Journal* please say whether, in his opinion, the history of the "United States" contest does not afford (all things considered) an array of facts from which to form a correct judgment as to the probable success of a system of competing lines such as I propose, better than any and all others? If in his opinion it does, will he please say whether he regards my statements in THE TELEGRAPHER of August 1st and August 15, respecting the weakness of the United States lines, as a system, as exaggerated in any degree. I observe that he has omitted to comply with my request asking him to quote the language in my first article, to which he refers when he says, "We question its entire correctness in reference to some of its important routes." Perhaps I should apologize to the gentleman for permitting two paragraphs to "join," of so "truly wonderful" a nature as the two he quotes in the *Journal* of the 8th ult., under the very significant heading

"THEY KNOW IT,"

AND

"THEY DON'T KNOW IT;"

but before I do, I will just ask him if he really thinks the Western Union Company have pretty nearly attained to perfection in all matters of telegraphic construction, equipment and management, or does there still a "great field for improvement lie untouched and waste" in these particulars, and don't "they know it"? And do you say, Mr. Editor, that "they don't know" that beyond all the efforts they, "unopposed, will make, lies a business of immense amount, which will only be developed by a lively competition? Time will tell. Possibly the poetic imagination of the editor might have spared him the lofty soar from these "truly wonderful" paragraphs, had he been so fortunate as to discover that not only were the "two clauses in the article of ALLIANCE strangely at variance," but that the subjects to which the two clauses referred were not less diverse. Evidently the editor of the *Journal* has traveled some, for with his eyes he saw that "the line of the United States Company through the State of New-York was as good as its opponent's." What an admission is this? Rather a severe commentary on Western Union facilities.

Speaking of "paragraphs" that "join," isn't it somewhat singular that our friend, the editor, with his "primitive" eyes, saw such a "thoroughly built, and in all respects well and thoroughly appointed" line, in that of the United States Company, and "saw that its poles were



as large and in many places better, and with wires of a quality superior" to those of its opponent—and, next paragraph—"the long face which its disasters caused to appear on the dignitary referred to, we know there is no use in contesting, for the facts could never be so stated as to be satisfactory"? Is it any marvel that such a "thoroughly built" line should be given to such exhibitions of weakness and disasters, or do these double views and fancies tend to argue an "addled mental state"?

Says the editor of the *Journal*: "If it be true that the men who are investing in new lines, are doing so simply for enlarged facilities, and with no reference to investments and their value, we have not a word to say." Doubtless there are among the stockholders of these new opposition telegraph organizations, some who have subscribed with reference to the value of investment. It is, however, an insult to the intelligence of the large majority of the stockholders of the Atlantic and Pacific Company to assume that *investment in anticipation of dividends* has been their principal object.

They are bound to have an *opposition line*, and hoping that the men who control the Atlantic and Pacific will so conduct the management that it shall live and afford them the means of better dispatch than a monopoly will give, they have undertaken the enterprise with a full knowledge of the result of the failure of the United States Company, and *mainly* without expectation of dividends, and specially for the advancement of general business interests. Men did not plant the "*morus multicaulis*" thrice, and one South Sea Island visitation sufficed; but will not an oppressed and spirited people seek *again and again* to throw off the oppressor's yoke?

Will the telegraphic fraternity and the American public suffer that eraven spirit to seize upon and control them, which would commit their best interests to the tender care of any monopoly? Out on such nonsense. Such talk befits better one who has been "whipped and sent to bed," than men of ordinary spirit.

Now, with all his peculiarities of vision and opinion, our *Journal* friend is sane *on one point*. I quote: "We simply assert this, that there are classes of opposition which will not pay." My dear sir, the assertion is as true as it is "simple." We have seen plenty of such in our time.

The list given by the editor of the *Journal* covers some of the best attempts in that category, and unless some radical changes shall intervene to save them, we may ere long number in this list several of the organizations now making the attempt at opposition. The same swindle upon stockholders, the same blight upon the public hopes, the same weary struggle for a brief existence, and the same *collapse*, with a large number of faithful employes swept from their offices with as little ceremony and as little evidence of sympathy as the ass shows for his dismounted rider.

It is true this sort of opposition cannot pay, and as a friend to the telegraphic fraternity, my advice is, keep clear of the opposition as now being presented. If you have a position even tolerable, stay where you are. Atlantic and Pacific, Pacific and Atlantic, Bankers' and Brokers', Insulated, Franklin—all built solely in the interest of projectors and contractors—are sure to prove at best a source of great annoyance to the persons on whom shall devolve the duty of working them, and, unless by combinations more thorough and complete than has yet been accomplished in formation of an opposition from such wretched fragments, they must inevitably be swallowed up by the monopoly. As fragments they can exist but a few months. As a consolidation they may last longer, but they carry the curse of their birth with them, and neither the public nor the telegraphic fraternity can realize other than slight and short-lived benefits from their existence. Another element must enter into the combination, if permanency is to be regarded, and the telegraphers themselves must supply this element. Single-handed effort will not avail. Only judicious and thorough combination, organized and acting in and through its properly constituted officers, will suffice. Money in large amounts for present purposes is not needed, but there is not a telegrapher in this country whose true interest does not call upon him to render such aid, in encouragement of *co-operative enterprise among telegraphers*, as his circumstances and situation will admit.

ALLIANCE,

### Lines to Our "Super"

(Who has gone on a Summer Tour.)

BY "QUESNEL."

WE are loth to lose your sunny smiles,  
The approving glance you oft did cast  
While gazing on our crowded "files,"  
With business gaining on us fast.

We envy those who seek for rest,  
Throw off their cares, and leave the city;  
But fail to see why it is best  
That we poor chaps deserve no pity.

We cannot leave our dreaded task,  
To ramble 'midst the rocks and hills;  
And though we get the "stamps" we ask,  
They cure not all our earthly ills.

When in some quiet, cool retreat,  
You breathe the pure and wholesome air,  
Disturbed not by the noisy street,  
Nor vexed by business toil or care,

Think of those pale and needy "plugs,"  
Whose busy hands seem never still,  
Who labor for their daily bread,  
Who "sling the ink" and "drive the quill."

From morn till night they peg away,  
With half an hour in which to lunch;  
And though they ever seem quite gay,  
'Tis caused by drinking whisky punch.

They work their hours, are never "off,"  
Till when at last their time has come  
They shuffle off their mortal "coil,"  
"Cut out" from life, and meet their doom.

No work—no stamps; no stamps—no friends;  
When most required they can't be found.  
"Relief" ne'er comes until the end;  
There's no "escape," save to the "ground."

New-York, August, 1867.

### Suicide of a Telegrapher in Chicago.

It becomes our painful task to again record the suicide of a member of our profession, which took place under circumstances in some respects similar to those of the melancholy event which we chronicled in our paper of last week.

THOMAS H. YOUNG, who has been employed for upwards of three years as an operator in the Chicago office, shot himself through the head with a pistol in a lager-beer saloon in that city, on the evening of the 11th inst. He had entered the saloon alone a short time before, and, taking a seat in a quiet portion of the room, had ordered and drunk two or three glasses of beer. The saloon was crowded at the time with busy talkers and drinkers, who were startled by hearing the report of a pistol. All eyes were turned in the direction from which the sound proceeded, and YOUNG was seen to rise from his seat, throw his arms out wildly, and then sink back into his chair a corpse. The muzzle of his pistol had been placed against the right temple, and death must have ensued instantly.

Upon the table by which he had been sitting there was found a mourning envelope, bearing the date of August 27, directed, in a feminine hand, to the deceased, who had written thereon, in lead pencil, the words: "Please notify my friends in Brooklyn, and they will pay my funeral expenses."

The deceased was a native of Brooklyn, where his mother and her family still reside. At the time of his death he was nearly nineteen years of age. Of a retiring, bashful disposition, he had mingled but little in the society of either men or women. Of late it had been noticed that he had gradually become addicted to drink, but was neither noisy nor quarrelsome while under its influence, and when its effects had passed off would be found as usual at his post. It is said that during the whole time he was employed in Chicago office he never lost a day's time.

On Monday morning he resigned his position in the office, and announced his purpose to go home to his friends, giving as a reason therefor that he wished to attend the funeral of his brother, information of whose death he had received.

From the letters and papers found upon the person of the deceased, it is believed that the fatal act was prompted by sheer loneliness and melancholy, induced by his

brother's death. The testimony elicited at the inquest, seemed to point to this probability, rather than that the deed was the result of desperation or mental aberration. At the time of his death he was not intoxicated, having drunk but one or two glasses of beer.

### The Telegraph and the British Government.

THE HON. ROBERT GRIMSTON, chairman of the Electric and International Telegraph Company of Great Britain, has issued a circular with reference to the proposition to turn over the telegraphic system of that country to the Government. He considers that a net-work of telegraphs extending to all the postal stations in the country, including the remote rural districts, would be found to involve an outlay for construction, maintenance, and working far beyond anything contemplated by the advocates of the change, or the possibility of any remunerative return. In proof of this he mentions that of the gross receipts of his company, which last year amounted to £324,537, three-fourths were taken at fifteen stations, twenty-two per cent more at seventy-seven stations, and only three per cent at the remaining one thousand one hundred and fifty-seven stations. In some instances where stations have already been established, the average receipts during a year have not exceeded ten pence or one shilling per week, and the offices have had to be closed. If this be the case it is suggested, even with places that were to a certain degree selected, what would be the result of an extension to 5000 or 10,000 stations, as has been proposed? As to the power of postmasters and postmistresses to act as telegraph operators, Mr. GRIMSTON has no belief. They must commence young, "and in practice it has been found that persons over twenty-five years of age learn the telegraph very slowly, and scarcely ever attain to thorough efficiency."

Moreover, the time of the post-office people is already sufficiently occupied. The saving to be effected by the entire system being under one management, would, it is admitted, be considerable, but this could be achieved by a federation of the existing companies, and if Parliament would have acceded to such a federation fixing at the same time "a fair and reasonable tariff," Mr. GRIMSTON would have submitted a bill for the purpose years ago.

### 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 Question of Honor.

TO THE EDITOR OF THE TELEGRAPHER:

I HAVE watched with a good deal of interest the articles of ALLIANCE on the subject of "Telegraphic Competition" as they have from time to time appeared in your valuable paper—and with not less interest the attempts at reply of the Western Union organ, the *Telegraphic Journal*.

It may seem presuming somewhat (in as much as ALLIANCE seems entirely competent to handle the subject) for me to raise a single question but begging his pardon for the intrusion, I will just refer to one of the remarks in the *Journal* of 22d August, which probably ALLIANCE does not regard as deserving his notice—as follows: "And will it be honorable to do as the United States Company did—buy up the best men of the old company to give it the prestige of their names and skill, and by all means coax away the best of their opponent's men in this 'honorable' attempt to weaken their opponent and establish themselves!! As long as that record remains, 'ALLIANCE' and all his friends had better never use the word 'honor' as characteristic of that company, or from that stand-point claim 'honorable treatment' of the new babe they now propose for public baptism."

Two or three plain questions, Mr. *Journal*; but first let me state my case.

I was one of the "men of the old company" who left that service and went into the employ of the U. S. Company. I had served "the old company" faithfully for several years, at a salary which was barely sufficient for



the support of my little family, and had no spare funds to invest in stock, nor any prospective opportunity of bettering my condition in the business so long as I continued with "the old company." During this time the stock of "the old company" had been steadily paying large cash dividends to its stockholders, and by various waterings had multiplied to several times its original amount and value, so that vast fortunes had grown out of the profits of the stock. This was the position of affairs when one day a conversation was held between myself and one of the officers of the U. S. Company, and not long afterwards I was pleasantly situated in the service of the latter company, at a salary somewhat larger than I had before received, and really feeling that my condition was bettered. Then, I supposed I had a *clear right to take such a step*, and I now desire you to reply to the following queries:

1. Do you regard it otherwise than "honorable" in the U. S. Company that they offered me the position?

2. Was it less than "honorable" that they offered me a higher salary thus to make it an inducement for me to accept this position? or,

3. (Inasmuch as I had served "the old company" long and well), was I therefore in honor bound to continue to serve them?

Let us have your views on this subject, please, Mr. *Journal*. We may have occasion not long hence to choose again, and it may be well in the meantime to learn what are the "honorable" points in the case.

One of the "friends" of ALLIANCE.

### Lightning Arresters.

TO THE EDITOR OF THE TELEGRAPHER:

HAVING noticed in your paper what is supposed to be a new invention of lightning arrester constructed by Dr. L. BRADLEY, of Jersey City, may I beg to state that such a lightning arrester was invented by me in India, in 1855, and in 1858 when I was deputy superintendent of the East coast line, all my river cables, from Madras to Calcutta, were so protected. An instrument of this kind can now be seen in Mr. LATIMER CLARK'S office in London, which I constructed while out in Russia last year. My plates were of brass, half an inch thick, one carrying twelve and the other nine steel points (for the want of platina), fitted up in a small box, with glass front and back, with set screws at top to adjust the points by lowering or raising the top plate.

Yours respectfully,

W. MAYES.

Millfield, Peterborough, Eng., Sept. 2, 1867.

### Western Union Dividends.

INFORMATION WANTED.

TO THE EDITOR OF THE TELEGRAPHER:

WHAT portion of the two per cent semi-annual dividend is saved by supplying "Merchants' No. 2" pencils (so hard nobody weighing less than 180 pounds and of a firm muscle can use them), and thus compelling operators to spend their own earnings for a pencil they can use? Isn't it rather small business to economize the price of a pencil, into a \$40,000,000 dividend? Do please, Mr. HUNTER, send us some decent pencils, say

FABER No. 2.

TELEGRAPH OFFICES CLOSED.—The following offices on the Western Union line have been closed: Russell, Mass., Harmony, N. Y., Falmouth, Pa., Holcombe, Ga., Madison, Ga., Summit, Miss., Smithfield, Ind., New-Baltimore, Mich.

NEW TELEGRAPH OFFICES.—The following new offices have recently been opened by the Western Union Co.:

Lonsdale, R. I., Brownsville, N. Y., East Chatham, N. Y., Ludlowville, N. Y., Bergen Point, N. J., Greensburg, N. J., Bradford, Pa., Bainbridge, Pa., Alton, Pa., Allatona, Ga., Tallahassee, Fla., Quincy, Fla., Kipton, Ohio, New-Paris, O., Balesville, Ind., Salma, Ind., Laprelle, Dakotah, Point of Rocks, Dakotah, Danville, Ky., Blandville, Ky.

SELF-ADJUSTING TELEGRAPH MAGNET.—There is now on exhibition at Room No. 7, Astor House, in this city, an improved receiving magnet, invented by C. H. POND, of Oberlin, Ohio, which is claimed to be self-adjusting

under all possible variations of the ordinary line current. We have not yet had an opportunity of examining the practical working of it, but advise telegraphers and all others interested to call on Mr. POND as above, who will be happy to exhibit his invention and make all necessary explanations.

A COMMERCIAL COLLEGE FREAK.—One of the linemen of the Western Union Company in Boston, being sent out on the New-Bedford wire a few weeks ago, for the purpose of finding a ground, was somewhat surprised to find that the students of COMER'S Commercial College in that city had connected a wire to the main line and run it into their building, where it was found fastened to a ground ready for the necessary instruments.

THE FRANCO-AMERICAN ATLANTIC TELEGRAPH.—It was announced some time since that the French Government had authorized the Anglo-French Company to lay a telegraph cable from Brest to the American continent. The *Patrie* says that the preliminary soundings commenced four months ago are complete. The cable will be laid from Brest to St. Pierre Miquelon, it having been ascertained that the bottom of the ocean along that line is favorable to the design. From St. Pierre it will go along the coast of New-Brunswick, and the shores of the States of Maine, New-Hampshire, Massachusetts and Connecticut. A direct line from Brest to New-York would offer many difficulties, owing to the tremendous depth of some parts of the ocean, where the officers employed have been unable to find soundings, and where, consequently, immense quantities of cable might be sunk without result. The immersion of the cable, now making in London, is to begin in May, next year, and the *Great Eastern* is to be employed to lay it. It is hoped that a month will suffice for the work, and that in July, 1868, at latest, France and the European continent will be in direct telegraphic communication with America.

"THOSE TELEGRAPH WIPERS."—Mr. JABEZ FEAREY, the obliging manager of the Western Union Telegraph office in Newark, N. J., received a letter the other day from a complaining lady in Paterson, which is a perfect gem of its kind. Here it is:

"PATERSON 8 Augt.

"Sir i want you tu com and take those tellegraph Wipers of of mi Hoose if yu Dont i shall have to poot them of your Man promis tu com 3 Weeks agoe But He has has not come yet.

SARAH ANN C—

"Mi Hoose is next to gorge glopers i am in danger of mi life cferly time it thondres and litnes Com amedly."

The poor woman is doubtless alarmed lest her house should be converted into a reservoir of electric fluid, and has apparently a terrible horror of "those telegraph wipers," never dreaming that her house is ten times safer from the effect of "thondres and litnes" by the close proximity of the wires.

FUNNY ACCOUNT OF CYRUS W. FIELD'S NERVOUSNESS.—A writer in *Harper's Magazine*, who saw CYRUS W. FIELD in France, when he was trying to get some grant from the Emperor to further the Atlantic telegraph scheme, gives this funny account of his nervous way of doing business:

"I had frequent opportunities of observing the peculiar nervousness of Mr. FIELD'S temperament, superinduced, no doubt, by his exciting labors. I remember one day, when we were driving about from one minister to another, receiving disheartening answers from all (for people were then disposed to look upon the whole business as a chimera, and on its projector as an amiable lunatic), how amused I was with Mr. FIELD'S eccentricity. While discussing the glories of his pet scheme with great volubility in English, he would repeatedly interrupt himself to punch the astonished driver in the back, and ejaculate the one word, *Allez*—'Go on!' The man was already racing his horses at their full speed, but Mr. FIELD'S eagerness far outstripped their shodden heels. The style of the utterance was somewhat this:

"'I tell you it is not a mad idea'—(punch—*Allez!*) 'The day is not far distant when you will see the two countries joined'—(punch—*Allez!*) 'Just think of it! Instantaneous communication between Londou and New-York'—(punch—*Allez!*)

"The scene was brought to a farcical climax when the driver, impatient at last beyond endurance, turned around in his seat and mumbled in a tone of suppressed rage

common to the French and English subordinate when angry—

"'Ah ca! vous m'embetez la fin!'—'Come, now! you pester me at last!'

"This mild protest against the punches and the reiterated *allez*, Mr. FIELD did not take the pains to notice, even if he understood."

CURIOUS FREAK OF LIGHTNING.—"Atmospheric Electricity" struck an apple-tree the other day in the town of Berne, N. Y., against which a young man was leaning, and split the tree from top to bottom, making a gap sufficiently large enough to let him slip in about a foot, immediately after which it sprang to, and held him as tight as if he had been in a steel trap. Before he could be extricated a resort to axes and crowbars became necessary.

### DISTRICT PROCEEDINGS.

ST. JOSEPH DISTRICT.—Regular meeting called to order September 8, 1867, at 3 P. M. District Director in chair. Seven members present.

The new officers being duly sworn took their seats.

Mr. McDILL offered the following resolution:

*Resolved*, That to the gentlemen who have just vacated their respective seats, Messrs. GOULD and GOULDING, a vote of thanks be tendered for the prompt, energetic, and efficient manner in which they have discharged their duties as officers of this District during the past year.

Which was carried unanimously.

The committee which was appointed at the last meeting to communicate with non-members, now residing in this District, with a view of having them become members, was not ready to report, and after some pertinent remarks participated in by members generally, meeting adjourned.

CORRY DISTRICT.—Meeting called to order 9 o'clock P. M., September 4, 1867. District Director in the chair.

The recently elected Secretary being absent, Mr. F. D. SQUIRES was appointed Secretary *pro tem*. Reading of minutes previous meeting dispensed with.

Director made some lengthy remarks, together with an urgent appeal for the individual support and coöperation of every member for the present term.

Treasurer's report, not being on hand, was dispensed with.

Mr. GLENN HAINES, of North Point, Pa., and Mr. JOHN STRAUCHON, of Kane, Pa., were elected members.

CHARLES MOLANEAUX, now of Philadelphia, was expelled for his disgraceful conduct by unanimous vote.

There being no further business to transact, meeting adjourned.

BALTIMORE DISTRICT.—Regular meeting called to order Sept. 9, 1867, 8 P. M. District Director STUART and a quorum present.

Treasurer's annual report read and accepted with thanks of District for the services rendered.

Mr. RILEY, delegate elect to fourth annual Convention, stated that from urgent business engagements he would be unable to be present at St. Louis, but had given Mr. YOUNG, delegate from Washington, authority to act as proxy.

Transfer of C. H. GOGEL, from Washington District, read and name ordered to be placed on roll.

After some discussion of local matters the following resolution was offered by Mr. CRUMBACKER:

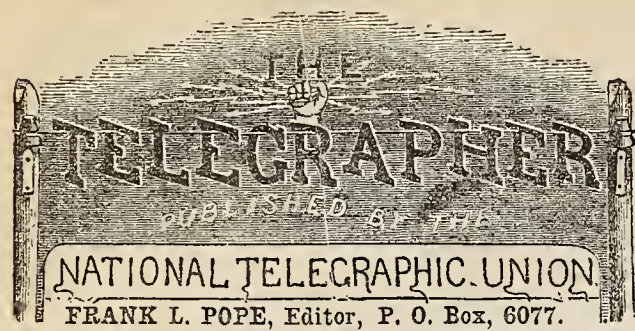
*Resolved*, by the Baltimore District, N. T. U., that we believe it would enhance the utility and strength of the Union by striking out the beneficial clause of the present Constitution and collecting no more dues than are absolutely necessary to defray the current expenses of the organization, and we therefore instruct our delegate to the Convention to advocate and support such change in the Constitution.

Moved it be adopted and copy forwarded to St. Louis, Carried. Adjourned 10 P. M.

WASHINGTON DISTRICT.—Special meeting, Sept. 4, 1867. Reports of District Director and acting Treasurer received, showing twenty-two members in good standing. Amount received for dues during the past year: Union, \$171 75. Local, \$97 12. Balance on hand: Union account, \$14 25. Local, \$21 76.

Committee on Election reported the following officers elected for the ensuing year: Delegate, WM. H. YOUNG; Alternate, T. H. SHERMAN; District Director, T. H. SHERMAN; Treasurer, J. F. HAHN; Secretary, W. C. HALL.





SATURDAY SEPT. 21, 1867.

### COMPETITION AND CO-OPERATION.

WE print in the present number of our paper another interesting article, from the pen of our able contributor ALLIANCE, which contains a number of points worthy of careful consideration by all thinking members of our profession.

It has become evident to every unprejudiced person who has paid attention to the subject, that in the telegraphic business as conducted in this country, competition has become an essential element of progress. When we contrast the working of the telegraphic system of to-day with that of only five or six years ago, we find that great advances have been made in almost every department, and we will also find that these advances are mainly owing to the vigorous rivalry of the leading telegraph companies, during the contest which terminated in the consolidation of the Western Union, United States and American Telegraph Companies.

Take, for example, the working of through circuits between the metropolis and the principal Western cities. Before the advent of the United States line, if any one had proposed to work a through circuit from New-York to Chicago, he would have been met by all sorts of objections by everybody concerned. Every office manager would have been ready to demonstrate its impossibility, and to back his opinion with the axiom, that "because it hadn't been done, it couldn't be done;" but it *was* done nevertheless, when the United States Company came into the field, and the old company was forced to adopt a similar plan. Does any one believe that New-York and Chicago would have been working together direct to this day, had it not been for the stimulating effects of competition?

We might go on and detail other improvements in the arrangement of auxiliary offices, the prompt delivery of messages and many similar matters, all of which are directly attributable to the same cause, and that cause is *competition*.

We are told by certain parties—entirely disinterested of course—that competing lines are useless and unnecessary; that one telegraph company can do the business of this country more economically and more satisfactorily than two. This is perfectly true as an abstract proposition, but we must take the facts as they are. When the whole telegraph system of this country came under one management, its total working expenses were, of course, largely reduced. Do we find the increased net receipts or any considerable portion of them devoted to the improvement of the lines or the increase of facilities? Do we find a sufficient working force employed in each office for the easy and prompt transaction of business? Let the facts answer. The lines of the great telegraph company of this country are not in as good working order to-day as they were two years since. And as for the operators, while their salaries have

in many cases been decreased, their hours of labor have been added to, and their customary vacations denied them, in order to permanently dispense with the services of as many of the force as possible, and thereby swell the dividend of their employers. The result of this policy may be seen by referring to the obituary column of our paper, where nearly every month we are obliged to chronicle the death of some member of the profession, from consumption, induced—if the truth were known—by over-work.

It is idle to expect any permanent remedy for this state of things, in the competition of the opposition lines now built and building. Struggling under the burden of debt, entailed upon them by the extravagance or dishonesty of their projectors and contractors; with greatly reduced tariffs and inadequate facilities; their employés are either worked harder or paid less even than those of the old company. They are dragging out at best a precarious existence, and the telegraphic fraternity have little or nothing to hope for from them in the future.

The remedy for the grievances which you suffer under, fellow telegraphers, lies with yourselves.

"Who would be free, *themselves* must strike the blow."

Form yourselves into a coöperative telegraph company, under the leadership of honest, energetic and capable managers, invest in it the earnings that many of you uselessly squander without receiving any equivalent, and the business-men of the country will be only too glad to join hands with you, go forward and *compel* success. No possible telegraphic organization contains such elements of strength and permanence as one founded on this principle. Such an organization is already under way, with every prospect of ultimate success. In another article we shall enter more fully into particulars which our space at this time compels us to forego.

**UNMERITED CENSURE.**—In our remarks last week on the regulations of the Atlantic Telegraph Company in regard to cipher messages, we stated that the principal telegraph company in this country had adopted similar restrictive rules for the transmission of this class of business. We have since learned that these rules were modified some time since, and that no extra charge is now made for ciphers composed of English words not exceeding six letters, which is perfectly just and reasonable. We regret having fallen into this error, having no desire to do injustice to any individual or corporation whatever, and make this correction with great pleasure.

**RECOVERED.**—We are happy to be able to announce the recovery of the late editor of this paper from the severe attack of illness which seized upon him shortly after his retirement from business, and which at one time threatened serious consequences. The symptoms of softening of the brain, induced by excessive mental labor during the past three years, and in consequence of which he resigned his position as superintendent and office manager of the Bankers' and Brokers' line, as well as the editorship of THE TELEGRAPHER, have been pronounced by Dr. CARNOCHAN, the celebrated surgeon of this city, to arise from other causes. Mr. SMITH is now sojourning for a month at St. Alban's, Vt., under medical treatment for a badly congested state of the eyes, which, there is some reason to fear, may result in amaurosis. We hope he may return, fully restored to at least his usual health.

### PERSONAL.

J. LENHART, late of Denver, Col., has accepted a place in Chicago office.

F. H. SPEAR, of Galesburg, has accepted a place in Chicago office.

WILLIAM A. McELROY, who has been for the last four years operator in the general ticket office of the Michigan Southern R. R., has been appointed ticket agent at the same place.

Mr. CYRUS W. FIELD, we are pleased to learn, has recovered from his recent illness, which has confined him to his house for some two weeks.

G. W. BALCH, late superintendent of the New-York and Buffalo District, W. U. lines, goes into a partnership in a Detroit commission house.

A. WILSON, Jr., has been appointed manager of the Western Union Baltimore office, *vice* SNYDER.

C. H. GOGEL has been transferred from the Washington to the Baltimore office of the Western Union Company.

E. C. HULL succeeds W. H. KELTY as manager of the W. U. office at Frederick, Md.

GEORGE V. WELLS, of Vandalia, has relieved L. A. BIEN, of "Ro," Chicago. Mr. BIEN has been granted a sick leave.

Mr. BERRY, of Louisville, has accepted the position in the St. Louis office recently occupied by CHARLES DE FORREST.

W. M. SPINK, late of Chicago, goes to St. Louis office, as night report operator, *vice* JACK BEEMER, who has gone to Cincinnati.

JOHN CONNOR, formerly of Springfield, Ill., has taken a position as night operator at Indianapolis.

A. C. BASSETT, superintendent, left Salt Lake on the 28th ult., on a prospecting tour to Helena, Montana.

P. KEARNEY has been appointed manager of the Western Union office at New-Julesburg, Col.

FRANK S. VAN VALKENBURG, manager of Fort Sedgwick, Col., office, has mysteriously disappeared, and his friends are very anxious respecting his safety.

JOHN LEATCH has been appointed by the International Ocean Telegraph Company to take charge of their station at Lake City, Florida, the point of connection with the Western Union lines. Mr. LEATCH has served the California State Telegraph Company for the last eleven years, in various responsible positions requiring a knowledge of telegraphic science. He was the first to work direct between San Francisco and New-York, in 1861. He sailed from this port on the 19th inst.

### MISCELLANEA.

**TAKE NOTICE.**—We publish in our prospectus a list of authorized agents for THE TELEGRAPHER.

**NOTICE.**—A special meeting of the N. Y. District, N. T. U., will be held Tuesday evening, 24th inst., at 8 o'clock, at 622 Broadway. A report of the action of the Convention will be made.

Full attendance is expected.

WM. H. H. CLARKE, Dist. Dir.

**THE ORIGINAL SUBMARINE CABLE.**—A piece of the first gutta-percha covered telegraph cable ever laid in the world, may be seen at the American Institute Fair. It is exhibited by the Bishop Gutta-Percha Company.

**THE NEW METROPOLITAN TELEGRAPH.**—We understand that the new city telegraph line which has been constructed in this city during the past summer will commence operations about the first of October.

**"A SHORT SIX."**—A correspondent says that the assistant operator at "Sn" office, Seranton, Pa., commenced making a figure "6" at 4:15 on the 9th inst., and at latest advices had not completed it. We await further intelligence with breathless anxiety.

**THE NORTHERN TELEGRAPH COMPANY.**—This new company now have their lines in operation from Boston as far as Bristol, N. H., with offices at Lowell, Mass., Nashua, Manchester, Hooksett, Suncook, Concord, Fisherville, Franklin, and Bristol, N. H. The Hon. FREDERICK SMYTH is president, and our old friend, Col. J. W. ROBINSON, formerly the popular and efficient superintendent of the American Company's White Mountain line, is the superintendent. His numerous friends throughout that region of country will join us in wishing him success in his new enterprise.



FAST TIME.—A "stock" message was sent over the Western Union line from Cincinnati to New-York, on the 12th instant, the business transacted and an answer returned and delivered in seven minutes. "Competitive is the life of trade."

TELEGRAPH INSTRUMENTS AT THE INSTITUTE FAIR.—Telegraphers and others interested should not fail to examine the ease of instruments now on exhibition at the American Institute Fair in this city by L. G. TILLOTSON & Co. We shall notice the exhibition more fully next week.

CUSHMAN'S FIRE-ALARM TELEGRAPH.—At a meeting of the Metropolitan Fire Commissioners on Wednesday, a lengthy document was read from S. D. CUSHMAN, Esq., of New-Lisbon, Ohio, setting forth the advantages of the system of the Electro-Magnetic Fire and Police Telegraph, now in use in the cities of Detroit, Mich., and Cleveland, Ohio.

The system introduced by Mr. CUSHMAN can, it is said, be relied on at all times, and competent judges in such matters pronounce it the most simple mode of telegraphy yet introduced, and available in all emergencies.

The communication was referred to the Committee on Telegraphs, and some action will probably be taken in the matter at the next meeting.

ABOUT SUBMARINE CABLES.—At the last meeting of the shareholders of the Submarine Telegraph Company of England, in answer to a question, it was stated the cables were damaged by ships' anchors, and owing to the improved haulage anchor power of ships, vessels could now anchor up to seventy fathoms, while formerly they would not attempt more than fifteen fathoms. Therefore the only thing the company could do was to make the cables better and stronger.

A TELEGRAPHER at Chicago sends us the following: "Last night a tow-headed Canuck who has recently come into the Chicago office from out on the Union Pacific Railroad, requested us to go to CROSBY'S Opera-House with him. We begged to be excused as we did not particularly admire 'his style,' but upon being urged, reluctantly accompanied him. Upon arriving at CROSBY'S, Mr Canuck pulled out his pocket-book and fingered around considerably without producing 'the wherewithal.' We handed him a two dollar bill and requested him to buy two tickets which amounted to one dollar and fifty cents. Mr. Canuck did so and put the fifty cents in change in his pocket. We have heard of a good many sharp tricks, but have never heard of anything more barefaced than this."

DEATHS.

CALLUM—In New-Orleans, La., Sept. 13, of yellow fever, M. H. CALLUM, formerly chief operator in the American Telegraph Office in that city, aged 32 years. He was a sober, industrious, and faithful operator, and much respected throughout the circle of his acquaintance.

PATENT CLAIMS

RECENTLY ISSUED FROM THE UNITED STATES PATENT OFFICE.

66,943—TELEGRAPHIC SWITCH BOARD.—Walter G. Brownson, Wellsville, Ohio. July 23:

1st. I claim my improved telegraph switch board having the within-described system of switch buttons, C C, arranged upon parallel main lines, in combination with transverse series, 1 1 2 2 1' 1' 2' 2', etc., of switch plates, pins, or points, and with suitable ground and extra connection plates or points, the points, plates, or pins, 1 1, etc., in each particular series, being connected together by wires, rods, or plates, transversely to said main lines, and each of said lines and each of their instruments having direct connection with one, and one only, of said series in regular order, all substantially in the manner and for the purpose herein set forth.

2d. I claim, also, the combination of a metallic spiral, an india rubber or other equivalent spring, with the operating buttons, C C, of a telegraphic switch board, substantially as and for the purpose herein set forth.

3d. The combination of a base cap or cup, O, with a collar, N, and the shank, c, of a spring actuated switch-button, substantially in the manner and for the purpose herein set forth.

4th. The combination of a revolving swivel head, m, fig. 1, and attached metallic spring, n, with a metallic post or other supporter, L, for the purpose of making ground, or other connections, for telegraphic lines and instruments, substantially in the manner and for the purpose herein set forth.

5th. The combination of a recess or catch, i, with the rest plate, K, of a telegraphic switch board, substantially in the manner and for the purpose set forth.

Atlantic and Pacific Telegraph Co., CAPITAL, \$5,000,000.

Lines in progress from New-York to Chicago. A. F. WILLMARTH, President.....New-York. C. A. HARPER Secretary....." CHAS. E. PERRY, Superintendent.....Albany, N. Y.

Bankers' and Brokers' Telegraph Co., CAPITAL, \$1,050,000.

Lines extending from New-York to Washington and Georgetown, D. C. WM. CALLOW, President.....Baltimore, Md. JOHN L. CRAWFORD, Secretary and Treasurer....." J. W. DYER, Acting Superintendent.....Philadelphia.

California State Telegraph Co. CAPITAL, \$2,500,000.

Lines extending from San Francisco, Cal., to Salt Lake, U. T., and New-Westminster, British Columbia. GEO. H. MUMFORD, President.....San Francisco. GEO. S. LADD, Secretary....." JAMES GAMBLE, Superintendent....." R. R. HAINES, Assistant Superintendent.....Seattle, W. T.

Franklin Telegraph Company. CAPITAL, \$1,000,000.

Lines extending from Boston to Washington. J. B. STEARNS, President.....Boston. J. W. BROWN, Treasurer....." J. G. SMITH, Superintendent.....New-York.

Illinois and Mississippi Telegraph Co. CAPITAL, \$1,500,000.

[Leased to the Western Union Company.] J. D. CATON, President.....Ottawa, Ill. T. D. CATLIN, Secretary and Treasurer....." [For Superintendent, etc., see Western Union Company.]

International Telegraph Company. CAPITAL, \$300,000.

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Western Union Telegraph Co. CAPITAL, \$40,000,000.

Lines extending throughout the United States, Nova Scotia, and New-Brunswick. WM. ORTON, President.....New-York. O. H. PALMER, Secretary and Treasurer....." MARSHALL LEFFERTS, Engineer....." THOS. T. ECKERT, General Superintendent.....Eastern Division. ANSON STAGER, ".....Central Division. JOHN VAN HORN, ".....Southern Division.

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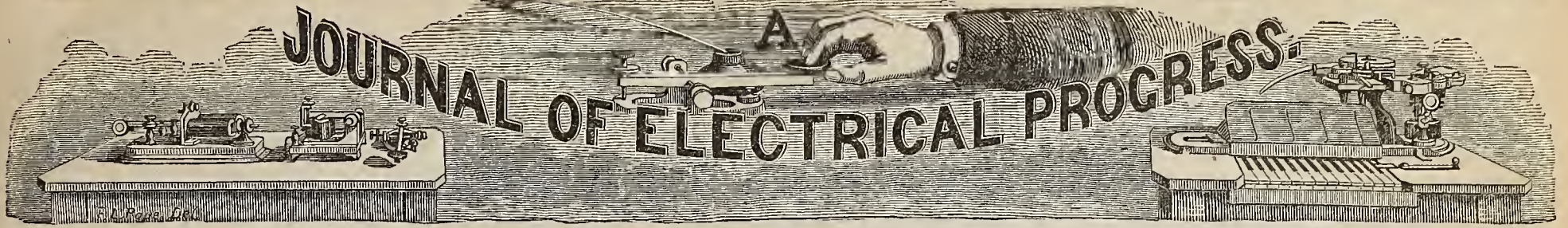
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# THE TELEGRAPHER.



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New-York, Saturday, September 28, 1867.

Whole No. 63.

## Electricity at the American Institute Fair.

### II.

SINCE writing the article on the above exhibition in the last number of THE TELEGRAPHER, the reception and arrangement of the various articles has been completed, and the Fair, as a whole, we consider to be the finest ever held under the auspices of the Institute. Quite a number of telegraph instruments have been added to the collection on exhibition since our last visit. Most of the articles of this class are arranged on a table in the form of a hollow square, near the eastern extremity of the building, and directly under the pneumatic railway tube, which forms such a conspicuous object in that portion of the room. Approaching this department, the eye of the visitor is first attracted by the fine display of submarine cables by the

#### BISHOP GUTTA-PERCHA COMPANY.

A number of these specimens are arranged in coils upon the eastern wall of the exhibition-room, and a glass case underneath upon a table contains specimens of more than fifty different cables which have been manufactured by this company and laid in different parts of this country. There are also samples of four different varieties of deep-sea cables designed and manufactured by the company, the principal peculiarity of them being in the fact that the strength of the cable is in the conductor instead of the outside armor as is usually the case in all cables hitherto laid in deep water. The samples are about half an inch in diameter, and the covering is woven or braided in the manner of a whip cord. One specimen is covered with fine iron wire woven in this manner, which forms a remarkably elastic, flexible, and durable armor, which combines lightness with strength.

Perhaps the most interesting article in the whole collection is a specimen of the first submarine cable ever made in which gutta-percha was used as an insulator. This was manufactured by S. T. ARMSTRONG and LORENZO HIGGINS, and was laid across the Hudson river for the Magnetic Telegraph Company in 1848, by T. M. CLARK and JOHN W. NORTON. The specimen alluded to is a piece of this identical cable. The conductor consists of a single iron wire of No. 9 gauge, and is insulated with two coatings of gutta-percha. The whole is nine-sixteenths of an inch in diameter. The outer coating is much oxidized by exposure to the air, but the inner coating is as perfect as when first made.

In the same case may also be seen a piece of insulated wire for pole lines which has been taken down after an exposure of five years, on a line in the vicinity of this city. It is covered with a double coating of jute and cotton, woven, and saturated with Bishop's Compound. The sample shown does not give the slightest indications of decay, notwithstanding its long exposure to the weather. An air-line cable is also shown, which is about three-fourths of an inch in diameter, containing seven separate conductors, of steel wire, coated as above and the whole covered with two coatings of woven banding laid on spirally in reverse directions and saturated with Bishop's Preservative Compound.

The braided electric cordage, and insulated office wire exhibited by this company are of very superior quality. A specimen of wire covered with a double coating of percha enclosed in a small lead tube struck us as being peculiarly well adapted for many exigencies of telegraph-

ic work, such as wires leading from the line to the office on the outside of a building, or wherever an insulated wire requires to be thoroughly protected. It would seem also peculiarly well-adapted for subterranean wires in many situations.

Numerous other applications of gutta-percha to various useful purposes may also be seen, as well as the article in its crude state. The whole forms an exceedingly creditable display of American skill and ingenuity, and demonstrates that the telegraphic constructors in this country, need not depend upon foreign countries for their supplies of cables and insulated wire.

The next thing to attract the attention of visitors in this department will undoubtedly be the elegant show of telegraphic apparatus and material by

#### L. G. TILLOTSON & CO.

This enterprising firm have a large case filled with instruments of every variety. We noticed several styles of receiving magnets and main line sounders, and also a Hicks repeater. Samples of the Daniell local, and the Grove and Carbon main battery are also shown. Upon a table alongside is a set of instruments arranged for working in connection with a battery. There is nothing new in the design of any of these instruments. They are plainly and neatly finished, are well made and calculated to do good service. The carbon battery is fitted with OGDEN'S improved carbons with the immersed platinum connection, one of the best arrangements we have ever seen.

Messrs. TILLOTSON & Co. have also two or three samples of glass insulators, of a very serviceable pattern, made we believe by the Newburgh Glass Company, for which they are the sole agents. We also noticed one of the simple and effective lightning arresters, invented by W. O. LEWIS, Esq., electrician to the Bishop Gutta-Percha Company, which has already been described in our columns. There are likewise many other articles useful about an office, such as cut-outs, switches, etc., too numerous to mention. The whole collection is well worthy of particular examination by all interested in such matters.

We must reserve further mention of the different articles on exhibition in this department until next week.

#### The New-York City Police Telegraph.

THE Police Commissioners being now engaged in extending the line of the Police Telegraph so as to bring the entire Metropolitan District in electric communication with the Central Office in Mulberry street, render a few facts connected with what the police fondly call "the long right arm of the Department" not uninteresting.

When the great revolution was accomplished by which the Police Department of the city became in reality a conservator of the peace, and ceased to be a mere partisan mechanism, the headquarters of the Department were located in Mulberry street, between Bleecker and East Houston streets. In this locality, chosen as the most central attainable, was erected a building that has no small pretension to architectural beauty, but whose chief merit is its perfect adaptability to the purposes for which it was designed. In this building, known officially as the Central Office, but popularly designated Police Headquarters, are the offices of the Police Commissioners, of the Superintendent, the Inspectors and Detectives,

in fact, of the whole directing force of the Metropolitan Police.

From the front room of the basement of this building comes, at all hours of the day and night, the tinkling of little bells and a confused whirring noise. This room is the office of the Police Telegraph, and this noise is the Central Office talking with every sub-division of the large territory it controls. For telegraphic purposes the Metropolitan District is divided into five sections, designated respectively as the Central, East, West, North, and South.

For each of these sections is one of the peculiar telegraphic instruments in use by the Police force. Exteriously it is a box very much like that used on shipboard containing the compass. The lid lifted and there is a dial displayed, having around its circumference first a row of numerals and then the letters of the alphabet. In addition there is the word "Fire" and four arbitrary signs used as signals. Above each box is a small brass bell, exactly like the call-bells in ordinary use. This is the mechanism, and a few words can explain how it is used. If the Central Office wishes to communicate with a certain precinct the operator presses the key of the instrument so that the bell above the instrument in the Precinct Station-house, tinkles its signal, and the officer on duty there, knowing that the Central Office wishes to communicate with him, goes to his instrument and gives the answering signal. The message is then given him by means of the needle travelling around the dial, stopping at letters, numerals and arbitrary signs, until the whole message is literally spelled out. A system more simple, or one that a very moderate degree of intelligence and expertness can more quickly master, can hardly be imagined, and it is therefore admirably adapted to the use of the Police Department, where in all the precincts the Captains and Sergeants are required to be telegraph operators as well as Police officers.

The Police Telegraph is essentially utilitarian—like Gradgrind it deals only in facts—in names, dates, occurrences. It aims at and generally attains an accuracy in fact that leaves no place for comment or conjecture. Over its wires, to be spelled out upon the dials of the Central office, is announced, almost upon the instant of its occurrence, every fire, murder, suicide, burglary, accident—indeed every event calling for the intervention in any way of a Police officer, happening anywhere within the Metropolitan District. If a policeman find a dead animal in the street the Central Office is notified of its locality in order that the scavenger's truck may be at once sent for it. If a citizen loses his horse and vehicle, which he left standing on the street, he goes at once to the Central Office for information, and in nine cases out of ten, if the horse has only strayed away, before his arrival some policeman has picked up the property, taken it to his station-house, and the number of the truck or a description of the other property has been telegraphed to the Central Office, so that when the citizen comes in he is told at once where he can find his missing property. If some relative or friend is missing, the party interested goes to the Central Office and is told at once whether any accident has happened to, or information has been gained of the missing person. If not, a description of the person and the details of the disappearance are taken and at once sent out to all the Station-houses, and instantly in every part of the great city and its surround-



ings, lynx-eyed men are watching for that particular person. So, too, with criminals of every kind and degree, and the facts of crime having been committed. It can readily be conjectured that the dial rarely has anything pleasant to relate—its talk is continually of disaster and crime. The revolving needles almost seem tired of recording the evidence gathered from the highways and byways of the great City of man's innate villainess or recklessness. Sometimes the dial tells of some fallen waif of womankind reclaimed. Sometimes it relates the self-sacrificing devotion to duty of a fireman or a policeman, but there its record of anything redeeming to human nature ceases.

The Police Telegraph was at one time the chief medium of communicating alarms of fire. Formerly information that fire had broken out reached the authorities more frequently through the policemen than by any other means. The citizen upon whose premises the fire occurred, naturally rushed with his tale of disaster to the nearest patrolman, and the officer instantly hurried with the alarm to his station-house, giving the number of the house where the fire was raging. The sergeant on duty at once sent the alarm to the Central Office, and the operator, by means of an ingenious apparatus called the "Switch," dropped the alarm simultaneously at every station-house in the city. As a first step, however, the operator sent the alarm and the location of the fire to Firemen's Hall, in Mercer street, whence it was sent to the fire-alarm stations, and by this duplex machinery the fact and exact locality of the fire was known all over the City within a few moments after the discovery. The past tense has thus far been used, but only because since the reorganization of the Fire Department alarms have come, in the first instance, from Firemen's Hall as from Police Headquarters. The members of the Fire Department are now required to patrol for fires, and citizens are learning that there is a fire telegraph, and often carry the alarm to the engine-house, so that now the police receive the first intimation of fires from the Fire Department. But the Police Telegraph, although no longer the only medium of conveying the alarm, is still an essential part of the machinery for subduing conflagrations, and is the only means of calling the police promptly to the scene of disaster. Although not strictly pertinent, it may be added that the alarms upon the fire bells do not convey any very definite information as to the locality of the fire. Forty-six—struck upon the bells—four, an interval, six—indicates a fire in the vicinity of Charles and Bleeker streets, but it may be a half dozen blocks in either direction from either of the streets. But the earnestness of the signal is atoned for, and the necessity for any bell signals at all made doubtful by the fact that it is now getting to be the rule that information of the exact street and number is sent all over the city, and the police and fire telegraphs long before any alarm is given by the bells.

The Police Telegraph has had its days of prime necessity, as during the great riots of 1863. It is not too much to say that without its powerful aid the whole Police force of the City would have been but toys in the hands of that terrible July mob. But by means of the telegraph the force was concentrated as occasion demanded, and wherever the rioters might concentrate, there they found almost upon the instant a phalanx of the City's defenders. The rioters well knew what a mighty enemy they had in the telegraph, and almost the first outbreak of lawlessness was against it. The wire was searched out and cut in every part of the district held by the rioters, but Mr. CROWLEY, the Superintendent of the Telegraphic Department, and Mr. POLHAMUS, his deputy, courageously followed in the wake of the rioters, and at the continual risk of their lives repaired the wire almost as soon as it was cut, thus preserving it to act its part as the great conservator of the peace during those bloody days of July. The telegraphic dials of the Central Office have narrated many tales of blood and crime, but never told anything to compare with the record of those disastrous days. That story they told in full, and perhaps the only detailed, and therefore the most graphic history of the riots, is contained in the volumes where the words of the dial is recorded. It is pleasant to recur to these past services of the Police Telegraph, and to know that the system that then stood the city in such good need has since been materially extended and improved.

So far as telegraphic purposes are concerned, Brooklyn constitutes one precinct, the forty-seventh, and any message from Police Headquarters destined for any one of the various precincts into which the City of Churches is divided must be sent in the first instance to the Brooklyn Central Office, and be re-sent from there. In New-York there are thirty-four telegraphic stations in direct communication with Headquarters. These are located at the various station-houses of the city, at the Superintendent's private residence and at the Tremont and Yonkers sub-station.

The Police Telegraph has about fifty miles of wire in use in New-York City, and about twenty-five miles in Brooklyn, making a total of seventy-five miles, which will soon be materially increased by the extension of the line to Staten Island and other remote points of the Metropolitan District. The expenses of maintaining the system in repairs, salaries, and incidentals, has been kept at an average of \$15,000 per annum for New-York and Brooklyn, a feat that could not have been achieved were not the Captains and Sergeants in the various precincts required to act as telegraph operators as well as police officers. Of the amount of business done through the wires, it is very difficult to give a just conception. The offices both at Headquarters and at the various station-houses, are kept always open, and messages are transmitted at all hours of the day and night. Messages and signals—the latter a code specially arranged for the Police Department—to an average number of two hundred and twenty-five are sent and received at the Central Office during the twenty-four hours. A few of these are of some length, but the great majority do not exceed a dozen words—brevity in telegraphing being constantly held up to the Captains and Sergeants as a cardinal virtue.

Mr. JAS. CROWLEY is the Superintendent of the Metropolitan Police Telegraph. To his untiring and intelligent devotion to his duties its efficiency is largely due. He is ably aided by his deputy, Mr. ELDRED POLHAMUS, who has been connected with the Department for many years. The operators at the Central Office, Messrs. JAMES A. LUCAS, JOHN A. K. DUVAL, JAMES C. CORSA and WM. H. CORSA, are gentlemen who have won the encomiums of all citizens who have had business with them by their unvarying urbanity. With the exception of some line men, these are the only employes of the Police Telegraph.—*N. Y. Times.*

[Written for The Telegrapher.]

### A Midnight Reverie.

My place of business is in one of the large offices, where the day is one continual rattle, and far into the night the din still keeps up. But as with the elements, so with a repeating office. A calm comes at length, and scarce a click breaks the stillness, which is almost startling in its intensity. My duties often keep me at the office until the night force relieves the day operators, and until the former, one by one drop off, and the "report" operator alone is left; and then "30" comes, and I am alone.

What more annoying or upsetting to one's ideas than when in the middle of a column of figures trying to balance one's cash, or following to its legitimate conclusion some line of thought, or filling a letter with love out of a heart all overflowing with it, to one's wife, or some one else's sister, an office a hundred miles or so away breaks in, and with his "A A A" sends figures, and thoughts, and love, all flying from the head like frost-touched leaves from the forest tree driven before the autumn wind. With an effort the mind is got to work again, but the "A A A" comes again with an earnestness that appeals irresistibly to one's conscience, and peace is only obtained by answering the call or shutting off the instrument.

And by all the feelings of satisfaction at having done a good deed; by all the feelings of gratitude awakened in the hearts of those most interested, I beg operators to answer a hundred calls and be "fooled" ninety-nine times, for the glorious satisfaction of once ministering to the comfort of one sick or dying mortal, or relieving, in the slightest degree, the burden of grief weighing down a soul. I was amply repaid for my interruption, by the tone of gratitude in which the brass-tongued sounder rung out its: "Good! Was 'fraid you'd gone. Pls. rush this." And then followed slowly, as if the wire was bur-

dened, and the sounder, reluctant to beat out with its usual cheerful tone, seemed muffled:

"To Mr. — — —:

"The baby is dead!"

"From — — —"

I have been eighteen years a telegraph operator. In this short life-time of experience, I have come to be as mechanical in the receiving and sending of messages as it is possible for the fingers to be, backed as they are by a thinking arrangement. The saddest and gayest, the most frivolous, and the terribly important—all pass in at the ear and run off my pencil-point and leave no impression upon the mind. But I was alone with those four words in the silence of the night. They fell, as Dickens says, like a stone into the well of my heart, and splashed the tears up into my eyes. I instinctively closed my eyes to keep the suddenly awakened emotions within bounds, and my mind charged with a sympathetic current, followed the wire back to — — —, and stood hushed in the presence of a grief which was silent in its intensity. Oh, for the power to lift a feather's weight of that crushing load; to pour into that bleeding heart one drop of balm; to raise that prostrate mother from where she strove to wrench her jewel from the grasping hand of death!

Could not my heart appreciate the situation and sympathize in the deepest degree? How, quicker than the throbbing wire speeds the message, went back my mind to just such a scene in our home; where all night with tenderest care I bore in my arms a heaven-lent treasure. How as the stars faded out one by one, her little life-light was puffed out and left our world in darkness. How the awful grief of the mother then seemed to give me strength to bear mine, or left me none to bear. The loneliness of the house; the precious form

"Dressed for the grave in raiment like the snow,"

more beautiful in its repose than finest sculpture; the sleepless night—with no little cry to hush. Oh! so still; the quiet beautiful Sabbath, with the hearty condolence of friends, and the pastor's visit and prayer; another night, and then the mournful preparations for the last sad rite; then

"We laid our darling down,  
Our first seed in God's acre sown,"

and for days and weeks and years we have carried a heart full of grief.

Fresh from this retrospect, my heart melted into sympathy, which would find expression, seemed to be wandering with the lonely mother through memory's halls, and with a painful satisfaction contemplating the records hanging there, of the short life which had just faded out. What bright hopes for the future, wrapped up in the little immortal, had been suddenly dashed. The past had been forgotten and the present and future alone lived in. But now the past only is left—full of sweetest memories, and the present is dark, with but one silver line of hope reaching over the river. The eye of faith is too blinded with weeping now to follow this thread, but we know it is the pathway up which the little spirit sped to its home in heaven.

Leaving this scene, outstripping the sluggish elements, my mind was in another presence.

A missive carelessly received and as carelessly opened, has the strange power to melt a strong man to tears and break his heart. The telegram has fulfilled its mission. It has but the four words: "The baby is dead." As the hurricane buds the sturdy oak, so when a grief-storm breaks upon a man, his proud spirit bends; and if he be wise he attempts no resistance to its power. Although scores of miles apart, yet his spirit rapidly spans the intervening space, and he is with his loved one and their dear dead dust. With his clearer eye of faith he will direct her gaze beyond the cloud into the presence of the Eternal Peace, from out of which their spirit-child with out-stretched pleading hands beckons them. With his words of comfort her heart will take courage to commence anew the journey of life with him alone. They have the realms of memory and imagination in which to wander free; the former conjuring up

"A vanished face, with its sweet spirit-smiles,  
Babe-wonderings, and little tender ways;"

the latter bringing to view the happiness of a reunion with the gone-before, in that life beyond this vale of tears,



where there are no more partings, and where their joys are for ever full.

I was awakened from this mournful reverie into which my sympathies had led me, by an anxious "A A A;" and the interrogatory "Is it O. K.?" brought me to my senses. I gave the required acknowledgment and started the message on its sad errand. My mind was in no condition for further work, and with heavy step I left the office for my home, meditating upon the incident of the night.

How full of such experiences the operator's life is, is scarcely realized even by himself. The endless variety of topics which pass under his notice in a day—and one day is but a repetition of all past days and a type of all to come—leaves little margin for ruminating on the graver, and but a moment to join in the merry laugh at the more gay, before they pass from memory's keeping. J.

*Albany, September, 1867.*

[For The Telegrapher.]

### Shocks.

THE physiological consideration of them would doubtless be interesting, but nervous filaments are too delicate to be handled by fingers which have to deal with No. 9.

In considering the subject from a telegraphic point of view, you naturally begin your experiments by clapping your fingers on the screw cups, when you find that breaking gives a shock, closing does not. You have read somewhere that COL. STAGER did some telegraphing without instruments by using his tongue. You think he must have understood the back stroke if he did, but you are inclined to doubt the performance altogether until some day you go out on line, try it on and get a sore mouth with a coppery taste in it, which lasts you about a week, but you find the thing can be done, and that closing gives the shock.

For my part I don't understand how the shock is given at the screw cups, and wish some better electrician would enlighten me. The only surmise I make is that the shock is given by the escape of the fluid from the spools, lateral escape being prevented by insulation.

The sublimity of shocks is found in connection with patent switch boards. The ridiculous is painfully exhibited when you get hold of some greedy ambitious of tasting lightning. Few of us can resist the temptation of enlightening an inquirer after truth, and most will risk their battery on short circuit for his benefit. I am much edified by the observations of those whom I assist to become wiser if not better men, the best of these is Pat's "Begorra 'tis the devil." Hoping the definition suits,

I am, SHOCKED.

[Our explanation of the phenomenon alluded to by our correspondent is, that a secondary current is induced in the helix after the main current is broken, by the action of the residual magnetism remaining in the cores of the magnet. The fingers placed across the screw-cups form a short circuit for this induced current. The truth of this theory may be verified by any one having a Chester relay, from which the cores may be easily removed without interfering with the helix. We would like some one to try it and report the result.—ED. TELEGRAPHER.]

### 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.*

#### Another Voice From Maine.

TO THE EDITOR OF THE TELEGRAPHER:

I NOTICED in the last issue of THE TELEGRAPHER a communication from Maine signed "Mc.," which forcibly reminded me of the old critic in Moore's "Lallah Rookh," who condemned alike the good and bad; criticising and picking flaws merely to gratify his own selfish mind.

I believe there are nerves and fibres in the nose which connect with those of the eye; perhaps a slight pressure on "Mc's." nasal appendage would enable him to see his way "out of the wilderness" a little more clearly!

I do not think that the columns of THE TELEGRAPHER

should be soiled by such conglomeration of slurs, which do not tend to interest or instruct the readers of this paper, which is circulated among, and read by nearly all the telegraphers in the country.

However, as "barking dogs seldom bite," I will take no further notice of the article referred to, but will, for the good of the readers, attempt to give a correct statement of the few affairs worthy of note "way down east."

The building of our new line for cable business, is being rapidly carried on under the combined efforts of Mr. D. Doren and his several crews of sturdy and industrious workmen.

We have just completed a new line from Boston to South Berwick Junction, which will, for the present, connect with our hardest working Eastern wire, and will no doubt, do a great deal towards securing the patronage of our Eastern merchants.

There has not, as yet, been any Assistant Manager appointed in this office.

D. C. S.

*Portland, Sept. 21, 1867.*

### Returning to First Principles.

WHILE spending a few days in the country, a friend of mine who is said to be an operator of considerable merit, dropped into an office on the line, where ten years ago he learned the first rudiments of telegraphing. He was not intent on business, but a lively conversation having been interrupted by the old, familiar "call," and a quick glance from the fair manageress seeming to say, "Please answer," how could he do otherwise than respond "I, I"? Leisurely picking up a stray pencil he commenced copying from the sound of the slowly clicking lever, when suddenly the hand of his companion released the train of wheels, the paper band slowly unwound, and we can imagine the downfall of his pride, when he saw his elaborate copy carefully compared with the dots and lines as recorded by the buzzing register. Can we censure him for seeking an explanation. Nothing easier than to obtain it, for could he not read the handwriting on the wall! There was the official order over the well-known signature of the District Superintendent. Its meaning was not rendered vague through the absence of words. It rigidly prohibited taking messages by sound, and no exception was made either of age, sex or skill.

How fortunate for the profession that this order was not issued and enforced years ago, for memory recalls the names of a few which are written high on the roll of practical telegraphers, graduates of this same wire where the germ of genius is now crushed.

We can only drop a tear of sympathy for our friends, whose ambition is thus curbed by the ruthless hand of authority, while we congratulate the profession on the establishment of this telegraphic museum, where the daily practice of the art, as pursued in the dark ages of antiquity may be compared with the present efficient and almost universal system of telegraphing by sound.

*New-York, Sept. 26, 1867.*

PROGRESSION.

### Co-Operation in Telegraphy.

TO THE EDITOR OF THE TELEGRAPHER:

I HOPE you will grant me a little space in the columns of our old tried paper, for the purpose of agitating a subject which has been talked of somewhat heretofore, but which has never been publicly canvassed.

I notice many letters in both telegraphic organs relative to the question: "Will an opposition telegraph line pay?" I do not think there is a just ground for doubt. An opposition to the Western Union, built as it should be built, managed as it should be managed, and officered as it should be officered, I do not think could fail to become a paying concern. The United States lines would be in existence to-day, had they been officered and directed by honest men, and not only would they be in existence, but they would be paying large dividends. The opposition lines now being constructed will meet the same fate as did the United States lines within two years if the stockholders do not look to it that honest men are placed at the head of its management, with a monied interest in the prosperity of the company.

The question of practicability being settled, I wish to agitate the subject of immediate action upon the part of telegraph operators alone, for the purpose of organizing

a company. After organizing by the careful selection of honest, faithful and energetic men as officers and directors, after the framing of a sound constitution and by-laws, and after drawing up proper articles of individual protection, the company will proceed to work, raising funds. This part of the programme, I think will be easy of accomplishment.

We will suppose the case; that the small number of five hundred operators agree to subscribe \$10 per month of their salaries. In one year we have \$60,000 to commence the building of lines. After the first section of line is in working order, we can count upon a handsome sum from its proceeds to augment the general fund, providing, of course, that the lines are rightly managed.

Many operators could afford to subscribe more than the amount above mentioned, per month, and I doubt not, that over \$100,000 could be raised the first year. How many years would elapse before telegraph operators would have a magnificent chain of lines throughout the country? Why cannot this project be carried out?

Let us set the ball rolling, and circulate the idea among the fraternity. Let us exchange views, *pro* and *con*, and hear suggestions, if not in favor of this, in favor of some other similar plan.

I have merely stated the outlines, let it be talked about, and if possible reduced to a practical foundation.

AGITATOR.

### A Simple and Effective Lightning Arrester.

TO THE EDITOR OF THE TELEGRAPHER:

I SEND you the following description of a simple and effective lightning arrester, which I have found to work as well as any arrangement I have ever seen:

Take a piece of wire about ten inches long, and larger than that in the relay magnet, and run from each of the main circuit binding screws of the relay, placing the opposite ends in a bottle of water. The distance of the wires in the water may vary, but they must not be allowed to touch each other. Only a small portion of the current will pass through the arrester, as water is not a good conductor of galvanic electricity; the greater portion will traverse the magnet wire as usual. Atmospheric electricity being of very great intensity, will always choose the shorter route.

This arrangement is the best protection against lightning I have any knowledge of.

D. C. W.

*Kingston, N. J., Sept. 9, 1867.*

RESIGNATION OF JAS. L. MINGLE.—We regret to learn that Mr. JAS. L. MINGLE, the well-known Assistant Superintendent of the Western Union Company, who had charge of a number of lines in New-Jersey and Eastern Pennsylvania, has resigned. Mr. MINGLE, we understand, leaves in order to accept a more advantageous situation in other business. The best wishes of his fellow-craftsmen, will follow him to his new field of duty. We are permitted in this connection to publish the following letter from the Superintendent of the Eastern Division of the Western Union lines:

EASTERN DIVISION, Supt's Office, Eighth District, }  
PHILADELPHIA, Sept. 14, 1867.

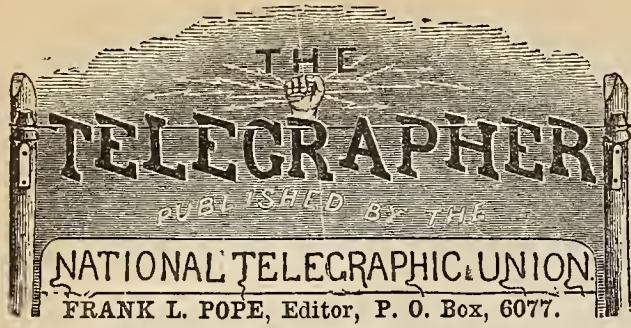
JAS. L. MINGLE, Ass't Superintendent, Easton, Pa.:

DEAR SIR:—I beg leave to acknowledge receipt of your letter of resignation, as Assistant Superintendent of the lines of this company in Eastern Pennsylvania. In accepting your resignation I desire to express my regrets at the necessity for the step, and my thanks for the manner in which you have attended to your duties, which cannot have been anything but difficult and arduous. The offices in your district are in a favorable condition, and everything, so far as I can learn, working smoothly and satisfactorily, the result, I feel sure, of your attention.

Very respectfully, yours, D. H. BATES, Sup't.

ABOUT "BULLS."—The worthy fraternity of "brass pounders" perpetrate some exquisitely comical "bulls," and so do our friends the printers, but when a telegraphic "bull" is again "bulled" by the said printers, we are obliged, like the lamented Artemus, to "explain the goak," which is about the message addressed to Mrs. E. P. SMITH, which was transformed into GISEP SMITH, and not GESEP as the types had it, thereby slaughtering the best bull in the whole herd which our correspondent sent us.





SATURDAY SEPT. 28, 1867.

### THE CONVENTION AT ST. LOUIS.

We shall commence in our next number the publication of the proceedings of the Annual Convention of the NATIONAL TELEGRAPHIC UNION recently held in St. Louis, which we have received from Mr. H. W. WHEELER, of Boston, the Recording Secretary of the Union. As a very general interest prevails among the members of the Union as well as the profession generally in regard to the action of the Convention upon several of the questions submitted to it, we will briefly refer to a few of the most prominent points which came up for discussion and the action taken upon them.

The committee appointed at the last Convention to take measures for procuring a charter for the Association, reported that a charter had been granted by the State of New-York, and this committee, together with the Executive Committee, were authorized to take the necessary steps to reorganize the Union under the above charter.

A number of amendments were made to the Constitution, the most important of which is one providing for the admission to membership in the Union any person engaged in the telegraph business, of the age of eighteen years or upward, with the customary provisions respecting character, etc. Heretofore the benefits of the organization have been restricted to operators alone. We regard the above as a very salutary measure. An amendment was also adopted changing the basis of representation so as to entitle each district having ten members to one delegate, and each district having fifty members to two delegates, and also an extra delegate for every ten members in excess of that number.

The Executive Committee were instructed to issue an address to telegraphers, urging all persons eligible to membership to come forward and unite with our organization, and stating clearly and concisely the benefits to be derived from membership.

A committee consisting of five members, of which Mr. STOVER is chairman, were appointed and instructed to report to the Executive Committee as soon as possible a plan of mutual life insurance for all persons connected with the telegraphic business who may avail themselves of its advantages. The committee have power to take necessary legal advice upon all points they may deem necessary. The Executive Committee were clothed with full power to organize a life insurance association upon the plan deemed most advantageous by the committee appointed for the purpose.

We are glad to be able at length to announce that some definite action was taken by the Convention looking towards the abolishment of unnecessary Sunday work. The President of the Convention was instructed to appoint a committee of three to draw up a respectful remonstrance, addressed to the officers of the various telegraph companies, against un-

necessary Sunday work. Copies of this remonstrance are to be sent throughout the country, requesting the signatures of all telegraphers who sympathize with the movement, whether members of the Union or not, and copies of the remonstrance thus signed to be presented to the officers of the various telegraph companies. Whatever the result of this movement may be, it will at least serve to fix the responsibility of the unnecessary and uncalled-for desecration of the Sabbath, by some of the leading telegraph companies, upon the parties to whom it belongs. If this reform can be brought about, the members of the Convention will be entitled to the everlasting gratitude of the profession at large.

An amendment to the Constitution was also introduced, providing that the organization of the Union should be made a secret one. After a lengthy and earnest discussion it was very properly decided to lay the matter before the several districts in order that a vote of the members may be taken upon the subject. If a majority of the districts are in favor of the amendment the Executive Committee are instructed to lay the subject before the delegates for definite action. A resolution was also passed recommending the adoption of the above Constitutional amendment by the several districts.

After the election of officers for the ensuing year, resulting in the choice of the gentlemen whose names have already been published, and the transaction of some other business of minor importance, the Convention adjourned *sine die*, having previously designated Albany as the place of meeting of the next Convention.

We are happy to welcome the districts of Corry and Meadville, who sent delegates for the first time, and join with the members of the Convention in congratulating them upon the character of their representatives. The Convention was rather small in numbers, which is solely attributable to the reduced representation agreed upon by the last Convention, but what it lacked in numbers was more than made up in ability. The Convention as a whole was in every way harmonious and successful.

### PERSONAL.

W. S. FRENCH, formerly of Denver, has taken charge of the office at Central City, Col.

W. SCOTT BENSON, late Manager of the Western Union office at Warren Ill., has been appointed agent of the Illinois Central Railroad at that place.

MATT GIBSON, formerly of the Grand Trunk Railway line of Canada, succeeds BENSON in the above position.

RAVLIN, the indefatigable manager at Wapella, Ill., has been, and gone and got "splined." He ought to subscribe for THE TELEGRAPHER.

H. L. WATERBURY has resigned his position in the Western Union Company's Albany office, and goes with the Atlantic and Pacific Company.

GEO. MAKLE has resigned his position with the Franklin Telegraph Company in this city, to accept a place in the Chicago office of the Western Union Company.

R. H. SMITH, formerly cable operator in the Western Union office, has taken a position with the Franklin Company in this city.

WM. ROCHE and O. J. WADDELL, late of the Western Union office at 145 Broadway, have accepted positions with the Franklin Company in this city.

CHAS. SPEED, son of the late Col. SPEED, and formerly of the United States lines, has been appointed Superintendent of the Atlantic and Pacific Company's lines, now building between Buffalo and Chicago.

A. R. REEVES, formerly of the Western Union office in the St. Nicholas Hotel, is now with the Franklin Company in this city.

SILAS W. LANE who has held the position of delivery clerk ever since the opening of the United States Telegraph Company line in Boston and since the consolidation has been in the employ of the Western Union Telegraph Company, was discharged last week on two hours' notice. He was noted for his honesty and faithfulness in business.

H. W. POPE, J. S. WHITEACRE and H. E. GRANT, of the Western Union Company's Boston office, have been promoted. GEORGE F. STEWART, of Worcester, will fill the position made vacant by the advancement of these operators.

GEO. R. SCHULTZ, for the last four years Assistant Operator at Elizabeth, N. J., has accepted a situation on the International Ocean Company's line at Gainesville, Florida.

### MISCELLANEA.

NOTICE.—The attention of District officers of the National Telegraphic Union is called to the announcement of the President on the next page, respecting the Supply Agency.

TO CORRESPONDENTS.—Anxious inquirers to the number of a hundred or less are informed that Prof. J. E. SMITH'S "Manual of Telegraphy," is published by J. E. BOSSARD, Poughkeepsie, N. Y. Price fifty cents.

BURGLARY.—The residence of the Hon. J. D. CATON, at Ottawa, Ill., was entered by burglars on the night of September 14th. They succeeded in getting some money, jewelry and watches. Any other night they would not have done so well, as he very seldom keeps any money at the house.

A STRIKE OF TELEGRAPH MESSENGERS.—The boys employed to carry dispatches by the Western Union Company in Boston, are on a strike in consequence of a reduction of their fees from three to two cents per message. New boys have been employed, who "trot" at the low rate and run the risk of getting broken noses from the strikers.

NEW RAILWAY TELEGRAPH LINE.—The Western Union Company have just completed a new wire between Boston and Portland for the use of the Boston and Maine R. R. Company.

REDUCTION OF RATES TO CINCINNATI.—The Pacific and Atlantic Company opened their line to Cincinnati and Louisville for business upon Friday of last week. These wires connect with the Franklin Company's lines and are worked in a direct circuit with Cincinnati. The new company promptly reduced the rates between New-York and Cincinnati fully one-third, and upon the same day the Western Union Company followed with a still further reduction. Both lines are now charging \$1.00 and 8 between the two cities.

PROGRESS OF THE ATLANTIC AND PACIFIC LINES.—The lines of this Company will be completed between Albany and Buffalo within thirty days. Their New-York office will be with that of the Franklin Company at No. 11 Broad street.

THE NEW METROPOLITAN LINE.—We understand that this line will commence operations within ten days. It will connect with both the Franklin and Bankers' and Brokers' lines.

CUSHMAN'S FIRE-ALARM TELEGRAPH.—The paragraph in our last issue respecting the action of the Fire Commissioners upon this invention should have been credited to a city daily. Having had no opportunity of critically examining the merits of this in comparison with the "American" system of GAMEWELL & Co., we do not ourselves wish to be understood as indorsing either of them. From the opinions expressed by the best informed telegraphers of our acquaintance we are inclined to think that GAMEWELL'S system embraces all the really valuable points of the other besides many advantages peculiar to itself. We intend publishing a full description of each of them as soon as possible, which will afford all interested an opportunity of judging for themselves.

NEW ORDER RESPECTING CABLE OPERATORS.—By a "general order" the cable operators on the Western Union line between New-York and Plaister Cove, have to report every half hour from midnight till eight A. M., upon hearing the signal "Os" from New-York.



THE TELEGRAPHER:

A Journal of Electrical Progress,

PUBLISHED EVERY SATURDAY,

BY THE

NATIONAL TELEGRAPHIC UNION,

AT

No. 16 BROAD STREET, NEW-YORK.

WITH the number of August 31st THE TELEGRAPHER enters upon its fourth volume. In the future, as it in the past, it will be the aim of its conductors to make it in every respect

A FIRST-CLASS TELEGRAPHIC NEWSPAPER.

It will continue to advocate, as it has done heretofore, in an independent and fearless manner the just rights of the TELEGRAPHIC FRATERNITY, to whom it owes its origin and support. It will seek to point out and correct abuses, wherever existing, to elevate the moral and scientific standard of the Telegraphic profession.

It will not support the views of any particular person or corporation, but will discuss all subjects relating to Telegraphy in a progressive, independent, and liberal spirit.

THE TELEGRAPHER will contain numerous original contributions upon Electrical and Telegraphic science; Correspondence from various parts of the world; Literature and Poetry upon Telegraphic subjects; Notices of changes of Telegraphic offices; and other incidents and items of personal interest, together with a large and varied selection of Telegraphic News-items, Notes, and Memoranda of every description.

THE TELEGRAPHER will continue, as heretofore, to be illustrated with a large number of

SPLENDID ORIGINAL ENGRAVINGS |

of new and interesting inventions, and other subjects pertaining to Telegraphy, prepared expressly for its columns by the first artists in the country. This is a feature possessed by no other Telegraphic journal in the world.

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Whatever the experience of its conductors—whatever industry, energy, and a liberal expenditure of money can accomplish towards making it a paper indispensable to the profession—is pledged to the subscribers of THE TELEGRAPHER.

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Club rates are not allowed to District Directors unless for persons not members of the Union.

THE PAPER WILL ALWAYS BE DISCONTINUED WHEN THE PAID SUBSCRIPTION EXPIRES.

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District Directors or others who may interest themselves in procuring subscribers at our advertised rates, and remitting us the money, will receive our thanks—and an Extra Copy for one year for every Club.

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Newspapers, by inserting this Prospectus, and sending a marked copy to the Editor, will be entitled to an exchange.

All communications and letters relating to THE TELEGRAPHER must be addressed to the Editor,

FRANK L. POPE,  
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CAPITAL, \$1,500,000.

[Leased to the Western Union Company.]

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CAPITAL, \$300,000.

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CAPITAL, \$40,000,000.

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NEW PRESS ORGANIZATIONS.—We learn that several new "Associated Press" companies are getting under way, one or two of them being ready to commence about October 1st. One of the associations is composed chiefly of evening papers.

DEATHS.

REARDON—In Millican, Texas, Sept. 4, 1867, of yellow fever, J. F. REARDON, formerly of West Point, N. Y., aged 21 years and 7 months.

WATERMAN—In this city, at Bellevue Hospital, Sept. 20, 1867, AUGUSTUS T. WATERMAN, aged 14 years, 11 months, and 4 days.

For about one year he was employed as a messenger at our office, and was one of those faithful ones who never forget that telegraphing is a business of seconds, and not of hours or days. His characteristic honesty and truthfulness won him many friends. He was the only assistant of a widowed mother towards the support of herself and three children. On the morning of August 19, while attempting to get on the front platform of a Third avenue car, he lost his foothold and slipped under the car, both wheels passing over one limb. He was taken to Bellevue Hospital, where amputation of the injured member was found to be necessary, which was followed at the end of a week by another surgical operation. His sufferings were intense, but he bore them patiently, and to the last kept business in mind, taking a lively interest in the office. His last audible words when sane were addressed to one of our young ladies, as, with a hand pressure, he attempted to name us all, sending his last words of love, but insensibility came on too soon for us to get that last message. His earth messages are all delivered, and the record-book is closed. M. E. LEWIS.

PATENT CLAIMS

RECENTLY ISSUED FROM THE UNITED STATES PATENT OFFICE.

67,410.—TELEGRAPH INSTRUMENT.—S. G. Cabell, Quincy, Ill. Aug. 6, 1867.

I claim, 1st, Operating a telegraph instrument by means of a magnet consisting of a helix interposed between two concentric pieces of soft iron, the inner forming a central core and the outer one a covering for the helix, substantially as described.

2d. The combination of the electro magnets, A and B, with the connecting piece, h, arranged so that by moving it to and fro, the magnets may be connected or disconnected at will, substantially as described.

3d. The combination of the magnet, A, with its vibrating arm, I, and the magnet, B, with its vibrating arm, G, when arranged to form one instrument, and to operate as and for the purposes herein set forth.

2,717.—INSULATOR FOR TELEGRAPH WIRES.—David Brooks, Philadelphia, Pa. Patented Nov. 29, 1864. Reissued Aug. 6, 1867.

1st. I claim the use, in the manner described, of hollow cylinder, h, of paper or its equivalent in connecting the glass block, B, to the casing, A, by means of sulphur.

2d. The use of paraffine as an insulating medium in telegraphic wire insulators, in the manner described, or in any other manner by which the same result is attained.

3d. The use in connection with telegraph wire insulators of sulphur or any other porous cement saturated with paraffine.

NOTICE.—By resolution passed by the National Convention N. T. U. at St. Louis, Sept. 13, 1867, the Treasurer of N. T. U. was appointed Supply Agent. Hereafter all applications for supplies must be made to A. L. WHIPPLE, Treasurer, Albany, N. Y. F. G. CHURCHILL, President N. T. U. La Porte, Ind., Sept. 17, 1867.

TO THE FRATERNITY.

ANY person causing the arrest and detention by the authorities, by virtue of a warrant issued from this place for FRANK A. HAZLETON, Telegraph Operator, will be amply remunerated by notifying me by letter or telegraph. He is supposed to be in the West. Description and photograph sent on application.

W. H. SISSON, Grass Lake, Mich.

TO TELEGRAPHERS.

LADIES and gentlemen connected with the Telegraphic business who may be desirous of becoming members of a Dramatic Association, organized for the purpose of amusement and mutual improvement by giving entertainments during coming winter, will please address

M. K. TOMPSON,  
Box 6077, New-York Post-office.

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We are working all instruments with an ENTIRE NEW MAGNET, excluding thereby all use of Local Batteries. Our Main-Line Registers and Sounders have been put to the SEVEREST TESTS, and are pronounced by competent judges

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We claim to gain more power or effective working force in our Instruments, with ten ounces of wire, than has heretofore been gained by using one pound, as we get rid of the residual magnetism.

We also manufacture a Relay with only ten ounces of wire, thereby putting very little resistance in the line, and doing the work as well, if not better, than those that contain one pound of wire and put a great resistance in the line.

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Chicago and Great Eastern.. John McCormack, Richmond, Ind.
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Cleve. and Pittsburg..... John Thomas, Wellsville, O.
Cleveland Painsv. and Ash..... T. H. Miles, Cleveland, O.
Cleve. and Toledo..... H. W. Stager, Cleveland, O.
Dayton and Michigan..... Geo. M. Lane, Dayton, O.
Dayton and Western..... C. S. Rogers, Richmond, Ind.
Detroit and Milwaukee..... Angus Fox, Detroit, Mich.
Delaware, Lack. and W.....
Del. and Hudson Canal Co..... C. Peterson, Honcsdale, Pa.
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Our friends throughout the country are particularly requested to inform us of any necessary additions or corrections in the above list.

Exposition Universelle, Paris, 1867.

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Journal des Telegraphes. REVUE MENSUELLE, INTERNATIONALE, LEGISLATION, JURISPRUDENCE, CHRONIQUE. M. J. D'AUBONNE, Redacteur en Chef, Bureau, 1 Rue du Mail, Paris, France.

Revista Telegraphica, Monitor Scientifico e Noticioso. Published monthly at Lisbon, Portugal. A. WELLENKAMP, Director.

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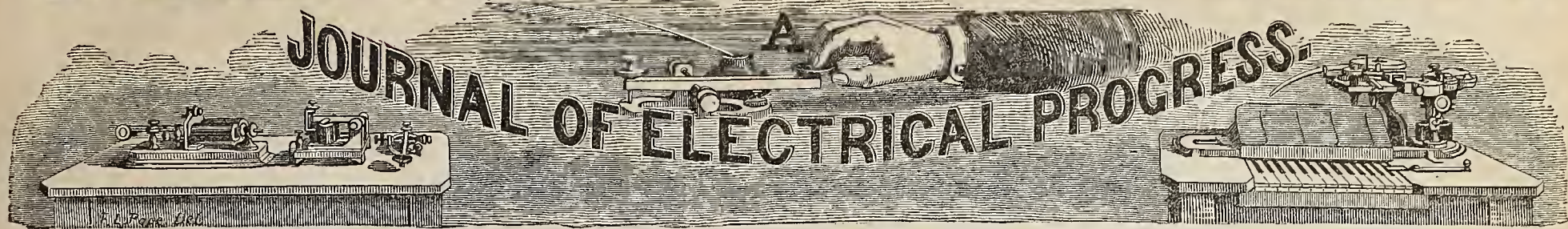
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# THE TELEGRAPHER.



Vol. IV.—No. 6.

New-York, Saturday, October 5, 1867.

Whole No. 64.

## Electricity at the American Institute Fair.

### III.

In continuation of our observations of last week, we next notice the fine set of instruments, adjoining the show case of Messrs. TILLOTSON & Co., manufactured by

DR. L. BRADLEY.

This gentleman shows two of the peculiar "box relays," which he was the first to bring into general use. Here is also a fine pocket instrument, very conveniently arranged, with a good lever key, the whole being of most elegant design and finish. The leading peculiarity of the instruments of this maker is in the helices of the magnets, which are of naked copper wire wound in such a manner that the convolutions are separated from each other by a uniform space of one-eighteenth hundredth of an inch. The different layers of wire are separated by thin paper. This mode of winding allows the wire to be laid much closer than is practicable with silk-covered wire, and with a given size and amount of wire a considerably stronger magnet is made without increasing the resistance. All of Dr. BRADLEY'S instruments are made in this manner, and that the merits of the invention are appreciated is evinced by the very large number which have been sold within the last four years. Dr. BRADLEY also shows a register of good design and workmanship, as well as some keys and sounders. Speaking of registers, we think a good reliable ink-marker, which could be depended upon at all times, would be a decided improvement over the time-honored embossing instrument, and on many lines could be used to advantage without a local. Why do not some of our enterprising instrument makers perfect this idea? The thing has been tried a number of times in this country with indifferent success, but still the difficulties in the way are merely mechanical, and might, it seems to us, be overcome without serious difficulty.

The most interesting article in the doctor's assortment, however, is his improved tangent galvanometer. It is well known that, with the ordinary galvanometer, the effect of the current becomes less and less powerful as the deflection increases; therefore, if a given current deflects the needle ten degrees, a current of double the intensity will not deflect it twenty degrees, but much less. This discrepancy has been overcome in the ordinary tangent galvanometer by hanging the needle in the center of a vertical coil, but it is necessary that the length of needle should not exceed one-sixth the inner diameter of the coil. The distance between the needle and the coil greatly impairs the sensitiveness of the instrument when made in this way.

Dr. BRADLEY employs a compound needle, composed of a number of pieces of thin flat steel, secured horizontally upon a light ring of metal, forming a circular disk of parallel needles, balanced upon an agate cup in the center. At each extremity of the meridian light points project to indicate the degrees of deflection. This compound needle being under the influence of the same number of convolutions in all its deflections, the latter are in all cases proportionate to the strength of the current. We consider this to be the most important improvement ever made in this useful instrument since its first introduction. This galvanometer is accompanied with a conveniently arranged set of resistance coils, varying from one-fourth of a mile to one hundred and fifty miles. There is no novelty about this requiring particular description. A simple

and effective lightning arrester arranged to discharge the electric fluid from sharp points instead of a flat surface, is worthy of attention.

### C. H. POND'S SELF-ADJUSTING RELAY,

exhibited by POND, CASTLE & Co., of Ohio, appears to excite a great deal of interest among telegraphers visiting the fair. This is a new invention, and, as well as we can judge without having seen it in operation, one of considerable merit. The specimen on exhibition is not as well constructed as could be wished, but serves to illustrate the principle sufficiently well. The armature lever presses against a flat steel spring, which opposes a continually increasing resistance to its movement as it approaches the poles of the magnet. The backward movement of the lever is checked by an adjustable screw, in the ordinary manner. At the moment the lever moves forward, the local circuit is closed upon a light movable frame, which is then carried along with it until the tension of the compensating spring equals the attractive force of the magnet, at which point the lever remains until the main circuit is again broken. The force of the attraction being now less than that of the spring, the lever is pushed back by the latter, instantly opening the local circuit, and carrying the frame back to its original starting-point. The local circuit is attached to this frame by a sliding connection. It will at once be seen that this arrangement is self-adjusting to a great extent. Whether it is sufficiently so to cover all the variations of an ordinary circuit can only be determined by actual trial. The principle is certainly a good one, and worthy of a careful and impartial trial by the telegraphic community.

### The Co-operative Telegraph Company.

MEETING OF TELEGRAPHERS AT ST. LOUIS—SPEECH OF J. W. STOVER.

IMMEDIATELY after the final adjournment of the Convention at St. Louis, a meeting of telegraphers was held in one of the large parlors of the Southern Hotel. We copy from the St. Louis papers of the 13th a report of the proceedings:

Mr. KENNETH MCKENZIE, of St. Louis, was called to the chair, and Mr. MAGUIRE was elected Secretary.

Mr. C. W. HAMMOND, of St. Louis, said, as telegraph companies are now organized, their employes have no future to look to. Partisanship and relationship have controlled the appointments to places of trust, and there is an actual necessity for a new company with which those who have absolutely ananased the fortunes for the few may have some chance. Not till a year since, however, did the matter take any practical shape, which led to a few gentlemen from New-England and New-York organizing what is known as the Co-operative Telegraph Company. The President, Mr. WOOD, is a man of unstained character and well-known energy, and no one doubts his ability to carry the movement on to complete success. The other corporators were also gentlemen of practical information and eminent ability, and one of them, Mr. J. W. STOVER, of New-York, was present, and he would call on him to address the meeting.

Mr. STOVER regretted his non-ability to properly address the Convention on so important a subject. His time had been so deeply engrossed as to utterly forbid his preparing a suitable address for this occasion. He felt satisfied that it was a movement of great importance, and

one that would hereafter eventuate in success. He did not propose to present a mere chimerical scheme, but he had a plan for a co-operative telegraph company which he thought would be of practical use. When the words, "What hath God wrought!" were flashed over the wires to Baltimore, there were men who had a proper conception of what the telegraph should be; but this great agent had fallen into the hands of men who had merely used it for the purpose of making money, and had never entertained any higher and better idea in connection with it. This was not a meeting of the "Union," but merely a convention of telegraph operators, and the Union should not be held responsible for any of their acts. At present the telegraph was controlled by one company, extending not alone over the country, but to the British Provinces. He did not desire to assail the Western Union Telegraph Company, but he would advise something that would permit the operators to rise from the mere level of a machine. He was surprised that the press, so powerful as it is in this country, should support so stupendous a monopoly. He was prepared to prove that the press was now paying sufficient for dispatches to pay all the running expenses of a telegraphic company extending over the entire country. He looked, therefore, confidently to the press of the country for a generous support in their movements.

He believed that as long as there was a telegraphic monopoly in the country, the press are virtually muzzled on certain points, and any paper under such circumstances that would dare to take issue with the present monopoly would be shut out from dispatches, and in losing a general subscription list, would eventually die.

He wanted the telegraphers of the United States to step forward and assist in placing the plan of the co-operative union prominently before the business-men of the country. The men connected with telegraph operations would probably number some fifteen or twenty thousand. The shares of stock in the new company were proposed to be put at \$100 per share, but it was instructed to issue fractional certificates, so that five per cent could be paid per month. By exercising economy in small matters every operator could purchase one share in a very short time, and thus each would be interested directly in the company. It was a fixed rule of the new company that every employe of the company should be a stockholder; interested in the business of the line and its successes. What greater assurance could be given to the business-men of the country that their business would be properly attended to than by putting over their doors, "Every operator on the line is a stockholder"? It was not intended, by any means, to go into this movement for the purpose of dividing profits with companies now in existence. He believed they could command two-thirds of all the business. By this movement press dispatches can be transmitted at one-half the present tariff. He held that the existence of a new company would benefit the operators wherever employed. The capital stock of the Co-operative Company had been fixed at ten million of dollars, to be issued from time to time as may be deemed necessary. The plan of payment was five per cent on date of subscription and five per cent in installments, not to exceed five per cent per month, until paid up. Everybody knows that every new company that had been started had for its prime object money-making from building contracts, and in almost every instance swindling had been the rule. But when, in this case, they could approach the capitalists of the



country with the assurance that it was an honest movement, he felt assured they would meet with success. They all knew that the Western Union Company, the great telegraph company of the country, was working on a fictitious capital of \$50,000,000, and that its profits for the first quarter of this year were nearly \$866,000, and they were declaring handsome dividends on this immensely watered stock.

If the telegraph tariffs were reduced, there was no doubt that the business would be increased. They had been assured by men who had devoted the best part of their lives to the telegraphic business that they could cover the entire United States with a comprehensive line of telegraph for \$5,000,000, and they had set the capital stock of this company at \$10,000,000, but they did not intend to issue for only the amounts absolutely required. They expected to secure better insulated lines than had ever been put up in the country, at much reduced prices.

He believed that the press had an equal interest with themselves and the public in breaking down the existing monopoly. He felt able to say that in all probability the existence of the New-York Associated Press would close with the present year, and that after that the press of that city would make no arrangements with any company which precluded themselves from getting news by any other line. The press had at one time proposed to have a telegraph of their own, but had been deterred by the falsehoods circulated by the telegraph companies, with regard to the cost thereof. This cost had been tremendously overrated.

Mr. STOVER added that it was evident, from certain positive indications, that the Western Union Company were preparing for a storm. Knowing that they could not consolidate further, in the event of the establishment of competing lines, they were preparing to sell out to the Government, provided they could secure a good price therefor. He then read some letters from prominent men in the telegraph business, approving the present movement, including one from M. L. WOOD, Esq., of Ithaca, New-York, accepting the position of presidency of the Coöperative Telegraph Company.

Mr. STOVER closed with an eloquent description of the future of the movement if proper encouragement be given. Shortly after, the meeting adjourned.

### A Telegraphic Banquet in the "Olden Time."

WE have been much interested in reading a report of a reunion of the telegraphers of this city, which took place at the Astor House, on the 26th of March, 1853, nearly fifteen years ago. From the accounts which have been preserved, it would seem that the participants had a good supper and a good time. The chair was occupied by J. A. LEFFERTS. Mr. N. T. CURTISS officiated as Vice-Chairman, and W. M. ALEXANDER as Secretary. The usual variety of toasts and speeches followed the entertainment, wherein many good things were said. From the remarks made on this occasion by Mr. SWAN, we take the following interesting extract:

"Mr. Chairman:—Telegraphing is eminently a progressive science. One can hardly realize that the system first promulgated in this country eight years ago is essentially the same as that of the present day, so much has it been changed and perfected by the genius of invention. I commenced learning to operate in 1845, I believe, in the city of Utica, on what was called the New-York, Albany and Buffalo Line, though at that time its termini were Albany and Syracuse. The first line built in this country extended from Washington to New-York, and the second was the Buffalo line I speak of, and which I am glad to see represented so fully and so creditably here to-night. I have a most clear and perfect recollection of the Utica office, as it appeared when I first set foot in it, and of the shape and form of the registering instruments. The relay magnet was as large as a tea-chest. The telegraph in those days was more of a curiosity, sir, than it now is. The gentlemen came to see the operation in crowds, and the ladies also, and we received or tried to receive reports of the doings of the Legislature at Albany, and we commenced operating at five o'clock in the morning, and if we got over a report of a hundred words, we thought we had done well, and everybody thought so, and was satisfied, and said the telegraph was a wonderful thing. Among those who manifested the

greatest interest in its operation in those days, I remember Judge BACON, a learned and eminent citizen of Utica, and you, Mr. Vice-President (turning to Mr. CURTISS), were there then, and recollect him well. You have not forgotten how he was wont to rap lustily on the office-door with his cane, at daylight in the morning, calling you and me from our beds, and afterwards standing by while you deciphered the report for the paper.

"Well, sir, those days have passed and gone, and the telegraph has ceased to be a wonder. It has been extended all over the face of our country, and now unites every city and principal town throughout the Union. And here, Mr. Chairman, I desire to make honorable mention of a name well known to all present, and to every one who has ever heard of a telegraph. I mean HENRY O'REILLY, to whose industry, energy and perseverance in the early stages of the enterprise, the country is indebted for those vast ranges of telegraph lines which connect the Atlantic Ocean and the seaboard with the fertile valleys of the Ohio and the Mississippi. (Applause.)

"There was a time when I believe I knew every telegraph operator in the country, either personally or by reputation, and now I scarcely know half who are seated around this table. Their number has increased in proportion as the lines have been extended, until the fraternity has become a large one. They form an important body, for they are workers in a great cause. They are daily and hourly entrusted with matters of the greatest importance, affairs which demand the utmost secrecy, and I am happy to say that I have never known an instance where honor has been forfeited."

Mr. SWAN then referred in eulogistic terms to the three systems of telegraphing then in use in the United States, MORSE'S, HOUSE'S, and BAIN'S, and concluded by proposing as a toast, the health of MARSHALL LEFFERTS, Esq., a gentleman to whose liberality, industry and persevering skill, BAIN'S telegraph was mainly indebted for its present usefulness and perfection. (Drunk with much applause.)

The Chairman proposed—"To our closer Union: may the element that gives us employment serve to unite us in a true unbroken circuit of friendship, and may every telegrapher entertain for his associates a brother's feelings."

Mr. MUNSON responded in a few appropriate remarks, and proposed the following: "Telegraphers generally: May harmony ever prevail with its 'magnetic' influences; may there be no 'Bain' to our existence, no enemy in our 'House' but may our 'Union' North and South, East and West be as durable as the element itself."

Want of space prevents our reording further what was said and done on this pleasant occasion. We have made these extracts thinking they might prove interesting to many of our readers as a reminiscence of the days when the telegraph was in its infancy, and the Atlantic cable was a thing as yet undreamed of in the philosophy of the telegraphic projectors of the day.

"MY NAME IS NORVAL."—A year or two ago, a young person telegraphically known as "H," was sending press report from New-York via Pittsburg to the West, and on one occasion he had some words with the operator at Pittsburg, the latter disrespectfully terming him a "jaekass," and peremptorily refusing to apologize. "H." asked his name, whereupon Pittsburg replied: "My name is NORVAL!" "All right, Mr. NORVAL, you will hear from me again," replied New-York. After he "got out of eopy" he called up the chief operator at Pittsburg and informed him that his man NORVAL had used ungentlemanly language to him. "All right," said "F.," "I'll see that he makes proper amends;" and accordingly soon after the following apology was sent:

"To 'H.' New-York:—You seem deeply insulted by a remark I made during the transmission of Western press. I deem it due both to you and to myself to offer an apology. As I was born and raised on the 'Grampian Hills' along with the swine and flocks, I cultivated a taste for personal abuse, for which I have no natural talent, and which has grown beyond my control. Considering my humble birth and bringing up, please accept the humble apology of

"Your obedient servant, NORVAL."

The apology was undoubtedly satisfactory, as the operator whose father was "a humble swain" hasn't heard "H." on report since.

## 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.*

### Letter from Massachusetts.

TO THE EDITOR OF THE TELEGRAPHER:

I NOTICED in your last letter from Maine, which seemed to be a strenuous effort on the part of some one to build up the reputation of the Western Union line at the expense of the International. Perhaps "Mc" is one of those unfortunate beings that were disappointed in getting a situation on the International line and has not fully recovered from the effects. As to the success of the company, as an opposition, it is evident by the amount of business done over its wires, that a portion, at least, of the business community are satisfied that it is for their interest to have their business done promptly and at reasonable rates. The operators, if there are any that were "recent office boys from the Western Union line," are not working in accordance with their early teachings, as they do not allow messages to remain in their offices more than forty-eight hours before delivering them, and the "graduates from commercial colleges" seem to have a pretty clear idea of telegraphing and the requirements of the public, and we presume that Mr. SAWYER, as well as the operators on the International, can fully sustain themselves upon their own merits, without the comments or congratulations of outsiders.

Massachusetts, September, 1867.

OBSERVER.

### Operators and Opposition Lines.

TO THE EDITOR OF THE TELEGRAPHER:

I UNDERSTAND that an effort is being made to protect the telegraphic fraternity against the evils which result to them from the liability of being thrown out of employment by collapse of opposition lines. That it is of the first importance to our interests that competing lines be established and maintained, no sensible person in the United States, not specially detailed and paid for such nonsense by the Western Union monopoly, will undertake to deny. Let me say that in my opinion the remedy is entirely in the hands of the fraternity, and by your indulgence I will state through the columns of THE TELEGRAPHER my views on this, to us, very important subject.

The disclosures of your correspondent, "ALLIANCE," respecting the difficulties occasioned to the United States lines because of faults of location and construction, indicate clearly why they could not be successfully worked (and since the opposition now building is in no sense a material improvement on those lines), also afford abundant evidence that the lines of the Atlantic and Pacific, Pacific and Atlantic, and the half dozen other opposition fragments now struggling for a bare existence, must inevitably succumb and even more disastrously than did those of the United States Company.

Telegraphers may have sympathy for "the opposition," whether employed by it or by the old company, for the interests of one and all are in its success. Yet, my fellow-workers, let not our sympathies so far warp our judgment as to lead us to fall blindfold into the net spread by the projectors and contractors of these opposition lines—not for us, but not less fatal to us than if designed for us, provided we walk into it.

Let us take warning by the experiences of the past. It is entirely reasonable that those of us not absolutely engaged with or upon any of the lines now working in opposition to the lines of the Western Union Company insist, and our duty to ourselves and to our fellow-telegraphers requires that we do demand, before entering the service of the opposition, that they make to us better and more reliable guarantees of permanent business than simply assurances that they "are not to be sold out," and "are to be a permanent opposition." All this was said by the United States Company, and we cannot hope for a better effort from any body of telegraph superintendents, operators and employes generally, than was made to carry through that attempt.

No; we cannot safely accept any such assurances, and in refusing to accept them we do not mean to be understood



as questioning the good faith of the gentlemen who are seeking to build up the opposition. We do say, however, that we are entirely convinced that they cannot maintain an independent existence for a sufficient length of time to warrant any telegrapher, not in immediate danger of becoming a beggar, to engage in their service.

By united and harmonious effort on our part, this whole business of erecting telegraph lines for the especial advantage of their projectors only, and without regard to the damaging results to both the stockholders and employes, can be effectually checked.

We have but to say that we decline, one and all, to accept positions in the service of those companies for the reasons stated above. May not the Co-operative Telegraph Company lease for a long period these lines upon fair and reasonable terms, and thus secure us against the chances of being sold out, and at the same time protect the stockholders to some extent against the losses they must suffer, and secure to the public the advantages to be derived from permanent competition?

As one who expects and desires to pursue the business of telegraphing, I present these views for the consideration of the fraternity, and shall be most happy to hear the opinions of others on this question.

In order that the subject be well understood by the fraternity, it seems important that THE TELEGRAPHER be placed in the hands of every operator and superintendent in the land. The time is at hand when, at less investment of money than is required by any equal number of persons in any other business, the telegraphic fraternity can secure a position to fully secure themselves against danger of oppression at the hands of monopoly.

Let those who have the means become at once subscribers to the stock of the Co-operative Telegraph Company in such amounts as they are able, and let one and all the fraternity decline to embark in the opposition service till secured against an inglorious defeat in the way proposed, and leave the gentlemen of the opposition to negotiate with the regularly constituted officers of the only company whose special interest it is to protect the interest of the fraternity.

UNION.

Chicago, Sept. 20, 1867.

### Letter from Hartford.

TO THE EDITOR OF THE TELEGRAPHER:

NEVER having read any notes from this section in your valuable paper, I have taken occasion to drop you a few lines.

It has always been a mystery to me that in a large city like this the Telegraph Union has never, as far as I know, had a single member, especially in consideration of the fact that we have about fifteen operators at work in the city, to say nothing of the inmates of one of those famous telegraphic colleges, where they profess to learn young men to read by sound, and turn them out as first-class operators in a space of time varying from four to six weeks. The first teacher in this "college" could not read by sound himself, and is not even fit for a railroad "plug." This professor, however, has retired, and now one of our oldest operators, who ought to know better, has taken charge of the institution, and proposes to "bamboozle" young men into the belief that he can manufacture first-class sound operators. When will this imposition be at an end?

If THE TELEGRAPHER could make it convenient to publish a complete list as far as possible of the offices on the opposition lines, it would, I think, be a great benefit to the fraternity everywhere. Cannot this be done, Mr. Editor?

We are ready here, and not only ready but anxious, to carry out the plan of a Co-operative Telegraph, and plenty of capitalists can be found to aid us in this city, which is the "head center" of the insurance business.

The Connecticut River Telegraph Company have not yet got their line at work, in consequence of the defective insulation used. It is said that the whole line will have to be reinsulated before it can ever be made to work. There is no insulator equal to the Brooks, and next to that the well-tryed glass and bracket with a good No. 8 wire.

Several new lines of a local nature are projected in this vicinity, and will eventually be carried through.

We have in this city five telegraph offices and four different lines, in addition to the city fire-alarm telegraph, which it is hoped will soon be in working order.

I cannot close without sending you one or two "bulls" made not a thousand miles from here:

[ORIGINAL.]

To Mrs. J. S—:

Missed the seven o'clock train. Am going to Brookfield.

J. S—.

[AS RECEIVED.]

To Mrs. J. S—:

Couldn't get sugar like that. Am going to Ridgefield.

J. S—.

The lady returned the message, saying she didn't know what it meant, and a repetition disclosed the "goak."

The collegian who achieved the above had been sitting up late the night before with a miss of sweet sixteen, which accounts for his mind running upon sugar!

Here is one more:

To — "S"

From N. Y.

Grandpa died this afternoon. Come down.

And it was received thus:

"Grand panie this afternoon. Come down."

Hartford, Conn., September, 1867.

PINTO.

[We have not the material at hand for compiling the list of stations our correspondent asks for. It is our intention to give a correct list of the stations on every new line when opened, and we suggest that their officers furnish us with the necessary information.—ED. TELEGRAPHER.]

### The Pacific and Atlantic Telegraph Company.

TO THE EDITOR OF THE TELEGRAPHER:

YOUR correspondent, TELEGRAPHICUS, in furtherance of his own particular interest in the matter of opposition and competing lines, takes occasion, in your last issue in August, to say some unkind and unjust things of the Pacific and Atlantic Telegraph Company of the United States. The lines of this company are not "a damage to telegraphers," or "a loss to the stockholders," as I propose in a few words to show.

The Pacific and Atlantic Telegraph Company of the United States is a Western enterprise, built by Western money, and managed by Western men. Its lines are superior to any heretofore built in the United States, and cost the stockholders less money. They are built for cash, and not in the interests of the contractors or projectors, but solely and exclusively for the benefit of the stockholders. There never has been a share of the stock of this company issued to any person whomsoever, except upon the payment of twenty-five dollars in cash; that being the par value of its shares. This company has not sprung up, mushroom-like, in a day, but has been in existence, and some of its lines working, over two years, and has been steadily and quietly growing until now it has more than a thousand miles successfully working. It has declared eight regular quarterly dividends, at the rate of ten per cent per annum, from the actual earnings (profits) of its lines. On the first of October another dividend will be declared at the same rate. This line is now working from Philadelphia to Cincinnati, and in connection with the Southern Telegraph Company (another honestly built and well managed line, on its way from Cincinnati to New-Orleans), to Lexington and Louisville, Ky.

The Pacific and Atlantic Telegraph Lines are not being "rapidly" constructed to the far West, but they are being surely and carefully built to Chicago, St. Louis, and all other important cities and towns.

Hereafter, when "Telegraphicus" or any other "euss" feels disposed to hold up to public gaze telegraphic failures, let him, for the sake of truth and justice, except the Pacific and Atlantic Company, since it has proved itself equal to the task of making a reduction of one-half in the prices for telegraph messages, and paying to its shareholders ten per cent on their investments, with the almost certain prospect of doing much better when the lines reach the more important commercial points of Chicago and St. Louis, with wires sufficient to do the business promptly.

To settle the question that seems to agitate the minds of many of your correspondents, as to whether an opposition line will pay, permit me to refer them to the

Pacific and Atlantic Telegraph Company of the United States. PROGRESS.

### The Morse vs. the Printing Telegraph System.

TO THE EDITOR OF THE TELEGRAPHER:

A LENGTHY editorial, published in the *Telegraphic Journal* of the 17th inst., takes the Morse system in hand and dresses it down with a comparison of

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and  
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The writer of that article is either a second-class paper "plug," or else a person who has not yet learned the first principles of Morse telegraphy. If he were a Morse sound operator he would know that however much "Ionas" and "cents" look alike when dotted down in the Morse characters, they do *not* sound alike even when carefully written with the key.

I really do not believe he ever heard of a like mistake having been made. In fact, he is too cautious to make that assertion. Then again he cites another imaginary "spook" giving us

--- -- --  
and  
--- -- --

Here he does not have similarity on his side, but goes on to say that an operator could easily substitute one for the other. With the most incapable plug that was ever turned loose from a commercial college, this would be an utter absurdity.

He must be very much prejudiced, judging from the tone of the article in question, where he so enthusiastically extols the printing instruments in preference to the long-tryed and simple Morse mechanism. He instances imaginary errors that possibly *may* occur by the Morse system, but is wonderfully silent as to those actually committed by his favorite, the printer.

Let us have two sides to this question, Mr. Editor, and use the rake a little on the other side of the potato patch.

First. We will haul up the following: Some months since a dispatch was received from New-York and delivered at Albany in which the word "Crapes" was distinctly lettered on the tape paper as per printing instrument. The man to whom the message was addressed not being an undertaker but a dealer in fruits, naturally scratched his wool and wondered what in the name of love was intended. Upon investigation it was discovered that "Grapes" should have appeared. An imperfection on the lower part of the G made it a perfect C.

Secondly. About two weeks since a dispatch was sent via printer from New-York to Albany to be repeated West, in which GETMAN, a man's name, occurred. It came *get man* and was corrected by Morse west of Albany. This latter, however, only goes to show that an operator on the printing instrument is just as liable to blunder in reading the original as those on the Morse. Many more such outrageous errors can be traced to the printer.

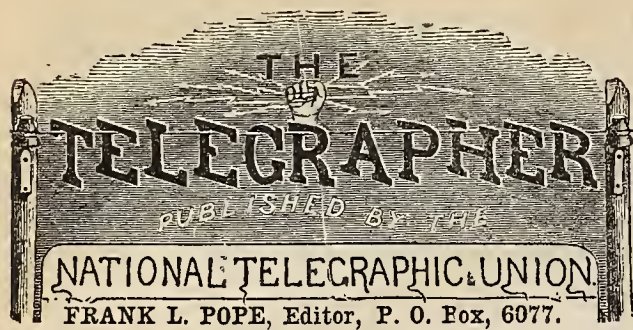
Atmospheric causes, crosses, and imperfect alphabets have nothing to do with a majority of telegraphic blunders. When the public are made to understand that their dispatches are liable to be mutilated unless written plainly, and when messages are refused unless so written, then we may expect to have done with mistakes. Not a day passes over the head of a first-class operator without having messages placed in his hands for transmission, that a dozen Philadelphia gentlemen, and a supreme judge in the bargain, would lay aside as unintelligible. A telegraph operator is supposed to be capable of deciphering almost every variety of hieroglyphics (perhaps the original Greek excepted); but dispatches often come into his hands which he can make nothing of, and his only recourse is to "hold" for translation. It is customary with most persons, especially with many who occupy positions of honor, to write a sprawling crows-track hand, having an idea, I suppose, that it is rather *distingue*.

If this custom could be remedied, I think the main cause of all telegraphic blunders would be set aside, and our friend of the *Telegraphic Journal* soothed into silence upon this question at least.

AGITATOR.

BRANCH OFFICE CLOSED.—The Bankers' and Brokers' Company have closed their branch office at WATERS & EASTERS (Z), in Baltimore.





SATURDAY, OCT. 5, 1867.

### IMPORTANT TO TELEGRAPHERS.

IN order that a full and accurate record may be made of the persons employed in the business of telegraphing in this country, and the materials obtained for a correct Telegraph Directory, which is regarded as important in the furtherance of the interests of the Union and our profession, District Directors and Secretaries and others, are requested to forward immediately to the Editor of THE TELEGRAPHER such lists, giving the name, present location, occupation and Post-office address of all operators, clerks, linemen, builders, etc., in their locality. Also the names, location and present occupation of such persons as have been heretofore engaged in the telegraph business, but who are now otherwise employed.

A prompt response to this request is earnestly desired.

### THE CO-OPERATIVE TELEGRAPH COMPANY.

IN a recent number of this paper we pointed out to the telegraphers of the country the fact that the only permanent remedy for the grievances that they suffer under at the present time, is in the formation of a telegraph company, to be either partially or wholly managed on the co-operative principle. Thinking members of our profession can hardly fail to see that in this direction also lies the only future hope of improvement in the telegraphic system of this country.

We have stated that an organization of this kind was under way with encouraging prospects of success. We are now enabled to enter somewhat more fully into the details of the proposed plan.

This movement was inaugurated some time since, but it was decided not to lay the matter before the public until sufficient encouragement had been received to warrant a reasonable expectation of the ultimate success of the effort.

The matter was first publicly broached at a meeting of the telegraphers of St. Louis a few days since, of which a report will be found in another column, and a very enthusiastic meeting was subsequently held at Chicago.

The parties who originated this project fully appreciate the difficulties and opposition to be encountered, but entertain no doubt of its final success if properly sustained by the great body of telegraphers in this country. There can be no reasonable doubt that a telegraph company combining the interests of labor and capital, and constructed and managed in an intelligent and honest manner, can be made peculiarly successful.

The telegraphers of the country will immediately be afforded an opportunity of subscribing to the

stock, in such amounts as they may feel that their true interests shall warrant. A considerable number of subscriptions have already been received. When a sufficient amount of subscriptions have been obtained from the telegraphers themselves, to prove their interest and confidence in the movement, it is proposed to present the plan to the business-men and capitalists. Under such circumstances there can be but little doubt of their hearty and effective co-operation.

The capital stock of the company has been fixed at ten million dollars, in shares of one hundred dollars each; but in order to enable every one connected with or interested in the business to participate in the enterprise, a certain amount of the stock will be issued in fractional one-tenth shares, *pro rata*.

It is provided that the capital stock shall only be issued as required to carry out the plans of the organization, and only so much of it as shall from time to time be necessary, either for the lease or purchase of existing lines, the construction of new lines, and such other legitimate expenditures as may be deemed advisable by the Executive Committee, when sanctioned by the vote or written consent of two-thirds of the whole board of directors.

This company has been organized under the laws of the State of New-York, and its officers at the present time are as follows:

President, M. L. WOOD.  
Vice-President, C. W. HAMMOND.  
Secretary, J. N. ASHLEY.  
Treasurer, A. L. WHIPPLE.

The names of these gentlemen will command the confidence and respect of the whole telegraphic fraternity. The President, Mr. M. L. WOOD, will be remembered as the General Superintendent of the late United States Telegraph Company. The other officers are all old and well-known telegraphers. The Executive Committee is composed of the following gentlemen: M. L. WOOD, J. W. STOVER, A. L. WHIPPLE, F. L. POPE and L. M. MONROE.

In presenting this matter thus fully to our readers we wish it understood, that although this paper is the organ of the NATIONAL TELEGRAPHIC UNION, yet that organization is not responsible for the existence of the Co-operative Telegraph Company. We consider ourselves fully justified, however, in favoring the project, for the reason that we are firm in the belief that it is only through the success of such an enterprise that the condition of telegraphers can be materially and permanently improved.

**THE TELEGRAPHERS' MUTUAL RELIEF ASSOCIATION.**—This association, based upon the plan proposed at the last Convention of the National Telegraphic Union, will very soon complete its organization and issue a prospectus. It will be under the management of the Executive Committee of the Union, and organized under its special charter, granted by the State of New-York. A small entrance fee will be charged, and an annual assessment made sufficient to cover the necessary working expenses, which, however, will be very small.

On the decease of a member, his mother, widow, or children will receive as many dollars as there are members in the association. Any person connected with the telegraphic business, in any capacity whatever, whether members of the Union or not, can become a member of the relief association if of proper age and in good health. In order that the liabilities of members shall not become too great, it is proposed

to limit the number for the first year to not more than three thousand members. We feel confident that large numbers of the fraternity will avail themselves of this exceedingly simple and economical plan of life insurance, which was first suggested in this connection by one of the members of the New-York District at a meeting some two months since.

### PERSONAL.

C. M. GREENE, formerly of Nashville, but recently from St. Paul, has accepted a place in Chicago office.

A. H. BAUER has resigned his position as operator in the Gold Exchange (K) office of the Franklin Company in this city. He goes in partnership with CHAS. WARD, of Boston, in the brokerage business.

GEORGE W. PORTER and F. M. SMITH have been appointed testing operators in the Western Union office in Philadelphia.

D. W. MCANEENY has resigned his position in the Western Union office in this city to accept the managership of the Utica office of the Atlantic and Pacific Company.

JAMES F. CRATE has been appointed manager of the Western Union Company's Beaver and William street office (Fx), *vice* M. B. LILLIS.

JAMES PATRICK has resigned his position as assistant manager of the Western Union office in Philadelphia.

H. C. ROBINSON has been appointed chief operator in the Western Union Office, in Philadelphia.

J. H. NICHOLS has resigned the managership of Petersburg, Va., office, to accept a position in Denver, Col., office.

JAMES DONNELLY has been transferred from Kellogg to Des Moines, Iowa.

O. JENNINGS, for the past three years operator at the Tremont House and Board of Trade offices in Chicago, has accepted a position with the Independent Telegraph Company, at Racine, Wis.

STEVE RYDER, for the past three years messenger at the Board of Trade office, in Chicago (W. U. Co.), has accepted a situation as book-keeper and operator with the Independent Company at the same place.

Mr. WOODYATT for some time manager of the Montreal Co.'s office at Kingston, C. W., has resigned and removed to Cleveland, Ohio, to engage in the study of medicine. His removal will be regretted by the Young Men's Christian Association, of which he was an active member. He is succeeded by Mr. JAMES KEARNS.

### MISCELLANEA.

**THE CONVENTION PROCEEDINGS.**—We are unable to publish the report of the proceedings of the St. Louis Convention, as promised in this number, without delaying it too much beyond the regular day of publication. They will appear in the next number of THE TELEGRAPHER.

**THANKS.**—We are under great obligations to D. K. SMITH, Peoria, Ill., R. COGSWELL, of Lee, Mass., and two or three others for back numbers of THE TELEGRAPHER.

**CONNECTICUT RIVER TELEGRAPH COMPANY.**—This company have been building their line during the past summer, and have completed it from Hartford to Saybrook, Conn., a distance of about eighty miles. There are quite a number of small places along the river brought into telegraphic connection by this enterprise. It will connect with the Western Union lines at Hartford. L. M. MUNROE and L. S. HILLS were the contractors for the line.

**CONCERT AND PRESENTATION.**—On Monday evening last, Mr. WILLIAM C. WATERS, organist of the Reformed Dutch Church in West 23d street, gave an entertainment to a few friends, and performed some very difficult pieces on the organ, to the great satisfaction of all present; and proved himself a thorough master of the instrument. He was assisted by his brother, CHARLES E. WATERS, one of the best singers in New-York. At the close of the entertainment, Mr. WILLIAM WATERS was unexpectedly



presented by Mr. W. B. FRENCH, in behalf of those present with a gold watch and chain. Everything passed off very pleasantly.

A CHALLENGE TO LINEMEN.—JAMES SULLIVAN, of Valley Falls, Rhode Island, challenges anybody to compete with him in climbing one hundred telegraph poles, for \$100 a side; or to climb a fifty-foot pole one hundred times.

THE INTERNATIONAL TELEGRAPH COMPANY.—The lines of the International Telegraph Company are now finished and working between Boston and Bangor, Me., with stations at Salem, Ipswich, and Newburyport, Mass., Portsmouth, N. H.; Biddeford, Portland, Brunswick, Bath, Richmond, Gardiner, Augusta, Wiscasset, Damariscotta, Waldoboro, Thomaston, Rockland, Rockport, Camden, Belfast, Scarsport, Stockton, Winterport, and Hampden, Maine.

THE NEW SOUTHERN TELEGRAPH LINE.—This line is now regularly open for business, and the public may rely upon being faithfully served so long as it continues in the hands of the present management. General KIRBY SMITH, the president of the company, informed us a few days ago that the cost of the line would not exceed \$200 per mile, including every expense which the company would be at up to the time of opening for the receipt of business. The line is wholly constructed of cedar posts of large size; the wire is very substantial, and galvanized to prevent corrosion; the instruments of the latest approved pattern and the operators are the most accomplished telegraphers in the country. We doubt if any telegraph line was ever more faithfully constructed, or one at less cost to the stockholders. The Western Union line represents a capital of \$3000 per mile, and if it can pay a dividend upon that amount of capital the Southern certainly ought to pay a fair return on \$200 per mile.—Lexington, Ky., Gazette.

BASE-BALL.—A game of base-ball was played at Brooklyn, last Saturday afternoon between the Demas Barnes and Western Union Telegraph Base-Ball Clubs, and resulted after five innings in favor of the latter by the following score:

Table with columns for W. U. TELEGRAPH and DEMAS BARNES, listing players and scores. Includes a sub-table for INNINGS with columns for Clubs, 1st, 2d, 3d, 4th, 5th, and Total.

Umpire—Mr. NELSON, of W. U. Telegraph Club. Scorer—Mr. SHAY. Time of game—Two hours.

THE EARTH CIRCUIT.—The first philosopher who demonstrated that voltaic electricity could be conducted by the earth, and to use a ground circuit for this kind of electricity was Professor JOSEPH HENRY, now Secretary of the Smithsonian Institution at Washington. He made the experiment in illustration of his lectures on the electro-magnetic telegraph, shortly after becoming professor at Princeton College. Dr. STEINHEIL, of Munich, Bavaria, had previously demonstrated that magneto-electricity could be transmitted through the earth in the same manner.

NOTICE.—By resolution passed by the National Convention N. T. U. at St. Louis, Sept 13, 1867, the Treasurer of N. T. U. was appointed Supply Agent. Hereafter all applications for supplies must be made to A. L. WHIPPLE, Treasurer, Albany, N. Y. F. G. CHURCHILL, President N. T. U. La Porte, Ind., Sept. 17, 1867.

Atlantic and Pacific Telegraph Co., CAPITAL, \$5,000,000. Lines in progress from New-York to Chicago. A. F. WILLMARTH, President. C. A. HARPER, Secretary. CHAS. E. PERRY, Superintendent.

Bankers' and Brokers' Telegraph Co., CAPITAL, \$1,050,000. Lines extending from New-York to Washington and Georgetown, D. C. WM. CALLOW, President. JOHN L. CRAWFORD, Secretary and Treasurer. J. W. DYER, Acting Superintendent.

California State Telegraph Co. CAPITAL, \$2,500,000. Lines extending from San Francisco, Cal., to Salt Lake, U. T., and New-Westminster, British Columbia. GEO. H. MUMFORD, President. GEO. S. LADD, Secretary. JAMES GAMBLE, Superintendent. R. R. HAINES, Assistant Superintendent.

Franklin Telegraph Company. CAPITAL, \$1,000,000. Lines extending from Boston to Washington. J. B. STEARNS, President. J. W. BROWN, Treasurer. J. G. SMITH, Superintendent.

Illinois and Mississippi Telegraph Co. CAPITAL, \$1,500,000. [Leased to the Western Union Company.] J. D. CATON, President. T. D. CATLIN, Secretary and Treasurer.

International Telegraph Company. CAPITAL, \$300,000. Lines completed from Boston to Bangor, Me. [In progress.] E. K. HARDING, President. Hon. WOODBURY DAVIS, Treasurer. CHAS. H. SAWYER, Superintendent.

International Ocean Telegraph Co. Lines extending from Lake City to Key West, Fla., and Havana, Cuba. WM. F. SMITH, President. M. M. DELAFIELD, Treasurer. W. H. HESS, Superintendent.

Northern Telegraph Company. CAPITAL, \$100,000. Lines completed from Boston to Bristol, N. H. [In progress.] Hon. FREDERICK SMYTH, President. W. W. STORRS, Treasurer. J. W. ROBINSON, Superintendent.

Northwestern Telegraph Co. CAPITAL, \$1,150,000. Lines extending from Milwaukee through Wisconsin, Michigan, Iowa, and Minnesota. Z. G. SIMMONS, President. H. B. HINSDALE, Secretary and Treasurer. S. ROBERTSON, Superintendent. C. C. SHOLES, Advisory Superintendent.

Pacific and Atlantic Telegraph Co. OF THE UNITED STATES. CAPITAL, \$3,000,000. Lines completed from Philadelphia to Pittsburg and Cincinnati. [In progress.] GEO. H. THURSTON, President. E. J. ALLEN, Secretary and Treasurer. A. J. BALDWIN, Superintendent. A. Q. CASSELBERRY, Assistant Superintendent.

Western Union Telegraph Co. CAPITAL, \$40,000,000. Lines extending throughout the United States, Nova Scotia, and New-Brunswick. WM. ORTON, President. O. H. PALMER, Secretary and Treasurer. MARSHALL LEFFERTS, Engineer. THOS. T. ECKERT, General Superintendent. ANSON STAGER, " JOHN VAN HORN, "

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THE TELEGRAPHER: A Journal of Electrical Progress, PUBLISHED EVERY SATURDAY, BY THE NATIONAL TELEGRAPHIC UNION, AT No. 16 BROAD STREET, NEW-YORK.

WITH the number of August 31st THE TELEGRAPHER enters upon its fourth volume. In the future, as it in the past, it will be the aim of its conductors to make it in every respect

A FIRST-CLASS TELEGRAPHIC NEWSPAPER. It will continue to advocate, as it has done heretofore, in an independent and fearless manner the just rights of the TELEGRAPHIC FRATERNITY, to whom it owes its origin and support. It will seek to point out and correct abuses, wherever existing, to elevate the moral and scientific standard of the Telegraphic profession.

It will not support the views of any particular person or corporation, but will discuss all subjects relating to Telegraphy in a progressive, independent, and liberal spirit.

THE TELEGRAPHER will contain numerous original contributions upon Electrical and Telegraphic science; Correspondence from various parts of the world; Literature and Poetry upon Telegraphic subjects; Notices of changes of Telegraphic offices; and other incidents and items of personal interest, together with a large and varied selection of Telegraphic News-items, Notes, and Memoranda of every description.

THE TELEGRAPHER will continue, as heretofore, to be illustrated with a large number of

SPLENDID ORIGINAL ENGRAVINGS of new and interesting inventions, and other subjects pertaining to Telegraphy, prepared expressly for its columns by the first artists in the country. This is a feature possessed by no other Telegraphic journal in the world.

Though the medium of its Foreign Correspondence and exchanges, the readers of THE TELEGRAPHER will be kept fully informed of all matters of Telegraphic interest transpiring in other countries. In short, its pages will contain a complete record of the progress of Electrical Science, and especially of the Electric Telegraph, in every part of the world.

Whatever the experience of its conductors—whatever industry, energy, and a liberal expenditure of money can accomplish towards making it a paper indispensable to the profession—is pledged to the subscribers of THE TELEGRAPHER.

Correspondence, items of news or personal interest, and newspaper extracts relating to Telegraphic matter, are solicited. The cooperation of every person interested in sustaining a first-class Telegraphic newspaper is cordially invited. A reasonable amount will cheerfully be paid for any trouble or expense undertaken in behalf of THE TELEGRAPHER, or for any original articles which may be used.

THE TELEGRAPHER is the only journal in this country devoted strictly to Telegraphic interests.

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Club rates are not allowed to District Directors unless for persons not members of the Union.

THE PAPER WILL ALWAYS BE DISCONTINUED WHEN THE PAID SUBSCRIPTION EXPIRES.

Remittances for subscriptions may be made by mail, in National currency, at our risk—the attention of the Postmaster being called to the mailing of the letters; but Post-Office orders or drafts on New-York, being safer, are preferable.

ADVERTISEMENTS. Terms, CASH. One insertion, per line 15 cents. Each subsequent insertion, per line 10 " No advertisement inserted for less than 50 cents.

Displayed advertisements are charged for the actual space occupied.

District Directors or others who may interest themselves in procuring subscribers at our advertised rates, and remitting us the money, will receive our thanks—and an Extra Copy for one year for every Club.

The following persons are authorized to receive subscriptions for THE TELEGRAPHER:

- H. W. POPE, Boston. A. H. BLISS, Chicago. C. W. HAMMOND, St. Louis. K. MCKENZIE, St. Louis. M. D. CRAIN, " M. D. BUCKWELL, Philadel. S. C. RICE, Albany, N. Y. W. H. YOUNG, Washington. A. L. WHIPPLE, Albany, N. Y.

Newspapers, by inserting this Prospectus, and sending a marked copy to the Editor, will be entitled to an exchange.

All communications and letters relating to THE TELEGRAPHER must be addressed to the Editor,

FRANK L. POPE, P. O. Box 6077, New-York.



BALLSTON SPA TELEGRAPH INSTRUMENT MANUFACTORY.

S. F. DAY & CO.,

MANUFACTURERS AND DEALERS IN ALL KINDS OF

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We would call the attention of all Telegraphers and Telegraph Companies to the fact that we are manufacturing

aph Instruments in the country.

THE BEST

We are working all instruments with an ENTIRE NEW MAGNET, excluding thereby all use of Local Batteries. Our Main-Line Registers and Sounders have been put to the SEVEREST TESTS, and are pronounced by competent judges

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We claim to gain more power or effective working force in our Instruments, with ten ounces of wire, than has heretofore been gained by using one pound, as we get rid of the residual magnetism.

We also manufacture a Relay with only ten ounces of wire, thereby putting very little resistance in the line, and doing the work as well, if not better, than those that contain one pound of wire and put a great resistance in the line.

HENRY A. MANN.

SAMUEL F. DAY.

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Chicago, Rock Island, and Pacific... A. R. Swift, Chicago, Ill.
Chicago and Milwaukee..... G. H. Bliss, Chicago, Ill.
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Dayton and Western..... C. S. Rogers, Richmond, Ind.
Detroit and Milwaukee..... Angus Fox, Detroit, Mich.
Delaware, Lack. and W.....
Del. and Hudson Canal Co..... C. Peterson, Honesdale, Pa.
Erie Railway..... W. J. Holmes, New-York.
Dubuque and Sioux City..... R. S. Fowler, Dubuq, Io.
Erie and Pittsburg..... D. H. Fitch, Linesville, Pa.
Grand Trunk Railway of Canada... H. P. Dwight, Toronto.
Great Western..... T. J. Waugh, Hamilton, C. W.
Hannibal & St. Josephs..... A. C. Waterhouse, Hannibal, Mo.
Hudson River R. R..... S. K. Rupley, Poughkeepsie, N. Y.
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Northern Central..... Cameron Wilson, Harrisburg, Pa.
North Missouri..... M. D. Crain, St. Louis, Mo.
New-York and Harlem..... D. Waldron, New-York.
Ohio and Mississippi..... C. W. Temple, Vincennes, Ind.
Oil Creek..... P. H. Dwyer, Corry, Pa.
Penn. Central.. Divison Oprs. { Jesse Cronse, West Phila.
{ A. R. Kiefer, Harrisburg.
{ J. Suter, Outer Depot, Pittsburg
Phila. and Reading..... C. T. Sellers, Reading, Pa.
Phila., Wilm. and Balt..... J. A. McLaughlin, Philadelphia.
Pittsburg, Col. and Cin..... J. B. McMullen, Steubenville, O.
Pittsburg, Ft. Wayne and Chi... O. H. Booth, Mansfield, O.
Platte Country R. R..... R. C. Clowry, St. Louis.
Pacific R. R. of Mo..... K. McKenzie, St. Louis.
Raritan and Delaware Bay... R. H. Woodward, Red Bank, N. J.
Rensselaer and Saratoga..... Isaac Ford, Troy, N. Y.
Sandusky, Mansfield and Newark... J. Lytle, Newark, O.
Sandusky, Day. and Cin..... A. C. Frey, Sandusky, O.
Toledo, Peoria and Wabash... D. K. Smith, Peoria, Ill.
Toledo, Wabash and Western... W. A. Beach, Toledo.
Terre Haute and Richmond... J. E. Simpson, Indianapolis.
Terre Haute, Alton and St. L... B. F. Wellover, Terre Haute.
Union Pacific..... H. H. Cook, Omaha, Neb.
Union Pac fic (Eastern Div)... R. B. Gemmell, Wyandotte, Ks.

Our friends throughout the country are particularly requested to inform us of any necessary additions or corrections in the above list.

Exposition Universelle, Paris, 1867.

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Revista Telegraphica, Monitor Scientifico e Noticioso. Published monthly at Lisbon, Portugal. A. WELLENKAMP, Director.

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Aside from the advantages apparent upon inspection of these magnets, their acknowledged merits consist in the construction of the helix, which was patented Aug. 15, 1865. This being of naked copper wire, so wound that the convolutions are separated from each other by a regular and uniform space of the 1-600th to the 1-800th of an inch, the layers separated by thin paper. In helices of silk insulated wire, the space occupied by the silk is the 1-150th to the 1-300th of an inch; therefore a spool made of a given length and size of naked wire will be smaller and will contain many more convolutions around the core than one of silk insulated wire, and will make a proportionably stronger magnet, while the resistance will be the same.

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# THE TELEGRAPHER.

JOURNAL OF ELECTRICAL PROGRESS.

Vol. IV.—No. 7.

New-York, Saturday, October 12, 1867.

Whole No. 65.

## W. G. BROWNSON'S PATENT TELEGRAPH SWITCH-BOARD.

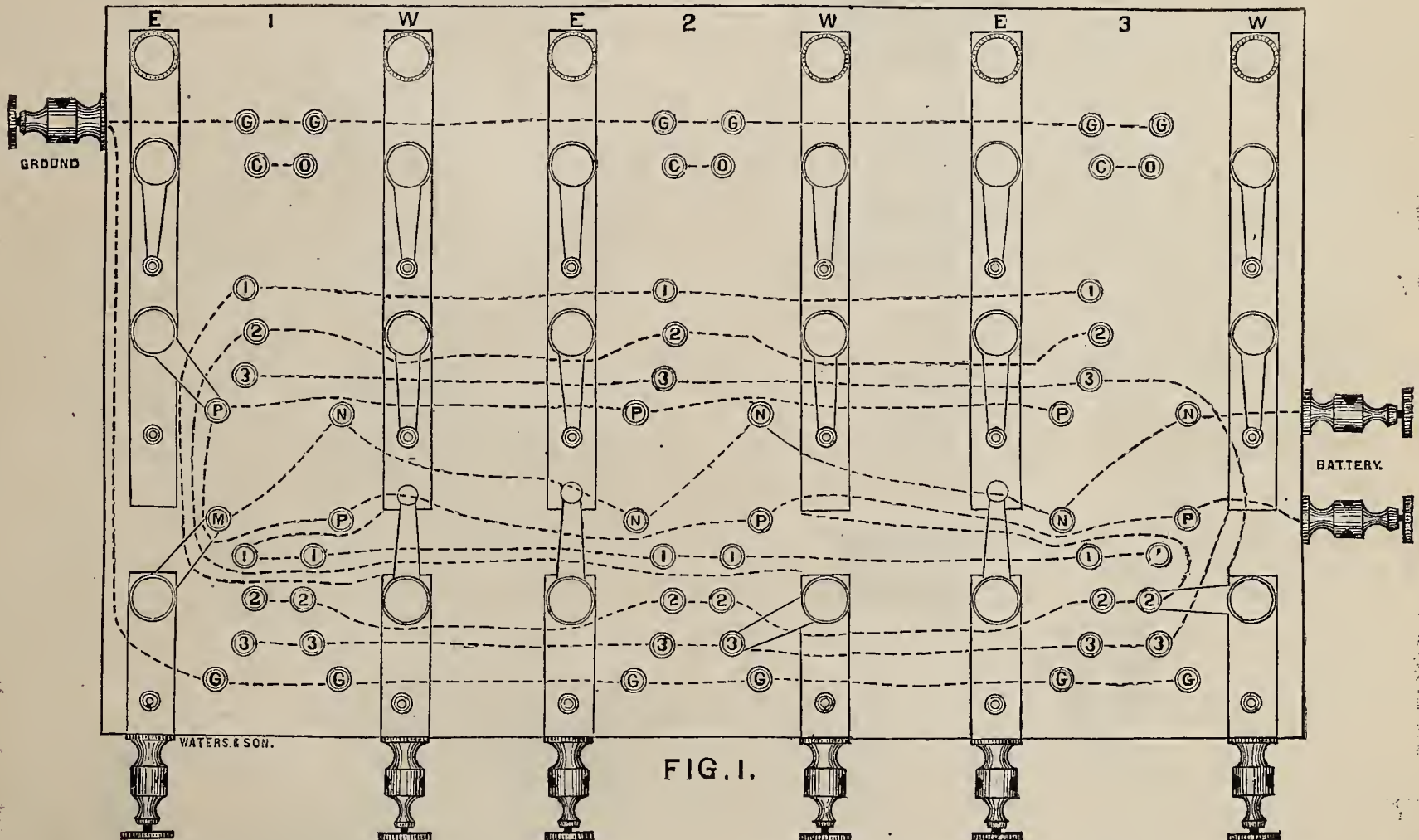


FIG. 1.

ONE of the most important points in the arrangement of a telegraph office, is to have the switches so arranged that any desired change may be made in the connections of the different wires, instruments and batteries, without the annoyance of unscrewing and changing the position of the wires.

The annexed engravings represent an arrangement of telegraphic switches, invented and patented by WALTER G. BROWNSON, of Wellsville, Ohio, which is one of the most ingenious and effective devices we have ever seen.

The engraving, Fig. 1, represents a switch, designed for a way-office having three wires, and a corresponding number of instruments, as well as a main battery, which may be placed in either circuit at pleasure, and with or without the instrument, as may be desired.

In the switch, Fig. 1, the main wires east and west are attached to the binding screws at the top, as designated by the numbers. The corresponding instrument wires are connected at the bottom. No. 1 wire is represented as working through, having both the battery and instrument in circuit. No. 2 wire, east, is connected with No. 3 west, and No. 2 west, with No. 3 east, both having instruments in circuit. The variety of changes of which this switch is capable may be seen upon an inspection of the diagram. A loop may be arranged in place of the battery, or put on as a main wire at one or both sides of the board, and can then readily be switched on or off either wire at pleasure. The cut-out and ground switches

are shown near the top of the board. By throwing off the lower buttons the wires can be entirely disconnected.

The arrangement shown in Fig. 2, is more particularly adapted to a terminal station, although it can be used in any office. The line wires, Nos. 1, 2, 3 and 4, are connected at the top, as shown by the figures, the instrument wires being run to the screws at the bottom, the two wires of No. 1 instrument to the two binding screws marked 1, and the others in the same manner. In the figure, No. 1 wire is connected through No. 1 instrument to the battery, while No. 2 wire is connected directly with the battery, leaving the instrument disconnected. No. 3 wire is connected with No. 4 instrument, and No. 4 wire with No. 3 instrument. These two wires are left open in the figure, and may be connected with battery or ground as desired, by turning the two small switches.

This can be made smaller than any other switch-board, as a switch for sixty wires would not require to be made over six feet in width.

Fig. 3 represents a battery-switch which may be arranged to accommodate any number of batteries or wires. In the figure connections for two batteries are shown. The first battery is connected with the two upper wires to the left, while the other battery is shown with its negative pole grounded. It will be seen that either pole of the battery may be grounded, or the two batteries connected together and used as one, if necessary.

Fig. 4 shows the manner in which a spiral spring is

arranged in connection with the button. Each button is provided with one of these springs; the advantage of this arrangement being, that the buttons never become too loose or too tight, as is frequently the case with the buttons ordinarily used, and always form a good reliable connection. The spring also allows of the buttons being lifted up in changing them from one point to another, so as not to touch the intermediate points.

Fig. 5 represents a base cup and collar to be used for connecting the wire to the button in case the plate is not used.

Fig. 6 shows an arrangement intended to be used as a substitute for a ground switch, the ground wire being attached to the center post, which takes the place of the button, and the spring can be hooked on to form a connection with the eastern or western wire, as the case may be.

Fig. 7 is a ground switch, which is arranged with a spring, as shown in Fig. 4, and rests upon a blank plate with a catch to prevent it from becoming misplaced when not in use.

These improved switches were patented July 23, 1867. Arrangements have been made with Messrs. L. G. TILLOTSON & Co., and C. T. & J. N. CHESTER, of New-York, and Dr. L. BRADLEY, of Jersey City, for their manufacture, as will be seen by reference to the advertisement in another column.

For further information address the patentee, W. G. BROWNSON, at Wellsville, Ohio.



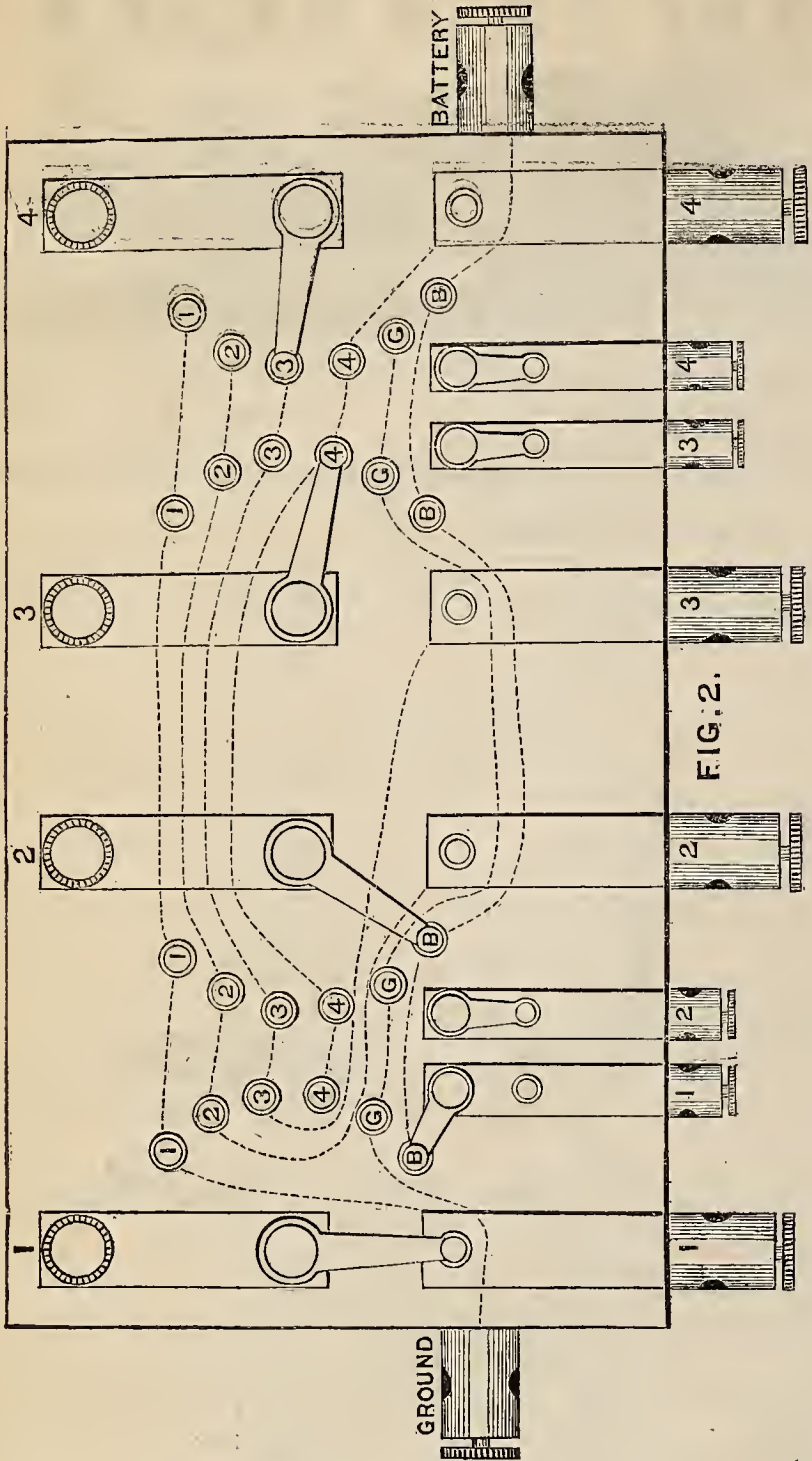


FIG. 2.

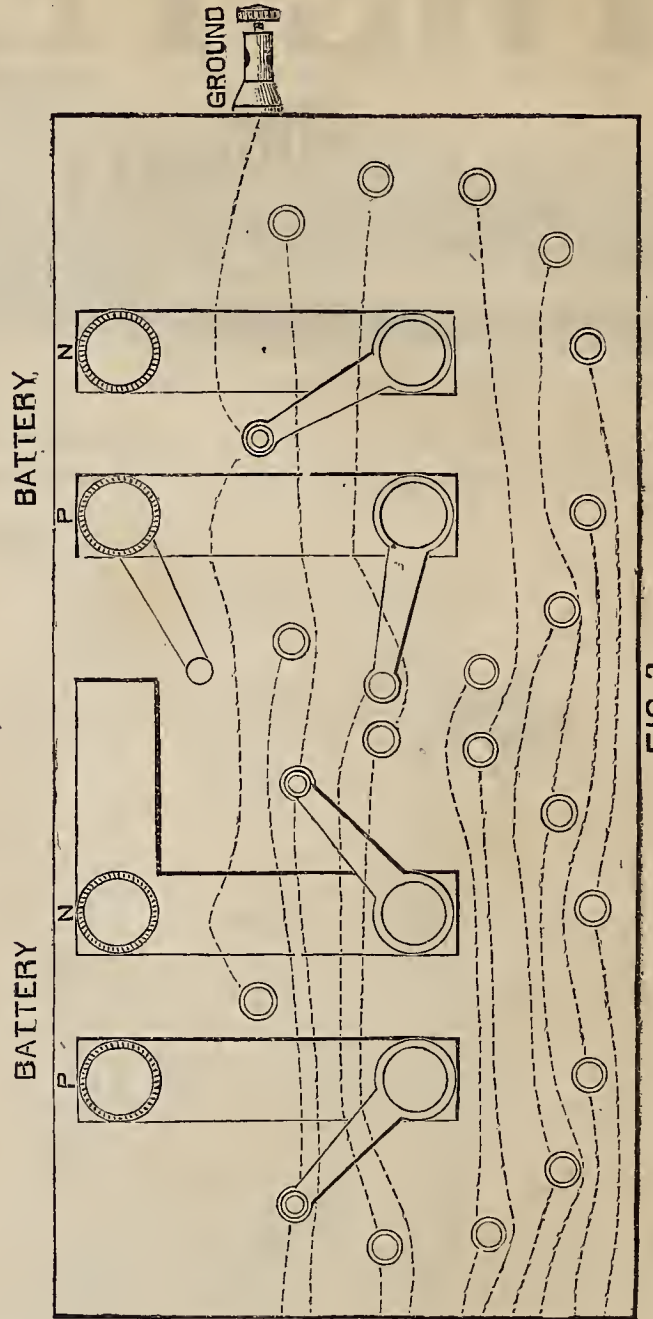


FIG. 3.

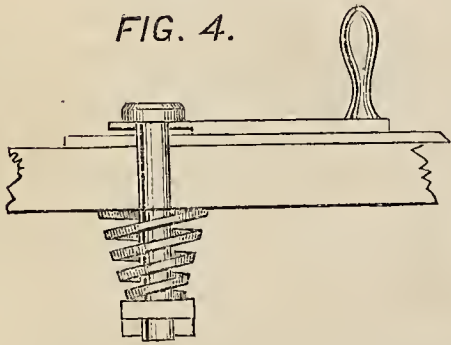


FIG. 4.

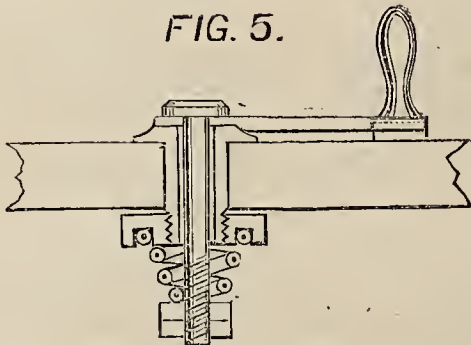


FIG. 5.

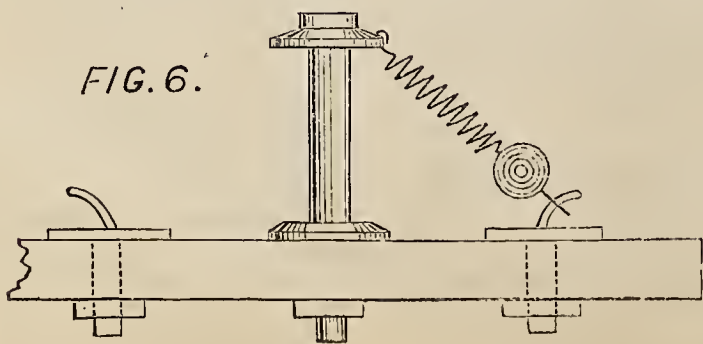


FIG. 6.

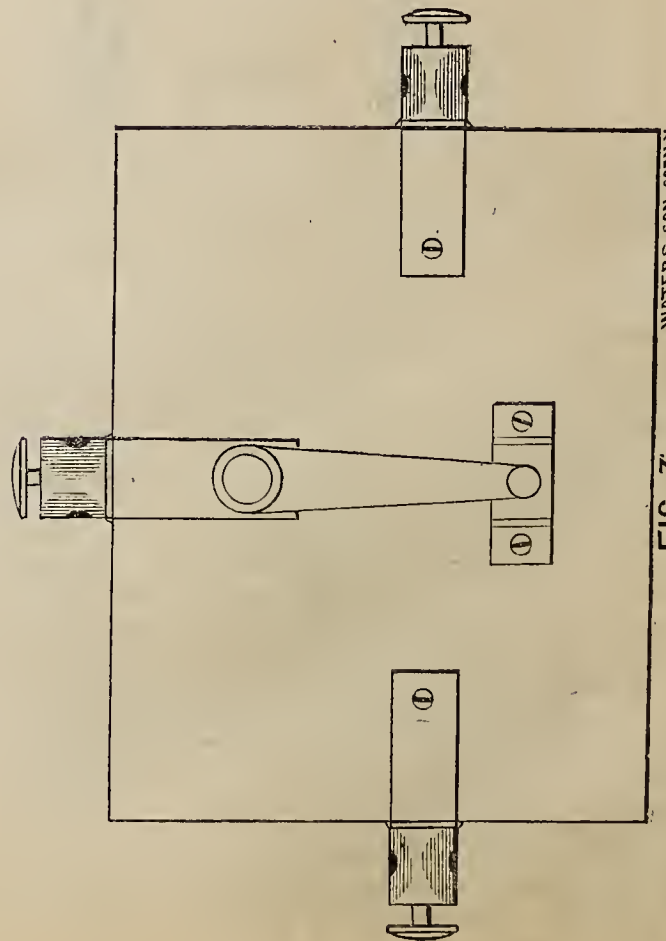


FIG. 7.

WINTERS-SON, SCENY



## PROCEEDINGS

OF THE

## FOURTH ANNUAL CONVENTION

OF THE

## National Telegraphic Union,

HELD AT ST. LOUIS, SEPTEMBER THE 11TH AND 12TH, 1867.

## FIRST DAY.

THE President being absent, the Convention was called to order at 12 M. by Vice-President CHURCHILL. The Recording Secretary being absent, Mr. T. W. PRIEST, of Detroit, was elected Secretary, *pro tempore*. The Chairman appointed as Committee on Credentials, Messrs. H. W. WHEELER, C. W. HAMMOND, and W. H. YOUNG.

The Secretary then read the President's annual report, which was referred to a committee of three, consisting of Messrs. WHEELER, YOUNG and HAMMOND.

The following is a synopsis of the President's report, omitting only that portion of it which would not be of general interest:

"The committee appointed by the last Convention to superintend the publication of the Constitution and By-Laws, as revised and amended by that Convention, performed their duty so carefully that I think no changes are necessary, except such as may arise from your action.

"I am still inclined to the opinion that the basis of representation fixed by the last Convention is somewhat too high, and recommend its reduction so that there may be an average representation of one delegate for every thirty-five members, and that the apportionment of representatives be so arranged that Districts comprising a less number than fifteen members may be represented by men in whose election they have had an opportunity to participate. Also, that the clause of the Constitution fixing the basis of representation (Clause 4, Sec. 1, Art. II.) be so amended that there can be no possibility of doubt as to its meaning. Construed literally, as it now stands, a District composed of seventy-five members in good standing is entitled to two delegates, but if it comprises a greater number than seventy-five is entitled to but one.

"The committee appointed to obtain a charter for the Union have performed their duty, and two charters, one from the State of New-York and the other from the State of Maryland, now await your action. Either one is broad enough, and sufficiently liberal in its provisions for our present purposes; and believing that it would eventually enlarge our sphere of usefulness, and place our association on a firmer basis, I respectfully recommend that one of them be accepted, and the Union thoroughly and carefully organized under it.

"It has been suggested that the Union might adopt a system of life insurance, on the mutual principle, with great advantage to all members of the fraternity. This is a matter of such great importance, and the principle one so evidently suited to our wants and means, that any effort you may make in this direction must surely receive the cordial co-operation of every one who feels an interest in our welfare. In my judgment, the benefits to be derived from this system should not be confined to members of the Union, but should be open to all who live by the practice of our art. I trust you will consider this matter carefully in all its bearings, and see the system fairly inaugurated before your final adjournment. Having done *this* work well, you will return to your daily labors with lighter hearts, feeling that you have accomplished a great good for those we desire to benefit, and will merit and receive the heartfelt blessing of many who now turn shudderingly from contemplation of the hard fate of the dear ones dependent upon their unremitting exertions for their daily bread should the 'Dark Angel' claim them for his own. Your names will ever be held in grateful remembrance by many for whose pressing necessities your action will afford means of relief.

"We have not received such accessions to our ranks as perhaps might reasonably be expected at the beginning of the year. This is doubtless owing in part to the increase of the initiatory fee, partially to the general apathy which has prevailed among telegraphers during the last fifteen months, and in part, also, to the influences which have

been brought to bear upon operators to deter them from joining us. The first and second of these hindrances to our progress can and should be removed. The third will ere long die a natural death.

"A considerable sum of money has been expended under the provisions of Art. VIII., Sec. 2, of the Constitution, and Art IV., of the By-Laws, and the Union has most assuredly proved itself 'a friend in need' to many members.

"A larger number of members than I could wish have availed themselves of the provisions of Art. X., Sec. 1, Clause 4—for them I have nothing but regrets. But language is not sufficiently strong to express the degree of contempt which should be felt by all good men towards those little souls who, after having pledged their 'sacred (?) honor' to conform to and support inviolate the Constitution and By-Laws of this association, allow themselves to become subject to the penalties of Art. VII. 'Sacred' is a word not to be found in their lexicon, and of 'honor' they have no conception. For the man who, having before him two courses, one honorable and the other dishonorable, for the sake of a sum so pitifully small as nine months' dues, deliberately chooses the dishonorable path, no words of condemnation are too strong."

Concerning THE TELEGRAPHER, he says:

"The marked improvement which has been made, the very general expressions of satisfaction with it, and the fact that it has become a 'power in the land,' leads me to believe that you will concur with me in saying that such an organ has been cheap at \$800 for the year, and that I would willingly pay thrice my portion of that sum rather than lose it—yea, ten times. I have no suggestions to make as to its future management, and will only express the hope and belief that your action may be such as to maintain our organ fully up to its present standard of excellence, and give it all possible chance for improvement.

"In conclusion, allow me to reiterate the advice of my predecessor, 'that no time be unnecessarily consumed,' detaining you from your duties or needed recreation, but 'let all things be done decently and in order.' May your action in all respects be such as will strengthen and perpetuate our organization, and make it 'a safeguard in prosperity and a protection in adversity,' and you return to your homes feeling that you have performed your duties faithfully and well, and the thought be echoed by all who are watching and waiting for the result of your deliberations.

Very respectfully yours,

"JAS. C. UPHAM, *President.*"

The Secretary then read the Treasurer's detailed annual report, which was referred to the Finance Committee, consisting of Messrs. STOVER, LAWRENCE and MERRILL. The Corresponding Secretary's report was read, and referred to the Committee on the President's Report.

The Secretary also read the report of the Editor of THE TELEGRAPHER, which was referred to the Finance Committee, and a letter from the Recording Secretary, which was ordered to be placed on file.

Mr. WHEELER, from the Committee on Procuring a Charter, reported that the committee had procured a charter from the State of New-York, and would recommend that the Union be reorganized under its provisions. The charter was then read by the Secretary, and Mr. STOVER moved that the report of the Committee on Procuring a Charter be accepted, that the charter granted by the State of New-York be adopted, and that the Charter Committee together with the Executive Committee, be authorized to take the necessary steps to reorganize the Union under said charter.

Adopted.

AFTERNOON SESSION.

Vice-President CHURCHILL in the chair.

The Committee on the President's Report reported as follows:

"We would recommend, in accordance with his suggestion, that Clauses 4 and 8, Sec. 1, Art. II., of the Constitution be stricken out, and the following clause be substituted in the place of Clause 4: 'Each District shall be entitled to a delegate, provided it has ten (10) members, and any District having forty (40) members shall be entitled to two delegates and an extra delegate for every twenty members in excess of that number. But no member who is six months in arrears for dues shall be en-

titled to vote, or be eligible for any office, and shall not be enumerated in the basis of representation.'

"We heartily approve his suggestions relative to a plan for life insurance, and would respectfully urge this Convention to give the subject immediate consideration.

"We also concur in the President's suggestion relative to the reduction of the initiatory fee, and would recommend that the word 'five' in Clause 1, Sec. 1, Art. X. be stricken out and the word 'two' be inserted in its place.

"We would suggest that the portion of the President's report referring to THE TELEGRAPHER be referred to the committee already appointed, to whom was referred the Editor's report.

"We would also recommend that the proposition to procure a seal for the Union be referred to the Executive Committee with full power to act upon the subject."

Report accepted and laid on the table.

The committee to whom was referred the report of the Corresponding Secretary, reported that they would recommend its acceptance, that it be placed on file, and that a vote of thanks be tendered the Corresponding Secretary for the faithful manner in which he has performed his duties.

Report accepted and laid on the table.

The Finance Committee reported that they had examined the accounts of the Treasurer and found that they have been kept in a very commendable and accurate manner. They recommended a reduction in the initiatory fee.

Several amendments to the Constitution being offered, it was voted that the Secretary read the Constitution, clause by clause, so that amendments might be offered in regular order. The Secretary therefore proceeded to read the Constitution and By-Laws.

Mr. YOUNG moved to strike out Clauses 4 and 8, of Sec. 1, Art. II., and insert in place of Clause 4: "Each District shall be entitled to a delegate, provided it has ten members. Any District having forty members shall be entitled to two delegates and an extra delegate for every twenty members in excess of that number. But no member who is six months in arrears for dues shall be entitled to vote or be eligible to any office and shall not be enumerated in the basis of representation."

On motion of Mr. STOVER, a division of the question was made and the first part (allowing a delegate for ten members) was adopted.

Mr. WHEELER moved to strike out the word "forty" in the second part of the clause and insert the word "fifty."

Adopted.

On motion of Mr. STOVER, the amendment as amended was adopted.

Mr. MERRILL moved to amend Clause 5, Sec. 1, Art. II., by inserting the following after the words "officers and delegates":

"And it shall be the duty of each member of any District to immediately return to said committee his vote, sealed and endorsed as aforesaid, by mail, or in case haste is demanded, he may send his vote to the committee by telegraph, taking care to write out his vote in full, the same as if sent by mail, and to preserve the telegram for reference if necessary."

Mr. LAWRENCE moved to amend by inserting after the words, "officers and delegates," the words "except the votes of such members as may be present at the election."

A somewhat lengthy discussion ensued, which resulted in the withdrawal by Messrs. MERRILL and LAWRENCE of their amendments and the substitution of the following, which was adopted:

"In Article II., Sec 1, Clause 6, insert the word 'immediately' after the words 'votes for District officers and delegates shall be'—and after the words, 'and the result declared,' add 'but votes may be sent by telegraph in case where they cannot reach their destination in time by mail. Members in good standing on the day of election may deposit their ballots without sealing or endorsing them.'"

Mr. STOVER moved to amend Section 2, Art. III., by adding, "and decide by a majority vote all matters," etc.

Adopted.

Mr. STOVER moved to strike out in Clause 1, Sec. 2, Art. V., all after the word "impeachment" and insert the following: "And may be suspended or removed from office by a vote of a majority of the Executive Committee."

Adopted.

Mr. STOVER also moved to amend Clause 1, Sec. 1, Art.



VI., by striking out all after the word, "position," and insert "or who has not been engaged in telegraphic business for at least a period of two years."

This motion gave rise to an animated discussion. Mr. STOVER spoke at some length in favor of the amendment, and Mr. WHEELER followed, strongly opposing its adoption. The discussion was continued for an hour or more, and was participated in by nearly every member present. Finally Mr. MERRILL offered the following as a substitute for Mr. STOVER'S amendment, which was adopted by a two-thirds vote:

"Strike out Art. VI., Sec. 1, Clause 1, and insert in its place: 'Any person who is engaged in the telegraph business who has attained the age of eighteen years, who bears a good moral character, and who is not so disabled by bodily infirmity as to be unable to perform the ordinary duties of his position, may be admitted to membership in this Union.'"

Mr. MERRILL moved to amend Clause 1, Sec. 2, Art. VI., by striking out the word "ten" and inserting in the place thereof the word "five."

Mr. MERRILL also moved to amend Art. VIII., Sec. 1, Clause 1, by striking out the words, "after the first week." Motion not seconded.

Mr. LAWRENCE moved to amend Clause 1, Sec. 1, Art. IX., by striking out the word "operators" after the word "more" and insert the word "persons."

Adopted.

Mr. YOUNG moved to amend Clause 1, Sec. 2, Art. X., by striking out the word "five" and inserting the word "two."

Adopted.

Mr. MERRILL moved to amend Clause 2, Sec. 1, Art. X., by striking out the words "in advance."

Which was adopted.

Mr. HAMMOND moved to strike out the word "operator" in Art. V., Sec. 1, Clause 1, of the By-Laws, and insert the word "person."

Adopted.

Mr. WHEELER offered the following, which was adopted: "Ordered, That the Executive Committee be and hereby are instructed to issue an address to telegraphers within three months from this date, urging all who are eligible to membership to come forward and unite with us in carrying forward the great principles for which the Union was formed and is maintained, and stating clearly and concisely the benefits which are derived from membership."

Mr. WHEELER also offered the following, which was adopted:

"Ordered, That the Recording Secretary shall write out in full all provisions of the Constitution and By-Laws which have been amended by this Convention; that the same shall be given to the Supply Agent, who shall cause them to be printed in such form that they may be pasted into the printed copies of the Constitution; and that 1000 copies be printed and furnished to the Districts."

The Convention adjourned at 9 P. M., to meet at 10 A. M. on the following day.

## SECOND DAY.

SEPT. 12, 1867.

Convention called to order at 10.30 A. M., Vice-President CHURCHILL in the chair. Secretary read the proceedings of the day before, which were approved.

On motion of Mr. LAWRENCE, the report of the Committee on the President's Report was taken from the table.

Mr. YOUNG moved that a committee of three be appointed to prepare a plan of life insurance, and report to the Convention, and that the suggestions of the Committee on the President's Report having reference to other portions of that report, be referred to the Executive Committee.

Mr. LAWRENCE offered the following as a substitute for Mr. YOUNG'S proposition:

"Resolved, That a committee of three, of which Mr. J. W. STOVER shall be the chairman, be appointed to take steps for the establishment of a plan of life insurance for persons in telegraph employ, said committee to have power to take necessary legal advice as to whether the charter of the association will cover the plan, or whether a separate charter will be necessary, and upon all other points they may deem necessary. The committee shall

report as soon as practicable to the Executive Committee, who shall have full power, if necessary, to proceed under the plans so recommended. All expenses incurred by the committee in carrying out the order to be paid from the treasury of the Union."

Mr. YOUNG withdrew his motion, and accepted the foregoing as a substitute.

After a somewhat protracted debate as to the best manner of procedure, Mr. LAWRENCE'S motion was unanimously adopted.

The chair appointed Messrs. YOUNG and WHIPPLE as members of the committee to act with Mr. STOVER in carrying out the foregoing order.

Mr. HAMMOND moved to increase the committee by the addition of two more persons.

Adopted.

The chair appointed as the additional members of the committee Messrs. LAWRENCE and WOODRUFF.

The chair called for the report of the Committee on the Editor's Report.

The committee reported as follows:

"We sympathize deeply with Mr. L. H. SMITH under the circumstances which compelled him to give up the editorial management of THE TELEGRAPHER, and sincerely hope that a kind Providence will soon restore him to health and former usefulness.

"THE TELEGRAPHER will always be the steadfast friend of all connected with the telegraphic business, and we earnestly urge upon all the importance of giving it a cordial and hearty support.

"The action of Mr. SMITH in giving up the editorial charge of THE TELEGRAPHER, as is indicated in a late number of the paper, without first obtaining the consent of the Executive Committee, we consider unbusinesslike and reprehensible. The paper is the property of the Union, and no change should be made in its management without the advice and authority of our executive officers. We are satisfied, however, that the paper has fallen into able hands, and we only condemn the action of Mr. SMITH on the ground that it is establishing a bad and dangerous precedent. We recommend that a committee, composed of members of the New-York District, be appointed by the President of this Convention to examine the accounts of L. H. SMITH, late Editor of THE TELEGRAPHER, and report to the Executive Committee of the Union, and also publish in THE TELEGRAPHER such statements as they may deem proper."

The report was adopted, and the chair appointed Messrs. J. W. STOVER, W. H. H. CLARK, and T. P. SCULLY as the committee to examine the accounts of the late Editor of THE TELEGRAPHER.

Mr. URQUHART (by Mr. WHEELER, proxy) moved that a committee of three be appointed by the President of this Convention to draw up a paper addressed to the officers of the various telegraph companies, respectfully remonstrating against unnecessary Sunday work; that the committee send copies of such remonstrance over the country and obtain the signatures of all telegraphers who will sign it, whether they be members of the Union or not, and that the committee forward all the copies of the remonstrance, so signed, to the officers of the various telegraph companies, and that this be accomplished at as early a day as practicable, all necessary expenses incurred to be paid by the Union, subject to the approval of the President.

Adopted.

Mr. PRIEST moved that the Treasurer be instructed to pay to any member of this Convention who may have been obliged to hire a substitute to perform his duties while absent, the amount that he must pay such substitute.

Laid on the table.

Mr. STOVER moved to amend Art. XI., Sec. 1, of the Constitution (the pledge), by striking out the words, "pledge my sacred honor," and inserting "swear (or affirm)." Also strike out all after "other person" and insert "and that I will forever keep inviolably secret the names of the members of the Union, its proceedings, and all information pertaining to it, except such disclosures as may be safely and properly made by a very general consent of the officers and members of the Union." Also, add the following as Sec. 2 of the same article: "Any member violating this obligation, and adjudged guilty by a committee of investigation, who shall be ap-

pointed by the District Director, shall be expelled by a majority vote at any regular District meeting."

Mr. LAWRENCE moved to lay it on the table. Lost.

Mr. HAMMOND moved to adjourn (2:30 P. M.)

Adjourned till 4 P. M.

## AFTERNOON SESSION.

Convention called to order at 4 P. M. by Vice-President CHURCHILL.

Mr. STOVER'S amendment to the Constitution changing the pledge to an oath of secrecy, was taken up.

Mr. WHEELER strongly opposed the adoption of the amendment, arguing that no matter how harmless our plans or our actions may be, the fact that our organization was a secret one would excite the suspicions of all telegraph companies, and would create a feeling of ill-will and antagonism in the minds of our employers which we should seek to avoid. He also thought that it would create discord in our ranks, and cause many of our best men to leave us. For himself he would say that he did not wish to join in any movement that he dared not or was ashamed to take part in openly.

Mr. STOVER sustained the amendment, urging that nothing would so adequately serve to bind us together and increase our numbers and our power for good as a secret organization. He alleged that many good men were deterred from joining the Union for fear that such a course would meet with the disfavor of their employers. He felt sure that if a pledge of secrecy was required hundreds of good men would knock at our doors for admittance, and as for creating ill-feeling on the part of our employers, he thought they were now and always had been antagonistic to the Union and to the interests of its members.

Messrs. HAMMOND, WOODRUFF, and LONG also spoke at some length, urging the adoption of the amendment, believing that its adoption would create a renewed interest in the Union, and would enlarge our sphere of action.

Mr. PRIEST opposed the amendment, both upon the ground that it was unwise and would prove detrimental to our interests, and for the reason that such a proposition should receive the vote of every member of the Union, and should not be adopted hastily by a convention of delegates, some of the members of which were without any instructions upon the subject.

Messrs. MERRILL and SMITH also spoke in opposition to the amendment.

Mr. WHEELER again took the floor, and after a few remarks in opposition to the amendment, moved "that the proposition to amend the pledge so as to make this organization a secret society, be laid by the Executive Committee before each District, with the request that an immediate and full vote be taken upon the subject, and the result reported to the Executive Committee, who shall, if a majority of the Districts are in favor of the proposed amendment, lay the subject before the delegates for definite action thereupon."

Messrs. YOUNG, LAWRENCE, and MERRILL spoke in favor of Mr. WHEELER'S motion, and it was finally adopted.

The discussion of this subject was long and earnest.

Mr. WHEELER offered the following amendment, which was adopted:

"Amend Clause 1, Sec. 1, Art. VII., of the Constitution, so as to read:

"If any member shall willfully refuse or neglect to pay his indebtedness to the Union or District for a period of six months, the District may suspend him, two-thirds of the members present at a meeting of the District voting in favor thereof; and if he still refuse or neglect to pay his dues the District may expel him, after nine months, two-thirds of the members present at meeting of the District voting in favor thereof."

Mr. WHEELER offered the following amendment, which was adopted.

"Add to Clause 3, Sec. 1, Art. X., of the Constitution, the words, 'application for such transfer to be made to the Director of the District to which the member wishes to be transferred.'"

Mr. WHEELER also offered the following, which was adopted:

"Ordered, That the President be and hereby is instructed to ascertain as definitely as possible the increased cost of publishing THE TELEGRAPHER weekly instead of semi-monthly, and whether the additional expense thus incurred would most probably be covered by a larger number



of subscriptions, and he shall report the result of his investigations to the Executive Committee, who may, if they deem it best, authorize a weekly issue of the paper, *provided*, however, that the subscription price shall not be increased more than one dollar per year per single copy."

Mr. STOVER offered the following:

"Resolved, That this Convention would earnestly recommend the adoption, by the various Districts, of the amendment to the Constitution by which it is proposed to make the Union a secret organization."

Adopted—yeas, 9; nays, 5.

Mr. YOUNG offered the following:

"Resolved, That the Executive Committee be and hereby are empowered, whenever they may deem it necessary for the welfare of the Union, and whenever the circumstances demand such action, to remit all or a portion of the unpaid dues of any delinquent member or members who may desire to renew their connection with the Union upon the footing of new applicants."

Adopted.

Mr. STOVER offered the following:

"Resolved, That a majority of the Executive Committee may at any time remove the Editor of THE TELEGRAPHER, and appoint a successor, when, in their opinion, the interests of our organization demand it."

Adopted.

Mr. LAWRENCE offered the following resolution, which was adopted:

"Resolved, That, in accordance with the recommendations of the Finance Committee, the Treasurer is authorized to procure the Union badges of such manufacturer as he may deem proper, *provided* that there shall be no increased cost in the purchase thereof."

Adopted.

Mr. YOUNG moved that the Treasurer be ordered to instruct the manufacturer of the Union badges to send them by express to avoid loss.

Carried.

Mr. STOVER offered the following, which was adopted:

"Resolved, That from and after this date the Treasurer of this association shall act as Supply Agent, and that he shall receive for his services in that capacity twenty-five dollars per annum."

Mr. LONG presented several forms for Union blanks, and moved that when the present supply of blanks is exhausted the Supply Agent shall furnish the Districts with new ones after the forms he presented.

Referred to the Executive Committee.

Mr. HAMMOND moved that the Convention proceed to ballot for officers for the ensuing year.

Carried.

The chair appointed Messrs. SMITH and LONG to act as tellers.

Mr. HAMMOND took the chair.

The election of President being first in order, Messrs. CHURCHILL and STOVER were nominated.

Mr. STOVER declined the nomination.

Mr. YOUNG therefore moved that Mr. WHEELER deposit the ballot of the Convention for Mr. CHURCHILL.

Carried.

Mr. WHEELER cast the vote, as ordered, and Mr. CHURCHILL was declared unanimously elected.

The announcement was greeted with applause, and Mr. CHURCHILL was called upon to speak, which he did in a few happy remarks, congratulating the Convention upon the harmony of its proceedings, thanking the delegates for this expression of their confidence and esteem, and urging a renewed and untiring interest in all that pertains to the interests of the Union and its members.

Messrs. STOVER, YOUNG, MERRILL, WHEELER, and LAWRENCE were nominated for Vice-President.

Messrs. STOVER, MERRILL, and LAWRENCE declined the nomination.

Upon the votes being counted it was announced by the chair that Mr. YOUNG was elected by five majority.

Mr. YOUNG spoke briefly, thanking the members for the honor bestowed upon him.

It was then moved that Mr. STOVER deposit the ballot of the Convention for Mr. WHIPPLE as Treasurer of the Union.

Carried.

Mr. STOVER voted for the Convention, as ordered, and the chair announced that Mr. WHIPPLE was unanimously elected.

Mr. WHIPPLE accepted the office, and returned his thanks to the Convention in a few graceful and pertinent remarks.

Mr. HAMMOND moved that Mr. CHANDLER deposit the ballot of the Convention for Mr. WHEELER as Recording Secretary.

Carried.

Mr. CHANDLER deposited the vote, and the chair announced that Mr. WHEELER was unanimously elected.

Mr. WHEELER thanked the members for the confidence reposed in him, and expressed the hope that the ensuing year would witness such an awakened interest in the Union that all worthy members of the profession would come into the fold.

Mr. LAWRENCE moved that Mr. CHANDLER cast the vote of the Convention for Mr. COWLAM as Corresponding Secretary, which was done, and Mr. COWLAM's election was announced by the chair.

Election of Editor of THE TELEGRAPHER being now in order, Messrs. J. W. STOVER and F. L. POPE were nominated. Mr. STOVER declined the nomination, and moved that the nomination be closed. Lost.

Mr. CHANDLER moved that as Mr. STOVER declined the nomination, he be requested to deposit the vote of the Convention for Mr. POPE. Lost. The Convention then proceeded to ballot. The result was a tie vote between Messrs. STOVER and POPE. A new ballot was taken with the same result. Upon the third ballot being taken Mr. STOVER was elected by five majority over Mr. POPE, and the result was so declared by the chair. Mr. STOVER returned his sincere thanks for his election to so important and honorable a position. No one, he said, could feel more deeply grateful than he for such evidence of the good-will and esteem of his fellows, but he must decline the office. In his opinion Mr. POPE was in every way competent to perform the duties of Editor, and he earnestly favored his election.

Mr. LAWRENCE moved that Mr. STOVER deposit the ballot of the Convention for Mr. POPE.

Mr. YOUNG moved as a substitute that Mr. STOVER be authorized to cast the vote of the Convention for Editor.

Carried.

Mr. STOVER voted for Mr. POPE, and the chair announced that Mr. POPE was unanimously elected Editor of THE TELEGRAPHER.

A vote was then taken to decide the place of meeting for the next Convention, which resulted in the choice of Albany by one majority. Mr. YOUNG offered a resolution, which was adopted, thanking the proprietors of the Southern Hotel for the kind and liberal manner in which they have treated the members of this Convention.

Adjourned at 7 o'clock to meet at 10 P. M.

EVENING SESSION.

SEPT. 12.

Vice-President CHURCHILL called the Convention to order at 10:30 P. M.

Mr. LAWRENCE offered the following resolution, which was adopted:

"Resolved, That the thanks of the Convention be and are hereby tendered the retiring Vice-President, and President elect, Mr. F. G. CHURCHILL, for the able, impartial and courteous manner in which he has performed his duties as President of the Convention."

Mr. LAWRENCE offered the following, which was adopted:

"Resolved, That the thanks of the Convention be and are hereby tendered the Secretary, *pro tem.*, Mr. T. W. PRIEST, for the able manner in which he has performed the duties of his position."

Mr. LAWRENCE also offered the following:

"Resolved, That the hand of welcome be extended to the Cörry and Meadville Districts, represented for the first time in the Annual Convention of the Union. We hope they will go on in the good work inaugurated the past year, and will be represented every year, and in as able a manner as by their present representatives."

The minutes of the Convention were then approved, and the Convention at 11 P. M. adjourned *sine die*.

### Albany Office of the Western Union Telegraph Company.

AMID the changes and the increase in telegraphic facilities that have taken place during the past three years that have come to our notice, none have been more marked than in the case of the Western Union Telegraph Office, at Albany, N. Y.

In the year 1863 the office was removed to its present quarters in the Museum Buildings. The space occupied at that time consisted of a receiving office on the first floor, and the whole of the fourth story of the building, which was used for the operating, battery, and store rooms. At this time the work of the office was performed by about a dozen persons, the operating portion of which brought with them to their new quarters five sets of instruments, including one set of repeaters. Four wires entered from the west, three from the south, and one from the east. The motive-power was supplied from seventy-five cells of battery.

To enter the busy Albany office of to-day is to find a striking contrast. From this center business is transacted with something like two hundred and twenty-five different offices in New-York, Massachusetts, Vermont, and the New Dominion. Instead of the large, quiet room in which its three or four occupants were well-nigh lost, you are now ushered into a densely crowded space, where your ears are greeted with the sound of thirty sets of instruments, and a large addition of new faces meets your gaze. Included in the above are six sets of repeaters helping along the business passing between New-York and Boston and the far West. The New-York and Albany business is now done on a printing instrument, over a wire set apart expressly for this service. Three years ago, the business with the great metropolis was done over a way-wire in the face of the struggles of more than a dozen different stations. The office is now surrounded by a network of wires radiating in all directions. From the west there enters thirteen, from the east two, from the north seven, and from the south thirteen. In addition to these there are three sets of loops between Albany and Troy, to accommodate Troy to different circuits, and a time-wire running from the Dudley Observatory to East Albany.

In place of the small squad that was required to do the business of those days, it is now necessary to employ no less than thirty-four persons.

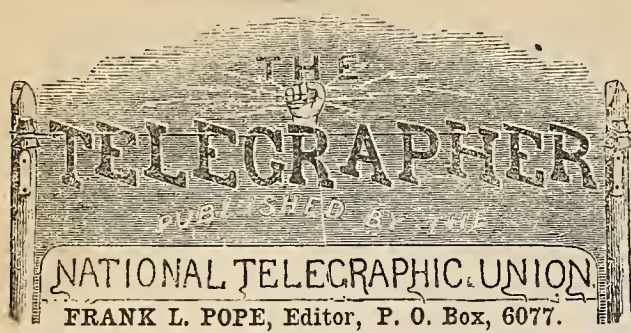
Mr. C. S. JONES is the manager of circuits, and of the operating department, the receiving department being in charge of Mr. E. S. KEEP, who also acts as cashier. The night manager of the office is Mr. F. H. LAWRENCE.

One of the fixed institutions of the establishment is the old veteran, HADLEY, who still presides over the battery room, but in place of the handful of cells which formerly demanded his attention, he now marshals three hundred and twenty five cups.

### Pneumato-Electric Organ.

ELECTRICITY has been very ingeniously and effectively applied to form a connection between the keys of an organ and the valves which permit air to pass to the pipes. Complicated mechanism is thus got rid of, an extremely simple arrangement, whatever the distance between the keys and the pipes, being substituted. Its mode of action is easily understood. According to the *Scientific Review*, when any key is depressed by the finger, a small commutator under it completes communication with a galvanic battery by dipping its lower ends into minute cups of mercury. Electricity then passes along a wire to a small electro-magnet, that immediately becomes excited, and, attracting a keeper, opens a valve, allowing air to pass into the organ pipe, which sounds at once, and continues to do so as long as the finger presses down the key. It is clear that, however powerful the organ or distant the pipes, the fingers are not in the slightest degree distressed in playing. The battery used is simple, inexpensive, and permanent in its action. It consists of glass vessels, arranged on the upper surface of the bellows, and each containing a solution of sulphate of mercury; into the latter plunges a plate of zinc, which is placed between two plates of gas retort graphite, when the bellows is raised by the action of blowing. No effect, therefore, is produced, except when required, which prevents waste of battery power. The zinc requires to be replaced, and the mercury thrown down by the zinc which is dissolved to be reformed into sulphate, about every six months.





SATURDAY, OCT. 12, 1867.

**"FIRST COME FIRST SERVED."**

COMPLAINTS have been made from time to time during the past year or two, against the principal telegraph companies in this country, in regard to alleged violations of the old established rule of priority in the transmission of messages. We believe a suit is now pending in one of the Western States against the Western Union Company for an alleged case of this kind, and another similar charge has recently been made against the same company by the *New-York News*, an evening paper of this city, between which and the *Evening Telegram*, issued from the *Herald* establishment, a most intense rivalry exists. Both of these papers devote their energies principally to the reporting of prize fights and other refined amusements of similar character. It seems that one of these pugilistic encounters came off the other day near Portsmouth, N. H., and the *News* had put forth the strongest efforts to get the report to the Portsmouth telegraph office ahead of its competitor. They had secured a "champion oarsman" to row their reporter ashore from the excursion steamer, and a "champion runner" to carry the dispatches to the Western Union Telegraph office. According to the *News* "the line was not employed when the champion reached the office, and the operator sat idle." The report was delivered for transmission—the operator refused to send it through. "The line is engaged," said he. "But is not the rule first come first served?" "The line is engaged," he repeated. "But you are doing nothing now, surely you have time to send this message through." "The line is engaged," he reiterated. So the champion runner scampered off to the International line, of the existence of which it appears the enemy were unaware, and which, therefore, was not "engaged," and "the report was dispatched—the victory was won."

In the course of his article the editor inquires: "Is there, or is there not a rule of telegraph companies of 'first come first served?' Why was that rule broken in favor of the *Herald*? Is the convenience of telegraphing to be a question of liberality in bribes?"

The Western Union Company owe it to themselves and to the public to make a thorough investigation and explanation of the above charges. No telegraph company can expect to command the confidence of the public, if any favoritism of this kind is permitted. We have known of cases, we are sorry to say, where operators have been detected in transmitting messages in advance of their regular order "for a consideration," and in one or two instances the offence has been punished by a prompt dismissal.

The long established rule in regard to priority of transmission of dispatches, is not a "rule of telegraph companies," but a legal enactment in most of the States of the Union, which renders a company liable to a heavy fine for every violation of its pro-

visions. It would be somewhat difficult, however, to apply this rule strictly to all the business done over a telegraph line having a number of stations on the same circuit, but it can and should be strictly adhered to, at least in the case of messages going to the same office.

On the European lines, and especially in England, great attention is paid to this matter. By a peculiar arrangement of letters known as a "time code" the time of each message is indicated at the very commencement of its transmission, and in case an operator hears a message passing over the wire, whose time is later than the one which he is holding for transmission, he is authorized to give the signal "wait" and proceed with it, the rule being that all messages, wherever originating, take precedence on the line in the precise order of their reception. This plan, or some similar one, could be adopted in this country with great advantage, in our opinion. Some little time would be lost by the arrangement, but much less than occurs on any crowded wire by the continual "fighting for circuit" which occurs under the system, or rather want of system, now prevalent on all the lines in this country.

**PERSONAL.**

C. A. CONVERSE, of Burlington, Vt., has taken a position on the Chicago and N. W. Railway.

J. W. ELLSWORTH has resigned his position on the Union Pacific Railroad, and accepted a place in Chicago office, Western Union Company.

CHAS. STEARNS has resigned his position as operator in Chicago office, to take his place in his class at the Chicago University.

WM. F. JONES, of Philadelphia, is working as substitute in the Titusville, Pa., office.

GEO. K. BRIGHAM has resigned his position on the Franklin line in this city.

JOHN F. MCCONNELL, of the Franklin office in this city, has accepted a place in Chicago office.

E. HAWLEY, of Woodstock, has been transferred to the "HA" office, Chicago.

R. MORTON succeeds Mr. HAWLEY at Woodstock.

THOS. L. A. VALIQUET has taken charge of Fort Ledgewick, Col., office, assisted by MCCONNELL, late of Toronto.

JOHNNY OWEN has been transferred from the Saratoga to the Albany office of the Western Union Company.

GEO. E. SPENCER, of the Albany office, has been transferred from the operating department to the office of GEO. B. PRESCOTT, the District Superintendent.

MR. HOLCOMB, lately of the New-Orleans office, has taken a position in the Western Union office at Omaha, Nebraska.

W. S. FRENCH, of Denver, has been transferred to Central City, Colorado.

MESSRS. MILT, GRAHAM, THOS. SMITH and WM. KING, of the Western Union office at Cincinnati, have accepted positions with the Pacific and Atlantic Company.

T. H. STANFIELD has been appointed night operator at Chenon, Ill., on the C. and A. R. R., in place of Mr. FRANKLIN.

J. E. RANNEY has been appointed manager of the office at Peoria, Ill. He took charge on the 1st inst.

W. R. ALBRIGHT has left the telegraph business for a time, in consequence of ill-health, and goes as conductor on the Toledo, Peoria and Warsaw Railroad.

JOHN P. LATHROP, late operator at Girard, Ill., and formerly of the United States Military telegraph has quit telegraphing and is keeping books at Dwight, Ill.

CHARLEY NOYES, who has been working the printing instrument at Albany on the New-York wire for some time past, has been transferred to Chicago.

A. C. BAKER, of "FD" office Chicago, has been transferred to the main office vice, F. C. PALMER resigned.

J. B. FRAYLEY, has been transferred from "HA" to "FD" office, Chicago.

WM. BLANCHARD, of New-York, has gone to Milwaukee, Wis., to work the printing instrument on the Chicago and Milwaukee line.

W. H. FANNING, who has had charge of repairs and construction in the Erie Railway district of the Western Union and Erie lines since 1863, has tendered his resignation. Mr. FANNING has been general repairer of the Erie Railway lines for six years.

JOHN E. CLARK, recently from Cincinnati and formerly of the Western Union office in this city, has accepted a position with the Franklin and Insulated lines in this city.

W. B. EDDY, of the Western Union and Montreal Telegraph Companies, Whitehall, N. Y., office, is spending his vacation in Europe, where he will remain three or four months.

THOS. STEWARD, Jr., of Port Henry, is acting as substitute for Mr. Eddy.

M. DEAN, late operator at Assumption, Ill., has resigned his position, and is succeeded by Mr. WHITNEY, late of Cobden, Ill. The latter office has been closed for the season.

GEORGE DODD has taken charge of the office recently opened at Nora, Ill.

J. M. ARNOLD, of Mason, Ill., takes a position as night operator at Wapella, vice GEORGE CUTTS, who goes to the former place.

P. W. BOWERS, of Ionica, Ill., recently fractured his collar bone by falling from the cars.

MR. KLUNCK, formerly of the Baltimore and Ohio railroad, has accepted a position as night manager of the office at Centralia, Ill.

M. F. ROBINSON, Manager of Titusville, Pa., office, has taken a furlough of a month. Rumor says a young lady in the Catskill Mountains has some connection with it.

FRED. BENSON, of Dubuque, has accepted a position in St. Louis Western Union Office, lately occupied by "Topsy" Craig, who has resigned.

HARRY KEEBLE, who has lately been working in Louisville, has gone home to Canada to rusticate for a month or two. Mr. H. IRVINE, of Detroit, has accepted the berth vacated by KEEBLE.

WE regret to learn that Mr. JOHN FLANAGAN, chief operator Southern Side Louisville office, is dangerously ill in that city. His physicians entertain slight hopes of his recovery.

FOWLER BRADNOCK has resigned his position as operator in Fall River, and accepted place with W. U. Company, Buffalo.

**MISCELLANEA.**

SPECIAL NOTICE TO SUBSCRIBERS.—We learn with regret that many of our subscribers have been notified of the expiration of their subscriptions, and in some instances the paper has been stopped before the proper time.

These occurrences must have been very annoying to our friends, and in order to rectify so far as possible the errors which have thus arisen, we would ask all who have been prematurely notified to write us at once, giving date of subscription, etc., in order to prevent the loss of those numbers to which they are entitled.

As we have at present no means of determining the expiration of subscriptions, excepting from the books as turned over to us, we fear that similar mistakes will creep in for some time to come, but we shall endeavor to make all corrections immediately upon being advised.

TO CORRESPONDENTS.—J. D. J., Illinois—Address CHAS. SPEED, care of the Atlantic and Pacific Telegraph Company, 155 Broadway, New-York city. Will write you respecting the book.

T. O. C., EL PASO.—They have but just returned. See item in another place in this paper. Have received no other information for a year past.

THE RUSSIAN TELEGRAPH EXPEDITION.—A dispatch from San Francisco states that the Western Union Telegraph Company's bark, *Clara Bell*, arrived from Plover



Bay, on the 7th inst., bringing a portion of the employés of the company. The *Nightingale* sailed on the same day as the *Clara Bell*, and arrived at San Francisco on the 9th, with Col. BULKLEY and the remainder of the employés.

**PRESENTATION TO AN EX-TELEGRAPH CASHIER.**—The employés of the W. U. Telegraph Company, Boston, and the friends of Mr. JARIUS HARLOW, who for many years and until recently, was cashier of the Western Union Telegraph office in that city, united last Thursday in manifesting their appreciation of him as an officer and gentleman, by presenting him with a beautiful and costly double-barrelled gun and a splendid merschaum pipe. The presentations were made by Mr. M. J. CROOK (Mr. HARLOW's successor in office), and WILLIAM MARTIN, agent of the commercial news department. Both gentlemen made fitting speeches on the occasion, to which Mr. HARLOW replied in an appropriate and feeling manner. Mr. HARLOW's connection with telegraphing dates back to 1857, and he now retires to follow the more pleasing duties of an agriculturist in Illinois.

**THANKS.**—We are greatly obliged to Mr. HENRY HOUGH, of Foreston, Ill., for back numbers of THE TELEGRAPHER.

**FAST TELEGRAPHING.**—On the 24th of September fourteen hundred and fifty-three words of press report were sent from Albany to New-York by the printing instrument in thirty-three minutes. This feat was performed by C. B. NOYES, of Albany office, who has recently been transferred to Milwaukie.

**THE NEW TELEGRAPH COMPANY.**—The Atlantic and Pacific Telegraph Company is busily preparing itself for the commencement of its business in this city. Its office at Ransom's building, No. 463 Broadway, will be opened to the public on the 15th inst., on which day the line between New-York and Buffalo will be ready for business.

The Superintendent at this point is Mr. CHARLES E. PERRY. His long connection with the Telegraph Company eminently qualifies him for his new position, while his acknowledged courtesy and thorough business qualities will commend him to the favor of our citizens. The Company starts under all possible auspices of success.—*Albany Express*.

**LAYING OF A CABLE ACROSS THE HUDSON.**—The Atlantic and Pacific Telegraph Company, which just now causes the present monopoly so much uneasiness, on Saturday exhibited its enterprise by successfully laying a cable across the Hudson River at the foot of Columbia street. This cable connects New-York with Chicago the moment the wires are all up. It is already completed to Buffalo, and the day is not far distant when the whole line will be in working order. The cable was laid by C. C. PETTY, Esq., of Oswego. The laying of the cable created quite an excitement, and was witnessed by a large concourse of people.—*Albany Knickerbocker*.

**NEW RAILWAY LINE IN IOWA.**—A line has been constructed to run between St. John's, Iowa, and Sioux City, a distance of about eighty miles. It will be owned by the R. R. Co., now building between the above point.

**WHENCE IS THIS THUS?**—Two anxious mortals in the "pursuit of knowledge under difficulties," write to know why Western Union stock has declined ten per cent within a few weeks. The Co-operative Telegraph Company must be the cause of it. If not, what is it?

**AN AMATEUR TELEGRAPHER.**—The *Trenton Gazette* says that in one of the public schools of that city, is a class in natural philosophy, in which is a boy who has demonstrated pretty effectually that he understands the subject he has studied. He has constructed an electrical battery, and in conjunction with another boy, run a telegraph wire from the second story of his house, a considerable distance, into the second story of his friend's. This wire runs through the limbs of trees, and is insulated by means of silk wrapped around it, instead of glass, as is usually the case. From the philosophy used in school, and in the instruction of his teacher, the boy has gained a thorough knowledge of the principle upon which the telegraph works, and without any assistance whatever, has learned the telegraph alphabet from his school book. Very frequently these youngsters amuse themselves by sending telegrams back and forth with a celerity which ordinarily requires apprenticeship in a telegraph office to learn.

**PERSONAL.**—The *Memphis Avalanche* of Sept. 14, contains the following paragraph in reference to one who is widely known among telegraphers, and kindly remembered by all:

"Mr. J. J. FLANAGAN, of the Southern Telegraph Company, of which Gen. Kirby Smith is President, who has been an operator in the city, will go to Louisville tomorrow to open an office there. We commend him to our friends, who will find him cordial and courteous; a gentleman in every respect, and capable of taking the reins in his interesting business."

**TELEGRAPH CABLE BROKEN.**—During the heavy gale on Monday of last week, the new cable of the Franklin and Insulated Lines at Thirty-ninth street, North river, was broken by the dragging of a vessel's anchor. It was found necessary to underrun the whole to splice it, and finally to take it up for repairs.

**THE FRANKLIN TELEGRAPH COMPANY.**—This company has now nine offices in this city, and employes twenty operators.

**NEW PRESS ASSOCIATION.**—A new Evening Press Association commenced operation on the first of the present month. The association comprises the *New-York Evening Post*, the *Boston Traveller*, and the *Philadelphia Bulletin*. Mr. SCOTT, formerly of the Western Press, will act as Washington agent.

**TELEGRAMS NOT PRIVATE PROPERTY.**—A ruling was made by Judge DAVIS, at the Circuit Court in this place last week, which has much interest for business-men. This was that telegraphic messages are not private property, or confidential communications, and that an operator is bound to produce them in court as evidence when they are demanded. In a case on trial last week, CHARLES D. ROSS, in charge of the telegraph office here, was questioned as to certain telegrams said to have passed between the co-defendants in the case. He declined to answer on the ground that the dispatches were confidential communications, and the private property of the parties. The Judge ruled that they were not privileged communications, or private property in the sense mentioned, and issued an order requiring copies of the messages sent to be produced in evidence. Businessmen will understand now that their dispatches even to their partners, may be used as evidence against them by a third party.—*Albion (N. Y.) Times*.

### Electricity at the American Institute Fair.

#### IV.

AMONG the various useful applications of electricity aside from the telegraph, there are quite a number on exhibition, showing much ingenuity of construction and adaptation, and worthy of a more extended notice than we can devote to them in this article. One of these, which seems to attract a great deal of attention, is

#### BLACKIE'S ELECTRIC VOTING APPARATUS.

The person in charge of this machine, for some reason best known to himself, seemed rather disinclined to answer our questions in regard to its *modus operandi*, or to afford us any information as to its construction, somewhat to our surprise, as we very naturally supposed the different articles were placed on exhibition expressly for the purpose of being critically examined by all interested. We succeeded, however, in unravelling the mystery without assistance, and herewith present to our readers the result of our investigations.

Two wires run from each member's desk to the indicator, which is placed upon the speaker's desk in full view of the members. This indicator is divided into two equal portions, one side registering the yeas and the other the nays. Each division contains a series of small apertures numbered to correspond with the desks, into which small hollow balls of iron are inserted when a vote is about to be taken. Upon any member pressing down the "yea" or "nay" key upon his desk the ball drops from the corresponding aperture in the "yea" or "nay" division of the indicator into a gutter underneath, which conducts it into a vertical glass tube beneath. There being two of these tubes, one for each side of the indicator, placed parallel and along side each other, the total result of the vote is at once evident on the inspection of the tubes, which are arranged with a series of numbers so that the number of votes cast on

each side may be known at once without the trouble of counting. The dropping of the balls is effected by means of an electro-magnet with a hollow core, which is placed behind the dial, the tube forming the core coming through flush with the front surface of the dial, and of course forming an aperture into which the hollow ball is inserted, just far enough to maintain its position, a cork within preventing it from entering too far. In this position, however, it is a little within the centre of the greatest attraction of the magnet, and consequently when the circuit is closed it is drawn towards the end of the tube with such force that it falls out and drops into the gutter underneath. The whole arrangement exhibits great ingenuity, and is admirably adapted for the purpose for which it is designed. Its merits must secure its adoption by Congress at no distant day. The saving of time over the present tedious method of taking a vote, is a matter of no small importance in a legislative body.

A short distance from this apparatus is a model of

#### HALL'S RAILWAY SWITCH ALARM.

This invention consists of an alarm-bell, which is placed in the cupola of a railway station or in any other convenient locality about the building, and connected with the railway switch by an electric circuit, so arranged that when the rails are turned off the main track on to either of the sidings, the bell keeps up a continuous ringing until the rails are replaced in line with the main track. A "danger signal" is also shown, operated by the same means, which may obviously be placed at any desired distance from the switch. This is only one of many valuable applications which will yet be made of electricity in connection with the railway system. In fact, it may be said that if steam is the muscle, electricity is the brain of machinery, guiding and directing its work. It is safe to assume that the large amount of traffic on some of our Western railroads would completely blockade them were it not for the agency of the electric telegraph, which endows the "train dispatcher" with the faculty of omnipresence, and enables him to direct the movements of his trains with as much certainty as if every one were actually visible to his eye.

Another elegant application of electricity is shown in

#### GARDINER'S APPARATUS FOR LIGHTING GAS BY ELECTRICITY,

in which a disc of vulcanized rubber is so arranged that rapid rotation may be imparted to it by means of a crank. A rubber pressing against this, develops static or frictional electricity in large quantities when the disc is in motion, and which may be conveyed to the gas-burners of a house by a conductor. The spark from this conductor ignites the gas instantaneously. An apparatus invented by Mr. GARDINER is used for lighting the gas-burners in the dome of the Capitol at Washington, which are placed in a position that would be inaccessible by any other means than that employed.

#### HOLMES' ELECTRIC BURGLAR ALARM,

is another example of domesticated electricity which has become somewhat familiar to the public, having been used quite extensively for a number of years in this city and vicinity. A small alarm-bell, operated by electricity, is placed in the sleeping apartment. Wires attached to this alarm and including the battery in their circuit, extend through the house, being concealed in tubes within the walls. A fixture is attached to each door and window which, upon an attempt being made to open them, forms a connection between the wires and sets the alarm in operation. The whole can be disconnected at pleasure by means of a small switch attached to the bell. This affords also a ready means of determining whether the doors and windows are all secure before retiring for the night, as in case of their being by accident left open, the alarm will at once be sounded upon closing the circuit switch. With this invention in their house a family may rest secure against burglars, as the electric watchman cannot be "bought off" and never goes to sleep. Many a rogue has occasion to rue the day when electricity was impressed into the detective service. We are glad to learn that the advantages of this invention are becoming appreciated by the public, a large number of them having been put up in the city and vicinity since their first introduction.

We have thus briefly glanced over that portion of the



fair in which our readers are most interested. We should have been pleased to have witnessed a fuller display of electrical and telegraphic apparatus, although as we before remarked, the exhibition as a whole in this department is very creditable. The fair will remain open for some two weeks longer, and we advise all our readers to visit it before its close, as they will find a vast number of interesting objects on exhibition, which will abundantly repay them for their trouble.

## 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.*

### Secondary Currents from Electro Magnets.

TO THE EDITOR OF THE TELEGRAPHER:

ACTING upon your suggestion, I removed the cores from a Chester magnet, but found no diminution in the force of shocks at the screw cups. Your explanation is therefore incorrect. I recur to my former surmise that the shock is given by the escape of residual electricity from the spools, lateral escape being prevented by insulation. It is well known that cables retain electricity for some time after circuit is broken, the residual electricity in the Atlantic cable being so great that a reverse current is required to neutralize it. THE TELEGRAPHER of December 1st, in describing the cable instruments says: "Upon breaking the circuit of the battery the electricity thus held statically or stored up in the conductor must be discharged from it at both ends." Is not the same true of magnets, or is it owing to induction in the former case? By the way, is the "Electro static capacity" of a cable the result of induction? This is one of the points relating to submarine telegraphy upon which I think most of us laud lubbers would like to be enlightened. Another is the *modus operandi* of testing for faults which used to consist when the undersigned worked cables of listening to the vibrations of a common magnet.

Washington, D. C., Oct. 5, 1867.

SHOCKS.

[Since receiving the above letter we have made further investigations into the matter referred to. Our own experiments seem to prove that there is a slight diminution of the shock when the cores of the magnet are removed, showing that induction of the core has some influence upon the result, although it is obviously not the cause of the phenomenon.

The explanation of our correspondent is not entirely satisfactory, as a wire of the length and capacity of that forming the helices could not retain a sufficient amount of electricity to produce so great an effect. It is well known, however, that a *secondary* or *induced* current, although but momentary in its effects, is much more powerful than the primary current.

The following extract, which we find in a standard work on electricity, gives, we think, the true solution of the problem:

"A current exerts an inductive action upon the wire through which it flows, called the *induction of a current upon itself*. At the moment the current commences to flow through the coils of an electro-magnet, it produces in the wire an induced current lasting but an instant, flowing in a *reverse* direction to that of the battery, and opposing it so as to delay the magnetization of the cores. Again, when contact is broken, the cessation of the battery current causes a second induced current, in this case flowing *direct* in the *same* direction as the battery current, and therefore prolonging its effect so as to delay the demagnetization of the cores, and by adding its force to that of the battery causing the spark which appears to be much more powerful than that which occurs with a simple straight wire. These are called *extra* currents, and the direct is the more powerful. The *reverse* current exists during the time the magnetism of the iron is *increasing*, the *direct* current, while it is *decreasing*."

In proof of the correctness of the above, it will be noticed that a shock is felt at the screw-cups when the circuit is *closed*, though of much less intensity than when it is broken. It occurred to us that the bright spark which is seen upon the breaking of the local circuit at the

points of a relay might be, in a great measure, owing to the same cause, namely, the secondary current from the sounder coils. This was proved experimentally by attaching a small wire to each of the screw-cups of the sounder, and placing them in a glass of water, thereby forming a short circuit for the secondary current. The spark at the relay points entirely disappeared.

The electro static capacity of a cable is the result of induction. This effect may be witnessed to a limited extent upon a long and well-insulated pole line, when the circuit is open at the remote end. If the relay be properly adjusted, upon closing the key connecting the battery with the line at the near end, a current will pass into the wire until it is charged, which will affect the relay for an instant only. If now the near end of the wire be instantly placed in direct connection with the ground, leaving the battery out of circuit, the current will discharge itself into the earth, again moving the relay. The induction in this case is caused by the earth and other conductors in the neighborhood of the wire, but owing to its distance from them the effect is slight. If now the wire be covered with an insulating coating and submerged in water, this distance becomes very small. The wire is opposed on all sides by another conductor, and the induction is enormously increased, and the discharge or return current is correspondingly powerful. The method used in testing the insulation of cables is by noting the time required for the static charge to escape from the cable through the gutta-percha, after the battery contact is broken, the cable being submerged in water during the test. In case of faults, different tests are employed, varying according to the nature of the fault, and which cannot be clearly explained without diagrams. Some of these tests are equally applicable to air lines; the distance of a "cross," for instance, may be determined with great accuracy. We shall prepare an article upon this subject with diagrams as soon as our time will admit.—ED. TELEGRAPHER.]

### The Yellow Fever in Texas—Sufferings of the Operators.

HOUSTON, TEXAS, Sept 27, 1867.

TO THE EDITOR OF THE TELEGRAPHER:

THINKING that the telegraphic fraternity in general would be interested to hear of the sufferings of their "brothers in profession" in this State, during the prevailing epidemic, I will give them a few items in regard to it:

To attempt to picture the distress prevalent throughout this District would prove an insurmountable task. The yellow fever, that bane of Southern latitudes, is wielding its sceptre supreme, and scattering death and misery indescribable over the land. Even telegraphers are not exempt from the scourge, and do not, as of yore, enjoy an immunity from yellow fever.

I have known telegraphers who never had been in contact with the fever (previous), go through an epidemic with impunity, which I attributed to the fact of their inhaling the evaporations of their office batteries, in the forms of acids.

The first operator attacked was G. L. DAVIS, at Galveston, who weathered the storm, and is to-day attending to his duties.

Mr. A. J. SHEPHERD, Manager of the Houston office, was the second, and like Mr. DAVIS, came out "O. K." J. F. REARDON, operator at Millican, Texas, was not so fortunate. The poor boy died thousands of miles from home, in the first flush of manhood. His friends in New-York and West Point may rest assured of his having been attended to in his last moments by friends who, though but recently acquainted with him, endeavored to do all in their power to save him.

J. T. WALKER, Manager at Harrisburg, Texas, preceded poor REARDON but a few days.

ROBERTS, also, repairer, died at Navasota, a few days after poor WALKER.

To-day again, we are called upon to mourn the loss of another unfortunate telegrapher. J. A. ALLEN, operator at the R. R. office in this place, died last night after a lingering sickness of seven days.

Early in the season, and before the fever was considered epidemic, C. S. PAYNE, operator at the R. R. office at Galveston, and well known among the operators in the

North, died of the same disease, making in all, *so far*, four operators and one repairer that have fallen victims to its ravages.

The fever is still raging at a fearful rate, and all those who have been fortunate enough to escape it so far, may at any moment be seized with it.

I have been among the fortunate as yet, and should I survive the epidemic and come out "untainted" in the end, you may expect to hear another faint echo from the Eleventh District.

TEXAS.

### The Co-operative Telegraph Company.

TO THE EDITOR OF THE TELEGRAPHER:

I HAVE noticed with much pleasure a growing desire on the part of telegraphers for the inauguration of a co-operative Telegraph Company, and regret that I did not learn of the intended remaining over Sunday, in this city, of Messrs. WHEELER, STOVER, and LAWRENCE, on their return from the Convention, as an interview with them relative to this matter would, I doubt not, have proved very interesting.

As it is through agitation that great reforms are accomplished, I suggest the propriety of a continual agitation of this subject by THE TELEGRAPHER.

Various methods of arriving at the same end may be presented, and, for the consideration of the fraternity, I present the following plan: That a proposition be made by telegraphers to the Atlantic and Pacific Telegraph Company, for an increase of their capital stock to \$10,000,000, the telegraphers to take the \$5,000,000 additional to increase the capital to the above amount, and a re-organization of that Company to take place, in which one-half the officers be selected from the Atlantic and Pacific and one-half from the telegraphers. All will admit the lines of that organization are being built from New-York city to Buffalo in a very substantial manner. Although they are not precisely what we would wish, yet they are far superior to those of the W. U. Company, and the extension from Buffalo westward can be built with the most approved material.

By the adoption of such a plan, the realization of our most cherished hopes will be an accomplished fact.

To be successful in our undertaking we must seek the aid of capitalists. Why not, then, seek it through the aid of an organized company? I submit this to the serious consideration of all concerned, and ask that telegraphers generally, express their views through the columns of THE TELEGRAPHER.

AMERICUS.

Buffalo, Sept. 27, 1867.

TO THE EDITOR OF THE TELEGRAPHER:

PLEASE present my thanks and compliments to Mr. HUNTER, our affable Superintendent of Supplies, for a very superior article of pencils. The brand is "Imperial W. & C. HERRICK, No. 2." I trust the Messrs. HERRICK will supply us until we are "gobbled up." MAC.

### Telegraphs in South America.

ONE of our subscribers at Lima, Peru, sends us a considerable amount of interesting information about telegraphic matters in that part of the world.

From him we learn that there are only three telegraph lines in Peru at the present time. A line of seven miles in length, between Lima and Callao, was built in 1857, with an exclusive privilege for ten years. The line has two wires, and uses the old BREGUET dial instruments. The line is interrupted a good share of the time, and our correspondent says that in wet weather two hundred cups of battery are not sufficient to get a signal through.

An American telegraph constructor named A. S. MORSE built a line for the Government between Arica and Tacna, a distance of forty miles, which was opened for business in November, 1866, and was delivered to the Government on the 1st of December following. This line follows the railway between the above places. It is well managed, and does a good business. The MORSE instrument (register) is used, and the carbon battery. The operators are natives of Peru, and were taught by ROBERT F. TEIGHE, formerly of New-York office. This line has no intermediate stations.

There is also a line ninety miles in length, between the port of Islay and the city of Arequipa, with an interme-







BALLSTON SPA TELEGRAPH INSTRUMENT MANUFACTORY.

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MANUFACTURERS AND DEALERS IN ALL KINDS OF

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We would call the attention of all Telegraphers and Telegraph Companies to the fact that we are manufacturing

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THE BEST

We are working all instruments with an ENTIRE NEW MAGNET, excluding thereby all use of Local Batteries. Our Main-Line Registers and Sounders have been put to the SEVEREST TESTS, and are pronounced by competent judges

"The Best Now in Use."

We claim to gain more power or effective working force in our Instruments, with ten ounces of wire, than has heretofore been gained by using one pound, as we get rid of the residual magnetism.

We also manufacture a Relay with only ten ounces of wire, thereby putting very little resistance in the line, and doing the work as well, if not better, than those that contain one pound of wire and put a great resistance in the line.

HENRY A. MANN.

SAMUEL F. DAY.

Superintendents and Managers

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Cin., Ham. and Dayton..... Geo. M. Lane, Dayton, O.
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Chicago and Milwaukee..... G. H. Bliss, Chicago, Ill.
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Cleve. and Pittsburg..... John Thomas, Wellsville, O.
Cleveland Painsv. and Ash..... T. H. Miles, Cleveland, O.
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Dayton and Western..... C. S. Rogers, Richmond, Ind.
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Del. and Hudson Canal Co..... C. Peterson, Honesdale, Pa.
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Hudson River R. R..... S. K. Rupley, Poughkeepsie, N. Y.
Indiana Central..... J. F. Wallick, Indianapolis, Ind.
Indianapolis and Madison...
Indianapolis, Cincin, & Lafayette... C. H. Summers, Cincin., O.
Illinois Central..... L. A. Louis, Centralia, Ill.
Iron Mountain R. R..... R. C. Clowry, St. Louis.
Jeffersonville..... Wm. Atwater, Jeffersonville, Ind.
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Louisville, Cincin. & Lexington... W. L. Biggert, Louisville, Ky.
Louisville, N. Alb. and Chi... J. C. Showerman, N. Albany, Ind.
Michigan Southern and N. I..... Wm. Kline, Jr., Toledo, O.
Michigan Central..... M. D. Woodford, Kalamazoo, Mich.
Milwaukie & Prairie du Chien... E. B. Washburn, Milwaukie, Wis.
New-York Central..... A. L. Dick, Syracuse, N. Y.
Northern Central..... Cameron Wilson, Harrisburg, Pa.
North Missouri..... M. D. Crain, St. Louis, Mo.
New-York and Harlem..... D. Waldron, New-York.
Ohio and Mississippi..... C. W. Temple, Vincennes, Ind.
Oil Creek..... P. H. Dwyer, Corry, Pa.
Penn. Central.. Divison Oprs. { Jesse Crouse, West Phila.
{ A. R. Kiefer, Harrisburg.
{ J. Suter, Outer Depot, Pittsburg
Phila. and Reading..... C. T. Sellers, Reading, Pa.
Phila., Wilm. and Balt..... J. A. McLaughlin, Philadelphia.
Pittsburg, Col. and Cin..... J. B. McMullen, Stenbenville, O.
Pittsburg, Ft. Wayne and Chi... O. H. Booth, Mansfield, O.
Platte Country R. R..... R. C. Clowry, St. Louis.
Pacific R. R. of Mo. .... K. McKenzie, St. Louis.
Raritan and Delaware Bay... R. H. Woodward, Red Bank, N. J.
Rensselaer and Saratoga..... Isaac Ford, Troy, N. Y.
Sandusky, Mansfield and Newark... J. Lytle, Newark, O.
Sandusky, Day. and Cin..... A. C. Frey, Sandusky, O.
Toledo, Wabash and Western... W. A. Beach, Toledo.
Toledo, Peoria and Warasw... D. K. Smith, Peoria, Ill.
Terre Haute and Richmond... J. E. Simpson, Indianapolis.
Terre Haute, Alton and St. L... B. F. Wellover, Terre Haute.
Union Pacific..... H. H. Cook, Omaha, Neb.
Union Pac. fic (Eastern Div)... R. B. Gemmell, Wyandotte, Ks.

Our friends throughout the country are particularly requested to inform us of any necessary additions or corrections in the above list.

Exposition Universelle, Paris, 1867.

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Journal des Telegraphes. REVUE MENSUELLE, INTERNATIONALE, LEGISLATION, JURISPRUDENCE, CHRONIQUE. M. J. D'AUBONNE, Redacteur en Chef, Bureau, 1 Rue du Mail, Paris, France.

Revista Telegraphica, Monitor Scientifico e Noticioso. Published monthly at Lisbon, Portugal. A. WELLENKAMP, Director.

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Aside from the advantages apparent upon inspection of these magnets, their acknowledged merits consist in the construction of the helix, which was patented Aug. 15, 1865. This being of naked copper wire, so wound that the convolutions are separated from each other by a regular and uniform space of the 1-600th to the 1-800th of an inch, the layers separated by thin paper. In helices of silk insulated wire, the space occupied by the silk is the 1-150th to the 1-300th of an inch; therefore a spool made of a given length and size of naked wire will be smaller and will contain many more convolutions around the core than one of silk insulated wire, and will make a proportionably stronger magnet, while the resistance will be the same.

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# THE TELEGRAPHER.

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## BROWNSON AND SHULL'S PATENT TELEGRAPHIC REPEATER.

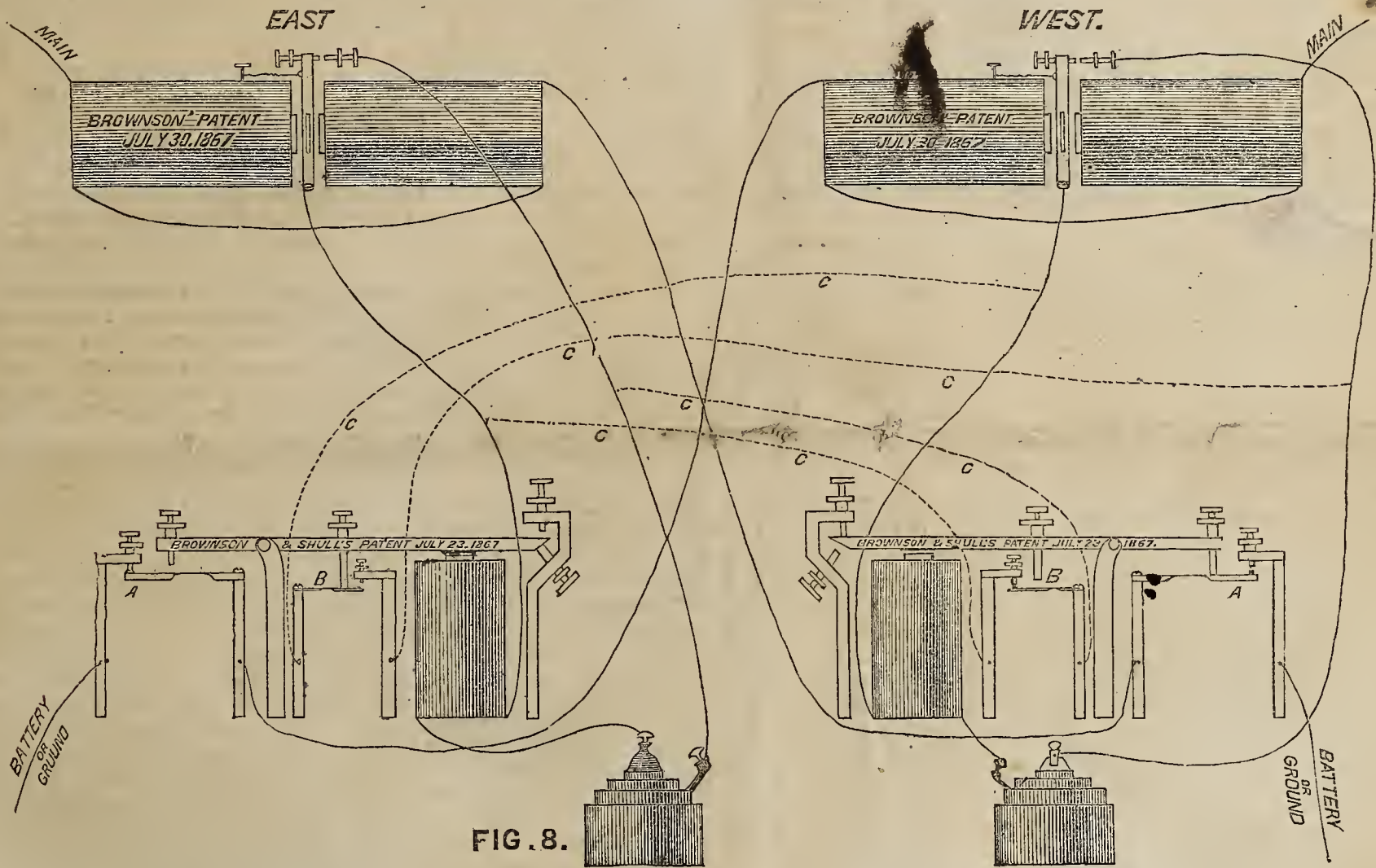


FIG. 8.

### Brownson and Shull's Telegraphic Repeater.

This is a new invention, for which a patent was granted on the 23d of July last, to W. G. BROWNSON and D. C. SHULL, of Wellsville, Ohio. The principle of its operation will be found clearly illustrated in the annexed diagram. The relay magnets are connected with the local batteries and sounders in the ordinary manner. The opening and closing of each main circuit by the lever of the sounder on the opposite side of the apparatus is effected by the action of the lever upon the springs A A. The set screws passing through the lever are so adjusted as to move the springs and open the circuit by the movement of the lever. The screws do not, in themselves, form the connection.

By examining the connections as laid down in the figure, it will be observed that both the relay magnets open and close together, but where the western sounder is working, the eastern sounder remains closed, notwithstanding the opening and closing of the relay, with which it is connected. In like manner, if the eastern

sounder is working the western one remains closed. This is effected in the following manner :

In the figure the western operator is supposed to have his key open. The western relay and consequently the western sounder are also open, but the action of the sounder lever upon the spring B has closed the supplementary local circuit C C (shown in dotted lines) before opening the eastern main circuit at A, consequently the eastern sounder is kept closed, the circuit of its own battery being completed by the spring at B, before it is broken by its own relay. The western main circuit is thus kept continually closed at A, while the operator is working. If the eastern operator breaks, or commences writing, the same effect is produced on the opposite side of the apparatus.

Brownson's patent self-adjusting relay, is used in this repeater, and the peculiar arrangement of its parts is shown in the figure. It consists of two separate electromagnets, placed with their poles opposite to each other, one on each side of the armature which vibrates between

them. Both these coils are arranged so as to be movable.

The supplementary or adjusting magnet is somewhat smaller and less powerful than the main magnet. The circuit of the line passes through both magnets, as shown in the diagram. The spring attached to the lever is adjusted to a tension just sufficient to keep it back when the main circuit is open. When the circuit is closed the excess of attraction of the large magnet over the smaller one draws the armature towards it, and this difference of attraction must remain in the same proportion whatever may be the strength of the current. We have had no opportunity of practically working this relay, but the inventor informs us that it has been thoroughly tested, and when once properly set, will work on a strong or weak circuit or over a heavy escape with perfect ease and uniformity.

A repeater arranged with these relays requires scarcely any care or attention. The repeater and also the self-adjusting magnet are manufactured by C. T. & J. N. CHESTER and L. G. TILLOTSON & Co., of this city, and Dr. L. BRADLEY, of Jersey City. For license to manufacture, or any other information, address W. G. BROWNSON, at Wellsville, Ohio.



### The Atlantic and Pacific Telegraph Company.

This new company, whose wires between this city and Buffalo have been in progress during the past summer have now completed them, and the line was opened for business on the 15th inst. The company expect to reach Cleveland by the first of December, and Chicago sometime during the coming winter. The offices on the line for the present are as follows:

New-York, Croton Falls, Poughkeepsie, Hudson, Kinderhook, Valatie, Albany, Troy, Schenectady, Fort Plain, Utica, Rome, Syracuse, Oswego, Clyde, Rochester, Lockport, Tonawanda and Buffalo.

The office in this city will be with the Franklin Company at No. 11 Broad street. The Albany office is in charge of H. L. WATERBURY, with J. A. PERRY as cashier.

W. O. CARPENTER is manager at Troy, and D. W. McANEENY, late of this city, is at Utica. W. H. WEED, late of Chicago, has taken charge of the Oswego office.

The line is built in a substantial manner along turupike roads, and has thirty-eight poles to the mile. The glass insulator (Lancaster pattern) is used with No. 9 English wire, galvanized. Two wires are now up, and two more will be added at once. The cable at Albany crosses the Hudson River from the foot of Columbia street, to the Boston Railroad wharf at East Albany. It is one of the Bishop Gutta-Percha Company's manufacture, and has three conductors.

The company use a new and elegant pattern of instruments manufactured by Dr. L. BRADLEY, of Jersey City.

The headquarters of this company are in the marble building, Nos. 155 and 157 Broadway. The president is A. F. WILLMARTH, of the Home Insurance Company. C. A. HARPER is secretary, and CHAS. E. PERRY, superintendent.

### Opus.

Most mighty sphinx! From the ashen graves of how many of the "slaves of the lamp" didst thou arise? Stupendous toad, whose mottled throat puffeth vauntingly within the sunlight of affluence and conscious power, thy hops prodigious cause me amazement most profound, while I view thy course above the mass of thy employes, prostrate beneath thee with uplifted orbs surveying thy progression with most humble awe. What weight of woe and woe, and wasted lives! What oceans of tears, what worlds of sighs and heavy heart throbs give luster to the jewel in thy head! Behold! The temple of fortune looms before me upon the rocky base of success and influence, its portals emblazoned with the magic numerals "cent guaranté cinq" bathed in a golden glory, whilst the clouds shed down their showers of silver coin upon the waves of the ocean of greenbacks beneath its overhanging shadows.

"The sunlight falls on castle walls,  
And the wild cataract leaps in glory.  
Blow, bugle, blow, the mammoth's 'ego' crying.  
Answer, OPUS, answer echoes, DYING, dying, dying.  
The echoes roll from soul to soul,  
And grows the mammoth on forever.  
Blow, bugle, blow, set the wild echoes flying,  
And mammoth echoes answer 'ego!' 'I grow,' 'ego!'"

Give me, O Liud! great architect, thine eyes! Grant, I pray, to OPUS here the plan, the draught by which great Capital has reared this mighty temple, ornate with purple shadows under sapphire skies, with glinting domes, and royal architraves, and lofty columns graven with U. S. and AMERICUS shining in the sun. The corner-stone Economy engraven by the artist resident, STOKHOLDUS, "Death on economy," "et salve lardum." Answer me, O silent tombs! O pallid-browed OPUS with tired eyes drooping 'neath midnight lamps, and aching temples throbbing with ebbing energy, responsive to the clicking monotone of Life's unceasing diapason—art thou translating this imbroglio? Is death its economy? Tell me, O mighty alchemist, great chemist, what tints you columns and vari-colored walls, what is their monogram? ROUNDTHALER. What gives the jacinth shadows to the purple air? Answer me, O pale blue veins, and thou, fast fading cheek! Hang heavy then, O air, heavy with dividends! Live happily, most mighty STOKHOLDUS! thy probity and regnant sway is undisputed, for who is OPUS? Simply this:

"Simply nothing, a name scribbled o'er an abyss."  
Worship peacefully thy God, ROUNDTHALER. May never thy pure eyes be clouded by a thought of OPUS, as thy lips devoutly murmur "Thy kingdom come," above the velvet-bound and gold-clasped "Psalms." May never yet thy dreams be visited by a thought of OPUS, nor the long nights' "extra service." Peal on, O solemn-voiced organ, as he murmurs responsive "From all false dealing and uncharitableness—deliver us," and drown the echoes of the midnight repeaters. Yield soft, O cushions, 'neath his reverent knee, and ne'er suggest the comfortless office chair in which pale OPUS sits on extra service, until the gray light of morning dims the sickly gaslight, for 28 4-7 cents an hour. From nine until four A. M., at the kindly charity of "retain unto thyself two dollars for thy hire, and remit to me the rest of thy earnings." Yea, take thou our rest, our peace, our lives' best years—all are thine! God gives it thee a sacred trust, because of thy great power. Our time is thine, all of it—are we not hired? OPUS is not thy friend, and yields to thy capitulations, thy greater strength. Grow on, great Ego! 'Tis Providence decrees, and charity that gives thee this translation, "He who doeth well for himself hath praise." Do then thy duty, for "To him that hath shall be given, and to him that hath not shall be taken away even that which he hath!" Vale!  
O. P. ERATOR.

### Testimonial to Col. Wm. L. Gross.

COL. WM. L. GROSS, who formerly had charge of the military telegraph lines in Kentucky, and afterwards in Louisiana during the war, and who has for some time past been stationed at Omaha, Supply Agent and Financial Secretary of the Eleventh Division, has been transferred to New-York by the Executive Board of the Western Union Company to take charge of a new bureau which has just been created. Col. Gross has rendered himself very popular among the fraternity in the West, by his obliging disposition, and they seem rather reluctant to part with him, judging from the following correspondence, which we have been requested to publish:

W. U. TELEGRAPH OFFICE,  
Omaha, Neb., Oct. 8, 1867. }

COL. W. L. GROSS—Dear Sir:—It is with pleasure that I comply with a request of the employes in this office in presenting to you a slight token of their appreciation of the just and impartial manner with which you have administered the affairs of this office, the uniform courtesy and kindness with which they have always been treated, and their regard and esteem for you as a personal friend.

We sincerely regret you are to leave us, and earnestly wish you every success and happiness in whatever sphere you may be placed, feeling confident your transfer to the Executive Department is but a recognition by the company of faithful and honest services.

Allow us, also, through you to present our kindest regards to Mrs. Gross and to the "Young Telegrapher."

Though the material of the "hat" is "non-conducting" may it never "break circuit."

Truly and heartily, yours  
F. DRAKE,  
For the Operators and Employes.

FINANCIAL AGENT'S OFFICE,  
Omaha, October 9, 1867. }

F. DRAKE, RECEIVER, W. U. TELEG. OFFICE, OMAHA—  
My Dear Sir:—I thank you, and through you, the operators and employes of this office, for the warm expressions of regard contained in your note of yesterday, and for the "tangible token" of the esteem you have all been pleased to express for me personally, which accompanied it.

I esteem myself doubly fortunate if, in my endeavors to discharge my duty to the company, I have been able to win and retain the friendship and esteem of those with whom I have been so closely connected. I need hardly remind you that this rarely happens, and in this case, I am convinced that more is owing to the hearty co-operation and assistance which I have received from each and all of you, than to any other influence.

The flattering terms in which you refer to my transfer to the Executive Office, demands my special acknowledgment. Not the least gratifying feature of your note, however, is the very kind mention made of Mrs. Gross and our little one. She joins me in desiring that

you will accept our kindest regards and sincere wishes for your future welfare and success in life. The matter has been duly referred to the Little Gross for an expression of his opinion; but either his "local" is down or the main line "open," for he hasn't vouchsafed a "tick" in response. You may expect to hear from him, however, as soon as he gets "O. K."

It is true I am going to leave you, going where I shall have new "connections" to make on a strange "circuit," and where I shall have all the "calls" to learn, but I comfort myself with the hope that our separation need not and may not "break the circuit" of our mutual regard.

You will allow me, I trust, in referring to the "hat," to say that it is an elegant specimen of a cap covering, the wearing of which could not fail to improve the appearance of even a better-looking individual than the recipient.

Your kindly forethought in the matter, while it assures me that I shall not go from among you "hatless," is my sufficient warrant, I think, in believing that you will all join me in the hope that my errand may not prove a "bootless" one. Sincerely your friend,  
W. L. GROSS.

### A New Electric Light.

AN exhibition of the working of a new method for producing light by means of electricity, the invention of Prof. NOLLET, of Paris, was made at the Battery, in this city, on Tuesday evening. The illuminating apparatus having been placed on the roof of the Barge-Office, a very clear and penetrating light to a great distance. So strong was the light that the captain of one of the revenue-cutters informed the company that he had read his newspaper by it at the distance of nearly six miles, and at the Narrows the ordinary gas light displayed from the tower of the Barge-Office was entirely lost sight of in the greater brilliancy of its new rival. The apparatus for producing electricity is quite simple, consisting of several series of horse-shoe magnets—fifty-eight magnets in all—arranged in a cylindrical form in a frame, within which is a revolving cylinder thickly set with bobbins of soft wire, which, by the motion of the cylinder, are made to pass very rapidly between the poles of the magnets. The action of the magnets on these revolving points generates a large amount of electricity, which is carried through a conducting wire to the point where the illuminating apparatus is placed, and thence back to the generator. At the illuminating point the circuit is broken, and the two ends of the wire are tipped with pencils formed of the resinous substance which collects in the retorts of gas works. These points become intensely heated by the passage of the current, and give out an intense white light. As the points burn off, these carbon pencils are fed up by clock-work, so as to preserve a uniform distance between them. The expense of producing the light, exclusive of the cost of the power required to drive the generating machine, is said to be about two cents per hour. In this case, the generator was driven by a small ANDREWS oscillating engine, of about two horse power, which was ample for the purpose. The same generating apparatus may be used to supply several lighthouses at the same time, if in the same neighborhood, as the electricity can be conducted through wires several miles; as in the magnetic telegraph.—N. Y. Tribune.

### Imperial Traveling.

THE special train in which the Emperor NAPOLEON went with his suit from Paris to Salzburg is described as exceeding in comfort and elegance anything of the kind that has hitherto been known. It consisted of nine carriages, communicating with each other by tastefully decorated bridges. In the middle was a handsome sitting-room, furnished with chairs, ottomans, sofas, mirrors, pictures, clocks and chandeliers. On one side of this room was the dining-room, and on the other the Emperor's study. In the middle of the dining-room there was a table, capable of being extended or contracted at pleasure, with easy chairs placed parallel to the sides of the carriage. The Emperor's study contained an elegant writing-table, a clock in the style of the renaissance, a thermometer, a barometer, and a telegraphic apparatus, by means of which telegraphic communication was established with the



apartments of the various court officials traveling with His Majesty. Next to the study was the bed-room of the Emperor and Empress, with two beds placed transversely against the sides of the carriage. Two dressing-rooms were attached to the bed-room. The remaining carriages consisted of a kitchen, a wine-cellar, and the apartments of the Emperor's suite. There was also a conservatory filled with the choicest flowers.—*Pull Mail Gazette.*

## 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 Morse vs. the Printing Telegraph System.

TO THE EDITOR OF THE TELEGRAPHER:

I NOTICED in your last paper a communication from a correspondent styling himself AGITATOR, in which he takes occasion to pitch into the printing instrument, in what I consider a rather unjustifiable manner. The question of the relative superiority of these two systems will probably be settled about the same time that the agricultural journals decide whether it is best for farmers to use oxen or horses for their work.

AGITATOR is, no doubt, a first-class Morse operator, but when he attempts to show up the "outrageous errors" of the printing instrument, in your last paper, he makes out a very poor case, indeed.

The first instance he refers to, the substitution of the word Crapes for Grapes, went the rounds of the papers some time ago, and it was very fortunate for AGITATOR that it turned up in time to serve him as an illustration. How often do we see a similar defect in a letter, even in most carefully printed books and newspapers, yet who thinks, therefore, of condemning the whole art of printing and advocating a general return to the old way of doing things, previous to the experiments of GUTTENBURG and FAUST?

As for the second example given, we can only assert what every one conversant with both systems will admit to be true, that ten errors of this character occur on the Morse lines, to one on the printer, and it could not occur in either without the most culpable negligence on the part of both the sending and receiving operator, the former in making a space where there should be none, and the latter in not counting the number of words in a message, and ascertaining if it corresponded with the check.

You must bring up more serious charges than those against the printing instrument, Mr. AGITATOR, before you can convince the public of the superior accuracy of the Morse system or its operators.

During my experience of a considerable number of years, on a line worked entirely by printing instruments, such a thing as a claim for damages arising from an error in transmission was almost unheard of, while now it is a matter of almost daily occurrence under the present system of working.

The great cause of errors, however, as your correspondent truly states, is in faulty and illegible manuscript, and just here is one point wherein a printer has a decided advantage. No small share of the errors on the Morse lines, occur at the repeating stations in consequence of the careless manner in which the messages are usually written by the receiving operator. As the copy is not to go out of the office, he is apt to think that almost any kind of a scrawl will answer the purpose.

On a printing line, no matter how many repetitions a message may undergo, it is sure to come out at last just as it was originally transmitted from the station at which it was received. I say nothing about the imperfections of the Morse alphabet, as first-class operators rarely mistake one word for another, even when working at the highest speed. Inferior operators will continue to make blunders as long as the present alphabet is used. The European alphabet, if it could be introduced, would, no doubt be a most desirable improvement, but I have no expectation it will ever be done.

The weak point in the Morse system, as now worked in this country, is the impossibility in most cases of de-

termining with which of the two operators concerned, the responsibility of an error rests. The rule usually adopted of assuming it to be the receiving operator, unless he can prove it was not, is a most unjust one. Every practical operator knows that a first-class man is no more likely to make a mistake in receiving a message than he is in transmitting it, but unfortunately a practical knowledge of telegraphy is now considered a disqualification for the position of manager or superintendent, and the receiving operator is usually tried by a drum-head court-martial, and forced to shoulder the responsibility. In the printing instrument, however, the matter is more easily decided, and the responsibility can be put where it really belongs.

I have no desire to disparage the old and well-tryed Morse system, but I do not consider it necessary to destroy the printing instrument in order to induce the public to recognize its peculiar merits.

COMBINATION.

### Local Batteries.

TO THE EDITOR OF THE TELEGRAPHER:

CAN you give me any information as to the best method of taking care of a local battery so as to get the greatest working effect with the least waste of material? Also, can you explain the cause of the encrustation of copper upon the outside of the porous cups, and is there any means of preventing this deposit? I would be greatly obliged for some information on these points.

October 10, 1867.

C. G. W.

[The local battery should always be kept in a dry place, and no dampness allowed about the jars, as it forms a short circuit and consumes the battery with great rapidity.

In setting up the battery use pure soft water in the porous cups, *no salt nor acid*. The pocket attached to the copper plate should be kept filled with sulphate of copper until the water outside the porous cup is saturated. *Great care must be taken not to allow any sulphate to get into the porous cups.* It will take two or three days for the battery to attain its full strength.

The local battery should be taken apart and cleaned once a week. Save the clear part of the liquid in the porous cups, and return to them again after thoroughly washing them from the black sediment collected at the bottom. Clean the zincs well with a stiff brush.

Keep the porous cups always full of water, and *do not allow the sulphate solution to overflow them.*

The encrustation of copper upon the porous cups is caused by the faulty manner in which batteries are usually constructed, the zinc being allowed to rest upon the bottom of the porous cup. It may be almost entirely prevented by suspending the zinc so it will not touch the cup below the surface of the solution, and by cleaning the battery sufficiently often. The zincs ought to be made with a cross piece to hang upon the porous cup.

Do not use a porous cup after it has become cracked; it is false economy. By taking proper care of a battery, one pound of sulphate for each cup per month will be all that is required to keep the battery in the highest state of efficiency.—ED. TELEGRAPHER.]

### The Co-operative Telegraph Company.

TO THE EDITOR OF THE TELEGRAPHER:

YOUR correspondent AMERICUS, suggests that a Co-operative Company be established to include the Atlantic and Pacific Company, said company to be reorganized on a basis of ten millions capital, five millions of which to be taken by telegraphers. There is no doubt but that this would be a satisfactory arrangement to the Atlantic and Pacific Company, but wherein it would inure to the benefit of the telegraph fraternity is not so evident. It may be that the working telegraphers of the country have five millions of dollars ready to invest in such an enterprise, but if so they must be more wealthy than they have ever received credit for.

Again, the advantage of connecting such an enterprise at the outset with the Atlantic and Pacific Company, which, after nearly two years effort, has but just been able to get their line in operation from New-York to Albany, a distance of one hundred and fifty miles, is, to say the least, very questionable. Besides, that company is saddled with contracts which any company organized on the

basis proposed must assume, and which there is good reason for believing are far more favorable to the contractors than to the company. And here let me say, that this organizing telegraph companies primarily for carrying out contracts for the construction of lines previously arranged by the originators of such companies in their own interests is just what has been the bane and curse of nearly all telegraph enterprises. It is not the policy of the telegraphers to form entangling alliances at the outset of a great enterprise.

AMERICUS should know, if he reads THE TELEGRAPHER, that a Co-operative Telegraph Company has already been organized, and is now actively engaged in the work of obtaining such support from the telegraphers as will enable it to appeal with confidence to the capitalists and business-men of the country for such additional means as will enable it to construct honestly and economically a well-balanced system of telegraph which shall embrace the whole Union, and by superior excellence and stability be enabled to compete successfully with the old worn out and antiquated appliances of the existing monopoly. In the progress of this work it may be found politic to include such of the present competing lines as may desire to come in upon a fair and equitable basis.

Let AMERICUS and every other telegrapher unite heartily and earnestly with THE CO-OPERATIVE TELEGRAPH COMPANY already organized, and the result will be the construction of a permanent, reliable, economically built and managed system of telegraph, with which it will be a credit for any person to be connected.

CO-OPERATIVE.

## DISTRICT PROCEEDINGS.

DETROIT DISTRICT.—Meeting held October 6th. District Director in the chair. Preceding minutes read and approved. District Director read communication from Corresponding Secretary relative to a proposed amendment to Article XI., Section 1, of the Constitution. After considerable discussion, communication was laid on the table.

Mr. T. W. PRIEST read his report as delegate to the late Convention, which was accepted and ordered to be placed in records of District.

On motion, vote of thanks was tendered to Mr. PRIEST for the satisfactory manner in which he represented this District at late Convention.

On motion, rules were suspended, and LYMAN B. DWIGHT was elected member of Union.

The Committee on TELEGRAPHER was discharged, and the District Director requested each member of the District to solicit subscribers for that journal.

District Director appointed A. FOX and C. CORBETT as his council for ensuing year. There being no further business to transact, meeting adjourned.

CALIFORNIA DISTRICT.—Meeting called to order 9 P. M. (No date given). Reading minutes of previous meeting omitted. Treasurer's and Secretary's annual reports read and approved. Resignation of Messrs. ALLEN and SWARTZ accepted. Total number of members, thirty.

Director stated during the past year only eight members left by voluntary resignation; one died, Mr. R. J. M. FRANKLIN. A graceful marble slab indicating his age and nativity, and costing \$120, gold, has since been erected by this District over his grave in Nevada, which is an honor to the District and organization.

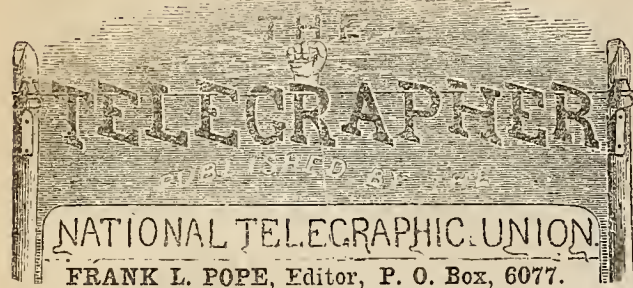
The nominations for annual officers were confirmed, viz.: Delegate, J. S. URQUHART; Director, C. P. HOAG; Treasurer, L. N. JACOBS. Mr. JACOBS withdrew his name from ticket, substituting that of C. P. HOAG, which was carried. No further business, meeting adjourned.

NEW-YORK DISTRICT.—At the regular meeting held September 3, the Director being absent, Mr. F. L. POPE was chosen chairman. The annual report of the District Treasurer was received and referred to the Director and Council as an auditing committee. The resignation of District Secretary, THOS BRENNAN, was received and accepted, and the election of a successor postponed.

The Committee on Entertainment was dissolved and a new one ordered.

A vote of thanks was tendered to the District officers of the past year for the efficient performance of their several duties, which was responded to by the District Treasurer, Mr. W. H. COLLINS. A general discussion on the state of the Union ended the meeting.





SATURDAY, OCT. 19, 1867.

THANKS.

We desire to express our acknowledgments to those friends who have responded to our request to forward the names, present location, and occupation, of persons now or heretofore engaged in the telegraph business. At the same time we would urge prompt action in forwarding such lists from places not yet reported. Where there are several persons employed in the business in a place, it would be well for them to arrange for some one of their number to prepare and forward the list. We would also request Superintendents of Districts, Railroad Telegraphs, etc., to favor us with complete lists of all telegraphers serving under them.

THE PRINTING TELEGRAPH SYSTEM.

We are apparently about to witness a revival of the old controversy respecting the merits of the printing as compared with the Morse system of telegraphy. A correspondent, in a recent number of THE TELEGRAPHER, takes exception to an article which appeared a short time ago in a contemporary, which strongly favored the introduction of the printing instrument, and brings up a few arguments on the other side of the question. We publish in this issue another communication, which takes a very common-sense view of the whole subject, although obviously written by an advocate of the printing instrument.

This is not a question, however, which admits of a decisive answer. It cannot be denied by any one conversant with the two instruments that for many circuits and for many classes of business, the printing system is incomparably superior to the Morse, while there are a still greater number of lines on which a printing instrument would be totally useless. If it were absolutely necessary that we should have one universal system under all circumstances, there could be no question but that the Morse system would be preferable to any other yet invented. But no such necessity exists. There is no reason why any particular line should not be worked by the instrument best adapted to the necessities of its business. For the transmission of lengthy press reports, or of a large number of messages over a through wire, between two important cities, the printing instrument is unequalled. Its rapidity and accuracy are marvelous to witness, and the perfection to which it has been brought during the past few years leaves little to be desired. On all important lines of this kind there is no doubt that it will eventually supersede the Morse instrument. In addition to the printing lines already working from this city to Boston, Albany, Philadelphia and Washington, it is about being placed on the Chicago & Milwaukee line, and we understand that its introduction between Cincinnati and Louisville is also contemplated, which, by the way, was the circuit on

which the first successful experiment was made with the House instrument, in the fall of 1847.

The introduction of the printing instrument upon the important circuits just mentioned is undoubtedly due to the sound practical judgment of Gen. ANSON STAGER, to whose energy and telegraphic abilities the Western Union Company is principally indebted for the commanding position it has attained. We feel confident that the success of these experiments will justify a further extension of the system. The time is probably not far distant when the main trunk lines from New-York to Cincinnati, Chicago, and St. Louis will be worked entirely by these instruments.

The universal applicability of the Morse system; however, will insure its continued use on the great majority of telegraph lines in every country. It is cheap, simple and durable, and with proper care on the part of the operator no more errors need be made by this than by the printing system.

We cannot help remarking, however, while upon this subject, that the writer of the article referred to by our correspondent, AGITATOR, displayed a "vast and comprehensive ignorance" of both the systems respecting whose merits he attempts to enlighten his readers. His knowledge of Morse telegraphy has already been sufficiently canvassed, but what are we to think of the following?—

"The instrument to which chief attention should at present be directed is the Hughes printing instrument, which he has recently greatly improved, and by which twice as much matter can be sent in a given time as by any other instrument."

If the writer of the above will take the trouble to go up into the operating room at 145 Broadway, he will find some printing instruments capable of transmitting one-half faster than the Hughes instrument, as now worked in England and France, and formerly in this country, until superseded by the combination instrument of PHELPS, which is now used by the Western Union Telegraph Company. In point of speed and reliability the latter is incomparably superior to the Hughes, as any operator who has worked on both instruments can testify. The only improvements which have been made in the Hughes instrument since it was taken off the lines in this country, in 1859, are in the construction and mechanical execution of the apparatus. The principles have undergone no change.

As an act of justice to one of the most ingenious of American inventors, Mr. G. M. PHELPS, we have thus briefly referred to this matter, and not with any intention of disparaging the beautiful invention of Prof. HUGHES.

PERSONAL.

FRANK LEHMER, for some time past superintendent's clerk, has been appointed manager of Omaha, Nebraska, office.

GEORGE WASHINGTON NAILE, chief operator at Omaha, has been on a visit to Madison, Wis., for several days past. Rumor has it that he is about to be united in marriage to one of the fair daughters of the capital city.

A. L. EGGLESTON, formerly of Louisville office, has been appointed Superintendent of Telegraph on the Jeffersonville, Madison and Indianapolis R. R., vice WM. ATWATER.

E. F. LYMAN has been appointed night operator at Sterling, Ill.

FRANK S. VAN VALKENBURGH, heretofore reported as mysteriously missing from Julesburg, Col., has turned up in Chicago "all right."

ED. CONWAY, the renowned "Injun slayer" and assistant superintendent of the Western Union Company's lines in the far West, arrived in Chicago a few days since.

GEN. ANSON STAGER is now in Chicago.

MISCELLANEA.

TO CORRESPONDENTS.—G. W. P., Zanesville. The papers are mailed regularly.—The fault is with the Post-office. We will duplicate all missing numbers when notified.

NOVEL APPLICATION OF THE TELEGRAPH.—At the recent meeting of the British Association, a paper was read describing a telegraphic thermometer, whose indications may be read at any distance. It may be used to determine the variations of temperature, in many places where it would be impossible to station an observer, such as the tops of lofty mountains or the depths of the sea.

THE TELEGRAPH ON THE PLAINS.—A portion of the old route of the Pacific Telegraph, via South Pass, between Fort Sedgwick and Fort Laramie, has been turned over to the Government. The line will soon be extended to Fort Russell, by General AUGUR.

NEW LINE TO ST. PAUL'S.—The Northwestern Telegraph Company have nearly completed a new line to St. Paul's, Minn., via the Milwaukee and Prairie du Chien Railway, crossing the river at the latter place to McGregor, Io., and thence to St. Paul's by the new railroad now building. This will add greatly to the telegraphic facilities of the river towns, as their business has heretofore been sent to St. Paul via Milwaukee.

NEW TELEGRAPH INSTRUMENT.—Mr. C. WESTBROOK, formerly superintendent of the American Company's lines in Central Pennsylvania, has a newly-invented telegraph instrument for fast writing on exhibition at the office of the Bishop Gutta-Percha Company, 113 Liberty street. Telegraphers and all others interested, are cordially invited to call and see it in operation. The instrument is capable of transmitting and legibly recording three or four thousand words per hour.

THE WESTERN UNION RAILROAD COMPANY'S TELEGRAPH.—The lines of this company, which extend from Racine, Wis., to Savanna, Ill., severed their connection with the Western Union Telegraph Company, on the 22d of September, and have united with the Independent Company, between Chicago and Milwaukee.

OPPOSITION AT THE WEST.—The Independent Company reduced the tariff to forty cents between Chicago and Milwaukee upon the opening of their new line. The Western Union Company followed by a reduction to twenty cents, and will shortly have printing instruments at work on this circuit. The latter company have commenced putting up their lines along the Union Pacific Railroad.

PROF. J. E. SMITH'S MANUAL OF TELEGRAPHY.—This little work, which we noticed in a late number of our paper, is now published by L. G. TILLOTSON & Co., 26 Dey street, to whom all orders should be addressed. It only costs thirty cents, and contains information valuable to every telegrapher, especially to beginners. Send for a copy.

TO HAVANA DIRECT.—On Monday afternoon New-York and Havana were placed in direct communication with each other by telegraph. Messages were sent to and fro, and congratulations exchanged. The line worked easily through the whole distance, about two thousand miles by the route of the wire.

WESTWARD, Ho!—The Kansas Pacific Railroad and Telegraph Line reached Hayes City on the 11th of October. The Western Union line was completed from Virginia City to Helena, Montana, on the 12th inst. S. A. WILLEY, of Salt Lake City office, has been appointed manager of Helena office. The line from Salt Lake to Helena is 585 miles in length.

A CHANCE FOR NEW TELEGRAPH COMPANIES.—Lieut. GEORGE EGGERS, of New-Strelitz, Mecklenburg, wherever that may be, advertises in a city paper that he wishes to sell the "secret" of a new printing telegraph machine which he has constructed, working without watchwork or weights, and as simply as the Morse instrument. For further particulars address the inventor.



RECENT TELEGRAPH CHANGES.—The following new offices have recently been opened: Bainbridge, N. Y., Etna, N. Y., Sloatsburg, N. Y., Chatlam, N. J., Wampum, Pa., Custar, O., New-Baltimore Station, Mich., Galvin, Mich., Three Oaks, Mich., Bromfield, Ind., Jarvis, Ind., Rushville, Ind., Perryville, Kan., Abeline, Kan., Noble, Ill., Middletown, Ill., Cherry Valley, Ill., Secor Station, Ill., Tuseola, Ill., Bardolph, Ill., Montgomery, Ill., and Nova, Ill., Middletown, Io., Dunlap, Io., Decorrah, Io., Dowds, Io., Otley Station, Io., Weavertown, Md., Ansable Forks, N. Y., Keedysville, Md., Sweetwater, Tenn., Huntington, Tenn., Monticello Junction, Fla., Edwards Depot, Miss., Verona, Miss., Covington, Va., Portsmouth, Va., Suffolk, Va., Franklin Depot, Va., Boykins Depot, Va., Millboro, Va., Key West, Fla.

The following offices have been closed: Valonia, Ohio, Colfax, Io., Rome, Ind., Averys, Mich., Kellogg, Io., Butler, Ind., Little Sandy, Dacotah, Three Crossings, Dacotah, South Pass, Dacotah, Fort Casper, Dacotah, Cherry-stone, Va., Claymont, Del., Killawog, N. Y., South Chatham, N. J., Whitesboro, N. Y., and Berkshire, N. Y. A number of offices at the watering-places have also been closed for the season.

The Dream of a Plug after Working Three Consecutive Nights via Denver.

'Twas two in the morning, Chicago was sending; All bushed was the world save perpetual ticks From my relay and sounder, and Lenbart was tending A button repeater in place of the Hicks. At times I would break, tell "Ch." to go slower; I closing the "ckt," he kept straight ahead; I knew by the loss of ten words or more That the button was there but that Lenbart was dead. I copied and copied until scarcely able To hold a lead pencil, so long did it seem; I finally weakened, slid under the table, Hence this pleasant but somewhat unfortunate dream: I thought I was bandsome, had a liking for lager, Had come from New-York to work on the plains; Made the acquaintance of Sberman and General Augur, Looked sneeringly proud on emigrant trains; I had a fine barness, was got up in fashion, Sbakspearian collars and tight-legged pants; For ladies and whisky I had quite a passion, Had lots of rich uncles and maidenly aunts. My brain was immense, and it made me bald-beaded; My Magenta side-whiskers were bard to surpass; I would stroke them so gracefully, turn down the adjustment, Put my feet on the table, and gaze in my glass. I thought of old Greeley and James Gordon Bennett, Of Prentice and Forney, the great newspaper men; How nice it would seem to correspond with a journal, And write about some one, especially Len. I wrote, it was printed, my effusions were grand; I read them with pleasure to others aloud; They applauded my efforts, but like names in the sand, They were lost on my bearers (illiterate crowd). I felt a disgust too deep to conceal, And packed up my wardrobe all ready to start For New-York or Chicago; but sore did I feel When my landlord and tailor said, "Never depart." I shelled out the greenbacks, they were not very many; 'Twas all that I had (how could I have more?) Got on I the coach without ever a penny, And woke by the messenger sweeping the floor.

Mrs. Nelson

MORAL.

Keep away from the instruments when you are sleepy; Keep home in New-York where "Buttons" are few, And lager is cheap, and boys not so greedy— In short, be contented and keep in your pew. 30.

Bitter Creek (not in God's country), Sept. 25, 1867.

BIRTH.

COREY—At Boston, Oct. 14, a daughter to E. H. COREY.

MARRIAGES.

DIXON—MEIKLE—In the Congregational Church, Amboy, Ill., Thursday evening, Oct. 3, by Rev. George H. Wells, JOHN R. DIXON, of Sterling, to LIZZIE W. MEIKLE, of Amboy. No cards.

ROBINSON—STEVENS—In Gilboa, N. Y., on the morning of October 14, at the residence of the bride's father, M. F. ROBINSON, manager of the Western Union Telegraph office at Titusville, Pa., to Miss ANNA STEVENS, of Gilboa.

DEATHS.

SHOLES—In Kenosha, Wis., Oct. 4, 1867, of typhoid fever, Hon. C. C. SHOLES, one of the pioneer telegraphers of the Northwest.

NATIONAL TELEGRAPHIC UNION Life Insurance Bureau.

THE NATIONAL TELEGRAPHIC UNION, by authority of its special charter, granted by the State of New-York, proposes to insure the lives of all persons connected with the Telegraphic business under the following rules and regulations:

Applicants for insurance must be connected in some capacity with the Telegraphic business, must be not less than eighteen years of age, in good health, and able to earn a livelihood. Every applicant shall pay an entrance fee of two dollars, one dollar of which shall be reserved for creating a permanent fund, and one dollar towards the amount to be paid the heirs of the first insured person deceased, who will receive as many dollars as there are persons insured.

Whenever a death occurs among those insured, an assessment of one dollar and ten cents will be levied upon all. This dollar goes to the widow, orphans, or heirs of the next insured party deceased, and the ten cents to be applied to the payment of current and necessary expenditures.

Applications must be made to the Actuary, in writing, accompanied by a certificate, signed by not less than two persons in the Telegraphic business of good character, that they know the applicant is fully qualified under the preceding rules.

A small annual assessment not to exceed one dollar may be necessary to cover working expenses after the first year.

This plan of insurance will be conducted under the supervision of the Executive Committee of the N. T. U., and it will be their aim to make it as inexpensive as reliability and security will allow. It is unnecessary to make any extended remarks, or any comparisons of the great advantages this plan affords for the payment of ready money, at the event of death, over Life Insurance Companies.

Parties wishing to insure should write out the following questions with their answers thereto:

- What is your name?
What is your age?
Where is your residence?
What is your occupation?
Have you any constitutional disease or debility?

Sign the above statement, and forward it to the Actuary, with a certificate signed by two persons connected with the Telegraphic business, that the applicant is well known to them, and that the answers given by him to the above questions are correct?

Applications may be sent to J. W. STOVER, Actuary, Box 6077, New-York.

Query.—Will A. R. C. please explain the manner in which he reckons time? Is "a thousand years as one day" with him, and will "10 A. M. to-morrow" not be here until the millennium? It is well to imitate divinity as far as possible for humanity, but it is a question whether wisdom would dictate a practical application of time as above, especially in paying borrowed money.

PROF. J. E. SMITH'S MANUAL OF TELEGRAPHY.

The most complete instructor in the art of Telegraphy yet published, beside containing much information valuable to all connected with the business. Every Telegrapher should have it. It will be furnished by the publishers at a price simply covering the cost, viz.:

THIRTY CENTS PER COPY.

L. G. TILLOTSON & CO., Publishers, 26 DEY STREET, NEW-YORK.

BROWNSON & SHULL'S REPEATER, AND BROWNSON'S SELF-ADJUSTING RELAY, MAIN LINE, BATTERY, AND GROUND SWITCHES, ARE MANUFACTURED BY L. G. TILLOTSON & CO., New-York. C. T. & J. N. CHESTER, " Dr. L. BRADLEY, Jersey City. For license to manufacture, address W. G. BROWNSON, Wellsville, O.

Atlantic and Pacific Telegraph Co., CAPITAL, \$5,000,000.

Lines completed from New-York to Buffalo. [In progress.]

A. F. WILLMARTH, President, New-York. C. A. HARPER, Secretary, " CHAS. E. PERRY, Superintendent, Albany, N. Y.

Bankers' and Brokers' Telegraph Co., CAPITAL, \$1,050,000.

Lines extending from New-York to Washington and Georgetown, D. C. WM. CALLOW, President, Baltimore, Md. JOHN L. CRAWFORD, Secretary and Treasurer, " J. W. DYER, Acting Superintendent, Philadelphia.

California State Telegraph Co.

CAPITAL, \$2,500,000.

Lines extending from San Francisco, Cal., to Salt Lake, U. T., and New-Westminster, British Columbia. GEO. H. MUMFORD, President, San Francisco. GEO. S. LADD, Secretary, " JAMES GAMBLE, Superintendent, " R. R. HAINES, Assistant Superintendent, Seattle, W. T.

Franklin Telegraph Company.

CAPITAL, \$1,000,000.

Lines extending from Boston to Washington. J. B. STEARNS, President, Boston. J. W. BROWN, Treasurer, " J. G. SMITH, Superintendent, New-York.

Illinois and Mississippi Telegraph Co.

CAPITAL, \$1,500,000.

[Leased to the Western Union Company.] J. D. CATON, President, Ottawa, Ill. T. D. CATLIN, Secretary and Treasurer, " [For Superintendent, etc., see Western Union Company.]

International Telegraph Company.

CAPITAL, \$300,000.

Lines completed from Boston to Bangor, Me. [In progress.] E. K. HARDING, President, Bath, Me. Hon. WOODBURY DAVIS, Treasurer, Portland, Me. CHAS. H. SAWYER, Superintendent, "

International Ocean Telegraph Co.

Lines extending from Lake City to Key West, Fla., and Havana, Cuba. WM. F. SMITH, President, New-York. M. M. DELAFIELD, Treasurer, " W. H. HEISS, Superintendent, "

Northern Telegraph Company.

CAPITAL, \$100,000.

Lines completed from Boston to Bristol, N. H. [In progress.] Hon. FREDERICK SMYTH, President, Manchester, N. H. W. W. STORRS, Treasurer, Concord, N. H. J. W. ROBINSON, Superintendent, "

Northwestern Telegraph Co.

CAPITAL, \$1,150,000.

Lines extending from Milwaukee through Wisconsin, Michigan, Iowa, and Minnesota. Z. G. SIMMONS, President, Kenosha, Wis. H. B. HINSDALE, Secretary and Treasurer, " S. ROBERTSON, Superintendent, Milwaukee, "

Pacific and Atlantic Telegraph Co. OF THE UNITED STATES.

CAPITAL, \$3,000,000.

Lines completed from Philadelphia to Pittsburg and Cincinnati. [In progress.] GEO. H. THURSTON, President, Pittsburg, Pa. E. J. ALLEN, Secretary and Treasurer, " A. J. BALDWIN, Superintendent, Philadelphia, Pa. A. Q. CASSELLBERRY, Assistant Superintendent, Pittsburg, Pa.

Western Union Telegraph Co.

CAPITAL, \$40,000,000.

Lines extending throughout the United States, Nova Scotia, and New-Brunswick. WM. ORTON, President, New-York. O. H. PALMER, Secretary and Treasurer, " MARSHALL LEFFERTS, Engineer, " THOS. T. ECKERT, General Superintendent, Eastern Division. ANSON STAGER, " Central Division. JOHN VAN HORN, " Southern Division.

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BALLSTON SPA TELEGRAPH INSTRUMENT MANUFACTORY.

S. F. DAY & CO.,

MANUFACTURERS AND DEALERS IN ALL KINDS OF

MAIN-LINE TELEGRAPH INSTRUMENTS.

We would call the attention of all Telegraphers and Telegraph Companies to the fact that we are manufacturing

aph Instruments in the country.

THE BEST

We are working all instruments with an ENTIRE NEW MAGNET, excluding thereby all use of Local Batteries. Our Main-Line Registers and Sounders have been put to the SEVEREST TESTS, and are pronounced by competent judges

"The Best Now in Use."

We claim to gain more power or effective working force in our Instruments, with ten ounces of wire, than has heretofore been gained by using one pound, as we get rid of the residual magnetism.

We also manufacture a Relay with only ten ounces of wire, thereby putting very little resistance in the line, and doing the work as well, if not better, than those that contain one pound of wire and put a great resistance in the line.

HENRY A. MANN.

SAMUEL F. DAY.

Superintendents and Managers OF RAILWAY TELEGRAPH LINES.

- Atlantic and Great Western..... R. C. Clowry, St. Louis
Atlantic and Pacific..... S. E. Mayo, Albany, N. Y.
Albany and Susquehanna..... T. B. A. David, Pittsburg, Pa.
Alleghany Valley..... A. G. Davis, Baltimore, Md.
Baltimore and Ohio..... John Desmond, Buffalo, N. Y.
Buffalo and Erie..... C. E. Yates, Burlington, Iowa.
Burlington and Missouri Riv... Robt. Stewart, Bordentown, N. J.
Camden and Amboy..... Charles Vogel, Elizabcth, N. J.
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Central Ohio..... Geo. T. Williams, Cinein., O.
Cincinnati, W. and Zanesville... Geo. M. Lane, Dayton, O.
Cin., Ham. and Dayton..... W. H. Miller, Springfield, Ill.
Chicago, Alton, and St. Louis... Fred. H. Tubbs, Galesburg, Ill.
Chicago, Burl. and Quincy..... G. H. Bliss, Chicago, Ill.
Chicago and Northwestern..... A. R. Swat, Chicago, Ill.
Chicago, Rock Island, and Pacific... G. H. Bliss, Chicago, Ill.
Chicago and Milwaukee..... John McCormack, Richmond, Ind.
Chicago and Great Eastern... T. J. Higgins, Cleveland, O.
Cleve., Col. and Cincin..... John Thomas, Wellsville, O.
Cleve. and Pittsburg..... T. H. Miles, Cleveland, O.
Cleveland Painsv. and Ash..... H. W. Stager, Cleveland, O.
Cleve. and Toledo..... Geo. M. Lane, Dayton, O.
Dayton and Michigan..... C. S. Rogers, Richmond, Ind.
Dayton and Western..... Angus Fox, Detroit, Mich.
Detroit and Milwaukee..... Garret Bogart, Seranton, Pa.
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Dubuque and Sioux City..... D. H. Piteh, Linesville, Pa.
Erie and Pittsburg..... H. P. Dwight, Toronto.
Grand Trunk Railway of Canada... T. J. Waugh, Hamilton, C. W.
Great Western..... A. C. Waterhouse, Hannibal, Mo.
Hannibal & St. Josephs..... S. K. Rupley, Poughkeepsie, N. Y.
Hudson River R. R..... J. F. Wallick, Indianapolis, Ind.
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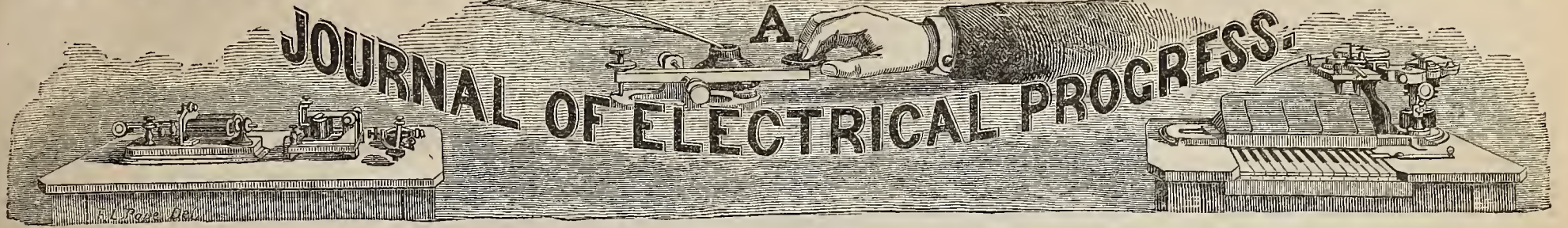
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# THE TELEGRAPHER.

JOURNAL OF ELECTRICAL PROGRESS.



Vol. IV.—No. 9.

New-York, Saturday, October 26, 1867.

Whole No. 67.

FOR THE TELEGRAPHER.

## Life Insurance Bureau of the N. T. U.

We wish to call the attention of the telegraphers generally, to the plan of life insurance offered by the N. T. U., as given in another column of the TELEGRAPHER.

We feel assured that it will prove comprehensive, economical and reliable. There is no expensive machinery connected with its management, and it is based on the purely mutual principle. All monies received will be deposited by the Treasurer of the N. T. U. to the credit of the Insurance Bureau, and will never be used for any other than its necessary and legitimate expenses. In order that individual liability may not be too great, it is proposed to limit the number to be insured.

We have already received quite a large number of applications, and commendations of the plan are coming in from all quarters reached by our circulars.

Certain marplots who would have us believe they are actuated only by benevolent and charitable motives, are trying to divide the telegraphers in their support of an insurance plan, through a rival organization, and we are surprised to find that two or three members of the N. T. U. have joined hands with them. How any friend of the "Union" can unite with one of its avowed enemies in a directly antagonistic movement, is more than we can understand. But we think the New-York District has the right, and will demand an explanation.

But let us look at the proposed plan of these remarkably generous men.

There is to be no expense whatever, except for stationery and postage; some one of them is to kindly volunteer to keep the books and the money, attend to all inquiries for information, write and send out all notices, collect all dues, and dun delinquents, and all without any other remuneration than the conscientious satisfaction of performing a very charitable work.

The telegraphers' friend, Mr. J. D. REID, whose name is prominently connected with this movement is of an exceedingly poetic temperament, and having as he recently informed us just got on his *toga virilis*, which, by the way, the Roman youths were wont to don at the age of sixteen, he can undoubtedly paint in glowing colors the sweet satisfaction that comes from laboring disinterestedly for others. In fact, that there is only one thing which can exceed it in sweetness, viz., to die for one's country.

Against the proposition to insure the lives of all who may apply, regardless of their physical condition, we should have nothing to offer, did we believe telegraphers could afford to be thus generous. This proposition may be creditable to the heart of the man who suggested it, but we can't help thinking that telegraphers, like all others wishing insurance, would prefer insuring where the liability is the smallest as compared with the amount insured and the certainty of its payment in the event of death.

There are many connected with our business, who from various causes, but principally from the wearing nature of their employment, have contracted diseases which must inevitably result in their early transfer from this land of the dying to the land of the living where death shall be no more. No insurance company would take them at any price, and any plan of insurance which proposes to take in all who may apply, even when their death is morally certain to occur within a twelvemonth, while

it may be pre-eminently benevolent, would hardly command the patronage of prudent men, much less the patronage of men with limited incomes like the telegraphers of the United States. Under such a plan assessments would be so numerous that those insured would find the yearly expense far greater than the premium charged by our best and most reliable Mutual Insurance companies.

We would encourage contributions for the benefit of widows and orphans of deceased telegraphers, whether they had been of the "Union" or not, whether insured or not, but we do not believe it advisable to assume obligations and liabilities that we may not be able to meet.

Under the plan of insurance offered by the N. T. U., it is not probable that an insurance of one thousand dollars will cost an average of more than five dollars per annum. Every one can have a voice in its management by becoming a member of the N. T. U., and we cannot see any occasion for an opposition or a rival movement, nor any excuse for parties who are honestly desirous of securing a safe and economical plan of insurance for telegraphers, for aiding or abetting it.

FOR THE TELEGRAPHER.

## "An Opportunity to Grumblers."

UNDER this caption the *Journal* of last week takes occasion to suggest that Western Union stock has touched "hard pan." This may be so, and yet it may be well for purchasers to look carefully and see if perchance such a concern even on hard pan may not be a "fancy," because of some elements in its constitution which seem bent on rule or ruin, and as *rule* appears to be growing improbable, RUIN seems about usurping the high seats without even saying to the chief executive, "By your leave, sir."

"HOW THE WAR JUST SOUNDING ITS FIRST NOTES WILL AFFECT THE COMBATANTS."

"Operators are now beginning to ask the question which we proposed to them long ago. If receipts are reduced by opposition, and tariffs are cut down to a low point, to meet the issues of the war, what will be the effect on salaries?" Then follows the intimation that operators must be taxed to make good the losses; that wherever possible they are to be discharged from service to avoid payment of their salaries; that the places of those who leave are to be left vacant, and "the sinews of those who remain shall be taxed to keep the machine in motion."

This is the way in which "the war" is to "affect the combatants."

The operators then are "the combatants." Very well! Let us look a little farther, to see whether in practice the *Journal's* theory will be proved true or false: 1st. Competition brings tariffs "to a low point." 2d. Low tariffs bring more business as experience proves. Hence *more business is to be performed by a smaller operating force.*

But again, competition begets *greater dispatch*, says experience.

Then not only is more business to be done by a smaller operating force, but in *shorter time* than is now done.

What say operators to this theory? Can you meet this requirement? Are you not now doing your work with all the rapidity safety to business will admit, and in many cases even more?

Not a man in the business but will see the absurdity of the *Journal's* theory.

Then follows for the public *quicker dispatch, lower rates, increased errors.* But will the public submit to this last feature quietly, and can any company afford to take the consequences of such telegraphing, or will this same "competition" tend to correct this evil? Will not the public favor that line which shall do its work *correctly*, rather than that which mutilates it.

Perhaps the *difficulties of the situation* will account for the *Journal's* absurd theories. We may put them thus:

The *Journal* being "devoted to the interests of the whole telegraphic fraternity," and being published by and in the *especial interest* of the *Western Union Telegraph Company*, finds it difficult to frame his theory to meet the *requirements* of the latter without making the former his "combatants."

A story is told of his Satanic majesty who one cold day invited, among others, a very worthy deacon (who sought in all things to live a consistent life), to dine with him. Soup being served, hot of course, the deacon commenced to blow it before taking it into his mouth, when the following colloquy ensued:

DEV.—Stop. Did I not see you blowing your fingers as you approached my door?

DEA.—Yes.

DEV.—Why did you do that?

DEA.—They were very cold, and I did it to warm them.

DEV.—And why do you blow your soup?

DEA.—To cool it.

Thus the devil having proved, to the satisfaction of his guests that the consistent deacon could blow hot and cold with the same breath was furnished with additional proof of the frailty of poor human nature, and went on to moralize as he only is capable, upon the great sin of hypocrisy. Now, we suggest a word of caution. Lest the devil of the *Journal* (we suppose every newspaper must have such an official), become disgusted with the editor's attempts to "blow hot and cold with the same breath" (and with this advantage over the old devil, that he has *consistency* on his side), we recommend that the *Journal* adopt the following in regard to the effect of "the war" upon the operators, as

THE TRUE THEORY.

1st. Competition lowers tariffs.

2d. Lower tariffs increase business.

3d. Increased business demands more operating force.

Again—Competition permits employes a choice of employers, and better opportunity for advancement, and every facility is availed of to work progress in every department of the business, and *finally* everybody wants competition in telegraphing except the stockholders of the Western Union Telegraph Company, and very few besides themselves and more immediate friends seem inclined to aid in sustaining the monopoly. LIBERTY.

New-York, Oct. 22, 1867.

## That Eventful Night.

THE *Albany Evening Journal* in reproducing from our columns the "Midnight Reveries of a Telegrapher," introduces the subject by the following reminiscence of the eventful night of April 14, 1865:

"We find in a late number of THE TELEGRAPHER the accompanying pretty pen pictures of a night's experience in a telegraph office. We thank our respected friend Jones, the local superintendent, for giving us this little



glimpse into his manly heart, and love him all the more for the sentiments expressed in the communication. It recalls our own experience during the 'long years of the sad war time,' when it was our duty to watch the clicking instruments, night after night, and write the reports of battles and skirmishes, ambuscades and forced marches, and all the rumors as they came from the headquarters of the Associated Press. One calm night in the spring time, when the silver stars were gleaming out pensively, and scarcely a footfall on the pavement of Broadway or State street broke the stillness that reigned, the eupola-man on the City Hall had intoned the midnight hour, and added "All's well," when a sudden nervous call of "rep, rep," aroused all on the line from Washington to the red man's home in the far West, and to the Southwest, where the green grass waved in luxuriance, and the little birds twittered their matin songs from among the boughs of blossoming trees, as well as to the icy fastnesses of Halifax and the Canadas—to all alike came the harrowing words, "Tis rumored the President was shot at the theater to-night!" How our hearts seemed rent asunder, and the great tears swelled up to the eyes, that for years previous were strangers to such outward expressions of sorrow! Soon after another message came saying: "Suppress that rumor sent you—it's all false." What muttered threats and words followed one another over the wire to headquarters after the reception of this latter, will never be known but to those in attendance that sad and fatal night. Again all was quiet, and the clock ticked away the moments, and the hands sped around to the morning hours, when "rep, rep," was again sounded, and the brass instruments elicited out an "Official," giving the whole dark and bloody tragedy of the assassination of the lamented President. Sad and wan was the face of our little report-boy, "Patsey," as he handed into the offices of the morning papers the heart-rending account; and nervously the hands of the weary compositors picked the letters that, set into form, recorded the assassination of President Lincoln on the evening of April 14, 1865. That night was but one of many sad ones, the events of which we may, from time to time, work into form for our readers."

## 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.*

TO THE EDITOR OF THE TELEGRAPHER:

MY attention has been called to the communications of *Americus* and *Co-operative* in THE TELEGRAPHER relative to the advisability of a consolidation of the Co-operative Telegraph Company and the Atlantic and Pacific Company.

I think that "CO-OPERATIVE" is mistaken in the position taken by him that such a union of the two companies would not inure to the benefit of the Co-operative enterprise. Earnestly desirous, as I am, that the latter should prove a success, I am decidedly in favor of such action as may promise to promote that result.

Whether just and mutually beneficial arrangements for such consolidation can be made at this time of course I am not advised, but it appears to me that reflection will convince "CO-OPERATIVE" that such a consolidation would prove of great advantage to both companies. The objection which seems to have most weight with "CO-OPERATIVE" is that the Atlantic and Pacific Company are saddled with a contract for the construction of a certain extent of lines, which he conceives to be of an unfavorable character. If I am correctly informed this contract is really much less open to this objection than appears upon its face, and that constructed in the spirit in which it was made, and in view of the actual cash price at which the stock of the Atlantic and Pacific has been placed the terms are much less onerous than they appear to be.

The principal difficulty with the Atlantic and Pacific Company is that their plans are not sufficiently extensive to meet the necessities of the country. A coalition with the Co-operative Company would remedy this, for as I understand it, that company proposes to establish a

general telegraph system connecting all important telegraph points throughout the country.

It would unquestionably be of great advantage to the Co-operative Company, and increase the faith of the profession in its ultimate success, if it could present a certain extent of lines already erected and working as a nucleus upon which to construct and extend the system. To the Atlantic and Pacific Company it would prove of advantage in that it would add to what it proposes, a general and extensive system of telegraph, and also give it an element of strength and popularity which it, and every other telegraph organization now lacks, and enable it to secure the means to carry out and perfect its plans. And again this element of strength will enable that company to make its lines a permanent success, which in the face of the active and unscrupulous opposition that it must meet from the Western Union Company is otherwise very doubtful.

I hope that the parties interested in the management of our Co-operative Company will meet in a liberal and friendly spirit any advances, should such be made, of the Atlantic and Pacific Company, and I have no doubt but that they will be sustained by the majority of their constituents in so doing.

CO-OPERATOR.

Utica, N. Y., Oct. 19, 1867.

TO THE EDITOR OF THE TELEGRAPHER:

MANY of your readers, I have no doubt, will be pained to hear of the death of JAMES CALDWELL, who died at Ellsworth, Kansas, Oct. 10, of hemorrhage of the lungs, after an illness of but a few days. He was formerly Superintendent of the Central Ohio R. R. wire, but more recently connected with the Army of the Potomac Telegraph Corps. At the time of his death he was station agent at Ellsworth on the Union Pacific Railroad. On the night before he died he called his clerk to his bed, asked the time of night, and being informed it was twenty minutes past twelve, he remarked: "This is the morning of Oct. 10. We all die to-day." At four in the morning his friends were called to his bed, as they supposed, to see him die. He opened his eyes, told them to go back to bed, he would not die till late in the day. It is somewhat remarkable but true, that all of his family have died Oct. 10, with the exception of his brother HARPER. His family connections here were numerous and influential, but not one more remains. JIMMY was the last. The remains arrived on the morning of the 17th, and were interred the same day. I wish to return thanks to HENRY BIMPLE, Esq, route agent of the Adams Express Company, for his kindness in having the body transported free.

JAMES D. HOGE.

Zanesville, O., Oct. 18th, 1867.

LEAVENWORTH, Kas., Oct. 11, 1867.

TO THE EDITOR OF THE TELEGRAPHER:

PLEASE state in "TELEGRAPHER" the address of the officers of this District as below. From some cause a former communication from the Secretary of this District did not appear: D. E. MARTYN, District Director, Lock Box, No. Ninety, (90) Leavenworth, Kansas, M. M. JOYA, Secretary, Telegraph Office, Fort Leavenworth, Kansas.

Yours, etc.,

D. E. MARTYN.

District Director, St. Joseph District.

TO THE EDITOR OF THE TELEGRAPHER:

Do our petulant crusty operators ever pause to consider the time and labor which they often expend in bucking against some real or imaginary trouble, which could so easily be avoided by the exercise of a little judgment? Many of our best operators are lacking in that spirit of accommodation and gentlemanly conduct which tend to smooth the rough edges of our daily toil. We often find two operators, who, from daily intercourse with each other through the agency of the magic wire, always ready and willing to favor one another as occasion demands. This courtesy, however, is not always extended to strangers, especially on the Eastern lines. I have always noticed that where operators were compelled to sign their private signal, better fellowship always exists and greater care is given to the transaction of business. No operator can instigate such a reform, he would be considered too airy to be tolerated on many circuits; but

no harm could possibly arise from the issue of a general order enforcing such a regulation, and much needless contention would be immediately done away with. A more necessary, yet simple rule, could scarcely be devised, and we have yet to learn of any valid objection that can be raised against its introduction. Let us see it posted on the bulletin board.

ARGUS.

145 Broadway, N. Y., Oct. 19.

## HUMORS OF THE TELEGRAPH.

*Scene—Main Office in one of our principal cities. Book-keeper with an impression copy of a city message, to operator:*

"Will you please tell me what this check is? I cannot make it out."

*Operator lately from a rural office.*—"That looks like my writing, but it cannot be that I received it, as I never copy city messages on soft sheets.

AN Albany correspondent sends the following:

"All will remember the following cable despatch which appeared in our morning papers a short time since: 'Garibaldi has named his son Menotti, Generalissimo of the revolutionary forces engaged in the movement on Rome.' As received by one of our 'owls' and set up from his copy in one of the papers, its sense was materially changed. It read as follows:

"GARIBALDI has named his son MENOTTI.

GENERAL ISSIMO, of the revolutionary forces, is engaged in the movement on Rome."

A YANKEE UNNATURALIZED BY THE TELEGRAPH.—At the SHERIDAN demonstration in Boston a few days since a small party of veterans from New-Bedford were present under the leadership of A. N. CUSHMAN. A full report of the proceedings was telegraphed from Boston to the various morning journals, in one of which it appeared that the galaxy of loyalists from New-Bedford were led by "an Irishman." Such a ludicrous mistake must have occasioned an extraordinary burst of laughter from that jolly crowd in "A."

## A Sunday Joke.

IN the New-Haven office a few years ago, an old MORSÉ register was placed on the "Causal line," and consigned to the care of any ambitious plug who wished to practice in the transaction of *bona fide* business. One Sabbath morning two operators were on duty, when Mr. B. who on week days officiated at the desk, dropped in to smoke his morning cigar. Just then a call on the "Canal" attracted his attention, and he was soon intently engaged in translating the message which was a difficult task for him. R., who was sitting at the Hartford instrument on the opposite side, copied the same message by sound, and as it was destined for Hartford, called him up and sent it. After fifteen minutes hard labor, B. finally finished his copy and placed it on the Hartford hook. R. gave a glance at it, tore it in fragments and threw them into the stove. B. was struck dumb with astonishment, or rage, to think that his work should be so wholly ignored, but finally ejaculated, "What do you mean?" "I mean," says R. in his quiet way, "that your message was in Hartford ten minutes ago." The church bells were ringing and B. started at once, to attend the morning service, thoroughly dissatisfied with his experiment in practical telegraphing.

## Application of Electricity to Paddle Engines.

GENERAL THE COUNT DE MOLIN, an Italian nobleman, has constructed and patented a paddle engine, working by electricity, to be adapted to a small boat, christened *L'Electricite*, destined to ply on the large lake of the Bois de Boulogne. The working parts are thus composed: "There are two upright hoops, about two feet and six inches in diameter, placed three inches apart, in the periphery of each of which are encased sixteen electromagnets, placed opposite each other. Between these there is another hoop or wheel, of soft iron, of the same diameter as the others, and so articulated as to receive, when alternately attracted by the magnets at each end in succession, a sort of rolling from side to side, or 'waddling'



motion. To this wheel is fixed an axis about seven feet long, which constitutes the prime moving shaft of the machine. When the wheel between the magnets takes its rolling motion it causes the ends of this axis to describe circles; one end turns the crank of a fly wheel, while the other end is adapted to a framework, on the same principle as the pentagraph, which enlarges the motion received from the central disk, and communicates it in the form of a stroke by a connecting rod to a crank on the paddle shaft. This end of the moving bar also sets to work the distributors for alternately establishing and cutting off the electric communication between the magnets and the battery. There will be in all sixteen elements of BUNSEN'S. The force of the machine while at work with four elements was found to be one quarter man power, so that with sixteen cells the power will be about that of a man. The paddle wheels are two feet and six inches in diameter."

### Thermo-Electric Battery.

THE *London Engineer* says: "A thermo-electric battery, of much greater power than it has hitherto been thought possible to obtain by heating dissimilar metals at the point of junction, is now in daily use in one of the lectures of Mr. KING, at the Polytechnic Institution. It is the invention of an Austrian engineer, who has had several honors conferred upon him for having brought his researches to such a successful result. The bars of metal in the battery consist of two alloys, one containing a large proportion of antimony with a little bismuth and zinc, and the other the same proportions of bismuth and zinc, with a very large admixture of copper. The pairs of bars are mounted on a frame, and the metals heated at the point of junction by a row of jets, burning a mixture of gas and common air. Instead of the feeble—almost inappreciable—effects of all earlier thermo-electric batteries, this one will not only give a loud spark with a good induction coil, but will enable an electro-magnet to hold a bar of iron with such power that a strong man can scarcely release it. This fact indicates that a current of considerable quantity as well as intensity is produced; yet this effect, according to Mr. KING, is not accompanied by a corresponding waste of the most oxidizable of the alloys employed in the battery. The electricity, in such case, would seem to come from the heat alone—a very inexpensive source; and, in the commercial interests of telegraphy, it is to be regretted that the power of the apparatus has not been measured by a galvanometer and set of resistance coils, whence data could be obtained from which to judge of the practical utility of the new battery. The current from it will certainly work a short line of telegraph efficiently, and, judging by appearances, a long one also."

### A Beautiful Similitude.

"SIGNALS through the Atlantic Cable are made by light, which flashes the messages to the operator in a dark room." The *Evangelist* thus comments on the wonderful fact: "It suggests a beautiful analogy to spiritual truth—the communication of the human soul with God. Thought is swifter than the lightning; and if, in a second of time, a spark fly from continent to continent, why should it be thought a thing incredible that the desire of a human heart should thus be wafted to the throne of God?"

EFFECT OF LIGHTNING UPON A TELEGRAPH CABLE.—Last fall the cable between Lopez and San Juan Island, on the line from Portland, Oregon, to Victoria, V. I., suddenly failed, and eventually had to be replaced by a new one. The defective piece was raised and brought to Victoria, where an examination disclosed the fact that lightning had followed the line into the cable, until it reached a defective place in the gutta-percha coating, where it burned a hole through and escaped. The gutta-percha was entirely destroyed for several feet. Mr. J. H. CARMICHAEL, of the Victoria office, has kindly sent us a section of the damaged cable for examination. The gutta-percha is not only destroyed, but six of the seven wires forming the conducting strand were also melted and destroyed. Mr. C. states that in one place the core of the cable and its hempen covering were entirely burned up, leaving nothing but the outside armor.

TELEGRAPHIC STORM SIGNALS.—A recent issue of the *New-York Herald* contains a communication from A. WATSON, of Washington, D. C., in reference to the establishment of signals at Cape Hatteras and Key West, to warn vessels of the approach of storms, the information being telegraphed from other points along the coast. A telegraph line one hundred miles in length from Newbern to Cape Hatteras would require to be built. This work might be done at the expense of the Government or of the marine insurance companies. By means of such a system, many of the marine disasters that are so frequent in the vicinity of these points might be avoided, and millions of dollars and hundreds of lives be saved annually. The expense of this plan would be very trifling compared with its advantages, and we hope to see it carried into effect without delay.

### The Telegraph.

BY R. LEACH.

"*Labor omnia vincit.*"

HARK! the click, click, telegraphic!  
Spark electric—click of magic;  
Governed in its instant play,  
By one three thousand miles away!  
Now we feel a wondrous thrill,  
We think of Genius, Patience, Skill;  
The lightning message hear and see,  
Quick as the fingers touch the key.  
Quick as flash, or wink of eye,  
This messenger of thought doth fly.

First from the storm-cloud Franklin drew it;  
Morse harnessed his soft magnet to it;  
Field then conceived the "Yat-kee Notion"  
Of running it beneath the ocean.  
More swift than light it comes and goes,  
Completes its tasks for friends and foes;  
Brings news of Peace, of War, of Stocks;  
Who flies from justice him it mocks.  
Quick as flash, or wink of eye,  
This messenger of thought doth fly.

Franklin! when thy silken kite,  
Hid in the storm-cloud from thy sight;  
And thou didst touch the charged key,  
That spark revealed a mystery!  
How simple! Franklin's key and kite!  
How simple, Morse's magnet, quite!  
How simple Field's iron cable works!  
It simply sends a spark by jerks.  
Quick as flash, or wink of eye,  
This messenger of thought doth fly.

It works! The great Atlantic Cable  
Is now a fact—'twas thought a fable—  
By some, who said with sneer and laugh,  
"Where is that Ocean Telegraph?"  
Bruce vanquished, to a cave had fled,  
And watched a spider lay her thread;  
Six times she failed, the seventh she won it;  
Field failed the first, the second he run it.  
Quick as flash, or wink of eye,  
This messenger of thought doth fly.

Swift courier of the "Lightning Line!"  
By day or night, through rain or shine;  
Click, click, this spark can take dispatches,  
From London through direct to Natchez;  
Although by ocean both are parted,  
Dispatch arrives before it started;  
O'er mountains, vales, and ocean's bed,  
Click, click, 'tis gone, 'tis come, 'tis read.  
Quick as flash, or wink of eye,  
This messenger of thought doth fly.

Genius and Labor gives Invention,  
By patient skill and close attention;  
Genius, alone, would starve a nation—  
With Labor gives man worth and station;  
Such men were Fulton, Pallisey, Stevenson,  
Who worked out thought to its completion.  
What fame have those who once did laugh  
At men who gave the Telegraph?  
Quick as flash, or wink of eye,  
This messenger of thought doth fly.

Providence, Sept., 1867.

EFFECT OF LIGHTNING.—Dr. BOUDIN, says the *Mechanics' Magazine*, has sent a note to the Academy of Sciences on the fulminating power of bodies recently struck by lightning, and of which he adduces two re-

markable instances. On the 30th of June, 1854, a man was killed by lightning near the Garden of Plants at Paris; the body remained for some time exposed to a pouring rain. After the storm two soldiers, in attempting to lift up the body, received two violent shocks. In the other case, which occurred at Zara, Dalmatia, two artillerymen who had been ordered to set up again in their former places two telegraphic posts that had been thrown down during a storm, took hold of the telegraphic wire. Although it was two hours after the storm, there was so much electricity left that the men first experienced a few slight shocks, and then were both thrown to the ground. The hands of both were scorched, and one of them did not even for a time show any signs of life. The other, in attempting to get up, sank down again, and in so doing touched a comrade, who was coming to his assistance, with his elbow. The third man was then thrown down in his turn, experienced various nervous effects, and his arm was marked with a burn at the spot where he had been touched by the other man's elbow.

### Onward and Upward.

OURS is an age in which every branch of sport or industry has its "champion;" but a trial of skill to determine who is the champion climber of telegraph poles, is the newest thing of the kind we have heard of. A few weeks since a card appeared in the *New-York Clipper*, signed by JAMES SULLIVAN, of Providence, challenging any man between Boston and New-York, to climb one hundred poles for one hundred dollars a side, the time occupied in the accomplishment of the feat to determine which was the winner of the stakes. Within a few days after the appearance of the above-mentioned challenge, the *Clipper* heralded forth a response, in which JOHN CASSIDY, of Hartford, accepted the challenge of Mr. SULLIVAN. The affair is to take place within thirty days from the time of depositing twenty-five dollars by each party, which sum, if not followed by the remaining seventy-five dollars within two weeks, is forfeited by the delinquent. The scene of action is designated as being half way between Hartford and Providence, which is in the vicinity of Willimantic, Connecticut. The poles are erected forty to the mile, and in order to climb one hundred, it will be necessary for each contestant to travel two miles and a half, to say nothing of the "climbing." They are to commence by climbing the first of the number to such a height as will enable them to lay their hand upon the top, descend, run to the next pole, repeat the demonstration made upon pole number one, and so on "from pole to pole," until all have been climbed. Of course one of the parties must wait until his opponent has accomplished his task, and several hours will necessarily be consumed in the trial.—*Providence Morning Herald*.

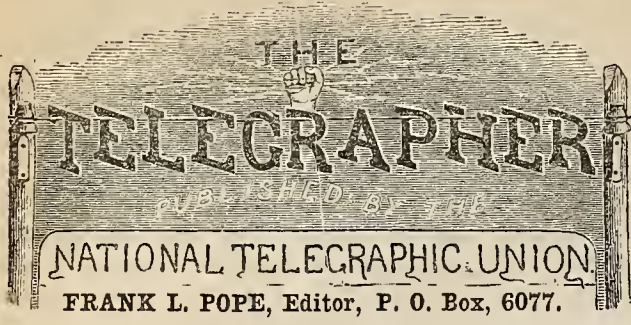
VALUE OF THE TELEGRAPH IN A VERY PARTICULAR CASE.—A young gent in Galena recently wrote a couple of letters at the same time. One of them was to a young lady whose acquaintance he had made, and whose friendship, if not a stronger passion, he felt very anxious to secure. It was a nice letter, and composed with great care. The other was to an old school-chum in an Eastern city, and was written in a different style altogether. The next day he discovered he had sent the young lady the wrong letter. But the telegraph saved him. He rushed to the office and telegraphed the young lady to return the letter directed to her, unopened. The telegraph did its work in time, and the next day his unfortunate letter reached his hands intact. But how that young woman must have "ached" to know the contents of the mysterious letter!

ST. JOSEPH DISTRICT.—Regular meeting called to order October 6, at 3 P. M. District Director in the chair. Ten members present. Reading of minutes of previous meeting dispensed with.

An application for membership was received from Mr. J. K. BEAR, of Brownville, and a committee of three, consisting of WOODRING, GOULD, and McDILL, was appointed to ascertain his qualifications.

The District Director appointed for his council for the ensuing year Mr. WOODRING, of St. Joseph, and GOULD, of Kansas City. There being no further business, meeting adjourned.





SATURDAY, OCT. 26, 1867.

### THE NATIONAL TELEGRAPHIC UNION.

THERE are evidences of a strong revival of interest in the Union in many parts of the country. A correspondent at Albany wrote us a short time since that the District there was in a "very healthy condition and resolved to stand by the association to the last," and we have received a number of similar assurances from other points. This revival is, in part, the natural result of the malignant and unprovoked attacks which have been made upon the organization within the past few months by parties who appear to have some strong hidden motive for its destruction. So far from weakening the Union, this course of procedure has resulted in a considerable addition to the membership in some of the most important Districts, and has excited the determination in those who are already members to stand by the Union more firmly than ever. All this proves that the fraternity, and especially the members of the Union, appreciate some of the consequences which would probably follow its dissolution, and are more than ever determined to strengthen and sustain it.

If it be true, as is claimed by many, that the Union has failed to accomplish all that was expected of it, it certainly is not the fault of those who have stood by it and labored earnestly in its behalf since its foundation, but rather of those who, having once been members, from indifference or lack of interest, have allowed themselves to be dropped from the rolls, instead of withdrawing in an honorable and upright manner. And these are invariably the persons who are found declaiming against the Union and stigmatizing it as a "humbug."

The National Telegraphic Union can and should be made a direct and positive benefit to every member connected with it; but to do this it is necessary that each individual should take an interest in the matter, and work to that end, and not stand idle, expecting everything to be done by others.

### TELEGRAPHING AS A FIELD OF LABOR.

THE *N. Y. Evening Post* of the 19th inst., in an article headed, "Women as Telegraphers," says: "A large field of labor is open to intelligent women as telegraphers."

To speak of the telegraphic profession as an extensive field of industry open to *either* sex betrays an ignorance of the subject which is excusable only on the ground that the writer of the above has ventured out of his latitude.

The business of telegraphing is but limited at best. Its demand for labor is fully supplied, and its growth is too slow and uncertain to call for any such influx of telegraphers as the *Post* would force upon it.

The American Telegraph Company, some years since, established a school for the instruction of

both ladies and gentlemen in the art of telegraphing, which was discontinued when the requisite number was obtained. If there is room for any more at this present time plenty of ladies, possessing all the telegraphic skill they can ever acquire, stand in readiness to accept these lucrative (?) positions, whenever called upon by the company. When we see wires standing idle for the want of operators to attend them, then, and not until then, can the field be pronounced open for a further supply. No longer than a year ago the advent of new-fledged lady operators upon the wires in one of our Eastern districts became such a hindrance to the transmission of business that the superintendent was forced to prohibit his operators from teaching them. Had there been an urgent demand for their services no such order would have been issued. Again;

"Their salaries vary from thirty dollars per month for beginners, to fifty-five and sixty dollars for first-class operators. . . . In point of skill they are equal to men, yet the latter receive on an average seventy-five dollars, and *four* have one hundred and eighteen dollars per month, . . . The time required for learning the art of telegraphing is usually one year, though some have acquired it in three months."

By an array of possible salaries which may be obtained, and without mentioning the difficulties to be overcome, or the relative chances of failure or success, a leading newspaper thus attempts to mislead those who are equally as ignorant of the profession as itself. A skilful operator may receive a lucrative salary, proportionate to the time consumed in arriving at a certain grade.

Few operators become proficient in less than two years, occasionally one learns in twelve months, while hundreds (especially females) who attempt the business, fail for want of adaptiveness or capacity, and can never arrive at a satisfactory degree of skill, though they devote a life-time to its practice.

It is a stubborn fact that however well adapted the dexterous fingers of a lady may seem, to perform the duties of an operator, however delicate the ear may be to catch each passing sound, there is a lack of general business knowledge and of ambition—a feeling that the business is to them a mere makeshift, which prevents the greater portion from reaching the highest standard as practical operators. There are, of course, exceptional cases. A few reach the goal, and these are they who receive good salaries, and their success where so many fail is suitably rewarded. We deem it merely justice to show that their are chances of failure, and obstacles to surmount, commensurate with the compensation which is thus so prominently depicted.

We will pass over many minor inaccuracies which are so prominent as to attract the attention of every telegrapher yet which have no important bearing on the subject in question. The following paragraph, however, is deserving of a few comments:

"One hundred and sixty women are employed as telegraphers in London alone. Throughout the United States many small offices are worked by women."

It is unnecessary to institute a comparison between the telegraph systems of England and the United States.

The speed of our printing instruments exceeds by one half, the highest rate attained on European lines while Mr. VARLEY pronounced the rapid performances of our Morse operators as far superior to the

same method of transmission as practiced in England, so that in this respect, at least, we need not go abroad to learn how to work our land lines.

Many of our small stations are in charge of ladies who perform their duties satisfactorily, as the work is not so steady and laborious as in the principal offices, but even these posts are all filled, and we look in vain for that vast field which these embryo telegraphers are to occupy.

The fact is the demand for telegraphers, either male or female, is so limited, and the chances for advancement or even fair remuneration for an arduous body and brain wearing service, so small that we cannot conscientiously advise any one to engage in it.

### PERSONAL.

B. G. GALBRAITH, formerly of Harrisburgh, Pa., has been appointed operator and ticket agent at Bainbridge, Pa., *vice* SAMUEL RIDDLE removed.

MR. HARE, late of West Point, has accepted a position in the Albany office. His successor is C. H. SMITH of the Cozzens Hotel office.

S. L. GRIFFIN, of Louisville, Ky., has accepted a position in the Western Union office, at Cincinnati, O.

MR. MCKENNA, of Pittsburg, has accepted a place in W. U. St. Louis office.

E. A. JOHNSON, formerly of Bloomington, has accepted a situation with W. U. at Cairo, Illinois.

A. C. CASTLE has given up his situation as balladist with Wilson's Minstrels, to return to his old business, telegraphing. He has taken a place in the passenger depot of the Pacific Railway, recently occupied by Johnson.

T. A. EDISON has resigned his position in Cincinnati, and gone home to Michigan.

JACK INGLE, one of the best known and oldest telegraphers in the country, has accepted a situation in Indianapolis.

MR. LONG, formerly with the U. S. Company, has charge of both the Franklin and A. & P. wires at White Plains, N. Y.

MAJ. F. L. POPE is enjoying a few days relaxation from his arduous duties, by a sojourn in the interior of Pennsylvania.

W. H. GAY has taken charge of the Poughkeepsie office, on the A. & P. line.

J. H. BUNNELL, operator, has accepted a position in the New-York office of the Franklin Company.

PARK SPRING, of Philadelphia, has accepted a position with the Atlantic and Pacific Company in this city.

MISS MARY E. MASON has taken charge of the Franklin Telegraph office at Middletown, Ct., *vice* Mr. TURNER resigned.

CHARLEY PAYNE, formerly of the U. S. Military Telegraph, Mound City, Kansas. Please send your address to "J. F.," W. U. Tel. office, Utica, N. Y.

T. J. CONNELL has been appointed Manager of W. U. Telegraph office, lately opened at Apple River, Ill.

C. E. DODD has been appointed Manager of Nora office, I. C. R. R.

H. MATTHEWS has been placed in charge of Sublette night office, I. C. R. R.

### MISCELLANEA.

TELEGRAPHERS M. L. INSURANCE ASSOCIATION.—A meeting was held on Monday evening last, in this city, for the purpose of organizing a Telegraphers' Mutual Life Insurance Association. Mr. J. D. REID was elected Treasurer of the Association, and Mr. D. R. DOWNER, Secretary for the coming year. An Executive Committee of five (5) were appointed, of which the Treasurer and Secretary are members.

DRAW-BRIDGE SIGNAL.—The New-York and New-Haven Railroad have put up a new electric bell alarm and



signal on both sides of the bridge in Bridgeport. A light acts as signal, and a bell gives the alarm, when the draw is open.

THE CHESAPEAKE CABLE.—The submarine telegraph cable across Chesapeake Bay, from Cherrystone to Fortress Monroe, which was laid during the war by the Government, is advertised to be sold as it lies. This cable is twenty-three miles in length, and double armored. It has been broken by anchors and repaired a number of times.

A PNEUMATIC communication has recently been set up between the Bourse and the central telegraph office at Berlin. Between the two there have been placed two parallel iron pipes, 2835ft. in length and 3 1/4 in. in diameter. By one of them telegraphic dispatches deposited at the Bourse are carried to the central office, and by the other the reverse takes place in the space of from one minute to a minute and a half.—Mechanic's Mag.

REDUCTION IN CABLE TOLLS.—An arrangement, it is said, has been perfected between the Anglo-American Company and the Atlantic Company, by which the present rates by the Cable will be reduced fully fifty per cent.

FRANCO-AMERICAN CABLE.—Paris, October 21.—The Journal des Debats denies that the French Government has granted a subvention in aid of the new Atlantic Cable to be laid from Brest to the American coast.

REDUCTION IN RATES.—The opening of the Atlantic and Pacific line for public business, has been followed by a reduction of about twenty-five per cent on the old tariff.

The Western Union Company makes an under bid for patronage, but the managers of the Atlantic and Pacific seem loth to follow up, believing that the public is willing to sustain the company which inaugurated cheap rates without compelling it to sacrifice its entire profits.

THE ATLANTIC AND PACIFIC COMPANY IN ALBANY.—This company has located its office in one of the finest buildings in the city, S. H. RANSOM'S iron front, on Broadway a few doors above State street. A portion of Mr. RANSOM'S stove store has been partitioned off for a receiving office, with an entrance on Broadway, and a receiving window in the hall leading to the upper part of the building. The whole front of the receiving office is of plate glass and richly lettered. The operating-room is very pleasantly and conveniently located on the second floor of the same building, and in close proximity to the Board of Trade room. The wires are strung through Broadway on very handsome poles painted green and white.

SUIT AGAINST A TELEGRAPH COMPANY.—Some time ago a merchant of Nashville went to Franklin, Ky., where he entered into some negotiations with a businessman of that place, but before the bargain, by which he expected to reap a considerable profit, was closed, he was compelled to return to Nashville, promising the Franklin man, in case he should conclude to accept the terms proposed, he would telegraph him. Shortly after reaching home he made up his mind to make the trade, and at once repaired to the telegraph office to forward a message announcing his intentions; but the telegraph operator at Franklin happening to be out at the time, the dispatch could not be sent until an hour or two later, by which time the man at Franklin had struck a bargain with some one else, thus, by the delay, throwing the merchant out of the trade. He now sues the telegraph company, claiming \$5000 damages.

PRINTING INSTRUMENTS AT THE WEST.—The Western Union Company have decided to use printing instruments on the Chicago and Milwaukee Line. Mr. BLANCHARD, of New-York, is at the latter place putting up the instruments.

NEW WIRES.—An additional wire is about to be strung between Chicago and Janesville, to accommodate the Chicago and Madison business. Wires are also to be strung between Chicago and Peoria for the use of the Chicago and Rock Island Railroad.

AN IMPROVED METHOD OF ADJUSTING REPEATERS.—A friend in Chicago writes: "The other night we were receiving a special from Jacksonville through Springfield's 'button' repeater. The line from here to Springfield working rather high, and being unable to break for

some time, we asked Springfield where he had been; his reply was, 'I turned your side down to have it go through 'firmer.'" Somebody ought to present him with a leather medal.

MARRIAGES.

CHANDLER—HERBERT—At Mexico, N. Y., Oct. 16, 1867, by Rev. T. A. Weed, GEORGE CHANDLER to Miss GERTRUDE HERBERT, both of Mexico.

DEATHS.

CALDWELL—At Ellsworth, Kan., Oct. 10, JAMES CALDWELL, formerly superintendent of the Central Ohio R. R. Telegraph.

NOTICE.—By resolution passed by the National Convention N. T. U. at St. Louis, Sept. 13, 1867, the Treasurer of N. T. U. was appointed Supply Agent. Hereafter all applications for supplies must be made to A. L. WHIPPLE, Treasurer, Albany, N. Y. F. G. CHURCHILL, President N. T. U.

La Porte, Ind., Sept. 17, 1867.

Bankers' and Brokers' Telegraph Co., CAPITAL, \$1,050,000. Lines extending from New-York to Washington and Georgetown, D. C.

WM. CALLOW, President..... Baltimore, Md. JOHN L. CRAWFORD, Secretary and Treasurer..... " J. W. DYER, Acting Superintendent..... Philadelphia.

California State Telegraph Co.

CAPITAL, \$2,500,000. Lines extending from San Francisco, Cal., to Salt Lake, U. T., and New-Westminster, British Columbia.

GEO. H. MUMFORD, President..... San Francisco. GEO. S. LADD, Secretary..... " JAMES GAMBLE, Superintendent..... " R. R. HAINES, Assistant Superintendent..... Seattle, W. T.

Franklin Telegraph Company.

CAPITAL, \$1,000,000. Lines extending from Boston to Washington. J. B. STEARNS, President..... Boston. J. W. BROWN, Treasurer..... " J. G. SMITH, Superintendent..... New-York.

Illinois and Mississippi Telegraph Co. CAPITAL, \$1,500,000.

[Leased to the Western Union Company.] J. D. CATON, President..... Ottawa, Ill. T. D. CATLIN, Secretary and Treasurer..... " [For Superintendent, etc., see Western Union Company.]

International Telegraph Company.

CAPITAL, \$300,000. Lines completed from Boston to Bangor, Me. [In progress.] E. K. HARDING, President..... Bath, Me. Hon. WOODBURY DAVIS, Treasurer..... Portland, Me. CHAS. H. SAWYER, Superintendent..... "

International Ocean Telegraph Co.

Lines extending from Lake City to Key West, Fla., and Havana, Cuba. WM. F. SMITH, President..... New-York. M. M. DELAFIELD, Treasurer..... " W. H. HEISS, Superintendent..... "

Northern Telegraph Company.

CAPITAL, \$100,000. Lines completed from Boston to Bristol, N. H. [In progress.] Hon. FREDERICK SMYTH, President..... Manchester, N. H. W. W. STORRS, Treasurer..... Concord, N. H. J. W. ROBINSON, Superintendent..... "

Northwestern Telegraph Co.

CAPITAL, \$1,150,000. Lines extending from Milwaukee through Wisconsin, Michigan, Iowa, and Minnesota. Z. G. SIMMONS, President..... Kenosha, Wis. H. B. HINSDALE, Secretary and Treasurer..... " S. ROBERTSON, Superintendent..... Milwaukee, "

Pacific and Atlantic Telegraph Co. OF THE UNITED STATES.

CAPITAL, \$3,000,000. Lines completed from Philadelphia to Pittsburg and Cincinnati. [In progress.] GEO. H. THURSTON, President..... Pittsburg, Pa. E. J. ALLEN, Secretary and Treasurer..... " J. BALDWIN, Superintendent..... Philadelphia, Pa. A. Q. CASSELBERRY, Assistant Superintendent..... Pittsburg, Pa.

Western Union Telegraph Co.

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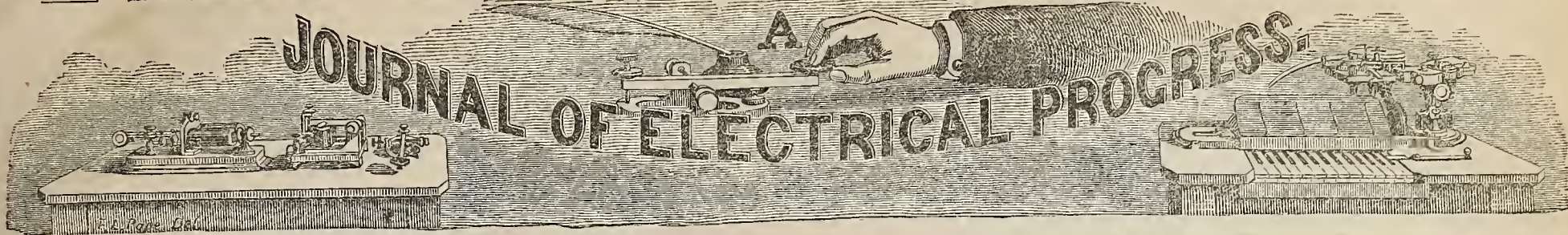
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# THE TELEGRAPHER.



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New-York, Saturday, November 2, 1867.

Whole No. 68.

For THE TELEGRAPHER.

## Shall Telegraphing be Monopolized?

THE control of a single branch of industry by a corporation or individual, through the agency of capital, is becoming a favorite idea in both England and the United States. The supreme management of any great public convenience in a country of such vast extent and resources as our own, is a scheme of such magnificent proportions, that we cannot wonder at its exciting the ambition of our American capitalists. The greater the necessity for the existence of any particular interest, the more anxious do they become to gain the entire possession of it. No movement is too stupendous to be undertaken in order to gratify their insatiable desire for power and fame. It is their belief that by such a concentration of resources and facilities, the public can be better served and improvements more generally introduced, than by allowing competition to divide the traffic and thus reduce the profits. Experience, however, has demonstrated that this greed for gain is not so easily satisfied. Having obtained control of the entire field, we find that instead of devoting surplus capital to the development of improvements, it is directed, where we might naturally expect, to the coffers of these already wealthy manipulators. So long as this policy is maintained, or until capital itself is monopolized, competition must be the inevitable result; for however grand may be the organization, however gigantic its power, the same spirit which sought to build it up, will, acting through another channel, seek to decrease its strength. In a spirited contest for public favor two rival organizations, in seeking the same end, will expend their surplus revenue in making the best possible use of their facilities; in expanding those facilities in order to accommodate the public to the fullest extent; in securing the best possible talent which can be obtained; in adopting every improvement which can be suggested, and in reducing its tolls to the lowest possible limit.

To achieve these results competition must be directed by officers who have the best means of knowing what is lacking in a prevailing system. Advantage must be taken of every existing weakness, which can only be determined by those who are thoroughly cognizant of every detail connected with the business. In telegraphing, this is a matter of vital importance. However lavish the expenditure of capital may be, if it is not exerted in the proper direction no lasting benefit can be derived from it. Gaudy signs, expensive office fixtures, salaried officials who neither know nor appreciate anything beyond dollars and cents, are ornamental appendages which cannot be afforded at the expense of insulation, convenient location of offices, and an adequate operating force. To bring two distant parties as nearly as may be possible within instantaneous communication of each other is the object of a telegraph, and that company which approaches nearest to the realization of this requirement, under all circumstances, will eventually secure the larger portion of patronage.

An old established company has the experience and machinery requisite to reach the highest state of efficiency, but it will not be exerted until stimulated into activity by thorough competition. This must be inaugurated and directed by practical men, who are familiar with the obstacles to be overcome, and who feel a professional interest in the success of such an undertaking.

Success, however, does not signify the destruction of

one monopoly and the foundation of another, but the establishment of a line which shall, from its merits alone, enlist the hearty support of the public and the cordial co-operation of its employes. Genius may then be stimulated to the production of needed improvements, with the assurance that if really valuable they will certainly be adopted by that company which would best promote the interests of its patrons. There is not an intelligent telegrapher in the country to-day, but that knows why opposition lines have failed—not from lack of patronage—but from inability to accommodate an increasing business, a contingency which might have been avoided by the proper construction and location of lines.

It is my firm belief that the organization known as the "Co-operative Telegraph Company" embodies in its principles and its personnel the elements of success which all previous competing companies have lacked, and knowing as we do, not only from theory, but from practice, that our only hope for the future rests upon competition, it is for our interest, as well as that of the public at large, to aid and encourage the development of this enterprise, against which we have yet to hear a single valid objection. Our protection against the encroachments of a monopoly reposes in either COMBINATION or COMPETITION, the former is justifiable only on the plea of self-defense, it being the same weapon that is raised against us, while the latter is a perfectly legitimate and honorable undertaking, which we should gladly uphold both by word and deed, and is opposed only by those who are ignorant of the real issues at stake, or who wield the pen which is guided and supported by the mandates of unscrupulous authority. Can it be that the telegraphers of the United States must pass through a trying ordeal of misfortune, and be subjected to countless minor grievances before they can believe that these words are true? This is a question worthy the careful consideration of every telegrapher in the land, and no man should complain of his lot, unless he makes an individual effort to improve his condition. An opportunity is now afforded us to assume a comparatively independent position, and it should be the aim of every one, be his station high or low, to render his personal assistance to a movement which must eventually redound to the benefit of all. CENTRIPETAL.

## The Miracle of the Telegraph.

THE telegraph is a perpetual miracle. No familiarity, however long, makes it prosaic. How rarely its confidences are violated! Yet daily the most important and delicate messages are sent for thousands of miles, where every operator on the line may hear them passing.

To what curious skill it trains the ear! An expert telegrapher stands in the middle of a room where twenty instruments are tapping out messages from as many different places, and easily reads by sound any one of them, not in the least confused by the rest.

Once, in a disagreement, the Cincinnati *Gazette* was cut off from the dispatches of the Associated Press, but still, when important news came over the wires, the *Gazette* always obtained and printed it. The association, chagrined to find its excommunication harmless, was glad to make terms again with a newspaper, which, denied the privilege of paying for its bulletins, succeeded in getting them without paying. The telegraph company believed that some treacherous employe had been stealing the dis-

patches. The truth was, that during the summer, press news came late at night when the city was very quiet. The telegraph office was in the upper story of a high building on the south side of Third street. The *Gazette* employed a first-class operator to stand on the north side. At that great distance, as the dispatches were spelled out by the instrument, he heard them through the open windows, and transcribed them in his note-book under a street lamp.

How unmistakably individuality comes out in this conversation through a system of the most delicate lines and the minutest dots! The Baltimore operator sitting at his table reads by sound the messages always eliciting to and fro between Washington and Philadelphia, New-York and Boston. And after hearing half a dozen words of any dispatch, he can tell who is the sender, out of all the hundred employes with whose telegraph writing he is familiar.

During one of JOHN MORGAN'S raids into Indiana, he entered the telegraph office of an interior village, and with drawn revolver commanded the operator to ask a neighboring town on the Ohio river whether any Federal gunboats were there. The young man could give no warning; there was the six-shooter, and a rebel telegrapher who accompanied MORGAN eyed him like a lynx. So he made the simple inquiry. But the operator at the river noticed the tremulousness and excitement in the sensitive metallic voice asking the question, and instantly surmised the cause. There were no gunboats within twenty miles; but he promptly replied:

"There are two at the landing; and from my window I see three more just coming around the bend."

This was enough for MORGAN. He sought some safer point for recrossing the river.

In Sacramento, one night, I sat beside an operator when the circuits were connected across the continent, for a little chatting between the offices along the line, before saying "good night." This message came from New-York:

"Fire this moment broken out, think on Chambers street near City Hall Park."

While it was being written, my companion recognized the sender from the style of transmission, and told me his name. Wonderful the invention, through which, half across the world, men can talk familiarly, as we converse face to face! Far more wonderful the individuality which so reveals itself in the tapping of a little key that we recognize it three thousand miles away!

BEYOND THE MISSISSIPPI.

## Novel Application of Electro-Magnetism.

THE last number of the *Cosmos* contains an article of considerable interest on the various applications of electro-magnetism, by Prof. GLÆSENER, of the University of Liège, in Belgium. Among them there is a chronograph for the measurement of very minute particles of time, and which deserves some description as regards its application to artillery. Suppose it be required to measure the velocity of a cannon ball. For this purpose let a series of targets, consisting of hoops intersected by wires, be placed at given distances. The wires of each hoop communicate with a separate electro-magnetic apparatus, by which an iron pencil-holder is kept in an unvarying position by attraction so long as the circuit is not interrupted. Opposite and close to this pencil-holder there



is a cylinder turning on its axis at the rate of four revolutions in a second. Its surface, which is covered with paper, is divided into 500 parts by lines drawn parallel to its axis, so that each part represents one two-thousandth of a second. Its motion is effected by clockwork. Now, whenever the electric current is interrupted the pencil-holder ceases to be attracted and falls on the surface of the cylinder, on which its pencil, therefore, describes a line. Whenever the circuit is completed the pencil-holder is re-attracted and leaves the paper. Let us now suppose a cannon ball to be fired through all these targets, so placed, of course, as to lie in the path of the curve described by the missile. Each time it passes through one of the hoops it snaps asunder one of the wires; the circuit is consequently interrupted, the pencil-holder falls and marks the precise time of the passage. And so on, from target to target, each of which, as we have said, is connected with a separate apparatus. In this way both the space and the time employed in going over it being determined, the velocity, which is the ratio of time to space, is determined also to a fraction of one two-thousandth of a second.

## 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.*

### Local Batteries.

TO THE EDITOR OF THE TELEGRAPHER:

I NOTICE in your issue of Oct. 19 an inquiry from C. G. W. as to the best mode of taking care of local batteries.

I concur in all your directions, Mr. Editor, with the exception of one particular. It is a pretty generally accepted theory among telegraphers that a local should be kept in a dry place, but from personal observation I am forced to the conclusion that this is a mistaken idea, in some respects at least. During the early part of last winter we had our locals (nine in number, of three jars each) in a ground-floor room in the rear of the operating room, where a fire was kept up night and day. No amount of cleaning or renewing sufficed to give us good locals. We resorted in vain to every known device. Finally, towards spring, we removed them all into the cellar directly under the instruments, placing them on shelves suspended by cleats nailed to the studding. We found that two jars gave a better current here than three had done in the old place. Formerly one hundred pounds of sulphate of copper were barely enough to supply our locals for three months, whereas in the cellar the same amount was entirely sufficient for six months. We now work our locals at a saving of nearly one-half in material and care, and have splendid locals week in and week out. I am aware that in reducing the length of wire from the sonder to the local we gained something, but of course this fact will not account for the saving of material. We find as a natural result of our locals being in a comparatively damp atmosphere that evaporation is greatly decreased, consequently less electricity is expended through the slight dampness than would otherwise be lost by speedy evaporation. Were the cells to rest on anything that has immediate connection with the ground we should probably have a different result. The current in our locals flows evenly, some of them will work ten or twelve days without being taken down or renewed. If C. G. W. will try this plan I think he will not be annoyed by the necessity of ordering more materials for his locals than the rules prescribe, or of borrowing from his neighbor before the expiration of the quarter. AGITATOR.

Utica, Oct. 25, 1867.

### Morse vs. Combination.

UTICA, Oct. 24, 1867.

TO THE EDITOR OF THE TELEGRAPHER:

IN replying to the editorial which appeared in the *Telegraphic Journal* of the 17th Sept., I merely sought to contradict the implication therein contained, namely: that the printing system is the only correct and reliable

one, so far as transmitting and receiving messages is concerned. I also endeavored to show that the printing system was not proof against errors altogether (as that writer clearly intimated), and that he had brought forward examples in Morse characters which were, to say the least, utterly absurd.

Notwithstanding Mr. COMBINATION's article in your last, I think my former letter is sufficiently clear to settle the question of liability to blunder, quoting, as it does, two palpable errors actually made by the printer. If Mr. COMBINATION wishes other instances cited to prove this fact, he can be accommodated.

Another object in replying was to break down the arguments in favor of the vastness of superiority of the printer over the Morse.

If COMBINATION will take the trouble to refer to my former letter, he will fail to discover wherein I try to "convince the public of the superiority of the Morse system or its operators." I do not pretend, neither do I preach such an idea. I only wished it understood that the Morse system was not the only one liable to make mistakes.

COMBINATION's experience is great, no doubt, in working a printer, and very few printer mistakes have come to his knowledge, while he hears of errors daily by the Morse, altogether probable. How long is the circuit which you have had so much experience on, Mr. COMBINATION? How many offices on that circuit? Are you not willing to make some allowance for length of wire and number of offices? Do you think the printer would stand the test working side by side with the Morse from the Atlantic to the Pacific, through large, smoky cities, and small villages, each and all having connection? Do you think, after giving each equal advantages, and subjecting each to like obstacles, that you would still have it to say, that the Morse blundered ten times to the printer's one?

Don't, I pray you, place a few hundred miles of printing wire, with an instrument at each end, alongside of twenty or thirty thousand miles of Morse, with say three or four thousand instruments connected to it all along the route, and then bring in a report that the Morse has committed ten errors to the printer's one. Is it not a natural consequence?

Come, now, and make some concession. Say that on wires of equal length, same number of offices, same insulation, and same everything, except alphabet and instruments, that it's your opinion the Morse would not make more than, say three or four mistakes to the printer's one.

I agree with him in so far as he says that the printer has the advantage of us as regards operators. They do not have *plugs* in such numbers. They are not obliged, and in fact cannot work inferior operators to advantage. Whereas, the Morse can use a babe from its mother's arms, providing it knows the alphabet, and can send a three word message in an hour. Our telegraph companies go into extremes in the employment of operators. Every telegraph company should have a special examining board, and no operator should be given a situation who has not passed a thorough examination.

Now, as regards superiority of one of these systems over the other in working long circuits, taking all the obstacles into consideration, no one of unprejudiced mind will hesitate to give preference to the Morse. Could the printer do the same work and with as much rapidity on a long circuit as upon a short one, we should have nothing but printers in two months' time. Difference in cost of apparatus is no reason. The Western Union Company would not hesitate a moment in changing systems could they gain by such a change in time and reliability. Please inform me, Mr. COMBINATION, what sort of work your printers would make on a straight circuit from New-York to Chicago.

The printing system has been very much improved since its first introduction, certainly. I agree with you, Mr. Editor, that for a wire with say three, four or five instruments in circuit, for long press reports, etc., the printer has no equal. In illustration of printing telegraph progression, I will repeat what is said to be a fact, and which many perhaps will recognize as such. In 1849, when the first House line was built from New-York to Boston, F. O. J. SMITH offered to bet two thousand dollars that his Durham bill could traverse the distance quicker than the House line could transmit a dispatch. No one accepted the bet. Yours, AGITATOR.

TO THE EDITOR OF THE TELEGRAPHER:

IN its issue of October 15, the *Journal*, speaking of English telegraphers, says:

"Operators are of low grade, and receive no encouragement to excel. They are paid one pound ten shillings to two pound ten shillings per week, and if any one of them tries to make himself valuable, he is sent off and some contented fellow put in his place at a few shillings less. They are required to work ten hours per day. Their salaries are just about double what is paid to the men in the English coal-pits."

Now, if charity should begin at home, it might have said that operators in the Chicago office are worked eleven hours per day, and are often compelled to serve from three to six hours extra, and receive from eighty-five to ninety-five dollars per month, or about the same remuneration as coal-heavers at Morris, Ill.

It might also have said that common humanity requires a man to work but ten hours a day, or that having worked from eight A. M. to six P. M., he should at least have his evenings for recreation.

Mr. Editor, is it not about time that overworked men should begin to speak? Of course, talking will do but little good; still we should speak before acting. One thing is certain—we are about to have competition, and the companies will expect every man to serve his employer. Who that works for the Western Union in Chicago can be expected to use any exertion in its behalf under these circumstances? "A word to the wise is sufficient." Heed it while yet there is time. ANDREW.

Chicago, Oct. 21, 1867.

TO THE EDITOR OF THE TELEGRAPHER:

IT is with much satisfaction that the recent movement of the Telegraphic Union for establishing a plan of mutual insurance amongst those engaged in the telegraph business has been noticed. There is no doubt but that it will prove a success, and it cannot fail of being a most beneficial arrangement for the survivors of those who are called away before they have been enabled to make suitable provision for the support of those dependent upon them. The relief afforded will be prompt and timely, and will be matter of right and not of charity. How often have we been called upon, on the death of a member of the profession, to contribute to the temporary relief of those dependent upon him, while at the best, and notwithstanding telegraphers always respond generously to such appeals, the amount obtained is inadequate and the recipients have the mortification of considering themselves objects of charity. Now, for a trifling investment while living, the death-bed of the departing operator may be soothed and his dying moments comforted by the knowledge that those he leaves behind will be entitled, as a matter of right, to certain assistance, and not be dependent upon the *charities* of his friends and business associates.

In every point of view the movement is an admirable one, and I hope that every person in any way connected with the telegraph business will without delay avail himself of the opportunity thus afforded him.

A FRIEND TO LIFE INSURANCE.

Baltimore, Oct. 29, 1867.

TO THE EDITOR OF THE TELEGRAPHER:

IT gives me much pleasure to witness a revival of interest in the National Telegraphic Union among the operators, and I hope that this interest will grow and increase till the great body of telegraphers of the country shall be connected with it as active members. To me the advantages of such an association, properly conducted, are too obvious to require argument. In union there is strength, and only through united action can the members of the profession hope to secure that consideration and just treatment to which they are entitled.

The proposition to make the organization a secret one, submitted to the Districts for their action by the last National Convention of the Union, appears to me to be a good one. It will enable the Union to act more effectively, and will doubtless induce many to connect themselves with us who would otherwise hesitate to do so. At the same time it is not desirable that such an important step should be taken without full and free discussion and a general approval of the plan by the present mem-



bers of the Union. For one I hope that it will be adopted, but am willing to submit to the decision of the majority, whatever it may be.

The Co-operative Telegraph movement meets with much favor from all of the profession with whom I have conversed. They regard it as the only feasible plan for establishing permanent and successful competition, and it will apparently receive the earnest material aid of the fraternity generally. It is evident, however, that to secure its success, prompt and energetic action is essential. It will not do for operators to say they will take an interest in this matter by-and-by. They must take hold of it *now*, and by immediate subscriptions to the stock of the company, at once put it in a position to command the support and assistance of capitalists and business-men. In its efforts to monopolize the telegraph business of the country, the Western Union is active and unscrupulous, and to counteract its efforts equal energy and determination is indispensable. MYSTIC.

Cleveland, Oct. 23, 1867.

### L. G. Tillotson & Co.

THE *N. Y. Weekly Pathfinder* contains the following sketch of this well-known firm, whose advertisement may be found upon another page of THE TELEGRAPHER:

"Among the most interesting and important features of the Fair at the American Institute this season, has been the variety of mechanical inventions in the show-case of L. G. TILLOTSON & Co., the well-known manufacturers of and dealers in every description of railway and telegraph supplies.

"This firm commenced business in this city in 1863, the senior member having previously been a practical telegrapher, for fifteen years in charge of the lines upon the Erie Railway, and the junior (General E. S. GREELEY), a practical machinist of many years' experience.

"They are very largely engaged in manufacturing all the material used in the construction and operation of telegraph lines. Their extensive shop at 37 Elm street is in charge of Mr. E. PIERSON, formerly superintendent of the mechanical department of the Western Union Telegraph Co.

"The attention of visitors to the fair has been especially attracted by the perfect symmetry and high finish of the machinery exhibited by TILLOTSON & Co., including registers, relay magnets, sounders, keys, a great variety of galvanic batteries, insulators, and all the leading paraphernalia pertaining to telegraphic science. Their new styles of carbon battery, which consists of extra-sized tumblers, porous cups and zincs, with OGDEN'S improved patent immersed platinum connection carbons, is so marked an improvement that it is being generally adopted.

"Messrs. TILLOTSON & Co. are now engaged in the construction of a very ingenious instrument for the use of stock brokers, and designed to connect every broker's office in the city with the board of brokers—telegraphing, in plainly printed characters, the quotations of each stock, as soon as called. It will prove very valuable in the saving of labor and time, obviating much anxiety, and facilitating financial operations."

### Telegraphs in Switzerland.

SWITZERLAND is covered with a network of telegraph wires, and the whole is under control of the Federal Government. In the chief towns and large villages there is a telegraphic bureau connected with the post-office. In smaller places, where there is no bureau, the postmaster receives and forwards your dispatch to the nearest bureau. These bureaus are light, clean, sightly places, kept open all day and a good part of the night, and furnished with every convenience for the public. The clerks are intelligent and civil officers, who take your dispatch, whether in French, German, English or Italian, give you a receipt, and forward it promptly to any part of the country. The charge is twenty sous (about twenty cents) for twenty words, forty sous for fifty words, and sixty sous for one hundred words! You have a right, moreover, to use any telegraph on the railroad lines, by paying ten sous extra. This system has worked so well, and so manifestly promotes public good, not only by facilitating business, but by promoting instruction and social relations, that

the Federal Government, cautious and economical as it is, has resolved that after Jan. 1, 1868, prices shall be reduced fifty per cent. Then a dispatch may be sent to any part of the country for half a cent a word!—*Boston Advertiser*.

### "Packers" for Submarine Telegraphs.

THE high scale of charges which have been fixed for messages by the sub-Atlantic cables has led to the establishment of a system of "working the telegraph" by no means advantageous to the Anglo-American or Atlantic Telegraph Companies. The plan adopted is similar to that of "parcel packing" by carriers, which has been the source of much litigation on English railways. The charge of twenty pounds for a message of as many words—or ten pounds, as the price is now reduced—includes the name and address of the sender and receiver and the date of the message; thus practically limiting the number of words in the shortest message, that can be sent to some fourteen or fifteen. For instance, "CROWN & Co., Broadway, New-York, to ROBINSON, Leadenhall street, London," takes off a very large proportion of the message, each word representing a charge (at the present reduced scale) of ten shillings. Now, certain combinations of "condensing agents" in London and New-York were not slow to perceive that in the "packing" of these names and addresses there existed a very profitable field for enterprise. On either side of the Atlantic these "packers" have a number of clients for whom they transmit or receive the messages at a price considerably below the tariff of the telegraph company. Each of these customers or clients has a corresponding figure or letter by which he is known, so that, instead of sending some eight or ten words giving the names and addresses, the message is simply "A. B.," or any other two letters that may be agreed upon; the first representing the *sender*, the second the *receiver*, and thus a saving of some twenty per cent is at once effected. Beyond this, however, a very complete code is arranged between the "packers" themselves, by which the number of words in the messages is very greatly abridged. Half a dozen messages, for instance, directing as many correspondents to buy or sell, may be "packed" in one message, and thus the repetition of many words be avoided. A variety of plans are adopted by which several messages are thus sent or "packed" in one, and a very handsome profit is realized at the expense of the telegraph companies.—*London Railway News*.

### Wanted—a Biography.

WHEN an important personage appears upon the boards, the curiosity of the public is naturally excited, and breathless individuals are heard to hastily inquire, "Who is he?" "Where did he come from?" In every telegraph office in the United States, and in the British Provinces, or wherever the *Journal* penetrates, we can imagine the anxious inquiry passed from mouth to mouth and flashed along the magic wire, "Who is STOVER?" We are particularly favored. We know STOVER, but yet we are not satisfied. A new interest has suddenly been awakened, and we would know more of him. Shall another name be added to the roll of honor in the Old Bay State, or is our irrepressible friend a Green Mountain Boy? Let us have his biography by all means.

THE FIRE-ALARM TELEGRAPH.—MR. GAMEWELL yesterday repeated the exhibition of his fire-alarm telegraph at the Fire Commissioners' room in presence of a number of gentlemen interested in the subject. The universal opinion was that, in the adaption of both scientific and mechanical principles, it is as admirable a system as human ingenuity can devise of communicating instant alarms from various parts of the city, where the boxes are placed, to and from the central office. At the same time the various apparatus appears to be extremely simple and not easily liable to get out of repair. The apparatus has been approved by the Fire Commissioners unanimously, and the Committee of the Common Council will take action on the subject at a meeting to-morrow, and report at the next meeting of the Common Council on Monday evening. We are not advised as to the cost of introducing this telegraph; but if this be at all commensu-

rate with its numerous advantages and the consequent saving of large amounts of property from destruction by fire, the Common Council will consult the public interests by approving the recommendation of the Commissioners.—*Albany Argus*.

NEW UNDERGROUND TELEGRAPHIC SYSTEM.—A number of gentlemen connected with telegraphy have been at the residence of Mr. D. NICOLL, Oaklands Hall, Kilburn, for the purpose of witnessing a series of experiments with a new species of underground electric telegraph. The principle consists of its being made in sections of any length, and at any angle, and laid down in shallow or deep trenches at option, just as a line of railway may be laid, but without chairs, bolts, rivets, etc. The system is described as being of exceedingly simple construction, consisting of a zinc or other metallic semi-tube, or species of gutter, in which any number of electric wires can be laid. In manufacturing the conductors the wires receive first a coating of insulatory substance, then a coating of fiber, and each wire is then embedded in the semi-tube, and embedded in more of the insulating compound. This insulating material does not decompose. It consists mainly of *epure*, Trinidad bitumen, and with 16-gauge copper wires in zinc troughs the system can be laid and completed, it is said, for 20 per cent less than the present cost of overhead wires, either on poles or housetops. It has been calculated that twenty miles of sections, containing fifty or more wires, may be laid in a day by thirty laborers. The cost of each wire will, it is said, ordinarily average not more than £5 per mile.—*Builder*.

CURIOUS ACTION OF LIGHTNING.—In the summer of 1827, a hay-stack in the parish of Dun, England, was struck by lightning. The stack was on fire, but before much of the hay was consumed the fire was extinguished by the farm servants. Upon examining the hay-stack, a circular passage was observed in the middle of it, as if it had been cut out with a sharp instrument. This circular passage extended to the bottom of the stack, and terminated in a hole in the ground. Captain THOMPSON, of Montrose, who had a farm in the neighborhood, examined the stack, and found in the hay-stack, and in the hole a substance which he described as resembling lava. A portion of this substance was sent by Captain THOMPSON to Dr. BREWSTER, of Craig, who forwarded it to Sir D. BREWSTER with the preceding statement. The substance found in the hole was a mass of siliceous material formed by the fusion of the siliceous matter in the hay. It had a highly greenish tinge, and contained burnt portions of the hay.

SUIT AGAINST A TELEGRAPH COMPANY.—An important case was before the district court at Omaha on the 23d ult., JOHN McCORMICK & Co. vs. the W. U. Telegraph Co., claiming nine hundred and sixty dollars damages, owing to the non-delivery of a message ordering some goods from Hannibal, Mo. The plaintiff claimed damages, on account of the rise in the price of these articles. The jury returned a verdict for the plaintiff of three dollars and forty cents, the original cost of the message.

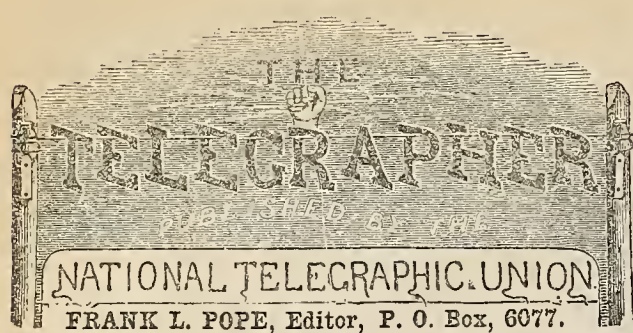
A similar case was tried at Denver, Col., not long since, when the jury allowed the plaintiff upwards of a thousand dollars damages.

AMERICAN INSTITUTE FAIR.—At the closing of this exhibition on the 26th ult. premiums were awarded for telegraph instruments and material as follows: L. BRADLEY, Jersey City, N. J., for a telegraphic relay, first premium. L. G. TILLOTSON & Co., New-York, for a telegraph register, second premium. The Bishop Gutta-Percha Company, New-York, for submarine cables, first premium. WILLIAM R. ALLISON, Philadelphia, Pa., for paraffine telegraph insulator, third premium.

A. & P. TELEGRAPH CO.—The lines of this company are now working direct between this city and Buffalo. Business opens so briskly that two additional wires will be put up immediately in order to give every facility for prompt transmission.

GOVERNMENT TELEGRAPH LINE.—The Western Union Company's line No. 1, from Julesburg, Col., west, has been turned over to the U. S. M. HOGAN, for a long time past repairer, takes charge of the line for the Government.





SATURDAY, NOV. 2, 1867.

**"THE TELEGRAPHER" AND THE W. U. CO.**

THE course of the organ of the National Telegraphic Union relative to the Western Union Telegraph Company appears to have been misapprehended, not only by the managers of that company, but also by some of our friends. In the strictures upon its management which we have been constrained to make from time to time, we have not been actuated, as has been charged, by hostility to that organization, but by a sense of duty and a consideration for what we conceive to be the rights and interests of its employés and the public, which, as we believe, have not been properly regarded by its managers. They seem to consider that the employés of the company have no rights which they are under obligation to respect; and only under the pressure of active competition have they conceded to them anything more than the bare right to existence, and such compensation as was actually necessary to sustain them in fair working condition. One by one, all the privileges enjoyed have been withdrawn, and their remonstrances have been met with indifference or studied insult. They have been told that if they were not satisfied with the oppressive rules of that company, or with the compensation doled out to them, their services were no longer required, and they were at liberty to provide themselves with more congenial situations; and in this way many of the best telegraphers in the country—men who had spent their lives in acquiring excellence and proficiency in their profession—have been compelled to seek other employment, and abandon the business.

The vacations, rendered necessary by close application to an onerous and exhausting employment, always heretofore allowed to their employés by even the poorest telegraph companies, have been denied them, and they have been required to labor on until exhausted nature succumbed; and when sick, even when such illness has been incurred in the service of the company, the pittance allowed for their services has been systematically withheld; and this, too, when the stockholders were receiving large dividends on the capital actually invested.

For this condition of things there appears to be but one remedy. Only through the establishment of competing lines, and through the opportunity thus afforded for a choice of employers, can telegraphers be assured of such consideration as they are undoubtedly entitled to receive. Such competition we have advocated, and shall continue to advocate so long as we have reason to believe that it will ameliorate the condition and advance the interests of the large class who are dependent upon the telegraph business for support; and as long as we think the interests of the public, by whose patronage the Western Union and all similar enterprises are sustained, require it.

As we said before, we have no personal hostility to the Western Union Company or its managers. We desire that it, as well as other telegraph companies, may live and prosper. But we do not desire that that company shall succeed in permanently monopolizing the telegraph business in this country, or retain in practical bondage telegraph employés, or injuriously affect the interests of those who make use of telegraph facilities.

We know that in this we have the earnest sympathies of nearly every respectable telegrapher in the country, including the employés of the Western Union Company, and believe that they will unite with those who seek to relieve them from this bondage in an effort to terminate it.

The repeated, but in too many instances ill advised, investments in competing lines by the capitalists and business-men of the country sufficiently attest their determination that the business shall not be monopolized. Unprincipled speculators and contractors have too frequently taken advantage of this determination and the ignorance of the public in relation to practical telegraphy, to establish companies and construct inadequate and inferior lines, for which they have charged and received exorbitant prices, which, so far from carrying out the views of investors, and furnishing permanent and reliable competition, have resulted in strengthening rather than weakening the monopoly which it is desired to render impossible.

It is high time that this wasteful and unprincipled course of proceeding should be stopped, and that in future telegraph enterprises the public should be assured that the means they so liberally furnish will be made to accomplish the desired purpose. In view of past experience, we believe that a properly and economically constructed and operated system of telegraph, adjusted to meet the necessities of the business of the country, in which the practical operators of the line shall have a pecuniary and personal interest beyond that of a mere salary, can be maintained against the efforts of any would-be monopoly, however gigantic, to destroy it, and be made not only self-sustaining, but also reasonably remunerative to the capital invested. Such a system we desire, and shall labor to establish. Such a system we believe *will be established*, not for the purpose of destroying one monopoly to erect upon its ruins another, but to permanently divide the telegraph business of the country and to afford to the public the advantages and improved facilities which no monopoly will ever concede.

If, in their opposition to such an enterprise, the managers of the Western Union elect to pursue a proscriptive and cut-throat policy which must result in its financial ruin, that is the business of their stockholders, and not ours or of its competitors. We desire only just, fair and reasonable competition, and *that* both the telegraphers and the public are determined to have. It therefore only remains in the managers of the Western Union Company to decide in what spirit they will meet this enterprise, which in any event is bound to succeed. If they determine on a war of extermination they will be met accordingly. If, on the other hand, as sensible and practical business-men, they shall recognize and respect the public requirements, and seek to advance the permanent interests of their stockholders, the result will, we think, prove advantageous to all concerned.

Which course will they pursue?

**THE AMENDMENT TO THE CONSTITUTION.**

At the coming regular monthly meeting of the New-York District N. T. U. the amendment to the Constitution, entailing an oath of secrecy on all members, will come up for ratification.

Those who have stood firmly by the organization need only to be told that the measure is opposed by the enemies of the Union to assure themselves that it is expected to materially increase our strength. A secret organization may be a powerful agent for either good or evil. Secrecy, in itself, cannot be wrong, though the very fact that it gives us unity draws suspicion upon our action. We have been unwillingly forced to assume this position, and those who have been the means of compelling us to do so should be the last to upbraid us for it. Our time for the open discussion of important measures has passed, and it is useless endeavoring to awaken the interest of members unless each individual feels that he is free to express his opinion without fear of its being viewed as a treasonable act.

**PERSONAL.**

I. A. SHERMAN has been elected District Director of the Boston District, *vice* H. W. WHEELER, resigned.

FRANK STEVENS has been elected Treasurer of the Boston District, *vice* H. W. POPE, resigned.

J. J. FLANAGAN has been appointed manager of the Southern Telegraph Co.'s office at Louisville, Ky. His reported dangerous illness was unfounded.

MR. MARTIN, late of Atlanta, Ga., has accepted a position in the Southern Telegraph Co.'s office at Louisville, Ky.

JOHN McHUGH has been transferred from the Northern Telegraph Company's office, Lowell, Mass., to their office in Concord, N. H.

D. J. HERN, of W. U. Telegraph Co., Boston, while removing some wires from a building near that city last week, fell a distance of twenty-five feet and escaped with but slight injuries.

H. E. GRANT, of W. U. Co., Boston, is lying dangerously ill at his home in South Berwick, Me.

H. S. WAKEMAN, formerly operator at Centralia and El Paso, has quit the business and gone to fruit-raising at Centralia.

J. F. KNAPP, formerly of the U. P. R. R. Co. at Omaha, Neb., takes charge of the U. P. R. R. office at Julesburg, Col.

ALF. BREWER, of Fort Laramie office, goes to Cheyenne City for the W. U. Co. A. G. SHAW takes charge of Fort Laramie office.

THOMAS L. A. VALIQUET has resigned the managership of Fort Sedgwick office and accepted a place in the W. U. Chicago office.

H. W. NICHOLS, formerly of Petersburg, Va., but recently at Denver City, takes charge of Fort Sedgwick office.

CHARLEY BLOOMFIELD, of the Omaha office, has gone home to Toledo, Ohio, on a leave of absence.

H. H. THORNTON, formerly of Alkali, Col., has been appointed manager of an office recently opened by the W. U. Tel. Co. in Cozzens Hotel at Omaha, Neb.

W. H. HOLTHAM, formerly manager of Central City, Col., office, has accepted a position in the superintendent's office of the U. P. R. R. Co. at Omaha.

C. FOX has been appointed chief operator for the Michigan Division, in addition to his duties as manager of the Detroit office.

EDGAR WINTER has resigned his position with the W. U. Tel. Co. at Detroit, and accepted a situation in same company's office at Louisville, Ky.

CHARLES L. DEFORREST, of the W. U. office at Cincinnati, has accepted a position in the W. U. office at Mobile, Ala.

JAMES H. HENRICLE, of the W. U. office, Cincinnati,



has accepted a position at Danville, Ky., on the L. & N. R. R. Co.'s lines.

A. A. HONEY, late operator at Ottawa (Ot), has been appointed assistant operator at Quincy, Ill.

Z. G. SIMMONS, president of the Northwestern Tel. Co., was in Chicago on the 28th of October.

L. B. PALMER has resigned his place at Richmond, Ind., on account of sickness. P. S. TODD takes his place for the present.

J. H. GAGE, of Laporte, Ind., has accepted a position on the Chicago & G. E. R. R., as night operator.

LAWRENCE HARRIS has resigned his position at Fort Morgan, Colorado, to take effect on the 1st of November.

JOHN BASIL RICHARD SPALDING has resigned his position in the Mobile office and accepted another in the New-Orleans office.

J. J. DICKEY, for many years manager of the Ottawa, Ill., office, has accepted a clerkship under E. D. L. SWEET, superintendent. Mr. HONEY of "Sj" Chicago office, takes the position vacated by Mr. DICKEY.

HON. W. W. ORTON, president W. U. Telegraph Co., was in Chicago a few days since, and extended his trip west as far as St. Joseph, Mo. He was expected to return on the 29th ult.

JAMES L. LILLIS, that good "solid" New-York telegrapher, now in the W. U. office at San Francisco, has written to a friend in New-York, and having had the pleasure of reading his letter, we are happy to inform his numerous friends that he is in good health and spirits. The diminutive size of California oysters, however, evokes sighs for the bivalves of Fulton Market. Otherwise JIM is contented.

MISCELLANEA.

N. Y. DISTRICT, N. T. U.—Regular monthly meeting will be held at 622 Broadway, on Tuesday evening, November 5th. The amendment to the Constitution will come up for ratification, and a full attendance is desired.

TELEGRAPHERS FOR SALE.—The attention of our readers is called to an advertisement in another column, offering for sale to the highest bidder, Volumes I. and II. of THE TELEGRAPHER.

VOLUME III. OF THE TELEGRAPHER.—Bound copies of Volume III. are now ready for sale, half Turkey binding, price five dollars. It forms a handsome and interesting book, containing two hundred and eighty pages.

THE CONSTITUTIONAL AMENDMENT.—The Peoria and Boston Districts have voted in favor of the adoption of the amendment requiring members of the Union to bind themselves by an oath of secrecy.

THE Merchants' Exchange office, W. U. Tel. Co., Boston, has been closed and the wires transferred to the Independent News Room.

RESISTANCE OF BATTERIES.—Mr. C. F. VARLEY writes us from Chicago as follows: "There is a prevailing idea in this country that the resistance of a battery should be equal to that of the circuit. This is a serious mistake, especially when a telegraph line (whose resistance is continually varying) is under discussion. The resistance of the battery should be a small fraction only of that of the circuit."

QUICK COUNTING.—A Chicago correspondent writes that on the night of the 24th ult., he sent a cable message checked eighty-eight words, which was received by Mr. CATLIN, of the W. U. New-York office. Immediately upon the closing of his key, Mr. C. reported but eighty-seven words. As the check of a cable message is determined by dividing the total number of letters by five, this was regarded as an extraordinary feat.

MARRIAGES.

WAKEMAN—PERRY—At Centralia, Ill., by Rev. J. CELL, Mr. H. S. WAKEMAN to Miss EMMA PERRY, all of Centralia.

HADLEY—ADAMS—On Wednesday evening, October 16, at the residence of the bride's mother, by Rev. I. JOYCE, Mr. GEORGE G. HADLEY to Miss MAMIE ADAMS, both of this city.

GEORGE, we welcome you to the ranks benedictine, though we feared the facility with which you handled the lightning had rendered you impervious to Cupid's arrows. We wish you and your

fair bride joy unspeakable, and a pleasant journey through a long life.—Lafayette, Ind., Paper.

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THE NATIONAL TELEGRAPHIC UNION, by authority of its special charter, granted by the State of New-York, proposes to insure the lives of all persons connected with the Telegraphic business under the following rules and regulations:

Applicants for insurance must be connected in some capacity with the Telegraphic business, must be not less than eighteen years of age, in good health, and able to earn a livelihood. Every applicant shall pay an entrance fee of two dollars, one dollar of which shall be reserved for creating a permanent fund, and one dollar towards the amount to be paid the heirs of the first insured person deceased, who will receive as many dollars as there are persons insured.

Whenever a death occurs among those insured, an assessment of one dollar and ten cents will be levied upon all. This dollar goes to the widow, orphans, or heirs of the next insured party deceased, and the ten cents to be applied to the payment of current and necessary expenditures.

Applications must be made to the Actuary, in writing, accompanied by a certificate, signed by not less than two persons in the Telegraphic business of good character, that they know the applicant is fully qualified under the preceding rules.

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This plan of insurance will be conducted under the supervision of the Executive Committee of the N. T. U., and it will be their aim to make it as inexpensive as reliability and security will allow. It is unnecessary to make any extended remarks, or any comparisons of the great advantages this plan affords for the payment of ready money, at the event of death, over Life Insurance Companies.

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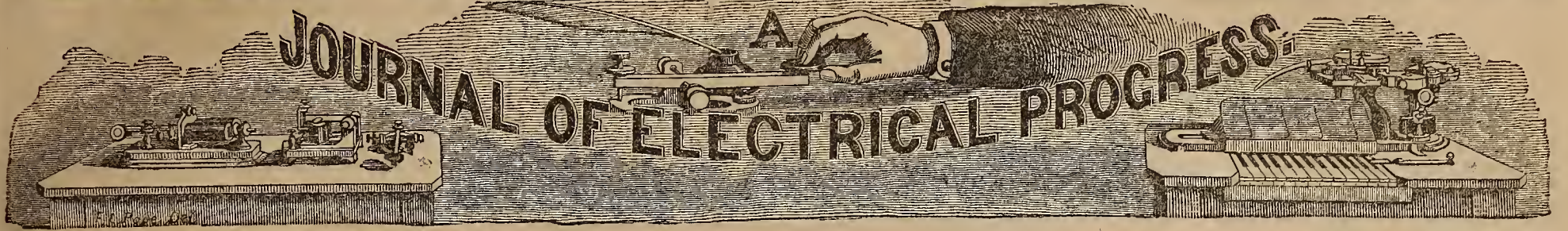
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Augusta .....	P. F. Campbell .....	" "
Baltimore.....	W. H. Stuart.....	B. & B. Tel. Office.
Boston.....	H. W. Wheeler.....	W. U. Tel. Office.
California.....	J. S. Urquhart.....	San Francisco.
Chicago.....	George C. York.....	W. U. Tel. Office.
Corry.....	A. J. Hendrick.....	" "
Detroit.....	T. W. Priest.....	" "
Greencastle.....	J. C. Showerman.....	" "
Harrisburg.....	J. B. Lyndall.....	" "
Indianapolis .....	John E. Zeublin.....	Box 107.
Louisville.....	W. L. Biggert.....	L. C. & L. R. R.
Maine.....	C. H. Sawyer.....	Portland.
Meadville.....	A. S. Hawkins.....	W. U. Tel. Office.
Memphis.....	P. J. Murray.....	" "
New-Jersey.....	J. A. Wright.....	" "
New-York.....	J. W. Stover.....	Box 6077.
Peoria.....	S. F. Boyd.....	W. U. Tel. Office.
Philadelphia.....	Jacob R. Woodruff.....	W. U. Tel. Office.
St. Joseph.....	D. E. Martyn Lock, Box 90,	Leavenworth, Ks
St. Louis.....	J. McMichael.....	W. U. Tel. Office.
Washington.....	T. H. Sherman.....	" "



# THE TELEGRAPHER.



Vol. IV.—No. 11.

New-York, Saturday, November 9, 1867.

Whole No. 69.

## The Russian Telegraph.

### RETURN OF THE EXPEDITION TO SAN FRANCISCO.

THE Western Union Telegraph Company have completed the withdrawal of the men and material from Russian America, and left their partially constructed line to the mercy of the elements and the good-will of the Indians. The ships *Clara Bell* and *Nightingale* have arrived here within a few hours of each other from their rendezvous in Plover Bay, bringing with them one hundred and thirty-five men and officers belonging to the constructing party.

The company has explored the route of Russian America, and have located a practical route from the last station in British Columbia to the point where the line would leave the American continent, by a submarine cable, to reappear on the coast of Eastern Siberia, on the Asiatic continent. Since the company's ships left for San Francisco, in the autumn of 1866, seventy-five miles of line have been constructed in Russian America. In the northern part of British Columbia the work has also been going on within the past year. The exact facts cannot be ascertained until the official reports of all the working parties are received and made up into a general report, but enough is known to make it apparent that, had the work been pursued with the same energy this summer that it was during 1866, the prediction that the line would be completed by 1869 would have been verified. It has been demonstrated that the northern climate on this continent is not so inclement but what men can work in the winter, and also that extreme cold does not effect the electrical condition of the wire. As regards the northern portion of this continent, the work is now abandoned, all the valuable material and stores and all the constructors having been brought back.

### THE WRECK OF THE GOLDEN GATE.

We have been furnished the following particulars by a young gentleman of the expedition who resides in this city, and who returned in the *Clara Bell*: The Western Union Telegraph Company's bark *Golden Gate* sailed from San Francisco, July 10, 1866; arrived off the mouth of the Anadyr River, Asia, on the 4th of October following. On the evening of that day the vessel was cut through by the ice, and she was abandoned on the 5th. All hands set to work and got all her stores, the company's materials and most of her sails and rigging to the shore, which was about four and a half miles distant. They then constructed a hut with telegraph poles, about 18x36 feet in dimensions, roofed it with poles and earth, and banked it outside with clods of turf. There were at that time about forty-three men at the place.

Capt. SCAMMON calculated that there were seventy-five days' rations for the party, and they were so fortunate, soon after landing, as to kill one hundred and fifty deer. The meat and skins were preserved, and the latter used for clothing by the men. Two or three weeks afterward sixty more deer were killed, and geese were procurable in great quantities. Many were shot, and some killed with clubs. Fish were also plentiful, so the party had no lack of fresh meat—a circumstance which enabled them to escape the dreadful scourge of scurvy. During the winter the cold was intense and the snow very deep, but the party had a good house, plenty of fuel, and the men were warmly clad; still some were frostbitten, and one man, M. C. KELLY, had his hands so badly frozen that some of the

fingers were amputated, disabling his right hand. The men, when not at work, amused themselves by playing ball on the ice-fields; the thermometer standing 20 degrees below zero. Many had their faces frostbitten, but bore it bravely, the skin being punctured to allow the escape of the watery fluid beneath, and having ice and snow applied, would soon resume its ordinary color and texture. They found the Chuckchee natives, on the coast of whose territory they were stationed, very kind to them. They assisted the men in various ways, and traded with them to some extent. The Anadyr River rises near the western boundary of the Chuckchee country, and runs easterly to the ocean. A party of twelve or fifteen men was sent up the river to cut telegraph poles, and raft them down. This land party suffered greater privations than their comrades. The cold was intense. They camped in ordinary drill tents, and subsisted on frozen fish, seal, and walrus meat. They cut and rafted down the river about 8000 poles, which were abandoned when word was brought of the arrival of the *Nightingale* and *Clara Bell*, to take the expedition out of the country, and return with it to San Francisco.—*San Francisco Bulletin*, Oct. 8.

For THE TELEGRAPHER.

### Back-bone.

EVERY scheme which has been planned or inaugurated with the view of enhancing the interests of telegraphers, has either partially or wholly failed to accomplish its design, owing chiefly to the indifference, or as it has been expressed, the lack of "back-bone," among the operators for whose benefit it may have been intended. It is indeed disgraceful that we should feel called upon to speak disparagingly of the fraternity at large, yet the display of facts is so prominent, the expression of similar sentiments is so common, that we cannot longer refrain from giving vent to our feelings, hoping to be excused, if we speak too plainly, and inviting criticism, if it can be proven that we are wroth. Our past experience shows that we have mutual distrust of each other, and if we have ever exhibited the slightest spirit of independence, it has been in the unanimity with which we decry one of our fellow-operators the moment he places himself in a conspicuous position in his efforts to advance the standing of the fraternity. No sooner does a man assume a situation which gives his name prominence above others of the same grade in the profession, than numerous meddlers far in the rear, who were never known either to speak or act in a good cause, commence their malicious whisperings, endeavoring to bring their representative to the same monotonous level with themselves—and he is spoken of either as being "on the make" or "seeking popularity." An officer of a company may proclaim his willingness to perform certain duties, claiming to be actuated by a spirit of beneficence and love for the profession, and he will at once be designated as a nice man, or a beautiful man—so kind, and generous, and self-sacrificing. This is well enough, but why show such partiality? Are there not men in our ranks who are just as good and just as capable, if we will only stand by them, and assure them that they are heartily supported by their brother operators? If the telegraphers of the country had divested themselves of this spirit of jealousy, and supplanted it by a proper proportion of *back-bone*, the Union would to-day embrace within itself two-thirds of the operators in

the United States. That it still lives and flourishes is a proof that there remain a few who hope for a revival among us, and who are determined to maintain an organization which should be the pride of the profession. We hear rumors of a new Union reared upon the ashes of the old one. Is it to be composed of wooden men who will neither do nor act, or of dead limbs pruned from the N. T. U.? Are its meetings to be occupied by lauding the action of the powers that be? But why build on a foundation of ashes? Would it not be well to await the conflagration which shall destroy the old edifice before planning the erection of a new one?

We have heard the "bread and butter" question agitated, and we fully appreciate all that has been said. Bread is the staff of life, and it is important that a man should eat. There is something higher than the mere question of sustenance, however. Is there a man among us who believes that he would starve, were it not for the existence of a telegraph company? If there is one who will thus confess his utter dependence, he deserves to starve.

This, however, is sheer nonsense; no such contingency can ever arise. So long as we earn our bread and butter we shall have it, Union or no Union. But we should look ahead. After a dozen years of continual service at the key, with impaired health and loss of manhood, do we not deserve something more than the mere consciousness of having lived and moved and had our being? Let it be proved that we have nothing to gain, nothing to hope for, by active combination, and I will cheerfully throw up the sponge. Long and patiently have we waited for a ray of sunshine, or a single spark of independence, but wherever it has glimmered, it has been speedily quenched by this dark wave of apathy which prevails amongst us. Will it ever recede, or must we continue to buffet hopelessly against it? The operators of the United States seem to have settled down to an acknowledged realization of their inferiority to the rest of mankind. Possessed as they are of more than average intelligence, the dependent position which they occupy to-day should arouse within them a spirit of self-respect at least, and instill them with vigor and ambition for a more brilliant future than they can ever hope for under the present circumstances. Having labored long, yet in vain, to improve our condition—hoping against hope, striving in every way to at least draw forth an adversary—I am at last compelled to relinquish the task, and admit that we are beyond redemption, incapable of resisting wrong; existing like the worm by the way-side, ready to be trodden under foot or our very life ground out of us by inches, not even uttering a dying shriek to admonish the power that crushes us.

CENTRIFETAL.

THE *Zanesville Courier* relates the following coincidence: "Nearly one year ago, Mr. HARPER CALDWELL, of this city, was taken sick and died at New-Orleans. Mr. THOMAS NEWELL took care of him during his sickness, and after his death took charge of his body and forwarded it to this city. On the 10th of this month, Mr. JAMES CALDWELL, of this city, brother of HARPER CALDWELL, died at Ellsworth, Kan. He was taken care of during his illness by JAMES NEWELL, a brother of THOMAS NEWELL, and by him his body was forwarded to this city. Two brothers, over a thousand miles apart, perform the last sad offices for two brothers stricken by death.



FOR THE TELEGRAPHER.

**Telegraphic Competition.**

OUR great-grandmother of the *Journal*, having adjusted her specs and "read ALLIANCE's last article in THE TELEGRAPHER" (of Sept. 21), defines her position in terms which, sad to say, indicate a state of general debility. Poor soul! imagine her falling back in her "Easy Chair" and giving utterance in the space of four brief lines (less than will suffice for her appropriate epitaph) to the following:

"Would reply thereto did we feel equal to the task. With genuine modesty we admit our inability and at once acknowledge the insanity with which we are charged. We confess profound ignorance," etc.

But two months since the *Journal* was "anxious to discuss telegraphic competition, its limits, and possibilities." To-day discussion is out of the question—she has "gin out."

'Tis said succeeding generations "grow weaker, and wiser." So does our grandmother. Too weak to discuss farther, she assumes the wiser policy to turn upon her opponent and propound the very queries that, had "ALLIANCE's last article" been fairly treated, would have been fully answered by her reply, thus seeking to blind the readers of these articles to such just conclusions as are warranted by the facts presented. We are not now disposed to write up the *Journal's* side of this question, and with all due respect for age, cannot consistently urge further effort on its part. We must, therefore, in common civility, accept the digits extended to us in the parting words of the *Journal*, only suggesting, as we part, that although we agree with the *Journal* in our esteem of "square meals," we do not like to feel that our sandwiches consist of honest sentiment and free speech shut in between the slices of our "bread and butter."

ALLIANCE.

**A Free Advertisement.**

TELEGRAPHERS of either sex, wishing to secure insurance on their lives in a cheap and reliable association, organized by parties actuated by purely philanthropic motives, and charging nothing for their valuable services, should apply to Mr. J. D. REID, 145 Broadway.

Those who are troubled with chronic diseases of any kind or nature, those far gone in consumption, and those who are residents of cholera or yellow fever districts, are especially invited to apply, as the association is purely charitable, and it is desired, in order to establish confidence in the working of the plan, that the deaths in the next six months may be as numerous as possible.

A large number of ex-members of the Telegraphic Union, who were kicked out for non-payment of dues, have already become members of this association, and it is desired that all others of this class, wherever they may be, and whether able to earn a livelihood or not, should at once avail themselves of this opportunity, to insure their lives and grasp the right hand of fellowship, which is thereby cordially extended.

Those who are now in good health, and feel unable to pay the initiatory fee, or that it is unnecessary that they should secure any insurance on their lives, are informed that due bills properly endorsed by the Western Union Company's broker, who may be found at the cashier's, office, will be accepted, or they can defer insuring until they are dangerously ill. They will be taken into the fold even at the eleventh hour.

As telegraphing, especially in city offices, is a light, pleasant, healthy and highly remunerative occupation, there can be but few deaths, and therefore but few assessments, notwithstanding the extreme liberality that characterizes the management.

A gentleman having been elected to the treasurer'ship who has recently evinced the most kindly interest in the welfare of telegraphers—by his opposition to the only charitable organization they have ever had, and to competition in the business—by his efforts to eradicate from their benighted minds the very erroneous impressions which they have long entertained, viz., that their work is arduous and poorly paid for; that it takes long experience to make an operator valuable, and that as often as once a year they require, and have a right to expect, short vacations—this friend of telegraphers having, as we say, been elected treasurer, is a sure guarantee, if any other

than those we have mentioned was wanting, that all will be fairly treated, and in case of death the heirs of the deceased will receive as many dollars as there will be members in good standing, after the first assessment has been levied.

Parties who may be desirous of making radical changes in the programme, or may have any ambition to become officers of this association need not apply for membership.

S.

**Counting.**

AN item in our last issue regarding quick counting, has elicited some remarks, and we are in receipt of a note from Mr. CATLIN, in which he modifies the statements therein contained. We know that there are good operators in Chicago, and the mere fact of its having been considered "heavy" out there seemed a sufficient guarantee that it was worthy of being recorded. We have been told that it is an every-day occurrence, and yet it is none the less wonderful, and shows to what a degree of perfection many of our American telegraphers have arrived. Our constant association with exhibitions of expertness in the profession, render them commonplace to us, but it is none the less true that a telegrapher possesses the faculty of doing two or more things at the same time, which thousands unacquainted with the mysteries of telegraphing would deem impossible. Whatever credit the fraternity deserve let it not be denied them, and if feats are accomplished which are truly remarkable, send us the statistics; we shall be happy to publish them.

**The Proposed Pacific Cable.**

THE project for a submarine cable between San Francisco, the Sandwich Islands, Japan, and China is seriously considered in California, and a general belief is expressed in the success of this new enterprise. A few years since the surveying schooner, *Fenimore Cooper*, under the command of Lieut. BROOKE, was engaged in taking soundings between the Farallones and Honolulu, and it was ascertained that it would be less difficult to lay a cable between California and the Sandwich Islands, than between Newfoundland and Ireland. At a distance west of about three hundred miles from the Golden Gate and parallel with the great American mountain ranges Lieut. BROOKE discovered a chain of submarine mountains. Very near these mountains there is a perfectly level plateau running very nearly all the way to the Sandwich Islands.

**Attempted Suicide by an Operator.**

WM. ATWATER, formerly chief operator under Gen. CRITTENDEN during the war, and late of the Jeffersonville R. R., made a persistent attempt to end his life, a few days since. We find the following account of the melancholy affair in the columns of a Chicago journal:

"Late on Saturday afternoon, Capt. HICKEY, of the First Precinct police, while driving near the Rock Island depot, saw him wandering about, and judging from his abstracted manner that the man was insane, took him in his buggy and carried him to the armory, intending to send him to a hospital as soon as possible. During the night, he was changed from the cell in which he was first confined and placed in one which, unknown to the officer of the lock-up, contained an old junk bottle. Nothing was known to be amiss with him until about one o'clock yesterday afternoon, when the officer in going his rounds found him in his cell weltering in his blood, with a ragged, ghastly wound in his throat. He had broken the bottle, and, with a piece of the glass, had attempted to cut his throat, and the horrible mutilation showed how persistent had been his efforts. The wound extended nearly across the right side of his neck to the thorax, but fortunately, and almost miraculously, that and the jugular vein had escaped injury. The wound had evidently been inflicted some hours before, as the blood had stopped flowing and the neck was greatly swollen. He was at once attended by Dr. S. C. BLAKE, and is now in a fair way for recovery.

"On being questioned as to his reason for the desperate deed, he muttered incoherently, at one time, that his brother, living in Ohio, had been shot, and he did not

wish to live any longer; and, at another, that he had given his brother poison. But they were considered only as the ravings of a madman. In his pocket was found a card, on which was the following, no doubt written immediately before he made the rash attempt: 'VALIN, at Adams' Express Company's office: send my body in a burial case to D. ATWATER.'"

**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 Few Remarks on Batteries.**

TO THE EDITOR OF THE TELEGRAPHER:

SIR:—The remarks of AGITATOR in your issue of the 2d inst. contain some, to my mind, very sensible ideas respecting the action of local batteries as regards evaporation, etc.

In addition to said remarks of AGITATOR, I, with your permission, take the liberty of recalling to your memory the remarkable fact shown by FARADAY, that the suction power which holds a grain of water in combination, or which makes a grain of oxygen and hydrogen in the right proportions unite with water, to be equal to eight hundred thousand charges of a Leyden battery of fifteen jars, each containing one hundred and eighty-four square inches.

As regards the suspension of the zinc, I much prefer the plan of surrounding the same with sawdust and water, first shown me by Mr. WILLOUGHBY SMITH, at the works of the Telegraph Construction and Maintenance Company, whilst in London last March.

In the Boulogne Submarine Telegraph office, in which I was permitted by the Imperial Government of France to conduct some experiments in the early part of December of last year, I noticed the use of sulphate of mercury, and graphite plates, as a substitute for sulphate of copper and copper electrodes of the Daniells' battery. In fact, I used such whilst conducting my submarine experiments between France and England. The result of said experiments, together with some original diagrams (rendering more clearly the scientific treatment required by submarine lines to your very intelligent class of readers), I shall feel great pleasure at some future time to communicate.

GEORGE LITTLE.

New-York, Nov. 5, 1867.

**An Expensive Joke.**

TO THE EDITOR OF THE TELEGRAPHER:

It affords me great pleasure to be able to contribute the following "huge joke" from the "far West." About a year ago Mr. B. F. WOODWARD, the manager of the Denver office, attempted to get off a joke at the expense of R., the Bohemian, at Omaha, and sent the following message to Omaha:

DENVER, Aug. 26, 1866.

EMPEROR NAPOLEON, PARIS:

Please let Bohemia alone. No alliance will be approved by this Territory. Gov. GILPIN, or any other man.  
'28 W. report check paid.

No doubt the "Bitter Creek" poet thought he had done something exceedingly funny. But this was not the last of it. Shortly after this the following was received at Denver:

NEW-YORK, 27th.

DENVER OFFICE:

Make check GILPIN to NAPOLEON 147 dollars (gold) paid.  
N. Y. OFFICE.

The "Bitter Creek poet" thought this was bogus and had been manufactured at Omaha.

The message was sent on and went across the great Atlantic cable. In due time the Denver reports were sent in, and the amount of the cable message not appearing in the reports, various letters from O. H. PALMER and W. H. ABEL were read at Denver. How the matter was settled we never learned, as the poet did not seem inclined to enter into particulars regarding the affair.

NOT A DREAM.

Green River, Nov. 1, 1867.



## HUMORS OF THE TELEGRAPH.

**A PRECEDENT WANTED.**—While "Jaek" officiated at the ticket office in P., on the Western Railroad, he was one day accosted by a solemn-looking domiue, who applied for a pass to Springfield. "On what grounds do you base your claim for a pass?" thundered "Jaek." "I endeavor to follow the example of St. Paul," said the missionary, "by traveling about the world, doing all the good I can without compensation." "Well," replied J., "if you will show me a single instance where St. Paul ever rode dead-head over a railroad, I will cheerfully give you one." The applicant searched his pocket-book for stamps, instead of giving the required information regarding the Apostle.

**A CASE OF MISTAKEN HEARSIGHT.**—Several years since, when the author of the following was operator at the Louisville and Nashville depot in Louisville, one day Mr. ALBERT TINK, now general superintendent of the road, came into the office and requested us to ask Lebanon Junction if it rained there, as we understood him. We soon had a reply for him that it didn't rain there. Whereupon Mr. TINK said: "I didn't say if it rained there. I want to know if the train is there." This was considered a good joke in those days.

An Ohio correspondent sends the following:

"A knight of the key in Southern Ohio sending so poorly that it required two operators to guess at his letters, eventually reached the signature, which after several repetitions stood H—HEISLINE, repairer. After mature deliberation the wisacres remembered that H— was a line-man, and accordingly made it read "H—; he is line repairer."

A RAILROAD ARTIST rushed into a certain commercial office, some time ago, with the inquiry, "What's the matter on our line? I get plenty of circuit, but no current from you."

The following is from the Quaker City:

"An interruption occurred on one of our side-lines the other day. One office could not "get," and an operator was dispatched to the scene of trouble to investigate. The following is his report to the superintendent:

"The instrument will not work. I could not find out what the matter was, not having time. He has a current, but the armature will not go up and down; it only moves by adjusting, and I could not adjust it so as to make it go up and down."

What a perverse thing that armature must have been, not to "go up and down" for him.

## DISTRICT PROCEEDINGS.

**WASHINGTON DISTRICT.**—Regular meeting, Tuesday evening, Nov. 6. The proposed amendment to the Constitution, as received from the Corresponding Secretary, was voted on by those present, and the Director requested to obtain the votes of absentees.

The Treasurer elect, Mr. HAHN, having declined the office, A. S. ADAMS was elected Treasurer.

It was agreed to further postpone action in the cases of several members who are more than nine months in arrears, until a statement can be furnished the President and his answer received.

The Director named Messrs. MAREAN and KANODE as the District Council for the present term.

**NEW-YORK DISTRICT.**—Regular meeting of the New-York District was held on the 1st of October. Meeting called to order at 8 P. M. In the absence of the District Director, Mr. STOVER was called to the chair. Treasurer's report read and approved.

Secretary stated he had received the resignation of W. H. H. CLARKE, as Director, who was unable to attend meetings on account of night duty. Resignation accepted, with thanks for efficient services rendered during the past year.

Mr. REDDING proposed ARTHUR MORRELL, Jr., for membership.

VIRGIL A. KREPPS also proposed by Mr. POPE.

Mr. REDDING then nominated Mr. J. W. STOVER for the office of District Director, who was unanimously elected.

Meeting adjourned at 10 P. M.

**BALTIMORE DISTRICT.**—Regular meeting. District called to order 8:30 P. M. District Director, W. H. STEWART, in chair. Roll called, five members present. Minutes previous meeting read and approved. Application of Mr. W. W. CAMPBELL for membership received and gentleman elected.

Communication received from Mr. YOUNG, of Washington, accompanied by a report of proceedings of late Convention at St. Louis, and of his own action there, acting as proxy for delegate from Baltimore District, which report was accepted and thanks of the District tendered Mr. YOUNG for his services. Adjourned 9:30 P. M.

**MEADVILLE DISTRICT.**—Special meeting, Oct. 10.

Meeting called to order at 8 P. M. District Director being absent, A. H. STEELE was called upon to fill the chair. Minutes of preceding meeting adopted.

The names of C. J. BENSON, EDWARD FOSTER and SAMUEL DERICKSON proposed by ARMSTRONG for membership. As the applicants were well known to a majority of the members, the by-laws were suspended. Formal ballot was then taken, and the three applicants declared unanimously elected.

WOODRUFF (delegate) made some lengthy remarks, urging upon each member the immediate necessity for vigorous action in behalf of the interests of the Union; that the Union could be made of great assistance to each member, if they would only put their shoulder to the wheel and endeavor to establish and advance those principles on which the Union was founded. Adjourned.

**CHANGES IN THE FAR WEST.**—The Western Union line, which is now building along the U. P. R. R., will be extended from Cheyenne City to connect with No. 2 (the line via Denver), at Park Station, in La Porte, Col. It is very probable the line between Fort Sedgwick and Denver will be taken down and Denver left on a branch line from some point on the railroad. ED. CONWAY'S section, which extends from Fort Kearney, Neb., to Denver and Central City, Col., has been extended westward to the mountains.

**THE ATLANTIC & PACIFIC COMPANY'S UTICA OFFICE.**—The Utica office of the new telegraph company was opened yesterday. It is situated two doors from Genesee, on Liberty street. The location is an excellent one. The office, as we have before stated, is to be conducted by Mr. DAVID W. MCANEENY, a competent and experienced telegrapher and a courteous gentleman. Mr. MCANEENY has handed us the following schedule of prices adopted by this company, to govern messages sent to the points designated:

To Albany, Schenectady, Troy and Syracuse, 35 and 2.

To Rochester and Palmyra, 40 and 3.

To Hudson, Poughkeepsie, Oswego and Clyde, 45 and 3.

To New-York, 50 and 3.

To Lockport and Buffalo, 55 and 4.—*Utica Observer*, Oct. 26.

**TELEGRAPHIC COMMUNICATION WITH WESTERN SOUTH AMERICA.**—We are informed that the proposed submarine telegraph between Panama and Peru and Chile has received a substantial grant of aid from the Government of Chile. The Government lends the contractors the sum of \$200,000 in Government bonds, at an interest of six per cent per annum from the date of the completion of the line, and grants a further subsidy of \$16,000 per annum for the term of twenty-two years, so that the line will be established as soon as the cable can be got ready. Bolivia and Ecuador have not as yet made known what amount of subsidy they will give, but it will not be less than \$5000 each; but whether they subsidize or not, the line will be carried out, so that the International Telegraph Company of New-York have secured the whole of the west coast of South America. Should Bolivia and Ecuador grant \$5000 each, the company will have an income of \$50,000 per annum guaranteed, and a loan of \$400,000 to begin with.

**KILLING THE CHOLERA BY ARTILLERY.**—It is a well-known fact that the presence of ozone is fatal to the existence of cholera. Telegraph operators are rarely attacked with this disease for this reason, and the accumulation of atmospheric electricity during thunder showers exerts a salutary influence in infected districts. Depending on this fact, Dr. ZANTEDESCHI, of Padua, Italy, has proposed a plan for the destruction of the

poison of cholera, by the explosion of gunpowder mixed with common salt and the chloride of lime and of sulphur. The doctor suggests the placing of a cannon loaded with the disinfecting mixture on towers or high eminences in the locality where cholera exists, then at every discharge the air would be cleared of its poison by the combustion of the sulphur generated by the sulphurous vapors, and the consequent formation of ozone. Caution must be practiced, by closing doors and windows, as the descending gaseous substances are very irritating if inhaled.—*Scientific American*.

**THE HEAVY AND THE LIGHT SIDES OF THE QUESTION.**—The *Montana Post* says: "The telegraph lines have been down for the last forty-eight hours. First at Kearney, then at Julesburg, next La Porte. The Salt Lake operator says: 'It's Indians, dead sure. Guess they've got us this time.' 'Our mutual friend,' he that is 'gifted,' was in the valley of humiliation yesterday, and at 10:40 P. M. sent us the following touching lines, dated at Virginia:

"We need this anguish of suspense  
To search our hearts and try our lives,  
'Till faith, and not its proud pretense,  
Alone survive."

"On which Local touched him back thusly:

"We need accounts of murders, fires,  
Of cholera, politics and Indians—dead.  
Faith is a humbug—when the wires  
Are bus-tu-ed."

**PROPOSED RAILROAD AND TELEGRAPH LINE IN MEXICO.**—The Mexican official *Gazette* of the 6th inst. publishes a decree authorizing the company established by Mr. EMILE LA SERE, of New-Orleans, to open the inter-oceanic route through the Isthmus of Tehautepec. The following clauses are contained in the decree:

The company will be required by the Government to exhibit the plans for the enterprise within the space of eighteen months, and to commence laying down the track and the telegraph line six months afterward. Each year they will be required to complete at least fifteen leagues of track, and to finish the line in three years; the ordinary wagon road must be finished in a year and a half.

The company are to give a bond of \$100,000 to the satisfaction of the Mexican minister in Washington within ninety days, which sum will be forfeited if the plans should not be presented, the work commenced, or the roads and telegraph line completed within the stipulated time. Merchandise in transit, passengers, telegrams and the capital invested in the undertaking, will be exempt from taxes or imposts for a period of seventy years. During this period the ports of Coatzacoalecos and Ventosa will be opened and established for commercial purposes on a superior scale.

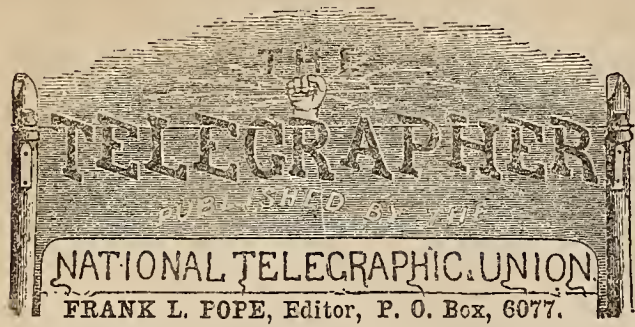
The Government is to receive during these seventy years fifteen per cent of the profits, and at the expiration of that time take possession of the whole route.

**THE RIVAL TELEGRAPH COMPANIES.**—The Western Union Telegraph Company have made the following marked reduction in their rates for telegraphing, which places their tariff at a point considerably lower than it was before the war, when it was paid in hard cash. From Albany to Schenectady (ten words) 20c; to Fort Plain, Utica, Rome, Hudson, Stuyvesant, Castleton and Rhinebeck, 25c; to Syracuse, Pawlings, Poughkeepsie, Germantown, Catskill, Stockport, Coxsackie, Chatham, and Martindale, 30c; to New-York, Oswego, Clyde, Palmyra, Rochester, Lockport, Tonawanda and Buffalo, 40c.

The Atlantic and Pacific Telegraph Company have adopted the following rates: ten words to Buffalo, 60c; each additional word, 4c. Ten words to Rochester, 50c; each additional word, 3c. Ten words to Oswego, 50c; each additional word, 3c. Ten words to Syracuse, 35c; each additional word, 2c. Ten words to Utica, 35c; each additional word, 2c. Ten words to Troy, 20c; each additional word, 2c. Ten words to Hudson, 25c; each additional word, 2c. Ten words to Poughkeepsie, 35c; each additional word, 2c. Ten words to New-York, 45c; each additional word, 3c.

The war between the rival telegraph companies is sharp and bitter. At the West, also, a telegraph war has been declared, and dispatches are sent between Chicago and Milwaukee for nothing. The public may be congratulated on this opposition, which, judging from the frequent reductions of the past few days, promises to bring the cost of a dispatch lower than Uncle Sam's postage.—*Albany Argus*.





SATURDAY, NOV. 9, 1867.

### CHAMPAGNE SUPPERS, ETC.

#### A Few Lies Nailed.

WE find the following in an editorial of the *Journal* for Oct. 29 :

"No wonder men should feel indifferent [about the Telegraphic Union], when the money paid into the treasury for the purpose of enhancing the interests of the fraternity is expended for champagne suppers and traveling expenses to and from useless conventions, for the need of which members have been compelled to rest in paupers' graves."

Such attacks as the above cannot injure the Union, but, like the boomerang from the hands of an unskilful thrower, will return to the injury of their author.

Perhaps we should not characterize the above insinuations the same as direct assertions, but they were intended to have the same effect, and the author, if he has not been misled by others, is a wilful and malicious liar.

We defy any one to prove that there is any truth whatever in these insinuations. The Telegraphic Union has never, directly or indirectly, paid for "champagne" or any other "suppers" than those commonly furnished at the regular hotel tables.

The telegraphers of Chicago entertained the delegates to the convention held in that city by a splendid supper at the Briggs House, and at Baltimore the delegates were similarly entertained; but on neither of these occasions was champagne or any other liquor furnished or included in the bill of fare, nor was one dollar of the expense incurred paid from the treasury of the National Telegraphic Union.

While the delegates to those conventions could but feel grateful for the generosity and good-will evinced by the Chicago and Baltimore telegraphers, they were unanimous in the opinion that the money expended for such entertainments could be better appropriated, and it was owing to this fact that no banquet was offered by our St. Louis friends to the delegates to the last convention.

So much for "champagne suppers."

As to members of the Union "resting in paupers' graves." A member of the Union *might* fall dead in the streets of a strange city, and *might* be consigned by the police to a pauper's grave, but such a case is about as likely to occur as Toodles was to have a daughter who should marry a Thompson with a P. We *know* that the Union has always cared for its sick and buried its dead whenever it has been permitted to do so, and its members have been first and foremost in all charities brought directly to their attention. It was chiefly through the influence of the members of the National Telegraphic Union that over a thousand dollars were recently raised for the family of a poor telegrapher, notwithstanding the fact that, although a member of the Union, he was in arrears for dues.

Now let the *Journal* editor prove or retract his

insinuations, or stand convicted of the meanest and most contemptible species of mendacity.

Now we are free to admit that the Union has not accomplished all that its originators hoped for, but it has been through no fault of theirs or of those who have been prominent in its management. It is an organization of labor, and cannot expect to receive the co-operation of those lickspittles who are ever ready to "crook the pregnant hinges of the knee, that thrift may follow fawning."

We cannot expect that capital will ever regard such organizations with favor.

The Union, although it has never originated a "strike," or any other strongly aggressive movement, although it has ever encouraged a faithful performance of duties, has excited the antagonism of the great telegraph company of the country, and a weekly paper, edited by a paid officer of this company, has been engaged for the last six months in its most wilful and malicious abuse.

There is no body of men in the world who can so completely control the conditions upon which their services shall be rendered as the telegraphers of the United States. We shall never counsel intemperate or unwise and impolitic action on the part of those depending for support upon their daily wages, but we would have the Union include every good man in the telegraphic business. The very fact that it was thus generally sustained would insure us a power which would be recognized and respected, and as a body we should be relieved from many petty annoyances and evils which we are now subject to, owing to the small-mindedness of certain men who are clothed with a little brief authority.

The Union has been, from its very inception, well and honorably conducted, and notwithstanding the assaults of the paid hirelings of capital, their misrepresentations and their barefaced lies, it must and will prosper.

In New-York and elsewhere we have got rid of a few who were of no earthly benefit to us, but only an element of weakness, and to-day the friends of the Union, with renewed energies and well-founded hopes—for we are receiving encouraging intelligence from all sections—are more determined than ever that our organization shall be perpetuated, and that our enemies and slanderers shall yet be forced to acknowledge that our principles and our action have always been sound and just.

### A TERRIBLE AFFLICTION.

OUR contemporary of Nassau street has of late been terribly afflicted with a new disease. He evidently has *STOVER* on the brain. The disease appears to be of the most malignant type, and unless speedily arrested is likely to prove fatal. Doubtless our friend *STOVER* must be as much surprised as anybody to find himself so important and dreaded an antagonist to the Western Union and its organ. The rest of us feel rather slighted at the partiality manifested, and are somewhat mortified to find that the National Telegraphic Union is nothing and *STOVER* everything in the eyes of our contemporary. And again, on behalf of *STOVER*, we must beseech our friend to divide his poetical maledictions. *STOVER* visibly grows thin under the infliction. *STOVER* is disturbed in his slumbers o' nights. *STOVER*'s appetite is seriously impaired, and we are credibly informed that of late several white hairs have appeared among *STOVER*'s dark locks. For all these our contemporary is responsible. We appeal to the

Christian and naturally humane disposition of our editorial brother not to be too hard on *STOVER*.

### PERSONAL.

FRANK H. DUNCAN, assistant operator at Scranton, Pa., has been transferred to Easton, Pa., to take charge of the W. U. office at that place.

P. H. FLYNN, of 145 Broadway, takes Mr. DUNCAN'S place at Scranton, Pa.

WM. G. JONES, of Titusville, Pa., takes a position as night report operator at Scranton.

GEN. ANSON STAGER has met with a severe affliction in the loss of his son, who died in Cleveland on the 29th ult.

B. G. WINTER, operator Merchants' Exchange, Boston, has been transferred to basement Old State House.

JOHN McHUGH has resigned his position with Northern Telegraph Co., Concord, and accepted one with International Co., Boston.

JAMES K. PARSONS, of Syracuse, has accepted a position with the Franklin Company, in this city.

T. P. NIGHTINGALE has charge of the A. & P. Co.'s office (A<sub>X</sub>) at the Produce Exchange in this city.

J. E. HIGGINS, formerly of Galesburg, Mich., has accepted a position on the Chicago & G. E. R. R. at Winamac.

THOMAS M. WELLER, late of the St. Paul, Minn., office, has been appointed superintendent of the Northern Division of the Miss. Valley Telegraph Co., with headquarters at St. Paul.

W. H. WEED is manager of the A. & P. Co.'s, Oswego, N. Y., office.

W. H. HERRICK has charge of the office at the "Board of Trade," Oswego, N. Y.

THOMAS PETTY is operator on the east side of the river, Oswego, N. Y.

DAVID STAFFORD is manager of the A. & P. Co.'s Syracuse, N. Y., office.

R. A. WATTS is manager of the Southern Telegraph Company's office at Louisville, Ky., with Messrs. FLANAGAN and MARTIN as operators.

A. H. BAUER has been appointed chief operator of the Franklin Company's Baltimore office.

THOMAS CURRY, of Richmond, Va., has accepted a situation in the Franklin Company's New-York office.

G. E. NETHERLAND, of Petersburg, Va., succeeds Mr. CURRY as operator with the Virginia Central R. R. at Richmond.

JOHN E. CLARK has accepted position with Franklin Telegraph Co. at Boston.

DR. NORVIN GREEN, one of the vice-presidents of the W. U. Telegraph Company, is a member of the Kentucky Legislature from Jefferson Co., of which Louisville is the county-seat.

FRANK SPEED is the superintendent of the Southern Telegraph Co., with headquarters at Louisville, Ky.

W. D. S. ANDERSON, one of the best operators in the Chicago office, has resigned his position and goes with the Fire-Alarm Telegraph.

J. E. TORRANCE, the "lightning operator," has resigned his position in the W. U. office at Pittsburg, and accepted a position in the Chicago office.

J. W. ELLSWORTH has resigned his situation in the Chicago office, and returns to railroading at Jacksonville, Ill. Although a capable operator, he is better adapted to the more active life of railroading—being a thorough railroad man.

DAVID BROOKS, Esq., has returned from Europe much improved in health. We understand he exchanged the "bag of insulators" which our friend the *Journal* reported he had taken with him, for a magnificent gun, with which he proposes to wage a war of extermination against the REED-birds next season, provided that kind of game is not too small. So far from being *insulated*, he finds himself among troops of friends, and the reception he met at their hands was hearty in the extreme.



HARRY ALLEN has left Albany, N. Y., and gone to Montgomery, Ala., to accept a position with the W. U. Co. in that city.

RICHARD GAY, of Hoosick Falls, has been transferred to Albany, to fill the position vacated by Mr. ALLEN.

Miss NETTIE LAMSON takes charge of the Hoosick Falls office.

ALF. BREWER, who has been manager at Fort Laramie for some time past, is now on a visit to his home in Albion, N. Y., and when he returns will go to Cheyenne City for the W. U. Co.

**MISCELLANEA.**

POSTPONEMENT OF N. Y. DISTRICT MEETING.—The regular meeting has been postponed until Tuesday evening, Nov. 12, when a full attendance is desired.

J. W. STOVER, District Director.

CABLE BROKEN.—The cable of HARRISON BROS. & Co's. private line was broken, on Monday night, by the French steamer *La Perriere*, which anchored in the North River near the crossing. The cable was repaired and submerged on Thursday.

CLIMBING MATCH ABANDONED.—The proposed climbing match between SULLIVAN and CASSIDY has been given up, one of the parties failing to make the required deposit.

THE W. U. Co. completed a line from Laporte, Col., to Cheyenne City, Dakota, on the 26th. The line is about forty-five miles in length.

STRICT CENSORSHIP.—The Captain-General of Cuba seems to be afraid of telegraphic dispatches. A cable dispatch, giving news of GARIBALDI'S victories in Italy, was published in one of the Havana papers after the Captain-General had suppressed it, and he is now after the offending operator who sent it out.

THE MISSISSIPPI VALLEY TELEGRAPH LINE.—The work on the telegraph line from St. Paul to New-Orleans is being pushed forward vigorously. Several gangs of hands are at work placing the poles in position. It is expected that the entire line between Keokuk and Minneapolis will be completed and in working order before winter sets in. The whole line to New-Orleans will perhaps be finished before the close of 1868.

THE SOUTHERN TELEGRAPH CO.—This company's lines are being rapidly put up south of Louisville and will reach Nashville, Tenn., in a few weeks. The lines from Cincinnati, southward, are built via Lexington, Georgetown, Frankfort and along the Louisville, Frankfort & Lexington R. R., and from Louisville, south, along the Louisville and Nashville R. R. The lines will be extended to all points in the South.

THE UNION PACIFIC R. R. LINE.—This line was completed to Cheyenne City, Dakota, on the 26th of October. The U. P. R. R. now have over five hundred miles of line with upwards of thirty telegraph stations. Cheyenne City is at the base of the mountains and will be the terminus for at least two years.

A FOREIGN correspondent, a lady, tells a story which illustrates the great inconvenience of having nerves. It appears that her cook received for the first time in her life a telegraphic dispatch, and the sight of it caused her so violent an "emotion" that she was quite overcome, nearly fainted and could not be persuaded to open the envelope. The housekeeper, on being sent for, opened the terrible missive and found, to the great amusement of the servant's hail, that it was from a young woman who was staying in the house on a visit to the cook and who was spending the day at the Exhibition. She had telegraphed thence to the cook, "I shall not come home to dinner."

PREVENTING RAILROAD COLLISIONS.—A correspondent of the *Mechanics' Magazine* proposes a plan whereby every train on a track shall communicate with another, before or behind it, whenever the two approach within a certain distance. Electricity is the means employed, the engines of the trains carrying batteries, one wire from which connects with the engine bell, the other connecting with the earth. Light insulated supplemental rails, made in continuous lengths of two miles each, are laid by the side of the main rail, so that the tire of the locomotive wheel

runs on both. As long as two trains are not at the same time on one length of conducting rail, no electric current can pass on account of the break joint, but as soon as they come within this particular distance of each other, the circuit is completed and both bells will ring.

**"THE NEW YORK LEDGER OF WIT,"** Established 1858. LARGE DOUBLE SHEET ILLUSTRATED. HUMOROUS NOOZEPAPER, only FIFTY CENTS per year. Great Inducements to Agents. Specimen copies sent to any address FREE OF CHARGE. Address all communications to SHELDON, HOWARD & CO., Box 3725, New-York City.

**GALVANIZED WIRE.**

We have about two hundred miles No. 8 galvanized wire, best quality, on hand, which we will sell at a bargain. Nos. 9 and 10 annealed and galvanized, always ready at lowest prices. Brackets, cross-arms and insulators on hand and to order. Also a small lot of second-hand No. 9 Annealed wire for fencing, etc.

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**NATIONAL TELEGRAPHIC UNION**

**Life Insurance Bureau.**

THE NATIONAL TELEGRAPHIC UNION, by authority of its special charter, granted by the State of New-York, proposes to insure the lives of all persons connected with the Telegraphic business under the following rules and regulations:

Applicants for insurance must be connected in some capacity with the Telegraphic business, must be not less than eighteen years of age, in good health, and able to earn a livelihood. Every applicant shall pay an entrance fee of two dollars, one dollar of which shall be reserved for creating a permanent fund, and one dollar towards the amount to be paid the heirs of the first insured person deceased, who will receive as many dollars as there are persons insured.

Whenever a death occurs among those insured, an assessment of one dollar and ten cents will be levied upon all. This dollar goes to the widow, orphans, or heirs of the next insured party deceased, and the ten cents to be applied to the payment of current and necessary expenditures.

Applications must be made to the Actuary, in writing, accompanied by a certificate, signed by not less than two persons in the Telegraphic business of good character, that they know the applicant is fully qualified under the preceding rules.

A small annual assessment not to exceed one dollar may be necessary to cover working expenses after the first year.

This plan of insurance will be conducted under the supervision of the Executive Committee of the N. T. U., and it will be their aim to make it as inexpensive as reliability and security will allow. It is unnecessary to make any extended remarks, or any comparisons of the great advantages this plan affords for the payment of ready money, at the event of death, over Life Insurance Companies.

Parties wishing to insure should write out the following questions with their answers thereto:

- What is your name?
- What is your age?
- Where is your residence?
- What is your occupation?
- Have you any constitutional disease or debility?

Sign the above statement, and forward it to the Actuary, with a certificate signed by two persons connected with the Telegraphic business, that the applicant is well known to them, and that the answers given by him to the above questions are correct?

Applications may be sent to  
J. W. STOVER, Actuary,  
Box 6077, New-York.

**PROF. J. E. SMITH'S**

**MANUAL OF TELEGRAPHY.**

The most complete instructor in the art of Telegraphy yet published, beside containing much information valuable to all connected with the business. Every Telegrapher should have it. It will be furnished by the publishers at a price simply covering the cost, viz.:

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CAPITAL, \$5,000,000.

Lines completed from New-York to Buffalo.

[In progress.]

A. F. WILLMARTH, President.....New-York.  
C. A. HARPER, Secretary....."  
CHAS. E. PERRY, Superintendent.....Albany, N. Y.

**Bankers' and Brokers' Telegraph Co.,**

CAPITAL, \$1,050,000.

Lines extending from New-York to Washington and Georgetown, D. C.

WM. CALLOW, President.....Baltimore, Md.  
JOHN L. CRAWFORD, Secretary and Treasurer....."  
J. W. DYER, Acting Superintendent.....Philadelphia.

**California State Telegraph Co.**

CAPITAL, \$2,500,000.

Lines extending from San Francisco, Cal., to Salt Lake, U. T., and New-Westminster, British Columbia.

GEO. H. MUMFORD, President.....San Francisco.  
GEO. S. LADD, Secretary....."  
JAMES GAMBLE, Superintendent....."  
R. R. HAINES, Assistant Superintendent.....Seattle, W. T.

**Franklin Telegraph Company.**

CAPITAL, \$1,000,000.

Lines extending from Boston to Washington.

J. B. STEARNS, President.....Boston.  
J. W. BROWN, Treasurer....."  
J. G. SMITH, Superintendent.....New-York.

**Illinois and Mississippi Telegraph Co.**

CAPITAL, \$1,500,000.

[Leased to the Western Union Company.]

J. D. CATON, President.....Ottawa, Ill.  
T. D. CATLIN, Secretary and Treasurer....."  
[For Superintendent, etc., see Western Union Company.]

**International Telegraph Company.**

CAPITAL, \$300,000.

Lines completed from Boston to Bangor, Me.

[In progress.]

E. K. HARDING, President.....Bath, Me.  
Hon. WOODBURY DAVIS, Treasurer.....Portland, Me.  
CHAS. H. SAWYER, Superintendent....."

**International Ocean Telegraph Co.**

Lines extending from Lake City to Key West, Fla., and Havana, Cuba.

WM. F. SMITH, President.....New-York.  
M. M. DELAFIELD, Treasurer....."  
W. H. HEISS, Superintendent....."

**Northern Telegraph Company.**

CAPITAL, \$100,000.

Lines completed from Boston to Bristol, N. H.

[In progress.]

Hon. FREDERICK SMYTH, President.....Manchester, N. H.  
W. W. STORRS, Treasurer.....Concord, N. H.  
J. W. ROBINSON, Superintendent....."

**Northwestern Telegraph Co.**

CAPITAL, \$1,150,000.

Lines extending from Milwaukee through Wisconsin, Michigan, Iowa, and Minnesota.

Z. G. SIMMONS, President.....Kenosha, Wis.  
H. B. HINSDALE, Secretary and Treasurer....."  
S. ROBERTSON, Superintendent.....Milwaukee, "

**Pacific and Atlantic Telegraph Co.**

OF THE UNITED STATES.

CAPITAL, \$3,000,000.

Lines completed from Philadelphia to Pittsburg and Cincinnati.

[In progress.]

GEO. H. THURSTON, President.....Pittsburg, Pa.  
E. J. ALLEN, Secretary and Treasurer....."  
A. J. BALDWIN, Superintendent.....Philadelphia, Pa.  
A. Q. CASSELBERRY, Assistant Superintendent.....Pittsburg, Pa.

**Western Union Telegraph Co.**

CAPITAL, \$40,000,000.

Lines extending throughout the United States, Nova Scotia, and New-Brunswick.

WM. ORTON, President.....New-York.  
O. H. PALMER, Secretary and Treasurer....."  
MARSHALL LEFFERTS, Engineer....."  
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ANSON STAGER, ".....Central Division.  
JOHN VAN HORN, ".....Southern Division.

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We claim to gain more power or effective working force in our Instruments, with ten ounces of wire, than has heretofore been gained by using one pound, as we get rid of the residual magnetism.

We also manufacture a Relay with only ten ounces of wire, thereby putting very little resistance in the line, and doing the work as well, if not better, than those that contain one pound of wire and put a great resistance in the line.

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Burlington and Missouri Riv... C. E. Yates, Burlington, Iowa.
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Cleve. and Toledo..... H. W. Stager, Cleveland, O.
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Delaware, Lack. and W..... Garret Bogart, Scranton, Pa.
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Grand Trunk Railway of Canada... H. P. Dwight, Toronto.
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Indianapolis, Cincin., & Lafayette. C. H. Summers, Cincin., O.
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Iron Mountain R. R..... R. C. Clowry, St. Louis.
Jeffersonville..... A. L. Eggleston, Jeffersonville, Ind.
Lehigh Valley R. R..... J. B. Yetter, Manch Chunk, Pa.
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Louisville, Cincin. & Lexington... W. L. Biggert, Louisville, Ky.
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{ A. R. Kiefer, Harrisburg.
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Sandusky, Day. and Cin..... A. C. Frey, Sandusky, O.
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Toledo, W. & W..... Eastern Div., G. A. Beach.
Western Div., H. Loosley.
Toledo, Peoria and Warasw..... D. K. Smith, Peoria, Ill.
Terre Haute and Richmond... J. E. Simpson, Indianapolis.
Terre Haute, Alton and St. L... B. F. Wellover, Terre Haute.
Union Pacific..... H. H. Cook, Omaha, Neb.
Union Pacific (Eastern Div)... R. B. Gemmell, Wyandotte, Ks.
Our friends throughout the country are particularly requested to inform us of any necessary additions or corrections in the above list.

Exposition Universelle, Paris, 1867.

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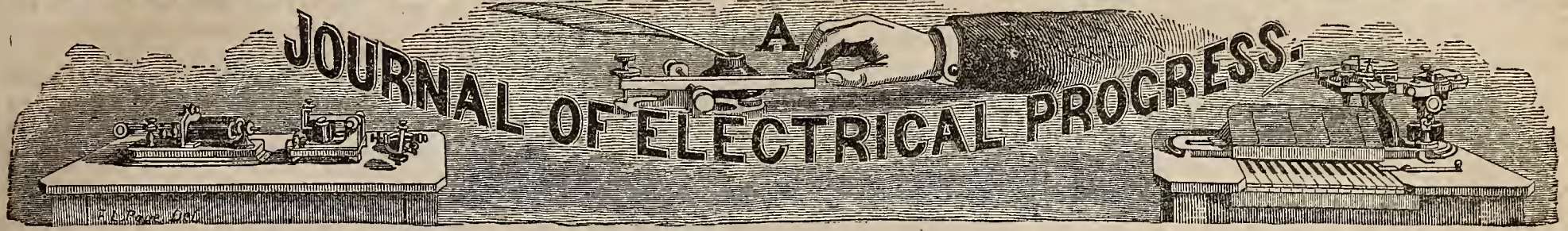
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# THE TELEGRAPHER.



Vol. IV.—No. 12.

New-York, Saturday, November 16, 1867.

Whole No. 70.

## Vacation Pencilings.

ONE bright October day, when the mellow autumn sunshine was flooding city, and bay, and river with a golden glory, we bade adieu to the vociferous crowds that howl within the arena of the "Gold room," and uneasily elbow each other on the pavements of Broad street. After giving particular instructions for all letters *not* to be forwarded, with carpet-bag in hand we joyfully departed thence. Swiftly we were whirled away over the dusty plains of Jersey, to that overgrown village where, as the geography of our childhood's days informed us, "the streets are laid out at right angles and cross each other like lines on a chess-board." Beyond this, a few hours journey through the fertile and well-tilled farms of Chester and Lancaster brought us to the fair capital city of the old Keystone State. Very beautiful it looked with its houses and spires reddening in the glow of an October sunset as we approached it, sweeping round the curving shore of the Susquehanna, below the city.

From an inland town of minor importance, Harrisburg has grown to be a great railroad centre, and a manufacturing city of considerable note. It is beautifully situated on a plateau on the east side of the Susquehanna, overlooking the river, and a pleasanter place to pass a few days could scarcely be found anywhere.

Twenty years ago the telegraphic facilities of Harrisburg consisted of a single copper wire connecting it with Lancaster about thirty-five miles distant. This was the first telegraph line ever constructed by private enterprise in the United States, and was the germ from which sprang the Atlantic and Ohio line, under the auspices of O'REILLY, BROOKS and REID. A glance at the Harrisburg office of to-day discloses quite a different state of affairs. A large number of wires enter the office, and the energies of three operators are pretty severely taxed to keep pace with the business. Mr. W. D. SARGENT is manager of this (the Western Union) office, and the headquarters of Assistant Superintendent, H. A. CLUTE, are also here. The Pacific and Atlantic Telegraph Company have an office in the city in the immediate vicinity of the one just mentioned.

We were much interested in a visit to the telegraph office of the Pennsylvania railroad, in which the amount of business transacted relative to the movement of trains, etc., is something astonishing. The room contains six instruments, and the operators were all as busy as bees. This is one of the best managed and most extensive railway telegraph lines in the country. Its construction, insulation and equipment are of the most superior description, and it is kept in thorough repair throughout. A considerable number of ladies are employed as operators both at the principal and smaller offices.

While in Harrisburg we had the pleasure of meeting Mr. W. B. WILSON, the historian of the United States Military telegraph corps, who is not unknown to the readers of THE TELEGRAPHER. His connection with the business dates back almost to its commencement, but like many of the best members of the profession, he has abandoned it for a more lucrative position in other business.

Leaving Harrisburg one pleasant afternoon by the Pennsylvania Railroad, we passed up the lovely valley of the Juniata, and shortly after dark arrived at Altoona. A tour about this town the next morning disclosed many things of interest. A splendid hotel fronts upon a labyrinth of railway tracks spanned by an iron foot-bridge,

whose length and elegant proportions puts to shame that imperishable monument to the æsthetic tastes of Alderman LOEW, the "east iron rain-bow" which stands astride of Broadway opposite "Knox, the Hatter's."

Altoona is mostly owned and "run" by the Pennsylvania Railroad Company, whose shops and general headquarters are located here. The superintendents and telegraph offices are in a tasteful cottage-like building, surrounded by flowers and vines, presenting a very attractive appearance. One of the railroad buildings contains an elegant and well-stocked library and reading-room which is accessible to any one, and is a feature worthy of especial commendation. Is there any reason why the three hundred telegraphers of New-York city should not have a library as well as the railroad employes of Altoona?

From this point the railroad commences the ascent of the Alleghany mountains, and on a crisp, frosty morning we walked from Altoona up to the summit at Gallitzin, where a tunnel, a mile in length, pierces the crest of the mountain. The view from one point during the ascent is beautiful beyond description. Standing at the head of a long deep valley between two spurs of the range, whose steep slopes were covered with foliage tinted with the fading glories of autumn, relieved here and there by dark patches of evergreen, we could trace the winding curves of the railroad along the mountain on one side till it rounded the head of the ravine where we stood with a sweep of more than half an entire circle. Then climbing steadily upward through the woods, the track at last disappears nearly at the summit of the mountain. Occasionally a train of cars drawn by two powerful engines, with a third pushing behind, may be seen toiling up the steep incline. From the top of the tunnel a grand panorama of mountain and valley unfolded itself, stretching away until the waving outlines of the hills were blended with the haze of Indian summer which veiled the distant landscape.

Taking the express train at Gallitzin we quickly descended the western slope of the mountains, passing the famous Cambria Iron Works, with its score of tall smoking chimneys, and along the banks of the romantic Conemaugh, and so on, till a black cloud, hanging like a pall over the landscape and enveloping us in its sooty folds, told us as unerringly as the hoarse voice of the railway brakeman, that we had reached Pittsburg.

This thriving city is supposed to be situated at the junction of the Alleghany and Monongahela rivers, but just at present this is a matter of some little doubt, as the existence of these rivers is mostly a matter of tradition. The Alleghany, after a heavy dew, is barely navigable for shingles, while we were informed by a "reliable gentleman" that the bed of the Monongahela has to be sprinkled daily to prevent the dust arising thence from contaminating that crystalline atmosphere which is the peculiar boast of the iron city.

We found telegraphic matters in Pittsburg rather lively than otherwise, a spirited opposition being in progress between the Western Union and Pacific and Atlantic lines. The facilities of the latter company are rather limited at present in comparison with their business, but this will shortly be remedied. Both companies have very pleasant and well-located offices. The operating room of the Western Union line is very spacious and well adapted to the purpose, and rejoices in a formidable looking switch-board, nearly six feet square. The arrangement is one of the most simple, and at the same time the most

universally applicable of any which has ever been devised. It was invented by Mr. CULGAN, a former manager of Pittsburg office, now deceased, and although it is now used in nearly every important office of the Western Union Company, it is stated that neither himself or his family have ever received any compensation therefor. This fact, if true, does not reflect much credit upon the parties in fault, whoever they may be. Too often has the originator of a valuable invention gone to his grave poor and comparatively unknown, while others less deserving reap the pecuniary reward, and even the credit due to the unfortunate inventor.

Pittsburg being an important telegraphic centre, quite a large number of operators, some twenty in all, are employed in the Western Union office. The Pacific and Atlantic Company as yet only employ some four or five.

In passing over the route between Philadelphia and Pittsburg, we could not but remark the superior character of the lines, both those of the railroad and of the Western Union Company. We consider them as a whole the best we have ever seen, and they are kept in thorough repair, which is a matter of equal importance. We should be glad to see more of the same style of construction in this country.

## The National Telegraph Company.

THE National Telegraph Company, organized under the laws of the State of New-York, accepted the franchises conferred by this act (the general telegraph law of Congress), and immediately went to work. The capital stock of the company is ten millions of dollars, in shares of one hundred dollars each. These shares are being taken by the business men of the country, something on the same principle of the Merchants' Union Express Company, and so rapidly has the stock been purchased that already the company has over six thousand miles of telegraph wire in operation, and by January next expects to have at least twelve thousand miles in operation, including a line from Chicago to St. Louis, via Peoria and Jacksonville. Mr. JAMES VAN BUREN, a son of Judge VAN BUREN, of Chicago, is now in our city explaining this matter to our citizens, and soliciting small subscriptions of stock. We believe this to be a paying investment to business men, and no one can doubt that our city will be greatly benefited by a competing telegraph line. The new company is pledged to send dispatches over the new lines at *one-tenth* the rate now being charged by the monopolies, and even at that low rate, considering the increased business that will be done, a profit to the company may be expected.

We understand that the poles on the line between this city and Peoria will be set in a few weeks.—*Jacksonville, Illinois, Journal.*

[Will the editor of the Jacksonville *Journal*, or "any other man," please inform us where the six thousand miles of telegraph line belonging to the National Company and now in operation are located? The telegraphic public are entirely unaware of its existence. The profits that will accrue to any company which sends dispatches at *one-tenth* the present rates, can readily be calculated by any person who has had experience in the management of telegraphs. The publication of such statements as the above can only result in the ultimate injury of the company which they are intended to benefit.—*ED. TELEGRAPHER.*]



## 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.

## Opposition Telegraphs.

TO THE EDITOR OF THE TELEGRAPHER:

As requested, on my return to this metropolis of the West, I seize the first available moments to give you a reflection from such glimpses of light and shadow as the telegraphic skies presented in my transit. The route of the Pacific and Atlantic from Cincinnati east, seems to bear unmistakable evidence of the handiwork of such masters in the art of projecting and erecting telegraph lines as understand well how to provide for the pockets of the builders, whether the interests of stockholders are placed beyond the hope of resurrection or otherwise.

The history of the seaboard lines is so well known that I will not stop to remark further than that the Bankers' and Brokers' seems to have turned its eyes in a Western direction and evidently beholds its setting sun. "There is strength in Union." "Requiescat in pace." The "Insulated lines" seem to possess a far greater capacity for insulating the pockets of its stockholders from any possible chance of return of investment than to secure the battery current from running helter-skelter across from one wire to another and into the ground.

The Franklin seemed to be showing some signs of life but "Jordan is a hard road." "Swinging round the circle," I came, in due course, upon the route of the Atlantic and Pacific. Doubtless the gentlemen having in charge and being responsible for the management of the affairs of this company are desirous of rendering successful the enterprise in which they are engaged. Good business men each in his own department of business, they perhaps feel themselves equal to the task of successfully developing a trunk line upon, and in opposition to, one of the important routes of the great Western Union.

Let me say, for the benefit of those most interested in the success of this enterprise (and by this I mean the Atlantic and Pacific directors not more than such of our fraternity as shall be solicited to connect themselves with that company as employes) that they can scarcely hope for any show of success without putting forth the very best efforts in working their lines. Ordinary, or less than the most thorough work in this department will not suffice. When the officers of that company shall manifest a just appreciation of the work they have before them by securing the very best skill in handling their lines, operators and stockholders may take courage. The struggle is not a small one, and men of inexperience can scarcely hope to win with any but the very best guns. It is a life and death struggle and certain ruin will follow half measures.

Thus much for opposition. The *Journal* of Nov. 5th gives a significant hint of the doubts which hover round the next dividend day of the Western Union.

Things look squally for all concerned, and he who fights best wins.

Chicago, Nov. 11, 1867.

UNION.

## Telegraphing as a Field of Labor.

TO THE EDITOR OF THE TELEGRAPHER:

THE editorial which recently appeared in your columns entitled, "Telegraphing as a Field of Labor," has elicited some criticism as might have been anticipated by its author, but as the position therein assumed seems to have been misunderstood by certain parties who have stigmatized it as the out-cropping of a selfish and prejudiced spirit, it appears necessary that the subject in question should be still further elaborated upon.

A correspondent of the *Journal* has, among others, found a few grievances therein which she considers as casting reflections upon her sex, and after admitting what were given as facts, she argues "that lady operators have not yet done themselves justice," and that "as a general thing, those who attempted the art have been those who have been driven to it from necessity, from the more uncultivated classes," etc. Whether this be true or not, I shall not dare to venture an opinion, but perhaps it will

be best for us to accept this reason, as our fair friend will tolerate no other.

Had we made such a reckless attack upon the culture of lady operators, the commotion would have been fearful, and if I may be allowed to judge from the standing of those employed in the Eastern States, there is but a slender foundation for so sweeping an assertion. They may not generally possess a boarding-school education, nor be directly descended from aristocratic families, but they are well versed in the English branches, and are certainly endowed with sufficient intellect to master the Morse alphabet, if it was sincerely devoted to that particular branch.

A great mistake is made in supposing that it is a disparagement to the capacity of any individual to assert that he or she cannot master the art of telegraphing. Every operator can recall to mind many intelligent, educated persons who have failed in attempting to learn our peculiar profession. Now what can be wrong in publishing to the world that in order to become a thorough and expert telegrapher, a person must possess a certain tact, which cannot well be expressed by words; that experience has shown that this characteristic more generally prevails in the male than in the female sex. Are there any characters damaged by such an assertion?

Should a lady assume that gentlemen were not adapted to the manufacture of crocheted collars, or blundered amidst the puzzling mysteries of tating, would we be justified in sallying forth to defend ourselves, from a supposed reflection upon our capacity?

"And how long has it been since ladies have turned their attention to telegraphy?" inquires our friend of the *Journal*. Six years at least—time enough to have perfected all that can ever reach the required standard, for three years or four at the most should accomplish that result, and as for opportunity, what other can be desired than a "minor office" on some unimportant wire. Tuition is perhaps essential at the outset, but close application and a thorough love for the profession, will soon place the student beyond the necessity of instruction. Every beginner must expect electrical kicks and curses; all have realized that peculiar sense of inferiority upon hearing "Get out, you plug," as rattled out by an experienced hand. That is a branch of discipline which some consider necessary to a thorough knowledge of the business, and is dealt out to plugs and pluggesses without partiality. Then you have had opportunities all that could be desired, and ample time to become experts, a few have distinguished themselves, and what shall be said in behalf of those who have failed? If the reasons already given are not correct, what are the *bona fide* reasons? We are loth to admit that the unsuccessful contestants were "uncultivated," and, if driven into the profession from force of necessity, as this correspondent would infer, we should certainly expect them to make every possible effort to advance, in order to place themselves in a still more independent position.

We do not deny your right to compete for an equal position, but we maintain the position assumed that there is no extensive field open for you, neither does the telegraph system promise any such speedy expansion as would require more than a gradual increase of the operating force, which is being experienced constantly throughout the land. Those who have attained a superior degree of skill deserve due credit, though we cannot be expected to praise them while we ignore the skill of our brother operators. We do not purpose to form a mutual admiration society, but to set forth facts which can be substantiated, and if better reasons can be given why our lady friends do not more generally become proficient, we shall stand ready to accept them.

R. W. P.

## REDUCTION OF TARIFFS ON THE ATLANTIC CABLE.—

The following reduction of tariffs and modifications of the former restrictions upon the transmission of cypher messages by the Atlantic cable is announced to go into effect on the 1st of December prox., viz.: Tolls between the city of New-York and any place in Great Britain or Ireland, on messages of ten words, not exceeding fifty letters in all, \$25; each word after the first ten, \$2 50; address, date, and signature, to the extent of five words, twenty-five letters in all, to be sent free of charge. No extra charge for messages in Code consisting of plain

words, but messages in cypher, that is to say, messages in numerals or in letters of the alphabet, not having any known or dictionary words, or names of places, ships, persons, etc., are to be charged, for the first ten words, \$25; for each additional cypher, \$2 50. The tolls between New-York city and points west and south thereof will be charged in addition to the above.

It is understood that a provision is made in the agreement between the different companies for a further revision of the tariff, and a return to original rates, if the receipts during the current three months do not reach a certain specified sum.

## The Situation.

RUMORS flying thick and fast,  
Have puzzled us for three weeks past;  
There's a movement in the "Ring;"  
To learn its purport is the thing.  
Franklin men, in a fearful sweat,  
Sure they're right, and wish to bet  
That the B. & B. is "gobbled up,"  
And is now a part of the great "Monop."  
Quick as offered bets are taken,  
Though confidence is somewhat shaken,  
For 'tis more than they can guess  
The object of this game of chess.

"The plan is this," says one wise man,  
"The B. & B. stock's been underrun—  
Within a month you all will see  
The wisdom of my prophecy:  
At 16 Broad the W. U.

Will come before the public view  
As a strong and healthy opposition,  
And commence a vigorous competition.  
Rates will go down to less than half,  
Stockholders groan, the public laugh;  
For in this fight some lines must fall,  
And the W—U—gobble all.

This is the scheme which has been planned  
By the great monopoly of the land;  
And the P. & A., the A. & P.,  
The F—line, the B. & B.,  
Will share alike the awful crash  
Which will follow this tremendous smash.  
I cannot well foretell the end;  
'Twill soon be here, you may depend."

This tale relieved the young man's mind,  
Yet he will be surprised to find  
That more's involved in this rumored scheme  
Than he has ever guessed or dreamed.  
The grand finale will solve the question  
Whether good results spring from oppression;  
And if that line which treats men best  
Does not survive this rigid test,  
Then we'll admit it does not pay,  
To manage in a liberal way.

If, however, facts shall prove  
That the first victim to this move  
Is that concern now known so well  
On which the "Insulated" mantle fell,  
There's not a man can shed a tear  
At its tomb, or over its bier.

We'll bury it sadly and alone;  
At the head of its grave we'll rear a stone,  
And on the slab shall be inscribed  
The date and manner in which it died;  
No long record of glorious deeds,  
Simply a line, and thus 'twill read:  
"Here lies the F—Telegraph,"  
With a due bill for its epitaph.

## PERSONAL.

J. F. KNAPP and CHARLEY MONTAYNE will take charge of the Union Pacific R. R. office at Cheyenne City, Dak.

J. N. BRADLEY, for the past three years manager of W. U. Board of Trade office, has been appointed agent of the Commercial News Department, at Chicago.

H. A. CLUTE, assistant superintendent of the Eighth District of the Western Union Telegraph Company has recently removed his head-quarters from Williamsport to Harrisburg, Pa.

W. H. HOLTHAM has taken charge of the Atchison, Kansas office.

ALF. BREWER has gone to Denver City temporarily.

P. KEARNEY and J. M. HINES are the operators for the Western Union Company at Cheyenne City, Dak.



— RANNEY has accepted a position in Union Pacific R. R. office, at Omaha, Neb.

S. L. ROBINSON has accepted a place in Chicago office.

J. W. ELSWORTH has resigned his place in Chicago office to go to railroading.

EUGENE BAKER of the I. & C. Depot, Cincinnati, has accepted a position in the Western Union Company's Cincinnati office.

DUG BURNETT, formerly of the Chicago office, was at Naples on the 6th of October, homeward bound.

GEO. B. COWLAM vacated his position in the Chicago office about a month ago, leaving his position without notice and has not since been heard from.

JACK HAINES has taken charge of the Union Pacific R. R. Telegraph office at Willow Island, Neb.

H. H. THORNTON has taken a position as constructor for the Western Union Company on the Union Pacific R. R.

J. W. STANCLIFF, for the past thirteen years connected with the Western Union Telegraph Company, has resigned his position as manager of the Hartford office, and GERSHOM B. HUBBELL has been appointed to the position. Mr. HUBBELL has been the assistant manager of the office for some time.

WM. W. SADLER, formerly superintendent of construction and repairs for the American Company, sailed a few days since for Florida, to take a position as assistant superintendent of the International Ocean Telegraph Company. Mr. S. will be stationed at Jacksonville.

## MISCELLANEA.

TELEGRAPH MANUFACTURES IN CALIFORNIA.—A manufactory of telegraphic instruments has been established in San Francisco, by Messrs. LUNDBERG & MARWEDEL.

Mr. WM. LUNDBERG, the senior partner of the firm, has been engaged in this branch of business for twelve years, and has furnished a large number of instruments for the telegraph lines in California and Oregon. As the telegraphic system of the Pacific coast already extensive, is constantly increasing, the new firm will doubtless receive a liberal patronage, especially as Mr. LUNDBERG's work already bears a deservedly high reputation in that portion of the country.

HEAVY STORM IN NEW-ENGLAND—GREAT DAMAGE TO TELEGRAPH LINES.—The storm of Tuesday did an immense amount of damage to the telegraph lines between this city and Boston. On Tuesday evening the Western Union Company were only working one wire to Boston out of the large number on that route, while communication by the Franklin line was suspended altogether. In many places the lines will have to be entirely rebuilt for many miles. On Thursday both companies succeeded in working a portion of their wires, but the damage cannot be fully repaired for some time to come. At the time of going to press we have not received full particulars of the extent of the storm, or of the injury done to the lines.

SERIOUS ACCIDENT TO A TELEGRAPH-REPAIRER.—J. H. EWING, one of the Western Union Company's line repairers, formerly of Utica, N. Y., while at work on a high pole at the corner of Exchange Place and Broad street, in this city, on Tuesday morning, lost his hold and fell to the pavement, a distance of thirty feet, fracturing his collarbone and otherwise injuring him very severely. He was removed to Bellevue Hospital.

INDEPENDENT TELEGRAPH COMPANY.—This company have reduced their tariff between Chicago and Milwaukee to ten cents for the first ten words of every dispatch, and one cent for each additional word. Letters will be transmitted at the rate of one quarter of a cent per word.

PROGRESS OF THE SOUTHERN TELEGRAPH COMPANY.—This company has been at work since September building its line from Cincinnati to Louisville via Lexington, and it is now in operation between these points. The work on the extension of the line to New-Orleans is making rapid progress, having already reached Bowling Green. Offices will be opened at Memphis and Nashville by February. This line connects at Cincinnati with the Pacific and Atlantic Company.

THE CONNECTICUT RIVER LINE.—The Connecticut

River Telegraph Company have finished their line, and it is now open for business. Offices have been established at North Glastenbury, South Glastenbury, Portland, Middle Haddam, Moodus, Goodspeed's Landing, Deep River, Essex, and Saybrook Point. It connects with the Western Union Company at Hartford. The line is already doing a good business, and will prove a great convenience to places along its route.

THE FRANCO-AMERICAN ATLANTIC CABLE.—As has already been announced, a French transatlantic cable between France and the United States—this is, between Brest and New-York—has been decided on. The French consider that their line will do more business than the English one, as the price of a dispatch will not exceed 50 francs or 60 francs. Two classes of telegrams are to be established. The express will be very expensive, but a message thus transmitted will reach the person to whom it is addressed as fast as electricity, steam, and horse can convey it; no expense will be spared. Whereas the second category—that is, the ordinary—will convey messages at the rate of the English submarine Atlantic telegraph.

A LONG CIRCUIT.—The Pacific Overland Line is worked in a single circuit from Denver, Col., to Salt Lake City, six hundred and six miles, without repeaters or intermediate batteries. This is the longest single circuit worked regularly in the United States, and probably in the world, although the Russian Extension Line was for some time worked direct from New-Westminster to Skeena river, a distance of over eight hundred miles. The clear dry atmosphere of the far West is peculiarly favorable to the successful working of these long circuits.

THE FIRE ALARM TELEGRAPH IN HARTFORD.—The building of this line was commenced a few days since by HILLS and MONROE, agents for GAMEWELL & Co., of this city, to whom the contract was awarded. There will be thirty signal boxes, one large bell, and four engine-house gongs, besides a call bell in the engineer's house and in the house of the President of the Board of Fire Commissioners. The work will be complete on or before the first of January.

BADLY MIXED TELEGRAMS.—A merchant who was absent from home, received a telegram informing him of his wife's safe delivery of a little girl; at the same time from his partner advising him that a draft had been presented for \$5000, and the signature seemed rather doubtful. The merchant replied to both, but misdirected them. The astonishment of the wife may be imagined when she read: "I know nothing about it; it is a swindle." The partner received a hearty congratulation upon his safe deliverance.

THE PACIFIC AND ATLANTIC TELEGRAPH COMPANY.—This company have now two wires completed and in operation from Baltimore to Pittsburg and Cincinnati. The route of the line follows the old National Road via Cumberland and Wheeling, and a branch extends from Waynesboro' via Gettysburg to Harrisburg, Pa. Cincinnati works direct with Philadelphia and New-York over wires of the Franklin Company from Baltimore. Arrangements now making will shortly give this company greatly increased facilities for the transmission of business to the Western and Southwestern cities. This line connects with the Southern Telegraph Company from Cincinnati to Louisville, which is being rapidly extended to New-Orleans.

NEW LINES IN PENNSYLVANIA.—There seems to be considerable doing in the way of telegraphic extension in Pennsylvania. The Keystone Company, a new organization, are building a new line of four wires on the poles of the Pennsylvania Railroad Company from Philadelphia to Pittsburg. The wires are nearly finished from Philadelphia to Columbia. A branch will extend from the latter place via York to Gettysburg. The Pennsylvania Railroad Company are also building a new line from Altoona to Phillipsburg and Lock Haven via the Bald Eagle Valley Railroad. The Lehigh and Susquehanna Railroad Company are also building from Wilkesbarre to Providence, Pa. The Western Union Company have also built a new wire from Scranton to Pittston, which forms part of a through wire between Philadelphia and Scranton via Eastern Mauch Chunk and Wilkesbarre.

NEW THROUGH WIRE TO CHICAGO.—The Western Union Company have recently commenced working a new through circuit from New-York to Chicago, using the old United States wire from New-York to Scranton via Morris Canal and D. L. and W. R. R., and thence via Northumberland, Williamsport and Erie, Pa. A repeater has been placed at Williamsport to facilitate working in bad weather.

ARRIVAL OF THE BARK ONWARD.—A dispatch from San Francisco, under date of November 5th, says that the bark *Onward*, the last of the Western Union Telegraph fleet, has arrived from North Eastern Siberia.

A NEW FIRM.—Mr. JAMES PARTRICK, ex-Treasurer of the National Telegraphic Union, who resigned his position as assistant manager of the Philadelphia office a few weeks since, has associated himself with Mr. STEPHEN CHESTER, of New-York, and J. THOMAS ELLIOTT, under the title of CHESTER, PARTRICK & Co. The firm will devote themselves to the manufacture and sale of telegraphic and electrical supplies of every description, as will be seen by reference to their advertisement in another column. Mr. PARTRICK was one of the founders of the National Telegraphic Union, and we heartily wish him the success he so well deserves. As an old member of the telegraphic fraternity, we hope he will receive a liberal support. His partner, Col. CHESTER, is well-known as a gentleman of great experience in the manufacture of telegraphic and philosophical apparatus.

This firm have obtained the monopoly of CHESTER's alphabetical dial instrument, and will pay particular attention to the construction of private lines for which this instrument is peculiarly well adapted.

A CABLE dispatch from London, Nov. 15, says that the English Government is to take the control of the telegraph system. The Cabinet, which for a long time has had the subject under discussion, has resolved to place all the telegraph lines of Great Britain under direction of the Post-office Department.

## Our Thanks to Mr. Nicholson.

So long as we wield the pen in behalf of the telegraphers of the country, we cannot be expected to interfere in municipal affairs to any extent, but we cannot refrain from an expression of our unqualified approval of the Nicholson pavement, which has lately been laid down the entire length of Broad street, in this city. Owing to the temporary blockade in Broadway, the numerous vehicles which crowd that thoroughfare have been diverted to Broad street, but instead of creating that deafening clatter which would have greeted our ears had it been paved with stone, the wheels glide smoothly and almost noiselessly along the street.

An operator can distinguish the sound of his instrument regardless of outside clatter, but all will admit that they are pleased with the change, and although our barouches are made at the cobblers, and our horses bequeathed to us by a kind Providence, yet we have a *hearing* in the matter, and accordingly tender our thanks, in behalf of the telegraphers on Broad street, to the inventor of the Nicholson pavement, and also to our city fathers for authorizing its adoption in our immediate vicinity.

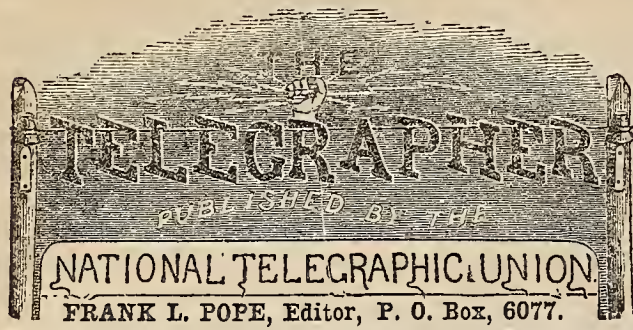
We know nothing of the cost or durability, nor have we an "axe to grind," but speak merely of its apparent merits, and when we own a city, the "Nicholson Company" shall pave its streets.

## Fire Alarm Telegraph.

THE Albany *Morning Express*, after giving an account of a fire which recently occurred in that city says:

"If any additional argument was needed to convince our authorities of the great importance of introducing the fire-alarm telegraph, it was afforded yesterday. The fire had been burning upwards of half an hour before the down town steamers received the alarm. In view of this fact, the wonder is that the building was not totally destroyed. Had the telegraph been in operation, the steamers would have been on the ground in five or ten minutes after the fire was discovered, and the loss of property would have been comparatively small. The efficiency of the new department will be very greatly enhanced if the authorities will promptly introduce the telegraph. We must have it, and it is the height of folly to postpone action in the matter."





SATURDAY, NOV. 16, 1867.

### THE TELEGRAPHER AND THE WESTERN UNION.

The *Telegraphic Journal* attempts, in its issue of the 5th inst., to reply to our remarks explanatory of the position of this paper in reference to the Western Union Company.

It commences with a misstatement. We have not undertaken to define the position of the N. T. U. in reference to the Western Union Company. We do not understand that the Union as an organization has taken any position, either favorable or unfavorable, to that company. Some of its members as individuals, and doubtless a large majority of those connected with it, favor competition in the telegraph business, but as an organization we know of no action endorsing any particular plan of competition.

What we did endeavor was to explain the position of this paper in reference to that company, and state the reasons which had induced any apparently unfriendly criticism on our part in regard to its management.

If the company, or its paid advocates, fail to observe the clearness of our arguments we can only regret their mental inability so to do, and hope that earnest consideration of what we have written or may hereafter write on this subject, may in time illuminate their ideas.

The writer seems especially aggrieved because we treat his remarks not as the expression of his own unbiased opinions, but as the emanations of the management of that company. That they are written solely in its interests and without regard to the interests of the operative telegraphers of the country, is too palpable for any denial to be credited. It is a well-known fact that the writer is a paid confidential employé of the company, and intimately associated with its executive, and that the *Telegraphic Journal* itself is sustained either directly by the company or by certain of its leading managers. Under these circumstances, its utterances can only be regarded as really and directly emanating from the management of the company.

Quoting from our article the following :

"They" (W. U. Co.) "seem to consider that the employés of the company have no rights which they are under obligation to respect, and only under the pressure of active competition have they conceded to them anything more than the bare right to existence, and such compensation as was actually necessary to sustain them in fair working condition."

The writer says :

"Now we agree that that Company which could be proven to so regard its employes is worthy of the extermination which is desired for it, and is an existence utterly abhorrent to all our instincts and sympathies. It is the foulest mistake and wrong, any tramping of the high on the low, so as to crush out the hopes which stimulate to labor and make life desirable. But we deny the charge as against the Western Union Company, although the processes through which it has been passing tend to convey the impression which is thus sweepingly conveyed."

In our former article we expressly and repeatedly disclaimed any desire for the destruction or "extermination" (if the latter word is more satisfactory), of the Western Union Company. We do not consider such a result as desirable, or as likely to occur. As we before stated, what we do desire, and what we believe the interests of the telegraphers and the public require is, that there should be fair and reasonable competition instead of a monopoly in the telegraph business of the country.

We fully concur in the denunciations of the *Journal* of the course which every person interested knows the Western Union has pursued towards its employés, and which it is now pursuing. The assertion of the *Journal* that the hardships inflicted upon the employés of that company are a necessity for its own preservation, we deny. The policy it is pursuing in this matter is no new one, but has notoriously characterized it for years, and is more "remorsefully" administered in its seasons of prosperity, such as it is now enjoying, than in its periods of adversity through which it has passed. According to a statement made in another article in the same number of the *Journal*, the company has been and is now, notwithstanding the partial competition which has sprung up since the consolidation, and which is sustained by the impatience of the public at anything like monopoly in the business, earning a large and remunerative income, and this of itself is a sufficient refutation of this assertion.

We challenge this advocate of a would-be monopoly to disprove any of the charges contained in our former article as to its treatment of its employés by this company. A simple denial of their truth will not answer, especially when coupled with the admission that "the processes through which it" (the Western Union) "has been passing, tend to convey the impression which is thus sweepingly conveyed." We challenge the writer or his masters to prove that in its treatment of the great body of its employés the Western Union Company has ever manifested any regard for their rights or feelings. It has established a most complete and thorough system of punishments for even the slightest dereliction or supposed dereliction of duty, but in what instance has it ever sought to adequately reward or encourage fidelity or zeal in its service, except in the cases of a few favored individuals whose intimate personal relations with its managers has made them exceptions.

It is notoriously the fact that to the extent of its power it has extorted from its employés the utmost possible service, and what has it given in return? Just what we have before stated—the lowest possible amount of compensation and a gradual but persistent withdrawal of all privileges beyond what could be legally enforced. The tendency of its whole policy has been and now is, to depreciate the standard of excellence and proficiency in the profession, and, save in necessarily exceptional cases, to fill its offices with the cheapest labor that could be employed, and force one after another of its employés who feel a pride in their profession, and an ambition to excel, to quit the telegraph business for some other in which their ability and faithful service might meet with that encouragement and reward which they deserve. It is true that it still has many good men in its employ, but these are compelled to remain by their necessities, and gladly resign whenever other opportunities are presented to them.

The *Journal* attempts to show that during the war and the active competition with the United States Telegraph Company, the salaries of operators were exorbitantly advanced. Was this the fact? Were the salaries of telegraph operators proportionately increased to a greater extent than that of employés in other lines of business requiring equal intelligence, skill, and fidelity? It is well known that such was not the case, and that taking into consideration the depreciation of the currency, the increased cost of living, the salaries paid telegraph employés at that time were neither exorbitant nor extravagant.

It is also equally well known that as soon as the Western Union had obtained a virtual monopoly of the business through consolidation with itself of the United States and American companies it instituted a system of reduction of compensation, not in a ratio with the changed circumstances of the times or from impecuniosity, but founded upon the fact that there was no other considerable employer of telegraphic skill, and that submission to its exactions or an abandonment of the business were the only alternatives of its employés. To such an extent has this been carried that the Company has alienated from itself the sympathies and good-will of a great portion of its employés.

The *five thousand stockholders*, to whose claims for protection our contemporary so feelingly alludes, certainly have our earnest sympathies, especially that portion of them who not having been in the *ring* that has made large fortunes from connection with the company, must take such profits as may come to them in the regular way. The fact, however, that even these unfortunates have been receiving at least twenty per cent dividends upon their actual investment, and that according to the showing of the *Journal* the company is still earning, at that rate for them, tends, in some degree, to mitigate our apprehension in their behalf. The *five thousand employés*, however, are far differently situated, and we think are much more in need of sympathy and protection.

We have never complained because the Western Union Company has not retained upon its salary list a larger number of persons than is required to transact its business. We do not expect that it or any other corporation shall become an eleemosynary institution for the benefit of needy hangers-on. It is not necessary for our contemporary to cite the action of General GRANT or the Secretary of the Treasury in justification of such a reduction of the working force as its business may necessitate. What we charge upon the company is that it avails itself of the lack of adequate competition to oppress its employés, and that in its relations with them it does not recognize the principles of justice and equity, and that it is needlessly harsh and tyrannical in its treatment of those who are dependent upon it for support.

We agree with our contemporary in his statement of the *legal* rights between employer and employed. What we desire is to witness such an alteration of existing circumstances as to afford the employé a choice of employers, and by increasing the demand for telegraphic skill through a system of competing lines, that while increasing and cheapening telegraphic facilities to the public, shall also enable telegraphers to have some voice in the arrangement of the terms upon which their services shall be rendered.







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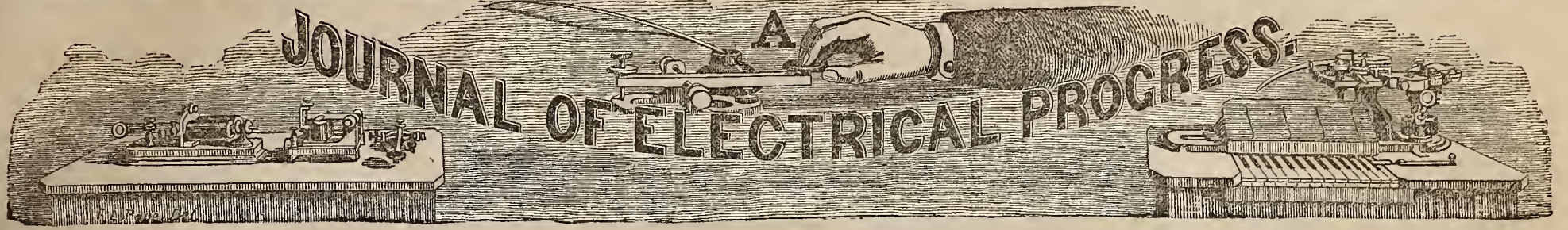
Small Box Relays.....	\$16 00
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Aside from the advantages apparent upon inspection of these magnets, their acknowledged merits consist in the construction of the helix, which was patented Aug. 15, 1865. This being of naked copper wire, so wound that the convolutions are separated from each other by a regular and uniform space of the 1-600th to the 1-800th of an inch, the layers separated by thin paper. In helices of silk insulated wire, the space occupied by the silk is the 1-150th to the 1-300th of an inch; therefore a spool made of a given length and size of naked wire will be smaller and will contain many more convolutions around the core than one of silk insulated wire, and will make a proportionably stronger magnet, while the resistance will be the same.



# THE TELEGRAPHER.



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## A Chapter in the Early History of the Telegraph.

On the 3d of March, 1843, Congress passed a bill appropriating thirty thousand dollars for the construction of Professor MORSE's experimental line between Baltimore and Washington in order to test the practicability of the invention. It was at first proposed to lay the wires under ground, inclosed in a leaden tube, and the contract for laying this tube was taken by Mr. F. O. J. SMITH, of Maine, who was at that time editor of the *Portland Farmer*, and who had previously been—as a member of Congress, and Chairman of the Committee on Commerce—largely instrumental in the passage of the appropriation. About this time Mr. EZRA CORNELL, who was on a visit to Maine on business, called upon Mr. SMITH, who, in speaking of the contract which he had taken for laying the wires and for which he was to receive one hundred dollars per mile, incidentally remarked that after a careful examination, he had found he would lose money by the job. Mr. SMITH at the same time showed Mr. CORNELL a piece of the pipe, and explained the manner of its construction, the depth to which it was to be laid, and the difficulties which he expected to encounter in carrying out the design. Mr. CORNELL at this same interview, after the brief explanation which Mr. SMITH had given, told him that in his opinion the pipe could be laid by machinery at a much less expense than one hundred dollars per mile, and it would be in the main a profitable operation. At the same time he sketched on paper the plan of a machine which he thought practicable. This led to the engagement of Mr. CORNELL by Mr. SMITH to make such a machine, and he immediately went to work and made patterns for its construction. While the machine was being made, Mr. CORNELL went to Augusta, Maine, and settled up his business, and then returned to Portland and completed the pipe machine. Professor MORSE was notified by SMITH in regard to the machine, and went to Portland to see it tried. The trial proved a success. Mr. CORNELL was employed to take charge of laying the pipe. Under his hands the work advanced rapidly, and he had laid ten miles or more of the pipe when Professor MORSE discovered that his insulation was so imperfect that the telegraph would not operate. He did not, however, stop the work until he had received orders; which order came in the following singular manner. When the evening train came out from Baltimore, Professor MORSE was observed to step from the car; he walked up to Mr. CORNELL and took him aside, and said: "Mr. CORNELL, cannot you contrive to stop the work for a few days without its being known that it is done on purpose? If it is known that I ordered its stoppage, the plaguy papers will find it out and have all kinds of stories about it." Mr. CORNELL saw the condition of affairs with his usual quickness of discernment, and told the Professor that he would make it all right. So he ordered the drivers to start the team of eight mules which set the machine in motion, and while driving along at a lively pace in order to reach the Relay House, a distance of about twenty rods before it was time to "turn out," managed to tilt the machine so as to catch it under the point of a projecting rock. This apparent accident so damaged the machine as to render it useless. The Professor retired in a state of perfect contentment, and the Baltimore papers on the following morning had an inter-

esting subject for a paragraph. The work thus being suspended of necessity, Professor MORSE convened a grand council at the Relay House, composed of himself, Professor GALE, Dr. FISHER, Mr. VAIL, and F. O. J. SMITH, the persons especially concerned in the undertaking. After discussing the matter, they determined upon further efforts for perfecting the insulation. These failed, and orders were given to remove everything to Washington. Up to this time Professor MORSE and his assistants had expended twenty-two thousand dollars, and all in vain. Measures were taken to reduce the expenses, and Mr. CORNELL was appointed assistant superintendent, and took entire charge of the undertaking. He now altered the design, substituting poles for the pipe. This may be regarded as the commencement of "air lines" of telegraph. He commenced the erection of the line between Baltimore and Washington on poles, and had it in successful operation in time to report the proceedings of the Conventions which nominated HENRY CLAY and JAMES K. POLK for the Presidency.

Although the practicability of the telegraph had been so thoroughly tested, it did not become at once popular. A short line was erected in New-York city in the spring of 1845, having its lower office at 112 Broadway and its upper office near Niblo's. The resources of the company had been entirely exhausted, so that they were unable to pay Mr. CORNELL for his services, and he was directed to charge visitors twenty-five cents for admission, so as to raise the funds requisite to defray expenses. Yet sufficient interest was not shown by the community even to support Mr. CORNELL and his assistant. Even the New-York press were opposed to the telegraphic project. The proprietor of the *New-York Herald*, when called upon by Mr. CORNELL and requested to say a good word in his favor, emphatically refused, stating distinctly that it would be greatly to his disadvantage should the telegraph succeed. Stranger still it is that many of these very men who would be expected to be entirely in favor of the undertaking, viz., men of scientific pursuits, stood aloof and declined to indorse it. In order to put up the line in the most economical manner, Mr. CORNELL desired to attach the wires to the city buildings which lined its course. Many house-owners objected, alleging that it would invalidate their insurance policies by increasing the risk of their buildings being struck by lightning. Mr. CORNELL cited the theory of the lightning-rod as demonstrated by FRANKLIN, and showed that the telegraphic wire would add safety to their buildings. Some persons still refused, but informed him that could he procure a certificate from Professor RENWICK, then connected with Columbia College, to the effect that the wires would not increase the risk of their buildings, they would allow him to attach his wires. Mr. CORNELL thought the obtaining of such a certificate a very easy matter, and certainly all scientific men were agreed upon the FRANKLIN theory. He therefore posted off to Columbia College, saw the distinguished savan, stated his errand, and requested the certificate, saying it would be doing Professor MORSE a great favor. To his utter consternation the learned professor replied: "No, I cannot do that," alleging that "the wires would increase the risk of the buildings being struck by lightning." Mr. CORNELL was obliged to go into an elaborate discussion of the Franklin theory of the lightning-rod, until the

Professor confessed himself in error, and prepared the desired certificate, for which opinion he charged him twenty-five dollars. This certificate enabled Mr. CORNELL to carry out his plans.

The apparatus used on the original line between Baltimore and Washington in 1844, would be something of a curiosity at the present time. The relay magnets weighed one hundred and eighty-five pounds, and it required two men to handle one of them if it became necessary to move it. The coils were about eighteen inches in diameter, and were composed of No. 16 copper wire insulated with cotton thread. It was supposed at that time to be indispensably necessary that the wire surrounding the magnets should be the same size as the wire of the line. Professor CHARLES G. PAGE, a short time afterwards, devised a magnet of considerably less size, which were used in the lines built during the years 1845 and 1846. Professor MORSE, while in France in the year 1845, obtained some electro-magnets of about the same size of those now in use, which he brought to this country and made use of in working the telegraph. The first small relay magnet made in this country was constructed, we believe, by CLARK, of Philadelphia, in 1845 or 1846, and in its general form was very similar to those now in use.

## Vacation Pencilings.

LEAVING Pittsburg before daylight one foggy, drizzling, dismal morning, we crossed the Alleghany river, and skirted the northern bank of the Ohio till we reached Wellsville. Along this route rather remarkable features in telegraphic construction attracted our attention, the two upper wires of the line running along the railway being placed upon wooden shield insulators, fastened to a cross-arm in a *horizontal* position. The effect of a driving rain upon the insulation of these wires must be pleasant for the operators! This arrangement, of course, affords every possible facility for the whole inner and outer surface of the insulator to become wet, in which case its effect upon the working of the line will be tolerably obvious without further explanation. It is certainly strange that in the construction of many lines the plainest teachings of common-sense—to say nothing of electrical science, which perhaps it would be too much to look for—should be so utterly ignored. Along the same route, upon a country road, the poles of one of the U. S. lines are still standing. The builder of this line must have had a genius for the collection of gnarled and twisted sticks for poles, which would have done infinite credit to a maker of rustic garden-houses. How he ever succeeded in making such marvellous crooked timber lie still after it was distributed and before it was set, is a mystery which the laws of equilibrium are totally inadequate to explain.

At the Wellsville office we were much interested in observing the operation of one of BRONSON's self-adjusting relays, of which a description was given in a recent number of THE TELEGRAPHER, and we were greatly surprised at the ease and certainty with which the instrument accommodated itself to the varying current and the large amount of escape upon the wire which, by the way, was the one "horizontally" insulated, as above stated. As it was a very rainy day we considered it a pretty fair test of the merits of the invention, and it is but simple justice to state that the instrument acquitted



itself admirably. A magnet of this kind would appear to be especially valuable in connection with a repeater, and we should be pleased to hear of further experiments being made with it.

Wellsville office contains another curiosity in the shape of a sonnd operator eight years of age (!) This precocious youngster was perched up on a stool, working away with the utmost composure. Although he is not as yet able to "sling ink" quite as readily as some of his brother "brass-pounders," he is perfectly *au fait* with the key and sonnder.

After a few days' sojourn in the interior of Ohio, we travelled eastward again, bringing up at length in the quaint old town of Northumberland, nestled down among the mountains at the forks of the Susquehanna. If any one had informed us that the edifice containing the telegraphic headquarters of this settlement was the oldest one in Pennsylvania, or in the United States, for that matter, its external appearance would have given no little reason to doubt the assertion. Little did its builders in the olden time dream of the uses that it would one day come to. Little did they think that it would be converted into what our aboriginal friends of the Northwest coast used to term a "tick-tick-house," and that feats of witchcraft would be performed therein which would put to shame the incantations of the old beldames of Salem, and that even the very horse-shoe, that in the good old colony times was considered an infallible protection against these unaccountable manifestations, should be wonnd with a coil of wire, and transformed into an agency for producing them! So the world moves forward.

"Men, my brothers, men the workers, ever reaping something new;  
That they have done but an earnest of the things that they shall do."

Passing up the north branch of the Susquehanna, through the valley of Wyoming, we reached Scranton, a city of forges and furnaces, railways, rolling-mills, and coal-mines, whose bustle and activity as well as its size seldom fails to astonish any one visiting it, as we did, for the first time. Alighting from the cars one is surprised to see the broad, well-paved and well-built streets, and to hear the familiar rumble and jingle of the horse-cars running in different directions, and can hardly realize that only a few years ago the site of the thriving city was but a wilderness. Scranton is the great railroad centre of northeastern Pennsylvania, and as a natural consequence it has become a telegraphic center of considerable importance also. There are quite a number of wires and some half-dozen different telegraph offices at the depots, hotels, and elsewhere. The telegraph office here is pleasantly situated and well arranged, and for the past year or two has been under the efficient management of Mr. HOMER CLUTE, who was formerly with the American Company in New-York.

This city presents a striking and beautiful appearance after dark; the hills and valleys being lighted on every side by the lurid glare of the furnace-fires and rolling-mills. We visited one of the latter at night during our stay here, and the impression made upon us was one not readily to be forgotten. We will not weary our readers with a description of the sights we saw there, but will simply advise them not to neglect a nocturnal visit to a rolling-mill if ever an opportunity offers, feeling assured they will be amply repaid for their trouble.

Leaving Scranton the next morning by the D. L. & W. R. R. for New-York, we were kindly permitted to take a seat with the engineer. Shortly after passing the Lehigh Summit we came out upon the brow of the Pocono mountain, from which point a magnificent view of the country to the eastward for nearly fifty miles unfolds itself to the eye, while directly opposite the Delaware Water Gap forms a striking feature in the landscape. At this point the steam was shut off, and the train rapidly descended the steep grade, which extends from the summit of the mountain nearly to the Delaware river, by the force of gravity alone. There is a wildness and beauty in the scenery along this route which we have seldom seen equalled elsewhere in this country, and it is somewhat strange that with the exception of the Water Gap, it seems to be little known or appreciated by the public generally. To the lover of the wild and picturesque we know of few places that would afford more en-

joyment than a trip to the northwestern portion of Pennsylvania.

#### Lecture by Professor Doremus.

ON Monday evening last a lecture was delivered by Prof. DOREMUS, at the College of the City of New-York, accompanied by numerous brilliant and interesting experiments in Electricity, Electro-Magnetism, etc.

The lecturer prefaced his experiments by a brief historical account of the science of electricity, and after explaining the principle and construction of the voltaic battery, proceeded to exhibit some of the effects produced by a battery of about 250 large cells of the carbon battery. Different metals, successively placed between the poles of this battery, were rapidly consumed, emitting a most brilliant light; that exhibited by the combustion of copper being especially beautiful. The light evolved by the passage of the electric current between two points of carbon was brilliant and beautiful beyond description, causing the flame of an ordinary gas-burner to cast a distinct and well-defined shadow upon the wall. The lecturer referred to the application of this light to useful purposes, such as light-houses and signals, stating that although no light could compare with it for penetration and power, yet it had been found to be impossible to induce the authorities having such matters in charge to adopt it. As another instance of the same kind the lecturer cited the case of the celebrated mine which was constructed by our army in front of Petersburg, which its projector proposed to explode by the agency of electricity. The Government military officials, however, insisted upon the use of the slow-match, which after repeated trials failed to produce the desired result. When at length the mine did explode the army was not in readiness to take advantage of the fact, and the result is a matter of history. It is strange that men will oppose the practical application of science in cases where its superiority has been a matter of repeated demonstration.

Prof. DOREMUS then exhibited the action of a voltaic current upon the magnetic needle, and also upon an immense electro-magnet suspended from the ceiling, whose armature was so heavy as to require two men to lift it, and which was capable of sustaining a weight of several thousand pounds. The principle of the operation of the Morse Telegraph was then explained and illustrated, and the recent application of electro-magnetism to the action of pianos and organs was referred to.

Prof. DOREMUS then illustrated the conversion of magnetism into heat by causing a disc of copper to revolve with considerable rapidity between the poles of an electro-magnet. The influence of the magnet caused a very perceptible resistance to the revolution of the copper disc which in a short time became greatly heated.

A model of HALL'S Railway Switch Alarm, which has been previously described in the columns of THE TELEGRAPHER, was then shown, and its action explained. By means of this valuable invention the displacement of a railway switch or draw-bridge instantly displays a danger signal at any required distance, and also rings a continuous alarm by means of a bell operated by the electric current, until the track is replaced in its proper position.

The lecturer then illustrated the influence of thermo-electricity upon the needle, and stated that a thermo-electric multiplier constructed on this principle constituted the most delicate thermometer known—so sensitive, in fact, that the heat of the hand will affect it at a distance of fifty feet, and the light of the moon concentrated upon it by means of a lens will indicate a perceptible degree of heat. The action of thermo-electricity on a large scale is shown by the currents of electricity produced in the earth by the action of the sun's rays successively upon different portions of its surface, causing the diurnal variation of the magnetic needle. Spots on the sun, therefore, have the effect of diminishing the earth's magnetism.

The lecturer was listened to with the greatest attention throughout, and the numerous experiments excited the greatest interest among the audience, among whom we noticed quite a number of prominent telegraph men.

TESTING IRON BY ELECTRICITY.—Experiments were carried out at Chatham dockyard, on Friday and the previous day, under the superintendence of Mr. S. M. SAXBY,

in the presence of the officials of the establishment, for the purpose of testing the qualities of the various description of armor-plating and angle and other sorts of iron sent into the establishment, by means of galvanism and magnetic currents, on the recommendation of Professor AIREY, the Astronomer Royal. The importance of obtaining more reliable and accurate tests for the various qualities of iron than those hitherto in use has long been felt by the officials employed in this particular duty. Hitherto therê has been no test for the condition of a forging beyond mere visual examination, and hence a mass of iron may contain damaging internal flaws which altogether escape detection. Mr. SAXBY, however, the inventor of the new principle for testing iron, professes to be able infallibly to discover the least flaw in any description of iron by electrical agency. The experiments have been made on some of the thickest and largest of the armor-plates at the dockyard, when, by means of the magnetic current, the exact quality of the iron was instantly ascertained. Experiments have also been made upon a bar of iron into which a plug of steel had been welded, when the results were considered perfectly satisfactory. A 40-pounder ARMSTRONG gun was also tested by Mr. SAXBY, who, in a few seconds, discovered a defect in the welding of the coil, although invisible to the eye, but afterwards proved to exist. Further trials have been made on large guns and rifle barrels with equally satisfactory results, and the experiments will be continued.—*Times*.

#### The Postal Telegraph.

WE shall now have an opportunity to see the practical workings of a postal telegraphic system. We believe it would be an excellent system for this country, but are very glad to have England try it first. The English proposition, now under consideration, for the Government to own and control the railroads of the country, has objections which do not belong to the Governmental control of the telegraph lines. There is little or no machinery connected with the electric telegraph; no large amount of property to be manipulated; few employés are necessary, and no great contracts, by which the Government can patronize its friends. One or two operators at each office would be a small addition to the postal office forces of our large cities. One corner of a room would be all that would be required for this little clicking novelty, except at great centers like New-York. At such places, the telegraphic department would be a very large and important one, but everything would be under easy control of a superintendent. There would be nothing to compare with the thousand and one ramifications of the ordinary post-office business—mail-bags, horses, porters, boxes, railroad-cars, money-safes, and agents.

We can see no objection whatever to the introduction of the new system into this country. The Government could afford to send dispatches at rates as much lower than those of private corporations, as the letter rates are lower than express charges. The Government could do this and make money by it. That the United States will adopt this system there is no possible doubt; the question is whether it will do it now or wait five years. In ten years from now we will be wondering that we could ever dispense with such a convenience, as we now wonder at the inconvenience which our fathers tolerated in the old postal system, with its high rates and uncertain movements.

England has the start of us in this improvement, as she has had in many other improvements, despite our Western enterprise. We trust we will not be far behind her, however. As long as the present companies can control the opinions of Congress on this matter, of course we shall depend on competition only, for tolerable accommodation and moderately exorbitant rates.—*N. Y. Evening Mail*.

A NEW TELEGRAPHIC THERMOMETER.—Prof. WHEATSTONE has devised a new thermometer which, by breaking and closing an electric current, will convey its record to distant places. The same principle is applicable to the whole class of meteorological instruments. The telegraphic thermometer consists essentially of two parts; the first is the magnetic-motor, constructed on a plan similar to that used by the inventor in his alphabet-



ical magnetic telegraph, and is so arranged that by turning a handle the lever at the other extremity of the line will describe, by regular steps, a complete circle. The second part consists of a metallic thermometer, in which the unequal expansion of two different metals is made to move a lever or pin around a graduated circle which marks the degrees of temperature. The two parts are in such proximity that the telegraphic lever in passing around the circle must, at some point, come in contact with the pin, which is moved by means of the expanding or contracting metals. This contact breaks one circuit and completes another, and thus transmits to the other extremity of the telegraphic line information of the particular degree of heat at that instant indicated by the thermometer. The uses to which this telegraphic thermometer may be applied are, among others, the following: The thermometer may be placed on a high mountain, and in a place not easily accessible; for instance, on the highest point of Mount Blanc; and in the Valley of Chamouni may be fixed the battery and terminal wires, at which point the interrogator may, from time to time, ascertain the temperature at the top of the mountain. In the same manner reports of temperature may be obtained from any point beneath the surface of the earth at which the thermometer is located. This thermometer is not self-recording, it responds only when questioned by the operator of the telegraph.

### Fogy—Science.

QUOTH old limping Fogy to Science one day,  
 "That you've beat me on land I've a notion;"  
 "And having," said Science, "a Field and fair play,  
 I've beat you besides on the ocean.

"I'll bet you," said Fogy, his eye full of scorn,  
 "Come, haul out the proof, if you're able;"  
 "Look you here," answered Science, "acknowledge the corn;  
 That, sir, is the submarine cable.

"All finished and laid out, as nice as a pin;  
 Alive, too, from border to border;  
 Just listen and hear how the messages spin—  
 The thing's in magnificent order.

"You're beat on the land and you're beat on the main,  
 Because you're old-fashioned and logy;  
 Who falls now to time with the Lightning Train  
 Finds "That's what's the matter," old Fogy."  
*Troy Herald.*

### 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 Back-Bone Question."

TO THE EDITOR OF THE TELEGRAPHER:

I NOTICE an article in THE TELEGRAPHER of Nov. 9th, under the head of "Back-Bone," wherein the writer invites criticism. I hardly feel able to criticise it, as he undoubtedly hits upon too many stubborn facts, but his assertions and facts will bear considerable explanation and consideration. I think he has allowed himself to fall into a fit of despondency without going back and reasoning from cause to effect. It must be admitted that our Union has, in some respects, failed to fulfil our expectations, but its warmest friends and supporters could not have reasonably anticipated a greater advancement than it has made within the short space of three years. In consideration of all the circumstances which I shall endeavor to point out, if any one did, they have, like my friend CENTRIPETAL, harbored too brilliant hopes, and have far overrated the workmen and material wherewith such a gigantic structure must be built. He admits himself that the material is composed of a variety of ingredients which are hard to unite into one grand, unbroken, and solid pillar of strength; but on the contrary, they have failed to unite for the simple reason that a proper realization of their duty towards each other was lacking. For this reason we have partially failed to accomplish our objects. But, will disparagement improve our condition? How are we to get this back-bone

inserted into the telegraphers of this country? We cannot do it by taking the back-bone from those that have it. If my friend CENTRIPETAL has one, I would advise him to hold on to it and not get discouraged, although I admit he has many causes for such a feeling. There are, however, many things to be considered. It will take some time to arrive at perfection. It is a large body, and moves slowly, and we must learn by experience, and remodel as we go along. We must use our utmost exertions. As fast as we catch at new ideas and plans for our good and benefit, let us put them into force. "Strike while the iron is hot." We must impress upon the minds of the telegraphic fraternity that we are *in earnest*, and striking in the right place and at the right time, and mean to accomplish all we started out to do. If there are any backsliders or black sheep among us, if they cannot be converted in a reasonable length of time, kick them out. We are better without them than with them; our organization is stronger with even a dozen good, faithful, and loyal members than it would be with a mixture of a hundred good and bad. A person is always judged by the society he is found in, and therefore the bad element will gradually be sifted out. When our organization is brought to that point; when it is known that none but good, sound, reliable men are connected with it, the half converted will soon be made to feel its influence and flock to our standard like Americans to the flag of liberty, and be glad to join us. Why should our Union fail to reach this point? Is not our cause good? Is it not in the right? Are we not, as CENTRIPETAL says, "possessed even of more than the average intelligence?" Wherein, then, should we lack influence? Cannot we find among all the telegraphers of this country a sufficient number of good, responsible, reliable, go-ahead men who have got the back-bone, and can place themselves in a position where they can wield the desired influence? We cannot certainly accomplish this as CENTRIPETAL says, "by allowing wrongs to be inflicted upon us without the least show of resentment; existing like the worm on the wayside, ready to be trodden under foot, or our very life ground out of us by inches, not even uttering a dying shriek to admonish the power that crushes us." We must resent all wrongs and insults, and show to the outsiders that we have some life in us.

AS CENTRIPETAL says, "I have been waiting long and patiently for that time to come when I could see a ray of sunshine or a single spark of independence," but, unlike him, I have not lost all hope. I anticipate that the time is not far off when we will see it, and I for one have not acknowledged my inferiority, nor never intend to as long as I am possessed of my present faculties of reason. I shall manage some way to make a living, and there are thousands of telegraphers who, if they could bring their minds down to a realization of this fact, would no more stand an insult or wrong from a moneyed monopoly or corporation, than they would permit their tongues to be cut out. But how is it? A majority of our telegraphers are young unmarried men and boys, never having been brought to a realization of the value of money and labor; having no one to think of but themselves, and being full of youth and vigor have never brought the question up in their minds as to whether they will always remain young and free from responsibilities. They glide along through the world smoothly; getting enough of money to supply all of their daily demands, that is as far as their minds run. As they grow older, marry, and settle down, one by one, they are brought to a realization of the fact that they must place some value upon money and upon their labor, and so fast as this progression is made so progresses our organization and gains strength.

Telegraphing in this country is in its youth, and the majority of our telegraphers learned the profession when quite boys, and consequently most of them have hardly arrived at the age of maturity; those that have are holding prominent positions, and are good, sound, loyal members of our Union, as a generality, and are foremost in our ranks. These comprise the material that we must depend upon to bring our Union to that footing which we desire, and accessions will gradually be made of more good material. We cannot depend upon boys, for the reason that they cannot realize the benefit of such a

thing, and as long as they have what spending-money they require that is all they care for.

Other influences have also worked against our Union. It was gotten up during one of the most prosperous times for the telegraphers. This was during the war, and the existence of flourishing opposition lines causing a great demand for operators all over the country, they felt no necessity of a union. They were as independent as a wood-sawyer. They could go from post to post, and get a situation at any time they would ask for it. No difference who he was or what he has, so he could read and write the Morse Alphabet; he might be a drunkard or a scoundrel, but his services were engaged upon application. Hence our Union progressed slowly up to the time the war closed, and the great whale swallowed Jonah (the U. S. Telegraph Co.) about twenty months ago. Since that time our Union has gained more in strength than during all the previous time; and that strength is good, solid, and substantial material, whilst before it was considerably of the milk-and-water quality. A majority of the members thought it was a useless expense, and they had no need for such an institution; *times were driving* with them, and they could get along without it. I helped organize one of our largest districts, worked during the first two years of our Union's existence in one of the largest offices in the West, and had a good chance of getting hold of the feelings of that class of operators termed "Commercial No. 1," or the *here-and-there* and no-where-in-particular class, at home wherever their hats and washing were, and frequently at home where their washing *was not*, but being a little in arrears put up with soiled linen until they could "raise a stake," and left their little Union dues unpaid, and continued to leave them unpaid until they became insurmountable giants, and they never had enough of the ready wherewith to liquidate them, and they concluded, in the language of a noted politician, "to let the Union slide." This is the kind of material we used to a great extent in the first two years of our Union, but that trouble is fast disappearing. This class have either been weeded out or have come to a sense of their duties by a pressing necessity, and concluded to become good members and help the working, solid portion of the fraternity to whom they are indebted for their past prosperity.

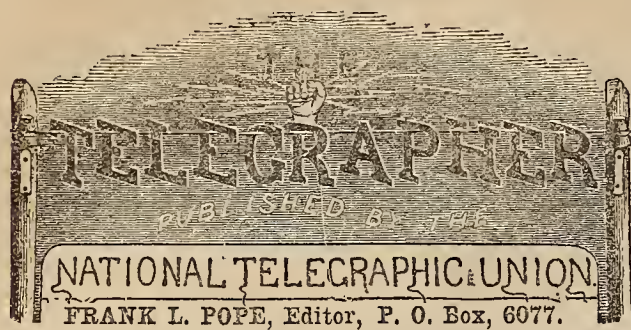
I could extend my causes and reasons for the partial failure of our Union to a much greater length, but I think I have set forth a few of the most prominent, and I believe we have almost surmounted the largest ones. One those under our control, the smaller ones will be easily managed, and therefore we should all feel that we are fast approaching that perfection which we intended to reach, and are progressing on a solid basis, which must take time. I cannot see the grounds for despondency that were apparent one year ago. All we want, as CENTRIPETAL says, is the back-bone, and to get that we must resolve each and all of us that we will succeed, and resent all wrongs practiced against us, and show outsiders and the public that we are *a living power*. That wrongs have been practiced upon members of our Union without a word or act of resentment by the Union must not be denied. And this is why good men look upon the Union and each other with distrust. We must show our colors. We have to-day a greater power to carry out right and justice than any other trades' union in the world if the back-bone will only hold together. Let us not despair, but shove ahead, then *we must succeed* in spite of all opposition, if we will unite and remain united, and let "energy and perseverance" be our motto.

*El Paso, Ill., Nov. 16, 1867.*

C.

TELEGRAPH LINES IN SWITZERLAND.—Col. J. W. ROBINSON, of Concord, N. H., has received from Major HITZ, the Swiss Consul to this country, who is now at home on a visit, a handsome chart of the telegraphic lines of Switzerland, which country is pretty thoroughly interlaced with telegraphic nerves. Government manages the lines in that country, and the rates of telegraphing are very much cheaper than they are in this country. The chart is accompanied with several reports upon the conducting properties of various metals, and improved instruments, by H. CAUDERAY, Inspector of Telegraphs in Western Switzerland.





SATURDAY, NOV. 23, 1867.

"NO MORE."

WITH mingled feelings of satisfaction and regret, we enter upon the painful duty of recording in our columns the early demise of our contemporary, *The Telegraphic Journal*. Its birth was heralded forth to the fraternity through the same journal which now proclaims its death, and although an avowed antagonist, and an open defamer of the organization under whose auspices *THE TELEGRAPHER* was established, and has continued to flourish, we firmly believe that our best friends are its most sincere mourners. Basing its prospects of success upon the supposed dissensions in the ranks of the Union, it early devoted its feeble efforts to the destruction of that institution, and even in its death-throes, disgraced its columns with slanderous attacks upon the members of our conventions. Its founders looked for its support to the enemies of the Union and of *THE TELEGRAPHER*. A careful study of the field of its labor would have exhibited what we know to be the fact, that our friends are determined that their organ shall live, and remain as it always has been, the independent and untrammelled mouth-piece of the telegraphic fraternity. Those who are against us require no exponent, neither have they interest enough in combating our cause, to warrant them in giving moral and financial aid to a journal engaged in so nefarious a mission. Failing to enlist material support from the non-paying, backsliding members of the Union, our contemporary readily sold or gave itself away to the interests of the would-be telegraphic monopoly of America. By its unscrupulous opposition to a just cause, it stimulated the exertions of our steadfast friends, who were determined that we should outlive the storm, and that the beacon-light of the Union should shed forth its rays undimmed by sympathy with those who would muzzle the voice of the fraternity. Thus have we been enabled to lay before our readers many matters of interest, which otherwise would have remained in obscurity. At present we stand before you as a "monopoly" of telegraphic journalism in the United States, but we believe that every reader owns an interest in our welfare, and it behooves every operator to espouse the cause of the Union and of *THE TELEGRAPHER* as his own, through the columns of which he is at liberty to vindicate his wrongs, and to which he should contribute all information of interest to his fellows. No telegrapher can afford to remain ignorant of the information given him through these columns, and none should hesitate to assist in its maintenance. Laboring in behalf of the operators of the country, dependent upon no telegraph company for our support; our sympathies and exertions shall be devoted to the advancement of the science of telegraphing, and with it the elevation of those whose lives are to be devoted to the profession.

Had our opponent lived and died in the same praiseworthy cause, its exit from the field of action would have elicited the sympathies of all. Reared with dishonorable intentions, it struggled through a life of shame, and even upon its death-bed stained its already defamed character with falsehoods which still remain to be retracted. Thus has it passed away—no word or act of repentance was displayed to soothe its dying moments; no foreboding was given to warn us of its early departure, but quietly, and we trust happily, it faded from our view, and with a tremulous hand and a sad heart we turn to our exchange-list and across that familiar title *The Telegraphic Journal* we draw the black pall, which shall ever remind us of its decease.

"The enemy has done its worst;  
It strove to do a cruel deed;  
Its plans have failed, its plots have burst  
For they rested on a broken Reid."

We learn that the Western Union Company, having taken possession of the effects of our deceased contemporary, will shortly commence the publication of an official organ under the editorial management of Mr. J. D. REID, late of the *Journal* staff.

TELEGRAPHIC RATES.

THE lack of system in the establishment of rates for the transmission of telegrams, has been a constant source of annoyance to the telegraph employes and the public from the time of the inauguration of the business until the present day. While the field was occupied by the lines of several distinct corporations, there may have been an excuse for such irregularity, but now, when nearly all points in our vast country are reached by the wires of a single company, we have a right to expect the compilation of a table of rates, based upon the actual cost of telegraphing, and arranged with a view of yielding a fair but not exorbitant profit. Years of experience have given the requisite statistics, and a competent committee could no doubt renovate this mongrel system which now prevails, and place it beyond the necessity of continual tampering. If the rates thus established are fair and reasonable, no diminution will be necessary in order to compete with opposition lines, for to curtail them would be death, as no line can enjoy a prolonged existence unless its actual working expenses are covered by its gross receipts.

In order to bring these rates to the lowest possible limit, means must be devised to distribute the business more equally throughout the day, as has already been partially effected by the Western Union Company, in permitting the transmission of a greater number of words in a "night message" for the same amount charged for ten words in an ordinary telegram. Possibly no other classification of business can be arranged, yet the matter is well worthy the attention of those in authority. A comprehensive tariff of the simplest form, commensurate with the peculiar features of the business, is really necessary if the present system of telegraphing is to be permanently maintained.

SIGNS OF THE TIMES.

WE rejoice in the renewed zeal which is being exhibited in the cause of the Union, especially in the North and West, and even from the sunny South there are indications of a sudden revival among the telegraphers. We hope that our Eastern friends will not await the coming of the pruning-knife before awakening to a realizing sense of their exposed situation.

We devote considerable space in this number to the "Back-bone question" as viewed by a Western correspondent. This subject is attracting no little attention from many of our ablest thinkers, and if thorough reasoning can accomplish any good, we have no forebodings as to the result. Backsliders may denounce the Union and its leaders, but those who look deep into the future, and are gifted with a good proportion of common sense, cannot fail to foresee that unless thoroughly united, we are liable to be forced into a still less exalted position than that which we now occupy. The discussion of the merits of different telegraph companies must hereafter be wholly ignored. It is entirely uncalled-for, and is already sowing seeds of dissension in the New-York District. We must encourage the aid and sympathy of those very men who do their duty to their employers, and who, while unwilling to see them censured, feel and believe that they are men. Such members comprise all the elements of honor and integrity. They will do all in their power to encourage and enlist the support of their brother operators, simply as telegraphers, without reference to the company by whom they may be employed. To draw within our lines the ablest and best men of the profession, is an object worthy of the exertion of every member. Every operator should convince himself that it is for his interest to join us, and if the Union is not what it should be, to use his influence in making it the powerful organization which its founders intended it to be—"Our glory and our shield."

PERSONAL.

B. H. BICKNELL, formerly of Crown Point, Ind., has accepted a position in the Chicago, Burlington, and Quincy R. R., at Earl, Ill.

R. A. SANFORD, for a long time connected with the Chicago office, has gone home to Kendallville, Ind., to recuperate his failing health.

E. W. H. COGLEY has accepted a position in the Western Union office at Pittsburg, Pa.

J. J. KINNAMAN, manager of the Des Moines, Iowa, office, has gone to Conneil Bluff, Iowa, on a visit.

W. B. HIBBARD, superintendent of the 11th District Central Division, extending from Omaha to Denver, Central City, Salt Lake and Helena, Montana, arrived in Chicago on the 13th.

M. A. MCCOY, formerly with the U. S. Company at Omaha, Neb., but recently at Titusville, Pa., has accepted a position in the Western Union office at Pittsburg, Pa.

O. H. BOOTH, superintendent of the P. Ft. W. and Chic. R. R. Telegraph, and WM. FLEMING, chief operator Pittsburg office, left for a grand hunt near Valpraiso, Ind., a few days since.

J. C. MCCUTCHEON has resigned his position in the Western Union office at Cincinnati, and gone into the office of the same company at Mobile, Ala.

J. C. VAN DUZER, formerly military superintendent of telegraph in the Southwest, is now residing in Chicago.

LUTE SHELDON has accepted a position in the Southern Co's office at Louisville, Ky.

WILLIAM ELLSWORTH, formerly superintendent of telegraph Union Pacific R. R., is engaged in the restaurant business at Sidney Station on that railroad.

PAT MULLARKEY, formerly at Salt Lake, is now in the Virginia City, Nev., office.

J. K. GOODWIN, formerly of Toledo, O., is manager of the Austin, Nev., office.

H. L. MARTIN has accepted a position in the Western Union office at Memphis, Tenn.

C. M. CATLIN, late of Earl, Ill., office, has been appointed manager of Ottawa, Ill., office.







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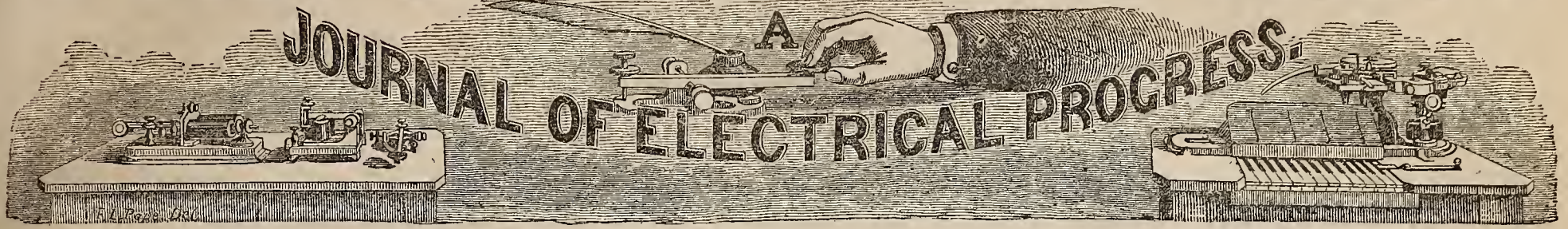
Small Box Relays.....	\$16 00
Same in Rosewood.....	17 00
Medium Box Relays.....	17 00
Same in Rosewood.....	18 00
Pocket Relays, with all the adjustments of the above and good Lever Keys.....	22 00
Excellent Registers.....	40 00
Pony Sounders.....	6 25
Keys with tumbler circuit-closer.....	5 50
Hill's Battery, per cup.....	1 45

All other appliances made to order. Extra spools for replacing such as may be spoiled by lightning, furnished at \$1 25 each. Old spools taken at the price of new wire by the pound. Goods sent to all parts of the continent, with bill C. O. D. Or, to save expense of returning funds by express, remittances may be made in advance by certified check payable in New-York, or by Post-office order, in which case I will make no charge for package.

Aside from the advantages apparent upon inspection of these magnets, their acknowledged merits consist in the construction of the helix, which was patented Aug. 15, 1865. This being of naked copper wire, so wound that the convolutions are separated from each other by a regular and uniform space of the 1-600th to the 1-800th of an inch, the layers separated by thin paper. In helices of silk insulated wire, the space occupied by the silk is the 1-150th to the 1-300th of an inch; therefore a spool made of a given length and size of naked wire will be smaller and will contain many more convolutions around the core than one of silk insulated wire, and will make a proportionably stronger magnet, while the resistance will be the same.



# THE TELEGRAPHER.



Vol. IV.—No. 14.

New-York, Saturday, November 30, 1867.

Whole No. 72.

## American Claim to the Induction Coil.

FROM the perusal of a work now nearly ready for the press containing a thorough history of induction and induction apparatus, the following resumé appears to be justified in every particular:

The so-called Ruhmkorff coil was commenced and perfected in the UNITED STATES. It was commenced and so far advanced by Prof. CHARLES G. PAGE as to develop its *electrostatic* properties, and was consummated in the development of those properties to an extent far exceeding anything known in Europe, by EDWARD S. RITCHIE, of Boston, Mass. The following claims also are fully and clearly proved:

*First:* In regard to the magneto electric current, its identification with static electricity was first established by Prof. PAGE. He also first indicated the way in which the magneto electric machine could be used to obtain the electric light. (*Silliman's Journal*, vol. 35, No. 2, page 252, Nov. 1838.)

*Second:* The first galvanic induction apparatus with an intensity secondary coil was made by Prof. CHARLES G. PAGE.

*Third:* The first induction apparatus by which shocks were obtained from a secondary circuit was made by Prof. PAGE. (*Silliman's Journal*, vol. 31, No. 1, p. 137, May 12th, 1836.)

*Fourth:* The first induction coil in which the battery current was caused to pass through only a portion of the circuit, while the shocks and other indications of intensity were taken from the whole circuit, was made by Prof. PAGE.

*Fifth:* The first induction apparatus in which shocks and other indications of electricity of high tension were obtained from a purely secondary circuit exterior to the primary circuit was made by Prof. PAGE.

*Sixth:* The first induction apparatus in which the secondary circuit exceeded the primary circuit in length, was made by Prof. PAGE. (Many times the length was used.)

*Seventh:* The first induction apparatus in which the secondary circuit was exterior to the primary circuit was made by Prof. PAGE.

*Eighth:* The first induction apparatus with a secondary circuit adapted to medical purposes was made by Prof. PAGE.

*Ninth:* The first application of a self-acting circuit breaker to an induction coil of any kind, with or without a secondary circuit, was made by Prof. PAGE.

*Tenth:* The first application of a mechanical circuit breaker to an induction coil consisting of a primary and secondary circuit, was made by Prof. PAGE.

*Eleventh:* The discovery of the electrostatic properties of the secondary current was first made by Prof. PAGE.

*Twelfth:* The valuable and interesting discovery that the intensity of the secondary current is greatly increased by breaking the primary circuit under a poor conducting liquid was first made by Prof. PAGE. This was re-discovered eighteen years afterwards in Europe by POGGENDORFF and FOUCAULT.

*Thirteenth:* The first organized apparatus for the exhibition of the electrostatic properties of the secondary circuit was made by Prof. PAGE.

If more has been claimed for Prof. PAGE than can be sustained, the analysis of his whole title into these thirteen distinct elements or specifications of claim, will

afford a better opportunity for criticism or contradiction than if they had been massed. The examination has been carefully made with an effort at impartiality and a desire to place every author in his true position in regard to the induction of currents and apparatus for their illustration.

## Back-Bone and How to Get It.

TO THE EDITOR OF THE TELEGRAPHER:

THE words of your El Paso correspondent, so expressive of hope and vigor, can but arouse a feeling of confidence in the eventual success of our cause, accompanied by the wish that there were a thousand more like him, staunch and true. His communication required no date to assure us of its Western origin, for the unyielding Occidental grit is apparent in every line. I awoke the wrong passenger, however, for I desired that the readers of THE TELEGRAPHER should hear from the disunion side. In this I have been vastly disappointed, for the late organ of that clique, instead of opposing my sentiments, seemed to coincide with them, and having elicited no opposition, we may safely affirm that our position is the true one. It is necessary, then, that the Union should be perpetuated. Your correspondent "C" has told us why it has partially failed, and his reasons are true in every particular. It was organized at the wrong time, and though its founders had learned wisdom from painful experience, and truly believed they were organizing what might prove a protection from future adversity, they were supported (?) by that numerous class which has swelled our list of expulsions, and now when its period of usefulness draws nigh, we find but a minority of the telegraphers upon the rolls of the Union.

I have not harbored too brilliant hopes, though I have waited long and patiently for a revival. My name was upon the first pledge which was circulated, and so long as I remain a telegrapher and possess a single dollar, it shall never be erased. Feelings of despondency, if any exist, are caused by hearing intelligent men asking for reasons when solicited to become members of the Union. The object of the Union is to unite the telegraphers of the country in one compact body, and every member should cling to it until this is accomplished, even though it require a dozen years of faithful service.

Grumblers ask us what we have done. What can we do until they are educated to the necessity of such an organization, and wheel into line, thus becoming missionaries for, rather than against it? In New-York city we have members so utterly ignorant of the benefits to be derived from the Union as to openly advise operators not to join it. One such man among us does more harm than could a hundred who have never held a membership. Our duty to the Union does not consist in the mere payment of quarterly dues. We must influence others to become members, and be prompt and regular in our attendance at District meetings. There is where we are to gain the "Back-bone" in which many of us are so sadly deficient. Those who possess it not will find it gradually infused into them, by association with others who have stood by the Union since its foundation. The exercises of a little individual effort will soon double our numbers. Indeed, it is difficult to find a telegrapher who will not say that he would join "if the Union was what it should be." Tell him that we are laboring

towards the accomplishment of that work, and it is with this object in view that we invoke his aid.

Your correspondent tells us that we cannot depend on boys. It is true that they cannot lead, but they can follow, and though we may not actually depend upon them, we must instil them with a knowledge of our organization, and allow them to gain a thorough comprehension of the benefits to be derived from it, so that they will look forward with bright anticipation to the time when they may join hands with us. But can we depend on married men for leadership? I feel now that I am treading on dangerous ground, for here arises the all-important bread-and-butter question, which neutralizes the independence of so many members of our profession. They care not for themselves alone, but with others dependent upon them for support, and feeling that membership in the Union stands in the way of their advancement, will they not "let the Union slide?" Among this class, however, we find many worthy and enthusiastic members, and if the truth was known, we would find them supported in their views by the Director of the domestic circle, who brings up no objection to the occasional absence of her liege lord, if he seeks no worse retreat than the monthly District meeting. Our best material, then, comprises married men with Union wives, and single men who can appreciate the object of the Union, and guide the footsteps of others to the same path of duty. We seek no enemy, but we do desire strength; not that we may exercise it unjustly, but to show that we are a power, and will maintain our position; that we have rights, and that those rights must be respected. If by the adoption of such principles we produce enemies, I for one shall be happy to have them come forward and show their colors, and convince us by sound argument that we are wrong.

Permit me to say a few words regarding District meetings. I fear that much interest is lost in many of our smaller districts by too strict a regard for formality. The regular routine of business is gone through with; a few remarks may perhaps be made by the Director or some member who has confidence in his ability to address the assembly, and immediately upon adjournment the members disperse. The result is that many tongue-tied individuals who have something to say, but are at a loss for words in the august presence of the chair, go home dissatisfied with the result of the meeting. These same persons will engage in an animated debate after the formal meeting has adjourned, and even at a late hour will often become suddenly interested in intelligent conversation, which is generally based upon the affairs of the Union. Certain formalities cannot be ignored, but early adjournments followed by a social discussion of an hour or two upon questions likely to come before the succeeding meeting, would in my opinion serve at least to engender a better feeling of fellowship among our members. A lengthy recess would perhaps be preferable, if members cannot be relied upon to remain after adjournment.

My desire for the thorough appreciation of the Union, by the telegraphers of the United States, has been the sole motive of these extended remarks. Could they but realize the change which would take place in their standing, resulting from the mere influence of its power, none would hesitate to present their names.

New-York, Nov. 26, 1867.

CENTRIPETAL.



## 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 Franco American Telegraph Cable.

TO THE EDITOR OF THE TELEGRAPHER:

As Americans, we cannot help feeling a deep interest in the success of the above enterprise, and in consideration of the fact that the cable is not yet made, it may be well to inquire what kind of cable will probably be used.

It has been variously stated by the press that the present cable gives from eight to twenty words per minute, and one journal even made it as high as one hundred words per minute.

Now, Mr. Editor, can you give us the correct average of the working of the cable? In your paper of March 1st, 1867, in an article on "Longitude by the Atlantic Cable," it is stated, "The time required for a signal to pass through the cable has been discovered with still greater precision to be thirty one hundredths of a second." Supposing this to be correct, and none will dispute it, we have thirty one hundredths of time used in making the first signal, and to neutralize the electricity, be it either positive or negative, requires from five to seven waves. Allowing it to be the smaller number, it will require four-fifths of thirty one hundredths of a second to neutralize the extreme fifth part of the cable, three-fifths for the next, two-fifths for the next, and one-fifth for the last, making in all ten-fifths of thirty one hundredths of a second to prepare it for a second signal. This is according to Sabine's published account of the present working of the cable. Hence, for each distinct signal ninety three hundredths of a second of time is consumed. In Morse's alphabet, each letter requires on an average three signals or breakings of the circuit, and there are five letters on an average to a word. This is fifteen signals or breakings of the circuit for each word. Now any child can calculate with this data how many words are likely to be transmitted per minute. Fifteen times ninety three hundredths of a second equals nearly fourteen seconds, or a little more than four words per minute. If this is the average capacity of the present cable, are we to rest content and not inquire if a better cannot be found? Is not this estimate correct? In the establishment of this new Franco-American Telegraph Company, what inducement can they offer to capitalists to take stock if the new cable is not to have any advantage over the old, and which is already paid for and in working order? Do you not think that there might be some improvement in the cable that the number of words transmitted might be greatly in excess of that now obtained? The line to be laid is to be longer by one-third, thus really diminishing the number of words one-third; if the same kind of cable is to be used.

Let us look well before we leap in this matter. We want the truth and facts in the case; no mere wordy promises or loose statements. We believe, Mr. Editor, you can give us the true light in the matter.

A. J. DE M.

[We are informed by parties who ought to know, that the present average rate of working through the Atlantic cable is about eleven words per minute. Perhaps Mr. C. F. VARLEY, or some of our subscribers at Heart's Content, can give our correspondent further particulars in regard to the matter.—ED. TELEGRAPHER.]

## The Fortress Monroe Cable.

OFFICE OF THE BISHOP GUTTA PERCHA CO.,  
113 LIBERTY STREET.  
NEW-YORK, Nov. 22, 1867.

TO THE EDITOR OF THE TELEGRAPHER:

DEAR SIR:—As there seems to be a want of knowledge of the facts concerning the celebrated Fortress Monroe Cable and its origin, permit me to enlighten your readers upon the subject.

The conductor was a part of the original Red Sea Cable; and a part of the purchase (of all the old stock of cables on hand at GLASS, ELLIOT & Co. works, London,

when they consolidated with the London Gutta Percha Co., under the name of the Construction and Maintenance Company of London), by HIRAM SIBLEY, Esq. This old Red Sea Cable (with others) was received by us at our works, East Twenty-fifth street, and subsequently twenty-three miles was bedded and armored by us over the old armor and bedding with heavy mailla yarn, and fifteen No. 4 galvanized iron wires laid laterly and bound with No. 9 iron wire. The whole weighed about ten tons per mile; the cable was loaded on board a barge at Twenty-fifth street wharf, as fast as made by us, and the whole was completed and the barge sailed early in December, 1864.

Respectfully yours,

SAMUEL C. BISHOP, General Agent.

## A Thrilling Incident.

TO THE EDITOR OF THE TELEGRAPHER:

In a Western city, a preacher in illustrating the power of *love and gratitude*, narrated the following thrilling incident. During the late war, in the Department of the Cumberland, a soldier had been condemned and sentenced to be shot. The executioner came and informed him that he had but half an hour to live. He begged his chaplain to send a letter to General Rosecrans. The telegraph operator refused to send it, owing to its length. The chaplain informed the man of the result. The executioner again made his appearance and informed the condemned man that he had but ten minutes to live. The prisoner besought his chaplain to send but a word to General Rosecrans, that his life might be spared. But five minutes now remained. "Wait but a moment longer," plead the chaplain, and while they were preparing to lead the doomed man forth a messenger was seen approaching in the distance; he brought a message from General Rosecrans to stay the execution. Then the soldier fell on his knees and said: "I owe my life to General Rosecrans. Let him send me into the thickest of the fight." While this incident served to illustrate the reverend speaker's idea, it also illustrates the wonderful usefulness of the telegraph.

J. L.

Chicago, Nov. 26, 1867.

## Telegraphic Repeaters.

TO THE EDITOR OF THE TELEGRAPHER:

SIR:—I notice in your issue No. 8, Vol. IV., a diagram and description of a repeater patented last July; by turning to Vol. I, No. 15, of THE TELEGRAPHER, you will find a description of Toye's Canadian Repeater, which is on exactly the same principle, *i. e.*, the back stroke of one sounder closing the local circuit of the other sounder through its own local circuit.

This form of repeater has been in use in Canada for about ten years, but has lately been superseded by Toye's new repeater, which is much less complicated.

The former repeater requires six cross wires between the instruments, the latter only two, being the least possible number.

Yours, etc.,

X.

## The Schoolmaster Abroad.

TO THE EDITOR OF THE TELEGRAPHER:

We have often endangered our "weskit buttons," when on receiving THE TELEGRAPHER, we have turned to the "Bull-y" column, and read of the errors which somehow will get in messages occasionally in spite of our model (?) alphabet and expert operators. But the poor alphabet and ditto operators are not the only causes of mistakes. Many of the important telegrams passing through our hands are so horribly written and spelled that the wonder is not that errors are made, but that so many of the dispatches get through straight.

In the London Post-Office, the clerks who are most skilful in deciphering blind writing, are in a special department, and to them are passed all letters, the addresses of which can be read by none, and guessed at by few. At times your subscribers are required to exercise as much skill as the special readers of the London Post-Office. Some of the copies which we are expected to transmit correctly would readily pass in a first-class museum as an original specimen of Greek, Choctaw, Lockjaw, or Chinese. Often are we obliged to strike dots, and

hold the key open, while we are trying to decipher ink scratches, which remind us of a boy's first writing-book rather than a business message from a business-man. It is evident that the schoolmaster went abroad just before some of our patrons were ready to attend school, and that he staid to attend the Paris Exposition.

We have noted a few of the consequences of his prolonged absence, and with your consent will mention them. We will divide the subject by chapters.

CHAP. 1. *Chirography*. (Please put in a dash as we can find no words worthy of the text.)

CHAP. 2. *Orthography*. First in the list come addresses, of which Commercial Wharf Boston is the favorite "Comerchel," "Comercial Warf," "Worf," "Warph," "Wrath," "Centrel Warfe," "Centrel Deapot," "Costum House," "Pepels Line," "Pepols Line." Next in order are the names of places. "Albanni," "Casilton," "Caneday," "Cinucinatta," "Ft. Plau," "Junktion," "Jursy City," "Nigra Falls," "Porkepsee," "Powkipisee," "Porkpsey," "Sarieuse," "Schechterdney," "Youtica," "Youtick." Our gallant sailors of the Erie and Champlain oceans evidently labored hard on some of the above.

Our market-men have kindly furnished us with the following appetizers: "Moris Weight Peches," "Pees," "Redash," "Turnups," "Cllamns," "Eells," "Ells," "Hadie," "Haddock," "Macril," "Blew Polick," "Hoges," "Lams." Some of our customers, who are so anxious to get an answer immediately, either neglected their spelling-book, or write too fast, giving us the following: "Anser," "Aneer," "Ansewer," "Awnscred," "Admedelle," "Amediately," "Amcaditley," "Ameadley," "Immeately," "Imcadutly," "Imegitlay."

We have a long list of single words, the orthography of which is amusing, though occasionally more in accord with common-sense than if spelled correctly. Coupled with bad writing, some of them required study. "Aulready," "Abselem," "Blu," "Busnes," "Bords," "Barle," "Brige," "Collery," "Cittifacat," "Committy," "Childron," "Carridge," "Charge," "Deapot," "Dcbot," "Dclade," "Dollerr," "Dolors," "Evrey," "Evrig," "Euuy," "Extrey," "Fruut," "Frate," "Fraight," "Garrentee," "Garranted," "Heigher up," "Higher You," "Halph," "Houghful," "Loer," "Mur-chaut," "Mony," "Okkashuu," "Outher," "Pararie," "Parients," "Possable," "Pituculars," "Rcons," "Rowede," "Speshall," "Spetial," "Seckéud," "Seand," "Swete," "Toue," "Tite," "Trane," "Thay," "Thousdund," "Two-day," "Twoknight," "Tomorrough," "Teusday," "Tusday," "Upp," "Varry," "Wrice," "Yoused."

The following show two or more errors from one message: "Hafto," "Halfto," "Halftwo," "Otto," for ought to, "Rite two-day," "John ded will bey berred," "Wen will barg be lloaded," "i will gow met me at depow," "Sent muny packige ce if eny on eather tran," "Yur husband leaves hir to-day for hams." One man notifies "Steaphen" at "Casilton" that he will "gow at eleven." An erudite Assemblyman says his "Comity is tring to do so." An operator wants some "vitrol, zinets," and "poreas" eups.

Fearing I may make the worst mistake if I lengthen the spell, I will close with the remark that those who in this advanced age, cannot spell more than one way, are not as smart as the patrons of

S. O. UNDER.

Albany, N. Y., Oct. 21st.

## A Matrimonial Telegraph.

"NEVER," said THEODORE HOOK, "let man and wife play together at whist. They are always telegraphing, and if they fancy their looks are watched, they can always communicate by words. I found out that I could never win of SMIGSMAG and his wife. I mentioned this one day, and was answered, "No, you can never win of them." "Why?" said I. "Because," said my friend, "they have established a code." "Dear me! signals by looks?" "No," said he, "signals by words." If MRS. SMIGSMAG is to lead, he says, "Dear, begin." "Dear" begins with d, so does diamonds, and out comes one from the lady. If he has to lead, she says S my love," she wants a spade, "HARRIET, my dear, how long you are sorting your cards?" MRS. SMIGSMAG stamps down a heart, and a gentle "Come, my love," on either side, produces a club



### Electrical Countries.

In a paper addressed to the Academy of Sciences, M. J. FOURNET treats of a new and curious subject, viz., the electric state of certain regions. From the report of this paper, in "Galignani," it appears that in the mountains of the basin of the Rhone and their offshoots, there are some spots distinguished for their evolution of electricity, which is sometimes very remarkable; while others, though apparently identical in surface, are in a state of absolute electrical neutrality. Some very striking instances of this are quoted by M. FOURNET. On the night of August 11, 1854, when Mr. BLACKWELL was on the Grands-Mulets, at an altitude of 3455 meters, the guide, F. COURTET, on leaving the hut, perceived the surrounding ridges apparently on fire. He immediately called to his companion to witness the scene, which was owing to a tempest. Their clothes were literally covered with electric sparks, and their fingers, when held up, were phosphorescent. At that very time Lyons was visited with a deluge of rain, and the whole day had been exceedingly stormy. In 1841, as the same guide was accompanying M. CHENAL up Mount Blanc, they were overtaken by a violent storm, and found themselves enveloped, as it were, in thunder and lightning. All the stones and rocks around them emitted electric flames, and yet the summit of Mont Blanc, and the sky around it, was perfectly clear. In 1867, SAUSSURE, JALABERT, and PICTET, were on the Breven at an altitude of 2520 meters. They soon experienced a strong pricking sensation at their fingers' ends on stretching them out. This sensation became stronger and stronger, and at length electric sparks could be drawn from JALABERT'S hat-band, which was of gold lace, and even from the knob of his cane. As the storm was raging above their heads, they had to descend some twenty-five or thirty meters, where the influence of this electricity was no longer felt. Another instance of this occurred on July 10, 1863, when Mr. WESTON and several other tourists ascended the Jungfrau, and there the snow itself, which fell during the storm which overtook them, proved to be electric.

### The Postal Telegraph System.

A MOVEMENT is being started in England to make the electric telegraph an adjunct to the postal system, by consolidating the various lines and putting them under the immediate control of the Government. By adopting this plan it is supposed the expense of telegraphing can be materially reduced, and the use of the telegraph, as a means of communication, be rendered more generally available.

This scheme may do very well for a country where nearly all the more important operations of society are regulated by governmental machinery, and but little is left to be undertaken by private enterprise. But in this land of freedom and business competition, we shall probably do better, and achieve greater progress, by keeping the field of useful undertakings open to all new comers, and confining the functions of Government rigidly within their narrowest possible limits. It is the curse of Europe that she is governed too much; and it is policy for us to keep on the safe side, and avoid those centralizing tendencies, which are continually cropping out in schemes for the Government to do something for the people, which they are abundantly able to do for themselves.

But this is no way to develop the utilitarian genius of any people, who are thus left without motive to action. Governments may be paternal and beneficent, without entering into all the details of business or social intercourse. Men will never try to improve upon old methods nor originate new ones, if placed under legal guardianship and all their wants provided for. They had better run the risk of being governed too little, and be thrown entirely upon their own resources for postal facilities, than to be relieved of the responsibility of thinking and acting for themselves.

Hence, we trust there will be no attempt here to imitate this English plan for undertaking the telegraph business of that country. If it is a legitimate business for the Government, it is equally legitimate for it to take charge of our railroads and run express, passenger and freight trains, to run factories and cotton plantations, or to build a mercantile marine and run steamship lines

across the ocean for the accommodation of foreign commerce.

The true province of Government is to encourage, but not to supersede, private enterprise, in any and all departments of the domain of material industry. We believe that the monopoly of postal facilities is rather a stretch of its prerogatives and anticipate the time when these, as they now exist, will be surrendered to the hands of private carriers on the score of economy.—*Boston Commercial Bulletin.*

### Reduction of Tolls on the Atlantic Cable.

THE following reduction in the tolls on messages between America and Europe goes into effect on and after Dec. 1, 1867:

1. Between New-York city and any point in Great Britain or Ireland, for a message of 10 words, not exceeding 50 letters, or an average of 5 letters per word, \$25 00 gold; each additional word, \$2 50 gold.

Five words, not exceeding the average just given, will be allowed for address, date and signature, without charge.

*Note.*—Facilities will be offered for the registration of approved *bona fide* names and addresses; the privilege subject to withdrawal if abused.

2. All extra charge for code messages is abolished, but the Company will not undertake to accept every form of code that may be presented, except at special rates.

3. Messages in cypher will be charged for the first 10 cyphers, \$25 00 gold; each additional cypher, \$2 50 gold.

*Note.*—By cypher, is meant the use of numerals or letters of the alphabet, not forming any known or dictionary words, nor names of places, ships, persons, etc.

When cypher is intermixed with plain words, the plain portion will be charged ordinary rates and the remainder as cypher.

4. Properly accredited agents of any newspaper or newspaper association will be allowed to transmit at half price political and general news, and in plain language only. No abatement will be made to newspapers on commercial or code messages.

Contracts may be entered into by which the Company will agree to adhere to the half-rate for one year to such newspapers as will pay to the Company at least \$3750 per month for political and general news. Newspaper agents must register a special address, which is not to be altered without the consent of the Company.

5. Three times the ordinary rate will be charged for "Packed" messages.

6. Any Government using a code shall pay for the number of words contained in the dispatch before its translation into code, provided that the code averages not more than four letters or four numerals to the word.

7. Messages may be repeated back from their point of destination to the point of origination by the payment of double rates.

8. Messages for points beyond Great Britain will be charged the local rates from London additional. Messages originating at other points than New-York city will require additional local rates, regulated greatly by the relative position of the station.

9. The above arrangement is made provisional, and may be changed in any of its clauses whenever the Company deem it advisable or necessary.

### Signaling Storms.

A PROPOSITION is to be presented to Congress for the use of storm signals, especially intended to benefit agriculture. Two cannons are to be stationed at each county-seat. When the telegraph brings the news of an approaching storm, the cannon will be fired at different intervals, which will indicate the direction whence the storm comes, and it is expected that the sound can be heard through most parts of the county. These signals are also to be used along the coast for the benefit of navigation.

THE PACIFIC TELEGRAPH.—Our Chicago correspondent writes that the Western Union Telegraph Company were to have their new line along the Union Pacific Railroad completed to Cheyenne City on the 23d inst. By the use of this new route the company will be able to

keep the lines working with much more certainty, and transact business to the better satisfaction of the public, as it avoids the most dangerous portion of the Indian country between Forts Kearney, and Sedgwick, and Denver. This line connects at Cheyenne with the new line which has just been completed between that point and La Porte, Colorado, connecting at the latter place with the No. 2 wire to Salt Lake. The line will be worked direct from Chicago to Salt Lake, with repeaters at Omaha and Cheyenne. The total distance is nearly seventeen hundred miles.

PERSONAL.—Mr. J. W. STANCLIFFE, for many years the efficient and accommodating Superintendent of the Western Union Telegraph Company's line in this vicinity, has resigned that position, and Mr. GERSHOM B. HUBBELL has been appointed in his place. The many friends of Mr. STANCLIFFE will hope that the change will not take him away from the city. His successor has been long attached to the office as a leading operator, is thoroughly conversant with the business, and well deserves the appointment to the position made vacant by Mr. STANCLIFFE'S resignation.

Mr. STANCLIFFE sent in his resignation of the position a year ago, but has been prevailed upon by the company to retain it until now. He has finally insisted upon being relieved from the duties. He has been a faithful agent of the company for fifteen years, and retires with the universal good will and esteem of all whose business has made them acquainted with him.—*Hartford Evening Press.*

FIRE IN THE CHICAGO OFFICE—ALSO AN EXPLOSION.—A few days ago a wooden partition in the Western Union Office, at Chicago, caught fire from a gas-burner, which was too near the woodwork, and the flames quickly rolled up through the first two stories in a lively manner. The engines were called out, but the fire was soon extinguished without their aid. The damage to the building was slight. On another occasion, not long since, the operators in this office were startled by a tremendous explosion. Subsequent investigation disclosed the fact that the "wind-box" of CHARLES NOYES' printing instrument had "busted." We are gratified to learn from our lively special correspondent, who was promptly on the spot, that nobody was killed or permanently disabled.

FORGOT THE GROUND WIRE.—A friend in Chicago sends us the following good one: "One of the most ridiculous scenes in connection with telegraphy, which has come under our observation in an experience of over fifteen years, occurred in a small city in the "far West," not a thousand miles from the Rocky Mountains. The telegraph office had been moved. He that is "gifted," had got his HICKS' repeater set up, and also his Button repeater. He had also put in a lightning arrester, and when all was completed, DOUGHERTY, FRENCH and the *other man*, were called up to look at his "Patent Lightning Arrester." One of the party directed the poet's attention to the fact that he had left out the *ground wire*, and while he was speaking the "Atmospheric" came in and burnt every relay then in connection. We shall never forget the expression that passed over the face of our friend WOODWARD, as he viewed the disastrous effects of his Patent Lightning Arrester.

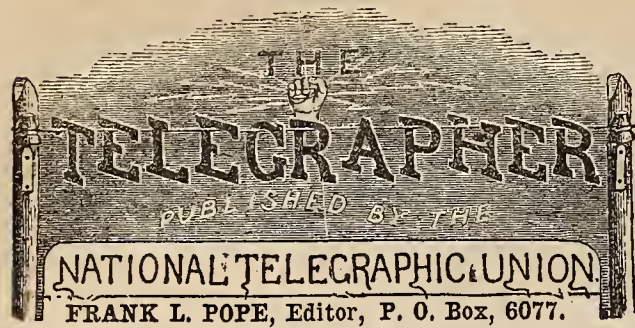
### DISTRICT PROCEEDINGS.

MAINE DISTRICT.—At a meeting of the members of the Maine District, held August 29, 1867, C. J. COLLAMORE, of Bangor, was elected District Director, W. P. MERRILL, of Portland, Secretary and Treasurer, and W. P. MERRILL, delegate to the National Convention at St. Louis.

On Oct 20th, Mr. COLLAMORE resigned the office of District Director, and a meeting held on Nov. 15th inst., W. P. MERRILL was elected District Director for the ensuing year. Also, at the same meeting, the District adopted the proposed amendment to the Constitution, making the Union a secret organization, by a vote of 11 yeas to 2 nays.

The Director appointed as his council Messrs. LIVERMORE and AUSTIN.





SATURDAY, NOV. 30, 1867.

### COMPETITION ON A CHEAP BASIS.

WHATEVER may be lacking in the present system of telegraphing in this country, every person conversant with the business as it existed six years ago, must admit that marked improvements have been made, not only in the construction of lines, but in the various minor details which are so essential to its utility as the means of rapid communication. We have constantly maintained that the advent of vigorous competition instituted this great reform, which redounded to the benefit of the companies and their employes as well as the public. We do not, however, wish to be understood as upholding the policy of all opposition lines simply because they are such. To be of any real practical aid to telegraphic progression, such lines should seek to advance the present status of affairs, rather than adopt the exploded theory of cheap lines, cheap men, and cheap rates. There is a vast difference between a fair profit and extortion, and there should be no reason why the telegraph business should not be entitled to the former without being condemned for the latter.

Possibly telegraphing might be done at much lower prices than have heretofore prevailed, yet there are many peculiarities which enhance the cost, that are not sufficiently considered by those who clamor for a reduction. These were thoroughly depicted in Mr. G. B. PRESCOTT'S letter to the Postmaster-General, relating to the expediency of establishing a postal telegraph system.

There can be no excuse for voluntarily reducing rates to such an extent that the credit of the business shall suffer, or that employes shall be deprived of such remuneration and privileges as they have heretofore enjoyed. The public does not demand any such sacrifice on the part of telegraphers.

The use of the telegraph is indispensable in connection with commercial traffic, but the mass of the people use it only in cases of emergency, which seldom arise among the classes who really require cheaper rates. To be sure, they share alike the intelligence distributed through the agency of newspapers, but the cost is in this manner so thoroughly diffused that the tax is not felt by the individual.

Those who pay for nine-tenths of the business transmitted by the telegraph, are vastly better able to do so, than the operator is to sacrifice a portion of his salary in order to reduce the tolls.

Is it, then, just for a company to solicit public patronage by reducing the prevailing tariff, when in order to afford such a reduction it requires extra duty from its operators, and at the same time places their salaries below the ruling standard? Such a policy produces dissatisfaction, and is really prejudicial to the interests of a company which really requires the zealous cooperation of its employes, especially when endeavoring to gain a place in the public

confidence. A weak corporation thus places itself at the mercy of its stronger opponents, which could easily close it up at any time, by securing the services of its best men, most of whom stand by it from necessity rather than principle, and would readily desert its colors at the prospect of better treatment.

If the field is narrowed to this extremity, the standing of telegraphers is thereby degraded rather than elevated.

THE NEW-YORK CITY TELEGRAPH COMPANY.—This company, who have been engaged during the past summer in constructing their lines throughout the city, opened them for business on the 25th of November. They have two wires, which are run on poles, covering almost every part of this city. The lines appear to be very well built throughout. The main office is with the Franklin Company, at 11 Broad street. City offices have already been opened at the following places: Courtland and West streets, Corn Exchange, 93 Wall street, Fulton Market, 40 Park Row, Grand street, between Norfolk and Suffolk, Avenue C and Sixth street, Broadway and Spring street, Grand and Mercer, Jefferson Market, Bible House, Spingler House; Third avenue and Twenty-fourth street, Eighth avenue and Twenty-ninth street, Sixth avenue and Thirty-fourth street, Broadway and Forty-first street. Several other offices will be opened in a short time.

The officers of the company are as follows: WM. H. MAILLER, President; W. T. COFFEE, Secretary; M. V. B. FINCK, General Superintendent, and F. G. BEACH, Superintendent. M. B. LILLIS has charge of the main office. The instruments used are main line sounders and registers, manufactured by S. F. DAY & Co., of Ballston Spa, N. Y., and are of excellent workmanship. The tariff on city messages is twenty cents. The line also takes business for all points on the Franklin, Atlantic and Pacific, and other opposition lines.

### PERSONAL.

W. O. CARPENTER has resigned the managership of the Atlantic & Pacific Company's Troy office, and JOHN WINNE, of Albany, takes temporary charge of the same.

H. A. BOGARDUS, who has been temporarily in charge of the same company's Rochester office, has left, and B. F. BLACKALL, of the Western Union Rochester office, has taken charge.

E. H. THRESHER, of Syracuse, has been transferred to Rochester, to fill the position vacated by Mr. BLACKALL.

L. S. WILD, formerly of St. Joseph, Mo., has accepted a position in the Salt Lake City office.

BILL KELSEY, formerly of Chicago, but more recently of Russian American lines, takes charge Virginia City, Montana office, vice BARNEY HUGHES, who goes into the Western Union office at Macon, Ga.

H. W. NICHOLS, of Superintendent's office, U. P. R., Omaha, Neb., goes to North Platte, Neb.

MR. FORD, of Council Bluffs, Iowa, takes NICHOLS former position.

MR. BROWN, of Council Bluffs depot office, takes the Council Bluffs City office.

Z. G. SIMMONS, President of the Northwestern Telegraph Co., left Chicago on the 23d for New-York.

O. S. WOOD, Superintendent of the Northwestern Telegraph Co., was in Chicago on the 18th.

E. A. FRANKLIN, formerly of Lyons, Iowa, has accepted a position in the Western Union office at Cincinnati, O.

E. A. STREET, formerly of Council Bluffs, Iowa, has taken a position at the Union Stock Yards, Chicago.

MR. AYER, formerly of Dayton, Ohio, has accepted a position in the Western Union office, at Omaha, Neb.

B. F. COGGER has vacated his position in the Omaha office.

TOM RADFORD, of Louisville office, has gone to Henderson, Ky., and opened a new office on the Ohio River line.

TAYLOR UNDERWOOD has taken his place as operator in the Louisville office.

GEORGE EVERETT, of Macon, Ga., is on a visit to Ohio.

HON. JOHN W. STEWART, who was the first telegraph operator in Middlebury, Vt., is now Speaker of the House of Representatives of that State.

C. CURTISS, an operator who has been working in Danville, Ky., has gone home to Ohio sick.

GEORGE D. SHELDON has been appointed night manager of the Franklin Telegraph Company's office in this city.

E. SHOLES, lately operator at Peosta, Iowa, has gone to New-Jefferson, Iowa.

THE original and only "Topy" Craig, recently in the St. Louis office, has accepted a position in the Cairo, Illinois, office.

B. AYERS, formerly of Dayton, Ohio, has accepted a position in the Western Union office, Omaha, Nebraska, vice COGGER.

JAMES CLUTE has resigned his position at Detroit Junction, and accepted a place at Earl, Illinois.

MR. S. A. BATTISON, formerly of Boston, has taken charge of the Western Union and P. and R. R. Telegraph office in Portland, Maine.

DAN. FERRIS, formerly of the Syracuse Office, but who has been out of the service for several months, has returned.

GEO. H. REED, of West Troy, has been compelled to leave his office temporarily on account of ill health. His place is being filled by RICHARD GAY.

BOB MARTIN is at present employed as shipping clerk in the hardware house of J. M. WARREN & Co., Troy.

### MISCELLANEA.

TO CORRESPONDENTS.—O. P. R. JAMES G. SMITH is Superintendent of the Franklin Telegraph. His address is 11 Broad street, New-York city.

THE LATE LAMENTED.—We are promised some rather rich developments in relation to the history and management of the *Telegraphic Journal*, and the connection therewith of a certain corporation, the name of which it is unnecessary to mention.

THE SOUTHERN TELEGRAPH COMPANY.—This company has reached the Tennessee State line on their route to Nashville. It is reported that eight thousand dollars in stock will have to be taken before the line can be completed to Nashville.

COMPLETION OF THE NEW LINE TO ST. PAUL.—The Northwestern Telegraph Company have completed their new line to St. Paul via Prairie du Chien, McGregor, and Owatonna, and it is now working splendidly. The following new offices have been opened upon it: Austin, Minn.; Leroy, Minn.; Lime Springs, Iowa; Lansing, Minn.; Blooming Prairie, Minn. The line was completed Oct. 15, but the tariffs have not yet been made out.

BACK NUMBERS OF THE TELEGRAPHER.—We have a number of orders on file for back numbers of the first three volumes of THE TELEGRAPHER, and we are obliged to ask the forbearance of our friends for a short time longer before we can attend to them. Owing to lack of office room, a difficulty which will shortly be remedied, our back numbers are stored in a somewhat inaccessible locality. We make this statement in answer to a number of inquiries.

MORE PRINTING INSTRUMENTS.—We learn that the Western Union Company will shortly put on printing instruments between Chicago and St. Louis.

CESSATION OF HOSTILITIES.—A compromise has been effected between the Independent and Western Union Telegraph Companies, who have recently been carrying on a fierce competition between Chicago and Milwaukee, and the tariffs between the two cities has been raised to forty cents. It is reported that the Western Union Company made the first advances towards an increase.







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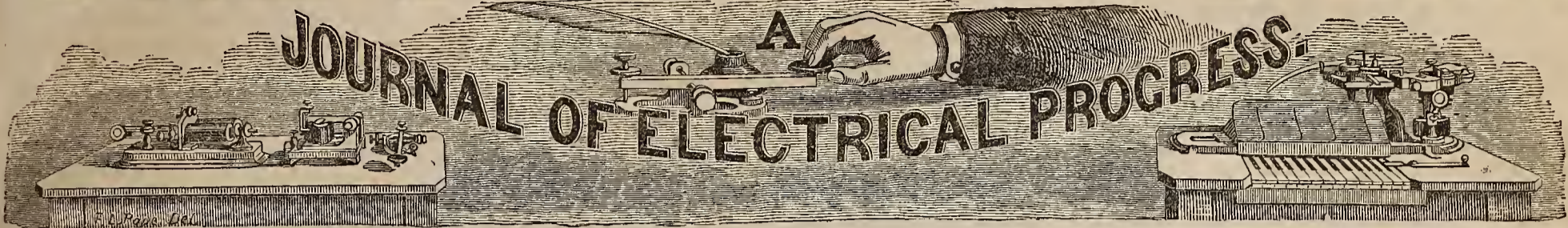
Small Box Relays.....	\$16 00
Same in Rosewood.....	17 00
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Same in Rosewood.....	18 00
Pocket Relays, with all the adjustments of the above and good Lever Keys.....	22 00
Excellent Registers.....	40 00
Pony Sounders.....	6 25
Keys with tumbler circuit-closer.....	5 50
Hill's Battery, per cup.....	1 45

All other appliances made to order. Extra spools for replacing such as may be spoiled by lightning, furnished at \$1 25 each. Old spools taken at the price of new wire by the pound. Goods sent to all parts of the continent, with bill C. O. D. Or, to save expense of returning funds by express, remittances may be made in advance by certified check payable in New-York, or by Post-office order, in which case I will make no charge for package.

Aside from the advantages apparent upon inspection of these magnets, their acknowledged merits consist in the construction of the helix, which was patented Aug. 15, 1865. This being of naked copper wire, so wound that the convolutions are separated from each other by a regular and uniform space of the 1-600th to the 1-800th of an inch, the layers separated by thin paper. In helices of silk insulated wire, the space occupied by the silk is the 1-150th to the 1-300th of an inch; therefore a spool made of a given length and size of naked wire will be smaller and will contain many more convolutions around the core than one of silk insulated wire, and will make a proportionably stronger magnet, while the resistance will be the same.



# THE TELEGRAPHER.



Vol. IV.—No. 15.

New-York, Saturday, December 7, 1867.

Whole No. 73.

FOR THE TELEGRAPHER.

## The International Morse Telegraph Alphabet.

It is not generally known in this country that one and the same telegraphic alphabet is used in Great Britain, France, Belgium, Holland, the German States, Italy, Spain, Portugal, Malta, Switzerland, Denmark, Norway, Sweden, Russia, Persia, Greece, Turkey, Africa and India, also for the Mediterranean, Persian Gulf and the Atlantic Cables.

The alphabet was originated by the Germans, who have studied the subject with care and so calculated their alphabet that those letters which recur most frequently in their language have the shortest signals and the figures—the accuracy of whose transmission is of the utmost consequence—are so formed that the first half of the figure acts as a check upon the correctness of the other half and *vice versa*.

There are but two elements in the alphabet, the dot (·) and the dash (—).

There are no "space" letters nor dashes of varying length.

There are thirty-two letters in the alphabet, thirty of which are composed of not more than four elements, the remaining two of five.

The figures contain each five elements systematically arranged, the first half checking the second, and so rendering them as free from ambiguity as they are easy of recollection by the mind.

In Europe the English and other operators have frequently to transmit messages in the German, Dutch, (Holland), French, Danish, Italian, Spanish, Portuguese, Russian, Greek and Hungarian tongues, besides the English. As a rule they are unacquainted with these languages, yet they transmit the messages with, comparatively speaking, very few inaccuracies. This is mainly due to the simplicity and clearness of the international system.

When in 1854 and 1855 England was connected by cable with Holland, Germany, etc., the "break" of alphabet was a serious inconvenience.

We found the German system of characters far superior to ours—it was already in general use on the continent of Europe, and we adopted it.

The change was not attended with any serious difficulty.

Every operator was supplied with an explanatory copy of the alphabet and signals—two months were allowed for its study and a day named for the change. The two months passed away, the day arrived, but many were not ready for the change.

Another month was granted with a similar result. In fact there was on the part of many a decided opposition to the "foreign alphabet."

Gentle pressure was applied to the pocket in the form of a promised reduction of the salaries of those who at the expiration of the third named period should be found unable to make the change, and when the day arrived every one was found prepared. The new alphabet came into operation simultaneously all over our system without any inconvenience.

The system has been brought by cable across the Atlantic ocean to North America (Newfoundland). It will ere long reach the United States *via* Behring Straits, for beyond all manner of doubt Russia will sooner or later be joined to America by that route, and then the break of the alphabet will be a serious inconvenience.

In this country [America] it is an almost universal practice to send figures twice over to avoid error, first in cypher and then spelled out in full.

This is not done in Europe. At one time all figures not spelled in full were repeated back ("collated") to the original station. This has been discontinued for several years as unnecessary because the figures contain their own check.

When preparing the alphabet for the Atlantic cables, I arranged it so that a motion of the reflected image to the left should correspond to the dot, the motion to the right to the dash. In every other respect it is the International alphabet.

The dash has the same length as two dots separated by a space as in the letters I and T.

I, · ·  
T, —

The space between the elements of a letter have each the length of a dot, thus:

V, · · · ·

The space between each letter of a word is equal to a dash.

C R U S H  
· · · · ·

The space between the words in a message equals two dashes, viz.

A t r u t h l e s s  
· · · · ·  
n a t i o n c a n  
· · · · ·  
n o t e n d u r e  
· · · · ·  
l o n g  
· · · · ·

### I. ALPHABET.

A	· · · ·	N	· · · ·
B	· · · · ·	O	· · · · ·
C	· · · · ·	P	· · · · ·
D	· · · ·	Q	· · · · ·
E	·	R	· · · ·
F	· · · ·	S	· · · ·
G	· · · ·	T	—
H	· · · ·	U	· · · ·
I	· ·	V	· · · ·
J	· · · · ·	W	· · · · ·
K	· · · ·	X	· · · · ·
L	· · · ·	Y	· · · · ·
M	· · ·	Z	· · · ·
Ch	· · · · ·	Ü	· · · · ·
Ä	· · · · ·	L'	· · · · ·
Ö	· · · · ·	Ñ	· · · · ·

### II. NUMERALS.

1	· · · · ·	6	· · · · ·
2	· · · · ·	7	· · · · ·
3	· · · · ·	8	· · · · ·
4	· · · · ·	9	· · · · ·
5	· · · · ·	0	· · · · ·

### III. PUNCTUATION, ETC.

Period	(.)	· · · · ·
Comma	(,)	· · · · ·
Interrogation	(?)	· · · · ·
Exclamation	(!)	· · · · ·
Apostrophe	(')	· · · · ·
Hyphen	(-)	· · · · ·
Fresh paragraph		· · · · ·
* Inverted commas		· · · · ·
* Parenthesis		· · · · ·
Understood		· · · · ·
Wait		· · · · ·
Erase		· · · · ·

\* To be placed before and after the words to which they refer.

Call signal	· · · · ·
End of message	· · · · ·
Cleared out	· · · · ·
All right	· · · · ·
I don't understand	· · · · ·

There are two unauthorized, or operator's signals, much used to replace the words "telegraph" and "wire reply" ("draht-antwort") in German messages.

Telegraph	· · · · ·
Wire reply	· · · · ·

The only use I have ever seen made of the ! is to enable operators to abuse each other by wire *within the law*—half a dozen !!!!! being equivalent to ironical admiration of the operator's stupidity.

I have omitted the colon and semicolon, as they are never used on the telegraph, or anywhere else by rational people.

The comma signal is always translated into a dash thus :

Buy fifty midlands \ sell Erie at sixty \ wire reply—The \ being equivalent to the , and clearer if less slightly.

The ä, ö, ü, are important in the German language. The accented é is important in French, to distinguish between the past participle and the present tense. The apostrophe is equally necessary in French. Thus: C'est l'intention de l'Empereur. The Spanish ñ I have never seen used.

The period (.) is generally written in three pairs, the mind counting three more easily than six—thus · · · ·

The crasure is frequently divided into three threes and for the same reason thus: · · · · · It is used as follows: suppose the operator to have misspelled a word, he gives the nine dots (the crasure signals) goes back to the word before the error, repeats it, and continues.

CROMWELL FLEETWOOD VARLEY.

Fifth Avenue Hotel, New-York, Nov. 11, 1867.

[WRITTEN FOR THE TELEGRAPHER.]

## The Porosity of Bodies.

If a wooden cask is filled with liquid and sealed, the quantity within gradually grows less; by a casual observer it is said to "vanish." The fluid is absorbed into the pores of the wood, and through the wood to the outer surface, where it is evaporated without showing signs of moisture on the outer surface. If the cask is filled with oil the outside is soon covered, as oil does not evaporate, or to the extent of water or other liquids. If you put into a cast-iron vessel one of the hydro-carbon oils the outside surface is soon covered with this substance, which passes through the pores of the iron. Seal a piece of baked wood into a cast-iron vessel, and immerse this vessel in water, the wood will soon gather moisture through the pores of the iron, enough to show conduction of the electric current which before was sufficiently dry to be a non-conductor. If we take a piece of cast-iron and heat it on a stove, moisture will be expelled in the shape of steam or vapor. Cast-iron used for water-pipes upon which there is much pressure has the outer surface continually wet from the water forced through the pores of cast-iron. Cast-iron will answer as a shed to protect other bodies from rain, but will not keep any substance dry, or perfectly free from moisture, and moisture is absorbed into many bodies that are porous, while their bodies are in a room protected from



the weather, and in proportion as these bodies have an affinity for moisture. If they absorb moisture they are said to be wetted. CLAIRAUT's formula is this: "If the attractions of the particles of a solid for those of a fluid are more than half the attraction for these last for each other, the solid will be wetted, but if it be less than half the solid will not be wetted." This law seems to determine the dividing line, but the divergence upon either side is almost in indefinite degree. Plaster of paris is a conductor from its affinity for moisture, or moisture contained in the body, but if this substance is exposed to a dry heat of say two hundred Fahrenheit, the moisture is expelled, and it ceases to conduct until placed in ordinary atmosphere when moisture is absorbed and it again conducts. Wood, sulphur, porcelain, and some other bodies are non-conductors when free from moisture, but conductors in proportion to the moisture contained, and the moisture is gathered from the air in which these bodies are placed. All wood, "seasoned wood," conducts, for it is impossible to dry wood sufficient to expel all moisture, except by artificial means. When this is done, and wood heated sufficient to expel all moisture, then it ceases to conduct. The same can be said of porcelain, earthen-ware, sulphur, and many other substances.

On the other hand such porous bodies as beeswax, spermaceti, and paraffine are not wetted, and do not conduct through the body, because these substances are repellent of moisture.

Glass is not porous, and does not conduct through the body, though it has certain affinities for moisture. Sometimes fractures in glass are so delicate as to show prismatic light like fractures in ice. These fractures absorb moisture and become conductors. Otherwise glass cannot be said to conduct through the body.

## 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 Brooks' Paraffine Insulator.

TO THE EDITOR OF THE TELEGRAPHER:

WEST PHILADELPHIA, Nov. 1, 1867.

WE have used fifteen thousand of the improved paraffine insulators on the lines of the Pennsylvania Railroad, and consider it everything desired. As an insulator it is perfect, and in point of durability there is not its equal.

J. W. CROUSE,

Supt. Tel., E. D., Penn. R. R. Co.

### Manufacture of Telegraph Wire in England.

GREAT attention is paid in England to the manufacture of wire expressly for telegraphic purposes. The best quality is now drawn in lengths weighing from eighty to one hundred and twenty pounds, and without welds. After having been drawn it is *killed*, as it is technically termed, by being passed over two drums, one of which is slightly larger than the other, which has the effect of stretching it about two per cent. The wire having thus lost its spring is much more easily handled in building the line. It is also made to pass under and over pulleys arranged in a zigzag form, in order to open and break any splits which may exist. The ordinary line used in England is No. 8, 0.170 inch in diameter. For many of the longer and more important circuits, however, No. 4 0.240 inch diameter is used, a mode of construction which might be imitated with advantage in this country.

### The Electric Telegraph Eighty Years Ago.

THE following passage occurs in "Arthur Young's Travels in France," published in Dublin in 1793. The date of the letter from which the extract is taken is Oct. 16th, 1787: "In the evening to Monsieur LOMOND, a very ingenious and inventive mechanic, who has made an improvement in the jenny for spinning cotton. In electricity he has made a remarkable discovery. You write two or three words on paper; he takes it with him into

a room, and turns a machine inclosed in a cylindrical case, at the top of which is an electrometer, and a small fine pitch ball; a wire connects with a cylinder and electrometer in a distant apartment, and his wife, by remarking the corresponding motions of the ball writes down the words they indicate, from which it appears that he has formed an alphabet of motions. As the form of the wire makes no difference in the effect, the correspondence may be carried on to any distance within or without a fortified town, for instance, or for purposes much more worthy. Whatever the use may be, the invention is beautiful."

### Musical Telegraphy.

BY GEORGE P. HACHENBERG, M. D.

SINCE the year 1860, I have been giving attention to the subject of musical telegraphy; that is, to apply electricity as a mechanical means to play key musical instruments, such as the organ, piano, and melodeon.

On this subject, I have completed my invention to meet three different indications: 1st. The application of electricity limited to one instrument, in order to make the touch and the action on the note strictly simultaneous, thus putting each note under the full subjection of the will. 2d. To connect electrically a number of instruments together, and have them played upon simultaneously by one performer. 3d. The construction of a musicometer in order to test the merit and accuracy of difficult musical compositions. It is automatic in its action, and can readily be adjusted to play any piece of music.

1. Under this heading we propose to bring the accuracy and perfection of music produced on key instruments, by the manipulations of skilful musicians, to the highest degree. The player's touch is to be his music. Time and harmony are to be under the full control of his skill and conception. Not only this, but the whole concord and harmony connected with a given note can be centred in one touch, thus giving volume and compass to the expression of that note which otherwise could not be accomplished. A piano thus arranged, has no pedals to regulate the expression of music; but each individual key is so constructed as to secure any expression in playing it the performer may see fit.

2. Under this arrangement, the object is to afford the best music for the million. This is to be accomplished by the following arrangement: A depot piano or other instrument is stationed in a room in the central part of a city, which is under the management of expert players. This instrument has an electrical attachment connected with a cable which is to communicate with different instruments of the same kind, through different parts of the city. Each distal instrument has likewise its electrical attachment, however, differently constructed from the one connected with the operator's instrument. As the musician plays on the instrument at the depot-quarters, so will be the music on all the instruments that hold an electrical communication with it. Thus one performer on the piano may play more than a thousand pianos at the same time. The communication of instruments may even be as extensive as to have thousands of musical instruments of different cities so connected as to be played upon at the same time by one person. Through American skill, capital, and energy, it is an event that may yet be consummated, for our distinguished pianist, JEROME HOPKINS, to give us a musical entertainment at the Academy of Music in New-York that will not only be simultaneously represented in well-filled houses in different cities of the United States, but the same music may issue forth from the piano in the Queen's chamber in the Windsor Palace! The cable used in this invention is less than an inch in diameter, and is composed of a strand of more than fifty insulated wires.

3. The musicometer is virtually a self-playing instrument; and is composed of several parts; the musical instrument itself, its electrical attachment, the musicometer, its clock-work machinery, and its electrical appliances. The music is arranged on the musicometer, and of course is expressed by the instrument. There is no miserable uncouth drum-like arrangement about this part of the invention, as some perhaps may suppose. Expression is likewise perfectly given in this kind of music, as the concord and harmony of any given note

can with it be simultaneously given. The musicometer could likewise be used with extraordinary effect at the depot-chamber, described above. It would not only serve well for interludes in "live music" performed by players at headquarters, but can be made to serve thousands of families with unceasing sweet sedative music at all hours of the night, to lull to sleep the colicky babe, the nervous mother, or conscience-stricken father. On this instrument we bring all manipulations in making music to the most exact standard. In time it will not err in the millionth part of a second. As the playing is automatic, with electric exactness, no deviation from its perfectness can take place. By the use of the musicometer, with a certain combination of notes, a Chickering can be made to warble its notes, more beautiful and charming than those of a bird.

By the combined use of the above inventions one of the finest musical effects could be secured that probably could be conceived by the most sensitive imagination. For this purpose a large musical hall, possessing special acoustic effects, would be necessary. Within this hall we would arrange at different angles all around the audience a large number of musical instruments, electrically connected. These are to be played in concert harmony either by one or more performers or in connection with one or more musicometers. By certain adjustments of several instruments of the latter, the intonation of many thousand notes could be given in a single expression, and still so soft and sweet as to have its harmony broken by the fall of a pin. With such extraordinary intonations as these, not emanating from fixed places, but in combination coming in sweet harmony from all points, so to speak, to engulf in music the audience at once—sure enough leaving them in wonderment, to feel Shakespeare's quotation given below. Virtually in this hall they would be listening to a harp with a thousand strings, strung to mortal ear, the world all over.

Part of these inventions I made public a few years ago. It was with the same motive I have now, that is, to induce capitalists to take interest in the consummation of an invention that would prove an honor to the inventive genius of this country, not for the purpose of making music a great wonder, but to bring it to its most perfect standard. This can only be accomplished through the agency of electricity. In this I am perhaps less selfish than many may suppose. The work before me cannot be the work of one man, or of one age to complete it; but still, for all that, the immediate investment of a hundred thousand, even for theatrical purposes, would yield its millions in less than ten years.

The following is an extract from *Godey's Ladies' Book*, taken from an English paper:

"Have you heard, too, of the new American invention—musical telegraphy? By means of it dulcet strains are to be laid on, like water or gas, at so much per annum for each house! A piano-forte is to be connected by means of electric wires with any number of instruments, and on being played, the sympathetic vibration will cause a regular stream of harmony to permeate every room in communication with the central depot. A distinguished professor is to be kept playing, and subscribers are to turn on music at will by means of a small tap. If this sounds like mad, I can only assure you that it is a scheme gravely propounded by Mr. HACHENBERG, an American gentleman, who states his plans to be matured, and that he is ready to supply music at a given rate per annum to all the world. Fancy the sympathetic vibration between two kindred souls separated by an adverse fate, but who agree to enjoy the same sentimental strain at the same hour! It sounds like a leaf out of the Arabian Nights; BUT I AM ASSURED ON SCIENTIFIC AUTHORITY THAT THE SCHEME IS PRACTICABLE, and that, with a proper number of subscribers guaranteed, it is perfectly feasible that the very best musical skill may be brought within the reach of all householders willing to pay a small additional rate. Does not Goldsmith's Citizen of the World ask at a ball why the ladies and gentlemen go through all that hard work themselves, instead of paying servants to do it for them? The labor of 'practicing' at the piano, will, if this scheme succeed, be at an end; for what young lady would have the heart to pound away at her 'Battle of Prague' when a professional player is competing with her in the same room, and when the superior strains of such player are to be constantly heard by the simple pro-



ness of turning on a tap? Let me suggest Shakspeare's line,

'Where should this music be? 't' the air, or the earth?'

as the appropriate motto for Mr. HACHENBERG's invention."—*Musical Review*.

### Death by Lightning.

THE effects of a shock of artificial lightning on a gentleman of our acquaintance, who is very sensitive to the electric discharge, may be here described. Under ordinary circumstances, the discharge from a small Leyden jar is exceedingly unpleasant to him. Some time ago he happened to stand in the presence of a numerous audience with a battery of fifteen large Leyden jars charged beside him. Through some awkwardness on his part he touched a wire which he had no right to touch, and the discharge of the battery went through his body. Here life was absolutely blotted out for a very sensible interval without a trace of pain. In a second or two consciousness returned; the recipient of the shock saw himself in the presence of his audience and apparatus, and, by the help of these external facts, immediately concluded that he had received the battery discharge. His intellectual consciousness of his position was restored with exceeding rapidity, but not so his optical consciousness. To prevent the audience from being alarmed he observed that it had often been his desire to receive accidentally such a shock, and that his wish had at length been fulfilled. But while making this remark the appearance which his body presented to him was that of a number of separate pieces. The arms, for example, were detached from the trunk, and seemed suspended in the air. In fact, memory and the power of reasoning appeared to be complete long before the optic nerve was restored to healthy action. But what we wish chiefly to dwell upon here is, the absolute painlessness of the shock; and there cannot be a doubt that, to a person struck dead by lightning, the passage from life to death occurs without consciousness being in the least degree implicated. It is an abrupt stoppage of sensation unaccompanied by a pang.—*Harpers*.

TELEGRAPH INSULATION.—Experiments have been made in Paris with the RHUMKORFF coil to demonstrate the effect of atmospheric charges upon insulations for telegraph wires. The spark of this wonderful instrument perforates porcelain and causes it to "leak," or permit the current of the battery to escape through the insulator. It produces the same effect on "ebonite," or vulcanized rubber. Glass insulators are fractured, while earthen-ware or porcelain insulators, saturated with paraffine, are not affected, the current from the coil passing through melts the paraffine, causing it to run and fill the hole in such manner as not to permit moisture to enter; hence the insulation is preserved. London *Engineering* and other British journals speak of paraffine as the most perfect insulating material known.—*Philadelphia Ledger*.

THE WIRES INSTRUMENTAL IN SAVING LIFE.—A man while crossing the railroad bridge at Albany on a dark and stormy night missed his footing and fell off. While descending he caught hold of one of several wires which are strung from pier to pier, and hanging suspended above the river he began to call for help. His cries attracted the attention of some men on shore who started in a small boat to find him, reaching him just as he was about exhausted and ready to lose his hold. The inmates of the boat being unable to reach him told him to drop into the water. He did so, they rescuing him as he arose to the surface.

### MISCELLANEA.

TO CORRESPONDENTS.—J. H. R., Ohio—Smith's Manual of Telegraphy is just the work you want. See advertisement in another column.—C. W. G., You can procure gutta-percha covered wire suitable for your purpose of the Bishop Gutta-Percha Company, 113 Liberty street, New-York, or of any of the dealers in telegraph supplies advertising in our columns.

NEWSPAPER CABLE DISPATCHES.—The Atlantic Cable Company announces that properly accredited agents of newspaper will be allowed to transmit political and general news at half price.

A TELEGRAPHIC WAGER WON.—Yesterday, at Oswego, quite a number of business-men met together, when the subject of conversation turned upon the rival telegraph lines and their dispatch of business. It was finally agreed to test them, by means of a wager, when W. H. WEED, agent of the Atlantic and Pacific Telegraph Company, bet the agent of the Western Union Telegraph Company that he could send a message to New-York and get an answer first. Two messages were written and directed to a firm in New-York, and given at the same moment to both lines; result was that Mr. WEED won the bet, notwithstanding the business location of the firm in New-York was four blocks farther off from the Atlantic and Pacific office than the Western Union.—*Albany Evening Journal*.

A TELEGRAPH OFFICE DESTROYED BY FIRE.—The telegraph office in Keeseville, N. Y., was destroyed by fire on the night of Nov. 22d. The destruction was complete, not a thing being saved.

INTERESTING LEGAL DECISION.—A Philadelphia judge lately decided that all material things, no matter how ethereal, are substantial, and may be used for the purposes of assault and battery. Blows inflicted by light, heat, *electricity*, sound, vapor, and the like, are as actionable as those delivered by clubs, fists, or pistols.

A MAN'S THROAT CUT BY LIGHTNING.—One of the most singular freaks of electricity that we ever heard of occurred recently in a telegraph office in England. The operator at the station had his switches fixed on the wall and inclosed in a box with a glass front. A customer was one day standing at the counter engaged in writing a message when a flash of atmospheric electricity exploded at the switch shivering the glass into innumerable fragments, one of which struck the man in the throat inflicting a severe wound. The injured individual threatened to bring an action against the telegraph company, but after due reflection wisely concluded not to.

ATLANTIC AND PACIFIC TELEGRAPH COMPANY.—The business of this company between this city and Buffalo is rapidly increasing, and the extension of the line westward from Buffalo is making good progress. A branch has just been completed from Albany to West Albany in order to accommodate the business at the stock-yards.

TELEGRAPH STATION CLOSED.—The military telegraph station at Fort Hayes, Kansas, has been discontinued.

THE CUBA CABLE—OBSTACLES TO THE TRANSMISSION OF NEWS.—The Havana correspondent of the New-York *Tribune* says that the contract existing between the Associated Press of this city and S. S. SPENCER, for the conveyance of news by the cable, has been rescinded, in consequence of the censorship of the Captain-General daily suppressing the political news, even if void of any importance. It appears that the Government is interposing all possible obstacles for the transmission of news by cable, with the intention to induce the Company to form a contract for a privilege in favor of the Government, similar to that of the Post-office.

THE INTERNATIONAL TELEGRAPH COMPANY have opened an office in the State House, Augusta, Me.

TELEGRAPH CHANGES AT CHICAGO.—The recent transfer of the Independent Lines to the Western Union Company at Chicago has caused quite a number of changes, as by the terms of the agreement the Western Union Company were obliged to provide for the employes of the Independent Company. J. A. BRADLEY resumes charge of the Western Union office in the Chamber of Commerce. E. W. MORSE, formerly Superintendent of the Independent Company, takes charge of the Western Union Commercial News Department. The separate organization of the Independent line is, however, still kept up.

PACIFIC AND ATLANTIC TELEGRAPH COMPANY.—This company have nearly completed their lines over the Pennsylvania Railroad from Philadelphia to Harrisburg, and from Altoona to Pittsburg. This company will shortly open an office at York, Pa., in charge of GEORGE W. SHOCK, formerly of the Western Union office.

WHAT IS ELECTRICITY?—Professor FARADAY, on one occasion, in speaking on the nature of electricity before the British Association for the Advancement of Science thus expressed his views: "There was a time when I thought I knew something about the matter; but the longer I live and the more carefully I study the subject, the more convinced I am of my total ignorance of the nature of electricity."

### The Telegraph and the Tree.

AN EPISODE OF THE CLOSING DAYS OF THE WAR.

THERE is an old, old tree adozing by my door;  
Not a leaf upon it grew for four long years or more;  
Nor came there ever bird, or butterfly, or bee,  
To revel in the branches of the old, old tree.

Among its topmost twigs, that so closely interlace,  
Run the wire-cords that harness the steeds of time and space—  
The telegraphic runners that ceaselessly convey,  
From North and South, and East and West, the tidings of the day.

This morn o'er the old tree I saw a change had come—  
The hursting forth of green leaves, the insects' joyful hum,  
And the warbling of the spring birds that gladness brought again  
To the houghs that long were moaning in the wind and in the rain.

What can thus have stirred the heart of the dry old tree?  
The little birds that sing there now have whispered it to me:  
'Twas the singing of the wires, with such glorious news alive,  
In the dawning of the glad days of April, sixty-five.

### Babels and Cables.

WHEN men of old so vainly tried  
To build a tower unto heaven,  
A monument of human pride  
To all posterity was given.

No Babel sounds, at present day,  
Attest the force of God's decree;  
But Silence sits upon the way  
That man would huild across the sea.

[Advertisement.]

No. 7 EXCHANGE PLACE, Jersey City, N. J.,  
Dec. 5, 1867. }

J. B. THOMPSON, Esq., Philadelphia, Pa. :

MY DEAR SIR:—Yours of Nov. 25th has just come to my notice through THE TELEGRAPHER. I beg you to accept my unfeigned thanks for the kind and disinterested manner in which you have spent your time and money in advertising my magnets made of pure naked copper wire. I could not have done it as well if I had written a column.

It is true, as you say, that I did receive the first premium at the late Fair of the American Institute, and that I also received the premium at a previous Fair; and, as you are "totally at a loss to know the reason why these premiums were awarded," I will explain. The judges were men of experience—honest, candid, and disposed to bestow just rewards upon true merit. This is the true secret.

Thus far I have modestly refrained from blazing this information before the world; but now, as you have so kindly done it for me, I may hereafter speak with greater freedom.

You challenge me to substantiate the assertion made in my advertisement in favor of my naked wire magnets over magnets of silk-covered wire. This would be nonsense. I might as well undertake to prove that two and two make four, or any other self-evident proposition. The united experience and testimony of operators have long ago substantiated all this, and some of the competing manufacturers of whom you speak have had the candor to give written testimonial to the same effect.

You will recollect that, when crossing the East River to Williamsburg a few days ago, you informed me of the improvement you claimed to have made in silk insulation, and that you then thought you could wind as compactly as I could. I expressed much gratification, on your account, that you had attained so desirable an end, and a wish to see a specimen, upon which you kindly promised to send me two or three yards by mail. This has either miscarried, or you have forgotten to send it. Please oblige me by sending the promised specimen at your earliest convenience.

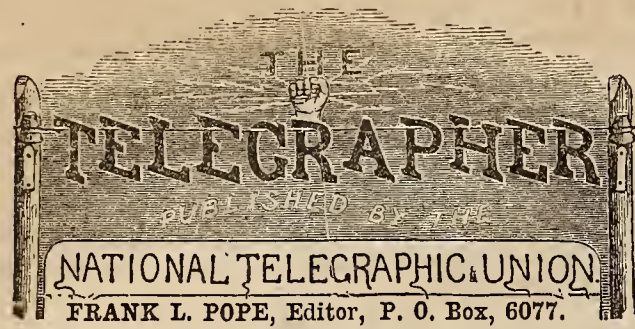
I do not wish to disturb your sensibilities; but as you, no doubt wish to deal candidly with yourself as well as with me, I would suggest that it might not be amiss to call to mind the slight difference, which will most likely always exist, in the cost of Helices made in our two modes of manufacture. According to your price, list of silk insulated, *fine, pure copper wire*, the cost of Helices made of it is about six times as great as of those of naked wire wound in my mode—giving a fair margin in favor of consumers in cost, and of profit to myself.

Please accept my more than kind regards, and believe me your much obliged friend and obedient servant,

L. BRADLEY.

N. B.—*Magna est veritas et praevalabit!*





SATURDAY, DEC. 7, 1867.

### The Manufacture of Telegraph Magnets.

By reference to the advertising columns of the last number of THE TELEGRAPHER, and also of the present issue, it will be seen that quite a lively discussion has been inaugurated respecting the relative advantages of silk insulated and naked copper wire when used for the helices of telegraph magnets. Until within a very few years the wire used for this purpose was invariably insulated by being covered with silk. Some three or four years ago Dr. L. BRADLEY, of Jersey City, who was engaged in the manufacture of telegraph instruments on a small scale, conceived the idea of using *naked* wire for the helices of the magnets, winding them by machinery with such mathematical exactness that the convolutions were separated from each other by a uniform space, but so minute as to be invisible to the unassisted eye—the space being in fact about the fifteen hundredth part of an inch, and in some cases even less—the successive layers of wire separated from each other by thin paper.

After a pretty thorough trial of the magnets of this peculiar form of construction, it was finally conceded by the operators on the lines throughout the country that they were possessed of marked advantages over magnets which were constructed on the usual plan with silk insulated wire. Since that time, however, great improvements have apparently been made in the manufacture of silk covered wire, and the process has been brought to a point of perfection hitherto unknown. This result has been attended with a corresponding improvement in the working qualities of the magnets for which it is used, until it has become a question in the minds of many of the purchasers of such articles which of the two methods of construction is, under all circumstances, the most advantageous. The question is one which might be easily settled by a series of tests properly arranged and conducted, as proposed by Mr. THOMPSON in his letter to Dr. BRADLEY, published in our last issue. We would suggest that two magnets be made, one covered with naked and the other with insulated wire, but in other respects precisely alike, each containing the same length of wire of a given gauge, and giving the same amount of resistance when tested with a galvanometer and resistance coils. It would be better, however, to use the same cores in both cases, which could be readily be done by constructing the helices in such a manner as to be easily removed from the cores. This would prevent any accidental difference in the quality of the iron forming the cores from affecting the result.

These magnets should then be tested by being placed in a circuit partially composed of artificial resistances, which should be constantly increased until it one magnet or the other ceases to work. It would also be well to test each magnet separately in the same way. A second trial should then be made by introducing an artificial "escape," or short circuit between the key and the magnet. This circuit should be made to pass through

the resistance coils, and the "escape" can thus be increased at pleasure by diminishing the resistance through which it has to pass until it reaches a point which will prevent the working of the magnet altogether. It is at once apparent that the most valuable quality in a magnet is that of working over a heavy "escape," and therefore it seems to us that a test of this nature would decide a question of great practical importance.

The tendency of a competitive trial of this nature will be to foster the introduction of many improvements in this most important department of the manufacture of telegraph instruments. The question is one which is susceptible of being determined with strict scientific accuracy, and we hope to see the matter impartially tested. The competition between the manufacturers of telegraph instruments during the past few years has already resulted in the introduction of numerous valuable improvements, and in nothing are they more marked than in the article of magnets. There has been, however, in our opinion, of late years a tendency to introduce magnets of excessive resistance, which has been carried to such an extent that some lines have been rendered almost unworkable.

Some of our leading manufacturers, we are glad to see, are now returning to first principles, and making them of much lower resistance than has lately been the practice. If care be taken that all the instruments on a line are of nearly uniform resistance, we think better results will be obtained by the use of these than with the kind now in general use on most of the lines in this country.

THE NATIONAL TELEGRAPHIC UNION.—We have recently received a letter from a correspondent in Maine, from which we learn that the cause of the Union is progressing finely in that section of the country. At a meeting held a few days since, fifteen new members were admitted besides three old members, each of whom had previously been granted an honorable withdrawal. This district now numbers over thirty members. We mention this as an item of encouragement for those who are laboring to build up the Union organization in other places. We are glad to note an increasing interest in the organization in all parts of the country. Keep the ball rolling, brothers!

### PERSONAL.

A. R. REEVES, formerly at the St. Nicholas Hotel office of the Western Union Company, and more recently with the Franklin Company at 11 Broad street, has taken charge of the office of the New-York City Telegraph Company at corner Broadway and Spring street.

M. B. LILLIS, formerly of the Western Union Company's "Fx." office in this city, takes charge of the main office of the New-York City Telegraph Company at 11 Broad street.

J. H. HEENAN, formerly of Louisville, Ky., is agent for the Western Union Commercial Department at Cincinnati.

JOHN C. MATTOON, for many years connected with the Western Union line in various positions, is now chief operator for the Pacific and Atlantic Company at Cincinnati.

W. F. BASSETT, recently of Memphis, Tenn., has accepted a position in the Western Union office at Louisville, Ky.

E. A. STREET, formerly of the Union Stock-yards office, Chicago, has accepted a position in the Western Union office at Peoria, Ill.

S. W. DOAN, late of Pittsburg, has accepted a position in the Western Union office at Cincinnati.

S. T. SPEER, formerly train dispatcher at Galesburg, Ill., on the Chicago, Burlington and Quincy Railroad, and recently operator in the Chicago office, has resigned, and accepted a position as train dispatcher on the Nashville and Chattanooga Railroad, at Nashville, Tenn.

GENERAL T. T. ECKERT left the city last Friday evening on a tour of inspection among the principal offices of the Western Union Company in New-York State.

WILLIAM MACINTOSH, of the Independent News-room, Boston, has taken charge of the Commercial News Department of the Western Union Company *vice* WILLIAM MARTIN resigned.

M. H. BRYANT has accepted a position with the International Company at Portsmouth, N. H.

H. H. THORNTON has again resumed charge of Cozzius' Hotel office, Omaha, Neb., *vice* HOLTHAM, gone to Atehison, Kansas.

WILLIAM L. WALKER, formerly of the Chicago office, and who has been out with the Russian Extension party arrived in Chicago on the 2d inst.

B. F. WOODWARD, manager of Denver, Colorado office, has been removed by EDWARD CONWAY, assistant superintendent, and ALF BREWER, formerly of Fort Laramie, appointed to the managership.

D. C. BLEAKLEY, who resigned his position in the Western Union Pittsburg office some time since on account of declining health, has again resumed his duties in the same office.

JAMES HUGHES, formerly of the Western Union office, Pittsburg, has accepted a position in the Titusville, Pa., office.

J. A. OSBORN, formerly at 145 Broadway, with the American Company, and recently in the Western Union Buffalo office, has been appointed chief operator on the Atlantic and Pacific line at Buffalo.

W. B. EDDY, of the Western Union and Montreal Company's office at Whitehall, N. Y., arrived in this city on Monday evening in the steamer *Periere* from Brest, on his way home, having been absent on the continent about three months.

THOMAS GAYNOR, formerly receiving clerk for the Western Union Company at 145 Broadway, and — MOFFAT of the same office, have taken positions in the delivery department of the Franklin Line, at 11 Broad street, in this city.

M. B. HILLS, formerly with the International Telegraph Company at Portsmouth, N. H., has taken charge of the Franklin Company's branch office, corner of College Place and Robison street, in this city.

CHARLES JOHNSON, of Susquehanna Depot, has accepted a place with the Franklin line, in this city.

R. G. WILLIAMS, of New-Haven, has been transferred to the New-York office of the Franklin line.

M. B. LILLIS and A. R. CHAMBERLAIN have accepted positions with the New-York City Telegraph Company at the main office No. 11 Broad street.

CHARLEY VAIL, of Goshen, N. Y., has succeeded V. A. KREPPS in the Franklin Line branch office, 111 Front street, in this city.

GENERAL ECKERT made Albany a flying visit on the 29th ult., on his way West.

CHARLES F. FELLOWS, receiving clerk of the Western Union Company, has been transferred to Hartford, Conn., office.

WILLIAM MARTIN will fill the place made vacant in Boston by this transfer.

CAPACITY OF THE DEAF AND DUMB.—Professor Peet has learned his pupils the Morse telegraph alphabet, and as they can hear the beating of a drum, by that instrument he is enabled to communicate with them. They say they first feel the sound at the soles of their feet, thence it rises up the legs, and communicates with the sympathetic nerve. At a recent public exhibition some one in the audience gave a name in a whisper to the teacher. He spelled it out by taps on the drum, which the class soon answered correctly—Andrew Johnson.







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We also manufacture a Relay with only ten ounces of wire, thereby putting very little resistance in the line, and doing the work as well, if not better, than those that contain one pound of wire and put a great resistance in the line.

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Our friends throughout the country are particularly requested to inform us of any necessary additions or corrections in the above list.

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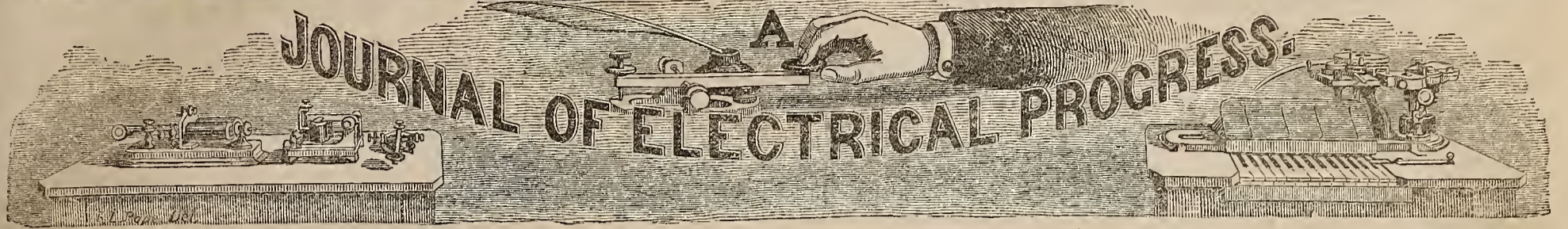
Small Box Relays.....	\$16 00
Same in Rosewood.....	17 00
Medium Box Relays.....	17 00
Same in Rosewood.....	18 00
Pocket Relays, with all the adjustments of the above and good Lever Keys.....	22 00
Excellent Registers.....	40 00
Pony Sounders.....	6 25
Keys with tumbler circuit-closer.....	5 50
Hill's Battery, per cup.....	1 45

All other appliances made to order. Extra spools for replacing such as may be spoiled by lightning, furnished at \$1 25 each. Old spools taken at the price of new wire by the pound. Goods sent to all parts of the continent, with bill C. O. D. Or, to save expense of returning funds by express, remittances may be made in advance by certified check payable in New-York, or by Post-office order, in which case I will make no charge for package.

Aside from the advantages apparent upon inspection of these magnets, their acknowledged merits consist in the construction of the helix, which was patented Aug. 15, 1865. This being of naked copper wire, so wound that the convolutions are separated from each other by a regular and uniform space of the 1-600th to the 1-800th of an inch, the layers separated by thin paper. In helices of silk insulated wire, the space occupied by the silk is the 1-150th to the 1-300th of an inch; therefore a spool made of a given length and size of naked wire will be smaller and will contain many more convolutions around the core than one of silk insulated wire, and will make a proportionably stronger magnet, while the resistance will be the same.



# THE TELEGRAPHER.



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Whole No. 74.

## Automatic Telegraphy.

BY ALEXANDER BAIN.

AUTOMATIC telegraphy consists of methods of transmitting and receiving previously-composed messages between distant places by means of self-acting machinery in connection with electric currents, and where properly carried out, it is distinguished from common telegraphy by the great celerity with which messages can be sent and received, as well as by the great accuracy it insures in the transmission and reception of intelligence. Indeed, the advantages it offers have appeared to the writer of this paper so vast, that he has devoted to it much thought, time, and labor. He was induced to do so from the following reasons, viz., seeing that the action of the human hand, however expert, could never take a tithe of the advantage of the speed of electricity, and also that the use of numerous wires were very objectionable in consequence of the increased expense, but far more so from the great difficulty of obtaining good insulation among many wires of great length. At the time he first turned his attention to the subject of electric telegraphy several wires were used for each pair of instruments, and never less than three, in consequence of which he endeavored to contrive methods for reducing the number of wires, and soon succeeded in producing instruments capable of working on a single circuit, and afterwards succeeded in working with a single wire, having discovered that the earth might be used with great advantage for one-half of the telegraphic circuit. As this property of the earth is unquestionably a most extraordinary phenomenon, and still remains a paradox even to scientific men, and plays now a most important part in telegraphy throughout the world, and as the discovery has been independently made by others as well as the present writer, it will be well to give the ideas of scientific men respecting it. For instance, the writer on mathematical and physical science in the "Encyclopædia Britannica" eighth edition, vol. I, p. 986, observes, under the head of "The Earth Circuit": "There is one circumstance connected with the electric telegraph deserving of particular notice. I mean the apparently infinite conducting power of the earth when made to act as the vehicle of the return current. Setting all theory aside, it is an unquestionable fact that if a telegraphic communication be made, suppose from London to Brighton, by means of a wire going thither passing through a galvanometer, and then returning, the force of the current shown by the galvanometer at Brighton will be almost exactly doubled; if, instead of the return wire, we establish a good communication between the end of the conducting wire and the mass of the earth at Brighton, the whole resistance of the return wire is at once dispensed with. This fact was more than suspected by the ingenious M. STEINHEIL, in 1838, but, from some cause or other, it obtained little publicity; nor does the author appear to have exerted himself to remove the reasonable prejudice with which so singular a paradox was naturally received. A most ingenious artist, Mr. BAIN, established for himself the principle, and proclaimed its application somewhat later, and, in 1843, perhaps the first convincing experiments were made by M. MATEUCCI, at Pisa." Again, LARDNER observes that "of all the miracles of science surely this is the most marvellous. A stream of electric fluid has its source in the cellars of the Central Electric Telegraph office, Loth-

bury, London; it flows under the streets of the great metropolis, and, passing on wires suspended over a zig-zag railway, reaches Edinburg, where it dips into the earth, and diffuses itself upon the buried plate. From that it takes flight through the crust of the earth and finds its own way back to the cellars at Lothbury."

Instead of burying plates of metal, it would be sufficient to connect the wires at each end with the gas or water pipes, which, being conductors, would equally convey the fluid to the earth: and, in this case, every telegraphic dispatch which flies to Edinburg along the wires which border the railways, would fly back, rushing to the gas pipes which illuminate Edinburg, from them through the crust of the earth to the gas pipes which illuminate London, and from them home to the batteries in the cellars at Lothbury. Although the automatic system has met with much opposition and neglect for a period of nearly twenty years, the writer thinks the time is fast approaching when the increasing requirements of the public will compel its general adoption; indeed, this necessity is partially shown by the number of telegraph inventors who have brought forward machines on the same principle during late years; but it is more clearly shown by the huge double ranges of numerous wires we already see stretched in all directions over the country, causing a vast (first) outlay, and a continual unnecessary expense to keep in order; but, setting the matter of cost aside, let us look at the working effect. It is well known that in damp and foggy weather, however well insulated the wires may be, small portions of the electric fluid will escape, from wire to wire, at all the points of suspension, and often from one to all on the same line of posts, especially between the longer and shorter wires, causing confusion among the instruments, and this confusion is greatly increased when many instruments are working at the same time. Again, when storms arise, numerous wires, especially when near each other, present so large and compact a surface to the gale, that they are far more liable to be broken or blown down than one or two would have been, especially when snow or ice collects upon them. Should this take place to a considerable thickness, a heavy gale must exert an enormous force against them, so much so that the posts or wires must give way (as has recently happened), very likely both. And when such a disaster takes place, what is the result? Why, it will take as many weeks as it would days were there only one or two wires to repair, causing an immense loss to the public, as well as to the companies themselves, leaving the great cost of repairs out of the question. Yet, notwithstanding these well-known facts, these double ranges of many wires are stretched within a few inches of each other for hundreds of miles amidst the humid air of this country. Among numerous wires the fluid has thousands of chances of escaping from one to all, or any of the others. These chances are invariably seized, and hence deranged action of the instruments, causing mistakes, repetitions, general confusion, and consequent delay, and every additional wire put up only adds to the difficulty. In consequence of the foregoing reasons, the chief object of every telegraphic engineer should have been to contrive instruments of the greatest possible celerity, for the purpose of doing as much work as possibly with a single wire. With a view to that end the writer turned his attention to the subject of automatic telegraphy at an early date, and in 1843 patented an auto-

matic copying telegraph. These instruments consist of two powerful pendulum clocks, and two smaller pieces of clockwork; the last are moved by weights which consist of metal frames, in each of which is placed a plate composed of conducting and non-conducting materials, in the following manner: A frame is filled with short well-insulated wires parallel to each other, and then filled in with sealing-wax, so that the whole forms a perfectly compact body; the two flat surfaces are then ground perfectly smooth, and are permanently fixed in the metal frame, at the back of the plate, in which may be placed either a composed form of printers' types or any other surface which may be desired to be copied at a distant station, and chemically prepared paper at the receiving station. Each of the pendulums carries a metallic arm, the points of which act as tracers on the surface. Now let us suppose one frame filled with a previously composed form of printers' types, and the other frame with chemically prepared paper. The electric current will flow from the positive pole of the battery to the type, from thence through the small wire to the tracer, up the pendulum to the long telegraph wire, down the pendulum rod of the receiving instrument, through the tracer to the short wires, and from thence to the chemical paper, forming thereon a series of small dots, corresponding with the forms of the types at the transmitting station. The magnets to the left of the clock movements release the small clockwork so as to allow the frames to drop through a small space at every vibration of the pendulums; the pendulums regulate each other at each vibration to the left.

The writer believes that this was the first copying telegraph contrived, but as the plan required that all instruments should go synchronously together, or that several wires had to be used, either of which he soon saw would produce too many difficulties for practical use, it was proceeded with no further, and is only noticed here to show that the invention of that class of scientific toys, called copying telegraphs, is much older than many imagine. Having by the foregoing efforts gained much experience, although he had arrived at little satisfactory results in automatic telegraphy, he decided to compose the messages in some simple telegraphic characters by mechanical means, and after much labor, and the trial of many methods, he was fortunate enough to hit upon a plan of composing the messages by means of punching groups of perforations in paper in such a manner that each group represented a letter, numeral, or other sign, which has turned out to be a most simple and efficient plan. At first the punches were operated by hand, without the aid of machinery, and the working was consequently rather slow, but the writer having subsequently contrived machinery for the purpose, they can be now worked with great rapidity. Of all the known effects produced by electricity, the chemical has been found by the writer best suited for automatic telegraphy, principally because it is quicker in its action than any other, having nothing of ponderability to move, and consequently no inertia to overcome. Electro-magnetism, it is true, would answer to some extent, but in that case ponderable bodies had to be moved with great rapidity by the electro-magnetic force, and on long telegraphic lines the force being small, all the mechanical actions produced by it must be of necessity very delicate, and require fine and delicate adjustments, which have to be often varied with the vary-



ing strength of the currents. Besides, delicate mechanical actions are always liable to get out of order; so that after much thought, and numerous experiments with the magnetic as well as the chemical effects of electricity, the writer decided to use the latter only for his automatic system, as the currents would have nothing to perform but decomposition at the point of the chemical pen, the machinery being worked by other power.

In order to show how the chemical property of the current may be made to produce visible marks or signs, let us suppose a sheet of paper, wetted with an acidulated solution of ferro-prussiate of potash, and laid upon a plate of metal, and let the point of a steel or copper style be applied to it so as to press it gently against the metallic connection with the wire which leads to the positive pole of a voltaic battery, and let the metallic plate upon which the paper is laid be put in connection with the wire which leads to the negative pole. The current will, therefore, flow from the style through the moistened paper to the metallic plate, and it will make a blue or a brown spot thereon according as the style is of iron or copper. If the paper be moved under the style while the current flows, a continuous line will be traced upon the paper. If while the paper is thus moved the current is permitted to flow only during intervals of long and short duration, the paper will be marked with lines long or short, according to the intervals during which the current flows; there being no mark made during the suspension of the current. The long or short line thus traced upon the paper will be separated one from another by spaces more or less wide, according to the lengths of the intervals of suspension of the current. It is evident that the same effects will be produced, whether the style be at rest and the paper moved under it, or the paper be at rest and the style moved over it. The paper may be moved under the style by various mechanical expedients. It may be in the form of a ribbon coiled upon a roller, and drawn under the style, which was one of the writer's first plans, or it may be in the form of a common square sheet and wound upon a cylinder, to which could be given a revolving motion, and at the same time receive a slow motion in the direction of its axis, so that the course of the style upon it would be that of the thread of a screw or helix; this was also the plan the writer adopted in his early experiments, but the plan he has found most convenient in practice is to cut the paper into the form of circular discs, of about 18in. or 20in. diameter, and after being chemically prepared, any required number are laid upon a metallic disc of equal size. To this disc is given a motion of revolution round its center, in its own plane, by clockwork, or any other convenient power, while the style receives a slow motion from the center of the disc towards its edge. In this case the style traces a spiral curve upon the paper, winding round it continually, and at the same time retiring constantly but slowly from its center towards its edge.

To form a complete system the composing machines and the transmitting and receiving apparatus are combined in the following manner: The author proposes to have only two wires at most on one line of posts, one to be called the up wire and the other the down wire, so that messages can be transmitted in both directions at the same time. The author's experience has shown him that the best way to receive the message is through branch circuits, so as to keep the main wire contacts always complete, except in the process of transmission. The action is as follows: The current passes from the battery to the main wire, from thence to a spring, through the perforations of the paper to a roller, then to the frame of the clockwork, and from thence to the main wire, but at each of the intermediate stations, when they are necessary, a portion will pass down through the ends of the branch circuits to the frames, through the style to the chemical paper, and will return by the end to the main wire. In this way the currents are made to write a copy at every station on the line, but at the station where copies may not be desired, all that the operator has to do is to lift up the pen from the paper, or he may turn back the penholder frame altogether away from the disc. The author showed a method by which a dispatch could be transmitted from a central station, say from London, to any number of telegraph lines simultaneously, so that the dispatch may be received and written at any

number of towns on each line, in the way already described. This system has been proved electrically, chemically, and mechanically in England, France, and America. It can transmit intelligence from London to the farthest corner of England or Scotland at the rate of, in round numbers, six words per second, three hundred and thirty-three per minute, twenty thousand per hour, and with a degree of accuracy never before attained by any other system, and, further, it can automatically transmit dispatches of any length from any place, say from London to all the principal towns of England simultaneously, at the above-named degree of celerity.

### The Electric Telegraph.

I'm the Lightning Steed—I go like a flash!  
On my tiny path of wire;  
My wind is good, my pace is fleet,  
And my legs do never tire.

I need no postillion to guide me right,  
Or to urge me faster along;  
For I always go at the top of my speed,  
And I never was known to go wrong.

No weather can stop my travelling—  
Neither rain nor frost nor snow;  
Only keep my road in order good,  
And I'm always ready to go.

I never refuse when ordered to start,  
And never stop by the way;  
In the darkest night I hurry along  
As fast as I go in the day.

No shoes, no harness, no bridle or rein,  
No farrier's skill need I;  
Some copper and acid for food and drink,  
Do all my wants supply.

Old Steam is a strong and useful horse  
To haul a heavy load,  
Tugging along at a snail-like pace  
On his cumbrous iron road.

He trudges on where the earth is firm,  
But must stop when he comes to the strand;  
While my pace is as free through the depths of the sea  
As it is on the solid land.

I am the Lightning Courier  
Who can far outstrip the wind—  
Can leave the lagging carrier-dove  
And the hurricane far behind.

I'm fleetier than aught that's known on earth,  
By mountain, valley, or stream;  
Than even the boastful fairy, "Puck,"  
In Shakspeare's Summer's Night Dream.

Throughout the boundless universe  
Of fathomless, limitless space,  
Thought and light can only match  
My ethereal, spirit-like pace.

Age cannot check my wild career;  
I bid defiance to time;  
When the earth shall be ten thousand years old,  
I still will be in my prime.

The Lord has many blessings showered  
On His creatures here below;  
But few, to man so conducive to good,  
As I have the power to bestow.

I'm sent to hasten the happy time  
That's promised sure to be,  
When knowledge shall all the earth,  
As the waters cover the sea.

I mind to mind together join,  
And heart do bind to heart;  
And I neighbors make of those who live  
A thousand miles apart.

Then, hurrah! hurrah! for the Lightning Steed  
To whom Time brings no decay;  
Whose speed, when a million of years shall have passed,  
Will be great as it is to-day!

THE ATLANTIC TELEGRAPH CABLE.—As an illustration of the promptness with which the Atlantic Cable is now working it is worth noting that at 11 o'clock Thursday morning a reply was received in this city from London, to a message which was started from here for London at 33 minutes past 5 o'clock, yesterday morning.

### Telegraphic Storm Warnings.

DIRECTLY after the Meteorological Department of the Board of Trade was placed under the management of a scientific committee appointed by the Royal Society, that committee resolved that when desired it would undertake to telegraph the state of the weather in all parts of Great Britain to any town which would pay a certain proportion for the transmission of the news, leaving the local authorities to draw what conclusions they pleased as to coming weather from the facts. Thus the committee could have the credit of stating that it telegraphed facts and not theories. Before the committee was appointed the Government had discontinued Admiral FITZROY's storm warnings, and if it had resolved to shut up MOORE's Almanac, the noise that hundreds of farmers and old women would make at such a sacrilegious deed could scarcely exceed the noise raised in some of the daily papers and at the British Association about the resolution to stop the forecastings and storm warnings. Many a good old soul trusts in the almanac aforesaid, heedless of the fact that the weather is rarely the same in two towns a hundred miles apart, although MOORE's Almanac is MOORE's Almanac in both. After careful inquiry on the part of a Government commission, it was statistically proved that the forecastings of Admiral FITZROY were worthless; but an equally good case was not made out against the storm warnings. Undoubtedly the report of the commissioners bore too hardly upon Admiral FITZROY, and appears to a casual reader to be somewhat tinged with prejudice, yet the recommendation to establish self-recording instruments all made on the same pattern, and placed in different parts of the United Kingdom, to get a systematic record of facts, seems a good business-like suggestion. Admiral FITZROY's daily meteorological information depended much upon telegraph clerks, whose offices had been supplied with a barometer and thermometer, and who were ordered to telegraph the state of the weather to London once a day. These youths, who are scraped together by the telegraph companies at the cheapest possible rate, not unfrequently are paid only twelve or thirteen shillings a week at out-stations, and look upon every unpaid addition to their work made by their employers with great disgust. An example of how one of these meteorological observers of the Board of Trade did his work was made known to us on the spot some years ago. He noted the height of the barometer and thermometer, then retired to the inmost recesses of his office, from which he afterwards shouted, "Mary, look out of doors, and tell me the state of the wind and clouds; will you, please?" Now "Mary" was maid-of-all-work in the house wherein the telegraph company had obtained their office, and she, being thus suddenly appointed an auxiliary of the Board of Trade, looked up the street and down the street, and then, knowing the telegraph operator was blessed with far less brains than herself, she replied, "Wind northwest. Clouds gloomy, but invisible." "Right you are, thank you," was the reply, and off went the meteorological telegram as it was dictated. Whether the telegram was transmitted through to London without interception is a question buried deep among the secrets of the telegraph company. It certainly did not pass without comment, for a few days later the clerk received a letter from the district superintendent, asking, "What do mean by invisible clouds?" After much consideration he concluded that this question was difficult to answer, but he finally replied that it was not his fault, "it was all that stupid Mary." In the instance just mentioned the record as to the state of the clouds could scarcely be considered satisfactory, and the same might be said of the direction of the wind, for there was no weathercock or other indicator in sight of the telegraph office. In the matter of storms accurate information as to the direction of the wind is all-important to those who wish to collect symptoms of coming bad weather.—*London Engineer.*

MORE TELEGRAPHS.—A telegraph station is about to be established at Jubel, on the Red Sea, no doubt in view of the British expedition to Abyssinia, which will give the news from that part of the world an unwonted degree of interest.



## 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.

EASTON, Pa., Nov. 8, 1867.

TO THE EDITOR OF THE TELEGRAPHER:

We have finished the work of erecting new lines, upon which some ten thousand of the paraffine insulators have been used. I desire to add my testimony to the very great value of the improvement in the insulation of telegraph lines, and say there is no perceptible escape of the current in wet weather. We will use no other insulator.

Respectfully yours,  
JOSEPH L. MINGLE,  
Superintendent Telegraph L. & S. R. R.

## PERSONAL.

J. HERVEY NICHOLS has been appointed manager of Cheyenne City, Dak., office.

—McCONNIFF, formerly of Toronto, has been appointed manager of Fort Sedgwick, Col., office.

LAWRENCE HARRIS, formerly at Fort Morgan, has been appointed to the Julesburg Western Union office.

W. B. HIBBARD, Esq., superintendent of the Western Union lines at Omaha, Neb., left there a few days since on a trip to Salt Lake City.

H. W. COWAN has secured a position on the Union Pacific Railroad at Omaha, Neb.

DENNIS KEARNEY is agent at Milwaukie for the Commercial News Department of the Western Union Telegraph Company.

FRED EVANS, night man in the Grecubush office, has given up that position, and accepted one in the Albany office of the Atlantic and Pacific line.

W. T. KING has accepted a position in the Western Union office at Cincinnati, Ohio.

P. L. GRIFFIN has resigned his position in the Western Union office at Cincinnati.

M. MARTIN has been appointed chief operator of the Southern Telegraph office, Louisville, vice J. J. FLANAGAN.

JOHN A. HUGHES, formerly in charge of Fayetteville, N. Y., office, on the Western Union line, has accepted a situation on the New-York City line at station E.

T. STEWARD, Jr., formerly of Port Henry, N. Y., who has been acting as substitute for W. B. EDDY, of Whitehall, N. Y., during his absence in Europe, has gone to his home in East Clarendon, Vt., where he proposes to remain during the balance of the winter.

It is reported that the various trips made to Madison, Wis., by GEORGE W. NAILE, the worthy chief operator at Omaha, Neb., have not been in vain. A certain event will transpire on the 7th of March.

WILLIAM K. SMITH, who has been employed as telegraph operator by the C. & T. Railroad at the Union Passenger Depot, for the last two years, has been appointed operator of both divisions of the new Consolidated Lake Shore Railroad Telegraph line, at the depot in Cleveland.

ARTHUR MORELL, of the Bankers' and Brokers' line in this city, has taken charge of the office of the same company in the Capitol at Washington during the session of Congress.

JAMES H. BAY, formerly of the Franklin line, has taken MORELL's place in the New-York office of the B. and B. line.

WILLIAM H. SAWYER has accepted a position in the B. and B. Telegraph office at 16 Broad street, in this city.

J. W. OSBORN, of Buffalo, is circuit manager on the Atlantic and Pacific line between Buffalo and Utica, and H. L. WATERBURY, of Albany, between Utica and New-York.

PETER C. GRISWOLD, of Albany, has charge of the repairs between New-York and Albany, and H. KIRTLAND, of Syracuse, between Albany and Buffalo.

BENJAMIN F. FOLLETT, of the Troy, N. Y., office, has received the regular nomination for President of the Troy Young Men's Christian Association. BEN is now serving as first Vice-President, and his large circle of telegraphic friends will be rejoiced to hear of his elevation to the Presidency.

W. O. CARPENTER, of Troy, who is also extensively known among telegraphers, is running for manager of the Debating Society on the opposition ticket.

## MISCELLANEA.

TO CORRESPONDENTS.—*Green County, Iowa.* We should say there was a fine field for a District of the National Telegraphic Union in the locality you mention. Write to F. G. CHURCHILL, President of the National Telegraph Union at Laporte, Ind., and he will send instructions for the organization of a District.—J. L. "Patent leather" received, but mislaid. Please duplicate it.

THANKS.—We are indebted to GEORGE KELLEY for a complete list of the operators in the Fifth District, Eastern Division, Western Union Telegraph Company.

METROPOLITAN TELEGRAPHIC CONVENIENCES.—The humors of our new city telegraph are aptly illustrated by the New-York correspondent of the *Buffalo Daily Courier*. Mr. "G." says:

The wife, whose market-man is late, and who can send the children to bed upon crackers and milk, telegraphs:

"DEAR JACK—Chops came too late, and there is no time to shell the peas. Dine down town, and oblige  
"Yours, affectionately,  
MARY ANN."

And all this for ten cents! Oh, it is a cheap addition to the luxuries of the metropolis, and houses are soon to be built with telegraphic fixtures, and the cook will learn to be chief operator and order marketing.

INTERNATIONAL OCEAN TELEGRAPH COMPANY.—The following named gentlemen were elected directors of the International Ocean Telegraph Company, at a meeting held a few days since: W. F. SMITH, J. A. SCRYMSER, A. HAMILTON, W. P. BLODGETT, C. KNAP, M. L. DELA-FIELD, D. H. HAIGHT, O. K. KING, T. B. MYERS, H. C. BULL and E. S. SANFORD.

CONSIDERABLE WIRE.—One hundred miles of bell wire is being put up in the new Congress Hall now in course of construction at Saratoga Springs, which is said to be twenty-five miles more than is used in any other hotel in this country.

THE POSTAL TELEGRAPH.—The Washington correspondent of the *New-York Tribune*, says that it is announced that the Western Union Telegraph Company will propose to sell the Government part of their lines and wires for postal purposes, but that members doubt the authority of Congress to make such a purchase; and if anything be done looking to the adoption of a telegraphic postal system, it is believed its extent will be only the declaration of routes to be let out by contracts, after the manner of post-roads.

POPULAR SUPERSTITION.—Several years ago, the people in a benighted region known as Bear Creek, in Franklin county, Alabama, tore down the telegraph wires in consequence of a severe drought which prevailed, and which they thought was caused by the wires. The popular fallacy that a wire passing over the roof of a building renders it more liable to be struck by lightning, also holds its ground with wonderful tenacity. Only a few years ago, a man living near Bridgeport, Conn., brought a suit against the telegraph company to receive damages for the destruction of his barn by lightning, which he alleged was caused by the proximity of the telegraph lines running along the highway.

REMOVAL OF TELEGRAPH LINES.—The Western Union Company are abandoning many of the old turnpike routes over which their wires run, especially those which they acquired by the consolidation of the United States Company. The United States wires between Elizabeth and Newark, N. J., were transferred to the railroad some time since, and the old House wires (No. 7 and 8) between Orange and New-Brunswick have also been taken down and placed upon the railroad poles. Other changes of this kind are in contemplation, among which may be

mentioned the proposed demolition of the old United States line between Chicago and Milwaukie.

CONSCIENCE MONEY.—One of the district superintendents of the Western Union Company, who formerly held a similar position with the American Company, recently received a letter including five dollars from an operator, who stated that a few years since he had defrauded the latter company of a small sum and desired to make restitution, as he was endeavoring to lead a better life. The old employes of the American Company, who have not forgotten the generous and considerate manner in which they were uniformly treated by the management, will hardly be surprised that the poor fellow's conscience smote him, when he looked regretfully back to "the days of anld lang syne," and compelled a restoration of the money he had unlawfully appropriated.

A NEW PAPER.—The Western Union Telegraph Company have issued the first number of a semi-monthly paper of the same size as THE TELEGRAPHER, and much resembling it in general appearance. It is intended principally as a medium for the transmission of executive orders and information to the offices of the company. The enterprise is under the editorial management of Mr. J. D. REID.

THE TELEGRAPH AS AN ARCHITECTURAL ORNAMENT.—A few years since a gentleman of the colored persuasion, who had accumulated a small fortune in the tonsorial line of business in the city of Boston, contracted with a builder to put him up a small but exceedingly "architectural" residence in the suburbs of Roxbury. After the finishing touches were added to the edifice, the proprietor, while surveying it one day in company with the builder, delivered himself as follows:

"De house is berry nice house ebery way, and suits me jess 'zac'ly, but 'seuse me if I mention de fae, habn't you disremembered to add de wires?"

"Wires! what do you mean by wires?" queried the astonished builder.

"Why, only dis. Didn't you neber notice dat it am de eustom in ebery establishlum in Boston of any 'tenshuns to style, to dignify de building wid wires 'stendin offum de roof diff'rent ways?"

"Why, certainly, but those are the wires of the telegraph."

"Prezaakly so, dat am de techniekle name, de tellum-graff. De house only wants de tellum-graff 'stendin offum de roof to make um complete."

"The wires" were added forthwith.

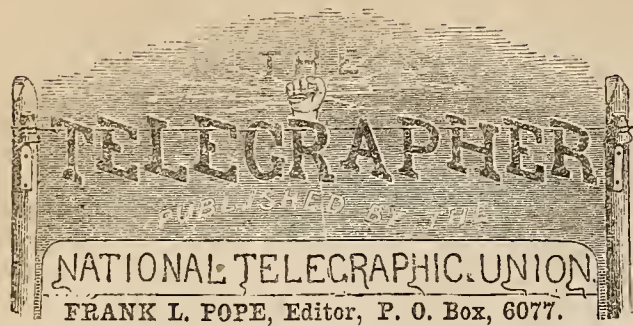
THE "SECRET" AMENDMENT.—At a large and enthusiastic meeting of the Albany District, held on the evening of the 9th instant, a vote was taken on the amendment to the Constitution, making the National Telegraphic Union a secret organization, which resulted as follows: In favor of the proposed amendment 6, against it 19. A correspondent writing from Albany, says that a number of new members have recently been admitted in this District.

AN EXTRAORDINARY TELEGRAPHIC FEAT.—A special from Washington to the *Chicago Tribune*, says that on the 2d inst., the Washington office of the Western Union line sent one hundred and seventy-nine thousand words in about fifteen hours, besides the regular commercial business. This, we think, is the largest amount of work ever done by an office in one day since the telegraph was invented.

BREAK HIS HEAD.—ANNA DICKINSON was applied to recently by a committee from the West for a political lecture and offered them "Breakers Ahead." She received the answer by telegraph: "That will do. Give us 'Break His Head.'"

STORM IN THE WEST—LINES INTERRUPTED.—The high winds which prevailed on the night of the 5th, prostrated quite a number of the lines leading out of the Chicago office. Eleven out of eighteen of the Canton lines were down. Four lines to Milwaukie down, leaving only one for business. Three Michigan Southern out of five wires. Two Michigan Central, leaving only two wires. Two Indianapolis and Louisville. One Pittsburg, Fort Wayne and Chicago. Business was got off promptly, notwithstanding the difficulties, and by six P. M. the lines were nearly all in working order.





SATURDAY, DEC. 14, 1867.

#### A UNIVERSAL TELEGRAPHIC ALPHABET.

IN our last number we published a communication from Mr. C. F. VARLEY, containing the International Telegraphic Alphabet, as at present used on all telegraph lines in the world except the United States and Canada, with a detailed description of the principles upon which it is arranged and the advantages arising from its use. We wish that the telegraph operators and superintendents in this country would examine the subject of a change in the telegraphic alphabet, in an unprejudiced and thoughtful manner. Even were there no other reasons for a change, the advantages arising from a uniform system of arbitrary telegraphic characters throughout the world, would, in our opinion, furnish a sufficient one. It cannot be denied that the alphabet now used in this country is a most defective one; in fact, these defects are so palpable to the mind of every telegrapher that it is superfluous for us to enlarge upon them, and we speak advisedly when we say that a large number of the best telegraphers in the country are in favor of some change which will at least do away with the "spaced letters," which are a perfect stumbling-block in the way of the greater number of operators now in the service. Every operator knows that in the majority of cases, the reading by sound of words containing two or three of these letters in juxtaposition is a mere matter of "guess-work," and not unfrequently the guessing is considerably wide of the mark. This has long been felt by all thinking men to be a serious evil, but since the opening of the Cuba line, the delays and vexations occasioned by the attempt to transmit Spanish messages over the American lines by operators unacquainted with that language, has become an almost intolerable annoyance. The time will come when we shall have telegraphic communication from our Pacific Coast to the Asiatic Continent, possibly by the Behring Strait route, but more probably by a submarine cable. In that event, messages in almost every known language will be liable to traverse our lines, when the peculiar beauties of the present system would at once become apparent.

We believe, however, that the desirability of a change is almost universally conceded, and the question then arises whether this change can be accomplished without serious inconvenience. We believe that it can. Mr. VARLEY says that "the change was not attended with any serious difficulty," upon the introduction of this alphabet upon the English lines. There was naturally a prejudice against it on the part of some of the operators, as would naturally be the case, but the force of "moral suasion" was applied to the refractory ones, in the shape of a threatened reduction of salary, which greatly assisted them in learning to use the new alphabet, and on the day fixed upon for the change, it went into operation simultaneously all over the system without any inconvenience. . .

We are aware that in consequence of the method universally adopted in this country, of receiving messages by sound, the change would be less easily accomplished than in England where none but recording instruments are permitted to be used. It is much more easy to learn to write a new alphabet or to read it on paper than to read it by the ear, but there is no insurmountable difficulty about the latter as is proved by the number of operators now on our lines who can work either the Morse or Bain alphabets with equal facility.

If any change be made, there can be no question as to the advantage of adopting the International alphabet in preference to any other. It will be seen that it does not differ very materially from the American alphabet, as far as the letters most frequently used are concerned. It will also be found in using it that a large proportion of words remain unchanged.

The objection most frequently made to this alphabet is the increased length of many of the letters and consequent reduction in the speed of transmission, but this objection really amounts to little or nothing. The longer letters are very infrequently used, and the characters for punctuation, etc., scarcely at all, with the exception of the period, which is no longer than in the American alphabet. The fact that the letters can be written much closer together without confusion when this alphabet is used, in consequence of the absence of spaced letters, will be found to compensate in practice for the slightly increased length of some of the characters.

We should be glad to see the intelligent and enterprising operators of America introduce this improvement of their own accord. If a number of first-class men would agree together to learn this alphabet thoroughly, and then use it when working with each other, that example would be soon followed by others. We feel certain from our own experience with this alphabet, that after a thorough familiarity with it there are few who would have any desire whatever to return to that now in use.

#### THE TELEGRAPHER AND ITS CONTRIBUTORS.

EVERY reader of THE TELEGRAPHER will remember the beautiful sketch which we published a few weeks since, from the pen of one of our most esteemed contributors under the title of "A Midnight Reverie," and which has been extensively copied by the press throughout the country. A few days since we received a copy of it which an occasional reader of our paper had cut from a Western paper, who "thought it worthy of a place in our columns," not knowing that it originally appeared there. This is only one instance of many, which show that our efforts to make THE TELEGRAPHER an interesting and valuable paper to every person connected directly or indirectly with telegraphic matters, have not been altogether in vain.

We have seldom taken occasion to re-publish the many complimentary notices which we have received in the columns of other papers, preferring to let the readers of THE TELEGRAPHER form their opinion of it upon its own merits. We cannot, however, repress a feeling of gratification to observe that it is gradually assuming a position as the standard authority upon telegraphic matters in this country. Many of its articles have been translated and republished (with the engravings) in the telegraphic journals of France, Italy, and Germany, as well as in the principal engineering journals of England.

It is our aim to make this paper, as far as practicable, a complete historical and scientific record of the American Telegraphic system, but to accomplish this we must be aided by the contributions of others. There is more talent and knowledge among the telegraphers of America, as a class, than among any other similar body in the world, and if each would do his part, the interest and usefulness of THE TELEGRAPHER might be increased fourfold.

Our readers are under lasting obligations to our enterprising and indefatigable Western correspondent, Mr. J. LENHART, of Chicago, for the large amount of interesting telegraphic news and personal items which he contributes to our paper. Chicago rivals New-York as a great telegraphic center, and needs just such a man to properly represent its interests in the columns of THE TELEGRAPHER.

From the capital of the Empire State we also receive a frequent and generous supply of valuable contributions from various sources, for which we are largely indebted to a steadfast friend of our enterprise and an earnest worker, Mr. S. C. RICE.

There are numerous others whom we have not space to mention, who have constantly aided us by their assistance in this and other respects, to whom we wish publicly to express our obligations. We would say to our friends everywhere "go and do likewise." We cannot make such a paper as you would wish THE TELEGRAPHER to be unless we have something to make it of. An editor who is obliged to remain in his office from one week's end to another, cannot reasonably be expected to know everything that transpires even in his own immediate neighborhood. Send along your contributions, but do not forget that we cannot publish *everything* as soon as it is received. Matters of immediate interest must frequently take precedence of others of even greater value, which are none the worse for being kept on hand for a time. Everything of real interest which is sent us will sooner or later find its way into our columns. Let us hear often from "O. P. ERATOR," "CENTRIPETAL," "J.," of Albany, and the rest of the "gifted." And finally, dear readers, do not neglect to tell those of your friends who are non-subscribers how much valuable and interesting reading they lose in a year by not having their names down on the subscription-list of THE TELEGRAPHER.

WANTED.—The address of L. J. BLADES, formerly of Yardleyville, Pa., also H. F. DUNCAN and H. D. FRANKS, formerly of U. S. Military Telegraph at Richmond, Va.

T. H. SHERMAN,  
W. U. Telegraph, Washington, D. C.

THE BANKERS' & BROKERS' TELEGRAPH COMPANY.—This company commenced working to Boston on Thursday last from their offices at 16 Broad street and in the Gold Exchange in this city, using two wires of the Western Union Company, which it is said have been leased by the former company. Their office in Boston is at No. 5 Congress square.

FATAL RAILROAD DISASTER IN VERMONT.—*A Telegraph Operator Among the Injured.*—On Wednesday last a train was backed off the abutment at Harlow Bridge near Northfield, Vt., which was burned a few days since and some fifteen persons were killed and a large number seriously injured among whom was GEORGE RANDALL, who is employed as a telegraph operator at Northfield. It is believed that his injuries will not prove fatal.

TELEGRAPH OFFICES CLOSED.—The Raritan and Delaware Railroad Co. have dismantled all their stations below Manchester, and have removed the telegraph offices and furniture.







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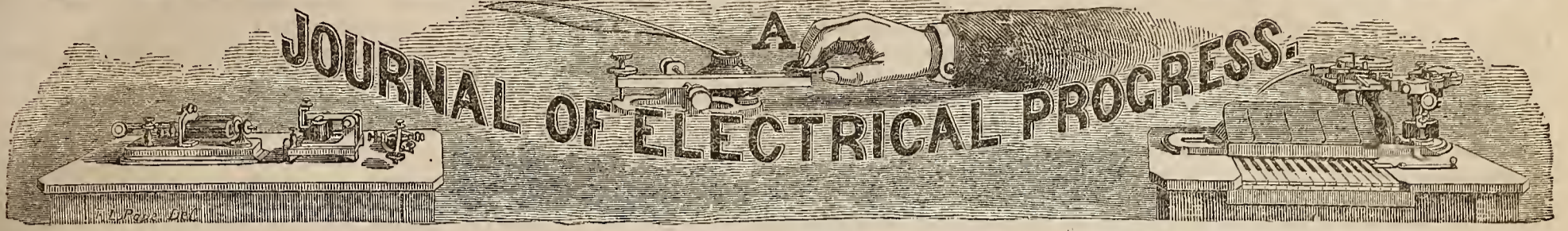
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Aside from the advantages apparent upon inspection of these magnets, their acknowledged merits consist in the construction of the helix, which was patented Aug. 15, 1865. This being of naked copper wire, so wound that the convolutions are separated from each other by a regular and uniform space of the 1-600th to the 1-800th of an inch, the layers separated by thin paper. In helices of silk insulated wire, the space occupied by the silk is the 1-150th of the 1-300th of an inch; therefore a spool made of a given length and size of naked wire will be smaller and will contain many more convolutions around the core than one of silk insulated wire, and will make a proportionably stronger magnet, while the resistance will be the same.



# THE TELEGRAPHER.



Vol. IV.—No. 17.

New-York, Saturday, December 21, 1867.

Whole No. 75.

## The Proposed Fire-Alarm Telegraph in Albany.

THE subject of a fire-alarm telegraph for our city, which has been so freely agitated by the press, the Common Council, the Fire Commissioners and the people lately, and which has reached a point where its adoption is almost certain, is one of more than ordinary importance, viewed locally, and its adoption is an evidence that our city fathers intend to be fully up to the times.

The sum of fifteen thousand dollars has been placed at the disposal of the Fire Commissioners with which to procure the best system that offers. Three systems only, so far, have been exhibited, and their respective merits freely discussed. Each has its friends and advocates.

The Gamewell system seems to have the most friends, as its successful operation in many large cities in the country gives promise that there will be no failure if it is adopted here. This system embraces the ringing of the church bells by telegraph, which none of the others do. This item involves an additional expense—the machinery for that object being quite elaborate. The great point of excellence in the Gamewell system is that the alarm is given automatically—by mechanism—which is the only really safe manner of giving it. It would seem that nothing could be more simple or effective than the alarm-box of the Gamewell system.

¶ A simple pull at a hook, which a horse might pull upon, almost without injury, and which has no other movement than downward, is all that is required of the rank and file of the public. Unerring machinery accomplishes the rest.

The Cushman system relies upon the head and fingers to count and tap out upon a telegraphic key the box or district where a fire may occur. This manner of giving an alarm is as unreliable as can be imagined. Experienced telegraph operators often fail to correctly make the figure "6" on account of the difficulty in counting six dots. Let a man whose house is on fire, or an excited policeman, attempt to do in a hurry what a telegraph operator finds it difficult to do when cool, and his failure will be as signal as his signal is a failure. For this reason alone this system is not worthy of serious consideration.

The Fairchild system is similar in many respects to both the others. All systems must use in common the telegraphic circuit with its batteries and machinery. The points of difference mainly are in the alarm-box and the arrangement of the circuits. As upon the alarm-box so much depends for the usefulness of any system, great care should be used that the best be secured.

The Fairchild system does not ring the church bells by telegraph, but, like the Gamewell, gives the alarm by machinery. Its disadvantage is that where the Gamewell requires but one impulse to give four or five distinct alarms, the Fairchild requires the crank to be turned as many times as it is thought best to repeat the alarm. This may be done so rapidly by an excited person as to make the signal unintelligible. Another objection is that a general alarm is rung every time the signal is given, which consumes valuable time and tends to confuse. One general alarm at the commencement is all that is required. Another objection is that if the crank is turned backwards the alarm is reversed; and the firemen, instead of being directed to box forty-two, for instance, would be directed to box twenty-four. This, in many cases, might make a slight difference.

Aside from the signal-box, the Fairchild and Cushman systems are good enough; but it is felt in the Fire Department, and it is the pretty general opinion, that no system will do, unless it rings the church bells by telegraph. The church bells have so long been used for fire-alarm purposes here that it seems almost a necessity that it be so; but would it not be better, in practice and peculiarly, to inaugurate another plan? It would be best not to ring a public alarm at all, for that calls the loafers and thieves to a fire as well as the firemen. But as long as the present system of a half paid and half volunteer department remains, a public alarm is necessary. Is it necessary to use the church bells at all? The sum of fifteen thousand dollars is appropriated. The Gamewell system, including the ringing by telegraph of the church bells, will exhaust the appropriation. Without the ringing of the church bells by telegraph a reduction of some four thousand dollars will be made. Let the city take the Gamewell system at eleven thousand dollars, or the Fairchild or Cushman system—if approved automatic signal-boxes will be substituted for the organ-grinding and woodpecker concert—aud with the balance of four thousand dollars, furnish each station-house and engine-house in the city, with a clear, penetrating toned alarm bell, which, being evenly distributed over the city, would give a more general alarm than it is possible to give with the church bells.

Each station and engine-house being furnished with a gong, in telegraphic connection with every signal-box in the city, would instantly receive, and the policeman or fireman on duty could immediately spread by the alarm bell, the signal as received. If these smaller bells were found insufficient, a ponderous bell might be procured—to be located near the Fire Commissioners' or Chief Engineer's office, or the central station of the Fire-Alarm Telegraph.

Such a plan would place the fire-alarm apparatus under the complete control of the city—would make an alarm startling, as it should be, and never be confounded with other calls, which church bells should be held sacredly for.

Even if the telegraph should not be adopted, the plan of the city's owning its own alarm bells would be advantageous, for the alarm could be much more rapidly spread where the bells are at hand, than where they are often blocks away.

In the remodeling of the city buildings, accommodations might easily be made for the officers of the Fire Department, and at the same time, provision for the hanging of a bell, whose heavy tone, sounding out only for fires, would never be mistaken for the peaceful call to worship, but rather a battle call, for a contest with a devouring enemy.—*Albany Argus.*

## Important Suit

AGAINST "THE NEW-YORK, NEWFOUNDLAND AND LONDON TELEGRAPH COMPANY."

A BILL in equity was filed on the 14th of December, in the United States Circuit Court, on the part of HORACE B. TIBBITTS, against PETER COOPER, MOSES TAYLOR, MARSHALL O. ROBERTS, CYRUS W. FIELD, DAVID DUDLEY FIELD, S. F. B. MORSE and TALIAFERO P. SCHAFNER. The bill sets forth substantially that, in 1852, HORACE B. TIBBITTS procured, through one FREDRICK N. GISBORNE,

an English engineer, from the Province of Newfoundland, an exclusive grant or charter to construct and operate a telegraph line extending from the city of New-York to the northern extremity of Newfoundland, for which he claims to have paid GISBORNE the sum of \$20,000; that thereupon he formed a company known as the Newfoundland Electric Telegraph Company, and proceeded to construct the line; that after having expended and applied a sum of about \$101,000, financial embarrassments impeded its further progress, this being about the month of March, 1854; that at this period negotiations were brought about between the plaintiff and the several defendants above named, whereby the latter, upon certain conditions, proposed to join in the company and perfect the construction of the line, then more than half completed, and that arrangements to this effect were at one time actually agreed upon; that, as subsequently transpired, the defendants preferred to have the control of the whole enterprise, and proposed to purchase out the entire property, franchise and interest of the parties then composing the Newfoundland Electric Telegraph Company; that after various negotiations it was finally agreed that the parties named as defendants should, and they afterwards did, purchase out the then existing company upon substantially the following terms: That the defendants would pay the then existing bonded debt of the company, amounting to about \$61,000, and would pay and take up the floating debt, amounting to about \$40,000, the proceeds of which bonded debt, and the subject matter of the floating debt, had all been applied to the construction of the line; that they would also pay stock *bona fide* in the then existing company, and would furthermore pay to the plaintiff, in consideration of the \$20,000 paid by him for the procurement of the original charter, the personal expenditures of time, labor, etc., made by him during the period of two years, an additional sum of \$50,000 in the full paid stock of the new company when issued; that it was further agreed that the original company should pass their franchise and charter by a deed of transfer to the new associates, being the parties named as defendants, and should also pass a resolution by their board of directors, to be approved by their stockholders and executed under their corporate seal, authorizing and tendering the surrender of the existing charter of the province of Newfoundland, or resolutions having the same amended for the new associates were preferred, to the end of forming the new company; but that the new associates and purchasing parties had no right to surrender the existing charter unless they did procure a new charter equally valuable as the one previously procured by the plaintiff; that the particulars in detail of this purchase, sale and surrender of the franchise and property of the existing company were reduced to writing and placed in an envelope, sealed up with the seal of the existing company, and placed *in escro* with DAVID DUDLEY FIELD, the attorney and agent of the new associates, to be held in trust until the charter should be amended or the new one obtained and the new organization formed, and the stock issued to be paid to the parties comprising the then existing company. The capital stock of the new company, to be issued by the new associates, was to be equal to the actual cost of the line, with the \$50,000 to be paid to Mr. TIBBITTS added, and was not to exceed the estimated sum of \$250,000,



which was to be the capital stock of the new organization, and the stock to the retiring parties was to be issued on that basis.

The plaintiff also alleges that none of the bonds, so far as known to him, have been paid or discharged, and exhibits with his bill \$33,000 of said bonds as part of his claim, and which, together with the \$50,000 of stock, he claims as due to him upon the basis of \$250,000, as above stated, and alleges that he has never been advised by the new associates, or those persons composing the corporation known as the New-York, Newfoundland and London Telegraph Company, of the insurance of their stock, or in fact of any pay or compensation whatever for his first and original investment in the enterprise, but he alleges, upon information and belief, that the new organization has issued stock to the amount of \$4,000,000, or forty thousand shares, and claims that he is entitled to the proportionate increase as \$250,000 is to \$40,000; which, with the \$50,000 of stock due to him on the basis of \$250,000 and the \$33,000 of bonds, with interest added, making nearly one-half of the whole capital stock of the existing company, is properly due and payable to him.

The bill sets forth that this agreement was entered into with all the defendants, severally and jointly, and that each and all of them are liable to him for the amount of his interest as above set forth.

It is further shown in the bill of complaint that it was the intention of the plaintiff to seek to make an ultimate connection by telegraph across the Atlantic, and that the present name of the New-York, Newfoundland and London Telegraph Company was the title suggested by him to the new associates before the surrender of the charter procured by the plaintiff and the obtaining of the new one under which the defendants are now operating their telegraph line.

Process was served yesterday on all the parties, and the plaintiff prays for an injunction, enjoining the defendants from interfering with or disposing of certain amounts of stock claimed by him. No day has as yet been fixed for the trial, and of course no answer has yet been filed. The case will be of great interest when brought up, and Judge NELSON will probably preside at the trial. For the plaintiff, BIRDSEYE & CROSBY.

### Telegraphy and its Tariffs.

THE *Trade Review* has an article on the Canadian telegraph system, which conveys some sound suggestions that, if carried into operation, would tend to lessen the cost of telegraphic messages, increase to an enormous extent their number, and almost create a local use of the wires. Under the present system of telegraphic accommodation furnished by companies, it may be in vain to expect to realize such an extended use and vastly reduced rates as are now contemplated. To that end, either competition, or the assumption, more or less completely, by Government, of the telegraph lines, would be necessary; and the latter would seem to promise to be most effective. An American Telegraph Company leases the Nova Scotian and New-Brunswick lines, and the Montreal Telegraph Company has absorbed its Canadian rivals, as also the Vermont and Boston lines, and pays its shareholders a dividend of ten per cent, notwithstanding heavy expenses incident to the absorption of old lines and the construction of new ones.

Now, if the Government were to assume the telegraphy of the country, as it does its postal system, such a reduction of the tariff could be made as no private company could afford, seeing that there would be nothing more than interest and repairs to pay, as it would not be necessary for the Government to make a profit from the department. The profits now acquired would then be applied to the reduction of the rates. Another means of increasing the number of messages sent over the wires would be by a change of the principle on which the present tariffs are based, and which seems to be somewhat arbitrary. This should be done with a view to a special cultivation of the local business. As the *Review* observes, people consider it unfair that, while it costs twenty-five cents to telegraph from Montreal to Ottawa, it should cost just as much to telegraph from Montreal to Lachine. It is true that the trouble is the same in both cases; but there is, at first sight, a seeming injustice, which, combined with the actual amount demanded, has

hindered almost any growth of a really popular telegraphy for short distances; whilst this wire-traffic, if it may be so called, has developed itself largely for commercial purposes and over great distances. The tariffs should be greatly reduced (which could be done under a non-profit or Governmental system), and they ought to be calculated simply by "circuits"—that is to say, a given amount should be charged over distances which are solely under the agency of one operator. For each repetition of the process necessary to forward messages to a more remote destination, there might be a repetition of the cost. Perhaps one cent a word would be found sufficient for the transmission of a message over one circuit, as, for instance, from Montreal to Toronto. Be this as it may, the telegraph is an engine which has hitherto not yielded half the benefits to the community of which it is capable. It is the true annihilator of distances, and if it be fit that the post-office should be conducted by Government, it is equally fitting that they should have the working of a national telegraph.—*Montreal Witness*.

### Dinner to the Russian Minister.

A VERY handsome dinner was given on Thursday at DELMONICO'S, in this city, by the Western Union Telegraph Company, to his Excellency, Baron STOECKL, for so many years well known to our citizens as the able and accomplished envoy of the Czar at Washington. The banquet—as Mr. ORTON, who did the duties of host on the occasion with infinite spirit and tact, observed—was a "funeral feast" in commemoration of the stoppage of work on the Russian branch of the grand world-encircling line of telegraph, planned and commenced by the Western Union Company. This line has been abandoned, as Mr. ORTON justly said, only because the practical and energetic Americans by whom it was designed have seen their enterprise fulfilled for them by the success of the Atlantic Telegraph. Not less, however, is their debt of gratitude to the Russian Government, which came forward nobly in support of their enterprise in the darkest days of our recent civil war, and to Baron STOECKL, who never for a moment faltered in his faith in the grandeur and permanence of the American Union, and who gave all the weight of his influence at St. Petersburg to the Telegraph Company, when it most surely needed aid and sympathy.

After a feast of things material, served in the best style of the best of restaurants, under the personal supervision of Mr. CHARLES DELMONICO, a series of speeches were made in response to appropriate toasts. Four great interests were represented at the board—the Telegraph, the Press, the Expresses, and Commerce. The toast of "the President of the United States" was responded to by Mr. SMYTH, the Collector of the Port, who, felicitously using a favorite phrase of Mr. JOHNSON, promised for the Government that, however dark and confused the present aspect of public affairs might be, those who were charged with public responsibilities would at least "do the best they could." Baron STOECKL, in a short and graceful speech, expressed his conviction that the "stoppage" of the Russian American telegraph line was no "stoppage" at all, but only a "suspension," since it was morally certain that in the progress of the two greatest and youngest nations of the world, Russia and America, this system of overland telegraphic communication would at no distant day become an independent and imperative necessity of commerce; and since it was equally certain that no effort would ever be wanting on the part of Russia to assist in its completion. Mr. DINSMORE, Mr. WELLS, and Mr. MOWRY made appropriate responses to sentiments in honor of that wonderful system of express enterprises which of all the modern developments of commerce may be fairly said to be the most characteristically American. Major COLLINS, whose name will ever be identified with the grand idea of the Overland World Telegraph, paid a well-deserved tribute to the share taken by the Czar, ALEXANDER II., in the promotion of that vast enterprise, and Mr. PETER COOPER, for the Atlantic Telegraph Company, and General W. F. SMITH, for the West India Telegraph, extended the right hand of fellowship to those who, at some future and not distant day, must be their co-workers in the task of putting Puck's girdle about the earth in forty minutes. Commerce was represented by the Hon. WM. E. DODGE, and the Press

by Mr. MARBLE and Mr. HURLBERT, of the *World*, and by Mr. YOUNG, of the *Tribune*.

The occasion, was not only eminently agreeable, but in a high degree noteworthy and interesting, and it may be regarded as a valuable contribution to the growth of a better understanding and a more cordial sympathy between the great empire of the East and the great republic of the West.—*World*.

### A Brilliant Wedding.

THE marriage of NORMAN B. WILLIAMS, Esq., of Chicago, and Miss CARRIE CATON, eldest daughter of Judge J. D. CATON, of Ottawa, Ill., was solemnized with great eclat at the latter place on the 11th inst. The ceremony took place in the Court House, in the city of Ottawa, and was attended by a large concourse of friends and relations of the bride and groom—a special train running from Chicago loaded with invited guests. The presents to the bride were numerous and costly. The costumes of the bridal party were all elegant and becoming. The bride was arrayed in a dress of white satin, with organdie flower sprays on the bodice and skirt. This dress came from Paris, was of the finest material and workmanship, and cost a fabulous sum. A lace veil fell to her feet. In her hair were the customary orange flowers. Her only jewelry were costly pearls. The groom was also dressed in a tasteful and becoming manner, and looked finely. At the close of the ceremony an elegant collation was spread, several pleasant hours were spent, when the guests departed and left the happy couple to their new life. The numerous company present, the splendid manner in which everything was done, the magnificent trousseau, and the costly presents, make this the grandest wedding which has ever taken place within the limits of that State. "May no sorrowing cloud e'er o'ercast the bright horizon of love's young dream."

### Fire-Alarm Telegraph in Albany.

At a meeting of the Common Council of Albany, held on the evening of December 2, the following resolution was passed by a vote of 17 to 4.

"Resolved, That a special committee of three members of the Common Council be appointed, to consist of one member from each of the Finance, Fire Department and Law Committees, in connection with two members of the Board of Fire Commissioners, to negotiate a contract with the proper party or parties to construct for the city the best and most thoroughly tested system of fire-alarm telegraph. The amount to be expended under said contract not to exceed \$15,000, and that the sum of \$15,000 be appropriated to carry out the purposes of this resolution."

At a subsequent meeting the following committee was appointed. Aldermen MILLS, BANKS and HASCY, and Fire Commissioners J. C. CUYLER and KEARNEY.

The committee have held two or three meetings, and commenced their labors. Friday and Saturday Fairchild's system was exhibited and explained to them. The committee, before coming to any conclusion as to which of the various systems shall be adopted, will visit Boston to make a thorough inspection of the Gamewell system, which has been in operation in that city upwards of fifteen years.

### An Extraordinary Telegraphic Feat.

OUR special correspondent at Chicago sends us the following:

"Last night (Dec. 15), an unbroken circuit was made up and messages sent direct without repetition between Houston, Texas, and Salt Lake City via New-York. The Houston operator sent: 'Houston sends greeting to Salt Lake. We sit with coats off and windows open.' Salt Lake promptly replied, 'Weather beautiful here, but have a snow-storm in Montana. Brigham Young has just married another heifer.' Houston replied, 'Don't touch the brass in your key, or you'll get the yellow fever.' After this Helena, Montana, five hundred and eighty-five miles north of Salt Lake was 'put in' and conversed for a few moments. The circuit worked over the following route: Houston, New-Orleans, Mobile, Knoxville, Washington, New-York, Chicago and Salt Lake City. Had the San Francisco operator not



been out of his office he would have been drawn into the circuit and the length extended a thousand miles more. This is a remarkable performance, since Houston is eighteen hundred miles from New-York, which is also two thousand four hundred and thirty-six miles from Salt Lake City. The total distance from Houston to Helena is nearly five thousand miles. This is, we believe, a feat hitherto unparalleled in the annals of telegraphy. The wires were in fine condition and the weather favorable."

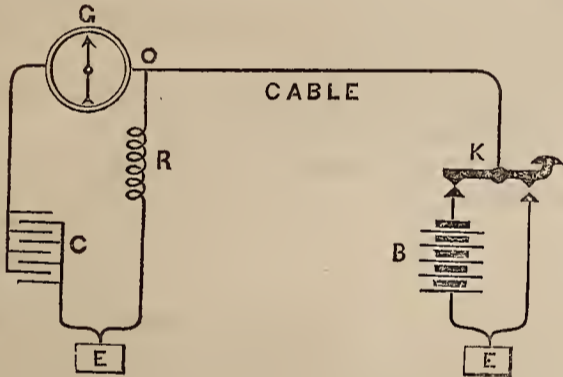
**CORRESPONDENCE.**

*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 Franco-American Telegraph Cable.**

TO THE EDITOR OF THE TELEGRAPHER :

THE system of working by means of condensers is shown in the accompanying diagram; a more extended description of the *modus operandi* will be found in *Engineering* of Nov. 2, 1866. Possibly the same may enlighten A. J. DE M. somewhat. It will be seen that it is not necessary to neutralize or even to reverse the current in order to make right or left deflections, which may seem somewhat paradoxical to many. The sending apparatus consists of a battery (B), which is permanently connected with the cable by means of a Morse key (K), the cable is therefore constantly charged. The key is used to place the cable temporarily to earth so as to partially or wholly discharge the same. The receiving apparatus consists of a reflecting galvanometer (G), one side of which is attached to the cable, and the other to one series of plates of the condenser C, the other series being connected to earth. R is a coil of wire or conduc-



tor of great resistance, allowing a constant leakage from the cable to the earth. The cable is charged to a tension equal to that of the battery, and the condenser to a tension equal to that of the tension of the point O. But owing to the great resistance of the coil R, the tensions are about equal. On charging the cable with the battery at K, a rush of electricity enters the cable, a quantity sufficient to charge the condenser passes through the galvanometer, deflecting the mirror until it is charged equal to the tension of the point O, when the beam of light will return to zero. By bringing the cable to earth the charge of the condenser C will become disturbed by the withdrawing of a portion of its charge, for long or short intervals, and by so doing lowers point O below that of the condenser, thereby allowing the current to pass through the galvanometer and give an indication of long or short duration, as usually required by the Morse system.

GEORGE LITTLE.

New-York, December 12, 1867.

**Telegraphic Repeaters.**

TO THE EDITOR OF THE TELEGRAPHER :

IN No. 14, Vol. 4, of THE TELEGRAPHER, "X" says a repeater on the same principle as the one given in THE TELEGRAPHER, No. 8, Vol. 4, has been in use in Canada for the last ten years, and has been superseded by Toye's new repeater, etc. In regard to the first, it may be that others have tried that principle but could never make it effective, as an ordinary relay will not work it satisfac-

torily. In regard to the second, that principle was invented and patented by C. H. RUDD, of Cleveland, O., about a year before the diagram was given by TOYE in THE TELEGRAPHER. Mr. RUDD's method of applying it seems much the best. The principle could never be generally adopted, even had it proved itself as good as some of the older repeaters. It cannot be put up without a main battery, and in some instances two, and a main line and branch cannot be connected by it.

There is a growing demand for a repeater that is simple, that can be put up at any point without extra expense, that will need little attention, and work easy through an escape. These qualities are combined in the relay and repeater illustrated and described in THE TELEGRAPHER, No. 8, Vol. 4.

**The Printing and Morse Telegraph Instruments.**

TO THE EDITOR OF THE TELEGRAPHER :

THE discussion, in recent numbers of THE TELEGRAPHER, of the comparative merits and liability to error of the Morse and printing telegraph systems, has excited much interest. The difficulty seems to be that operators on either instrument are not willing to concede the real merits of the other. This has always been the case, and perhaps it is unavoidable.

As regards the liability to error, it would seem that an examination of the two systems would satisfy any unprejudiced person of the great superiority in this respect of the printer. While it cannot be claimed that the printing telegraph is entirely free from liability to error, yet it must be conceded that this liability is reduced to the minimum; and whereas by the Morse system both the sender and receiver are liable to make mistakes in the transmission and reception of a message, especially when working by sound, on the printers there can be no error in receiving if the dispatch is properly sent. This reduces the chances for errors fifty per cent at the outset. Again, the construction of the Morse alphabet is such that the omission of two or three dots and dashes, or the addition of superfluous ones, may change entirely the character of the dispatch. Every operator knows that when lines are working badly a good deal of the receiving on Morse instruments is guesswork. In this there is largely increased chances for mistakes, while upon printers, if a message comes at all, it must come correctly, unless there is gross carelessness on the part of the operator in transmitting.

On the other hand, it is true that, for long lines and on circuits where there are a multiplicity of small offices, the Morse instrument, from its simplicity and the comparative ease with which it is operated, has proved the best instrument available. The House instrument is open to the objection, that, owing to the size of the helix employed, and the consequent quantity of small wire introduced into the circuit, only a few instruments could be used upon a wire, and it did not prove practicable for working long distances. The Combination instrument, which has now superseded the House, is not open to this objection, the magnet employed being little if any larger than that in the Morse relay. The only difficulty experienced in working this instrument upon circuits as large as those worked by the Morse, arises from the fact that as yet no repeater has been invented which will work reliably in connection with it. If this could be obviated, and it would seem as if it might be, the Combination instrument could be successfully worked on any circuit where a Morse instrument would be available.

There is no reason to suppose that the possibilities of printing instruments have been exhausted. There is an opening yet for great improvements in printing telegraph instruments, and for one I believe that it is possible for an instrument to be invented, which shall be simple, economical, and equally efficient on long circuits as the Morse. When such an instrument is produced, it will to a great extent supersede the Morse, for it is an indisputable fact that printing telegraphs are generally preferred by the public, and their intrinsic merits are so great that with the disabilities referred to removed, they will be beyond the reach of competition.

Electricians and inventors are constantly experimenting and striving to overcome these difficulties, and for one I have never ceased to feel confident of their ultimate success.

AN EX-PRINTER.

**MISCELLANEA.**

**THE FIRE-ALARM TELEGRAPH.**—The Common Council of Indianapolis are agitating the subject of a fire-alarm telegraph.

**NEW AND USEFUL DISCOVERY.**—The *Prestidigitateur* in the Chicago office has invented a plan for receiving fast writing slow, and has successfully applied it on the Detroit wire.

**SAD ACCIDENT.**—MR GLENN HAYNES, of North Point, Penn., a telegrapher and a member of the Corry District of the N. T. U., fell under the cars, on the afternoon of Saturday, Dec. 15, and was fatally injured, both legs and an arm being severed. He leaves a widowed mother and a brother, who were dependent upon his exertions for support.

**"STRIKE WHILE THE IRON IS HOT."**—The *Artist*, recently from Bitter Creek, sends us the following: "We have seen some queer messages in our time. Several years ago, when we were connected with the Southern lines, it was nothing unusual during the yellow fever season to see dispatches passing through to the North announcing the death of a member of a firm, and giving marked quotations all in the same message. But we saw one the other day which completely eclipsed all others. The message was from Cincinnati going to Milwaukee, and it read as follows: "Send Pauline here immediately; have a chance to get her married." There is nothing like Western enterprise.

**A TELEGRAPH OFFICE IN A PRISON.**—The Montreal Telegraph Company have recently constructed a line sixteen miles long, connecting Clinton Prison with the city of Plattsburg, N. Y. The telegraph station is known as "Dannemora," and the office is in the warden's room. The operator in charge is GEORGE E. GORDON, who was several years ago operator at Greenbush, N. Y. GORDON is a convict, having been sentenced to Clinton for life, about two years since for the murder of OWEN THOMPSON, a drover at West Albany.

**ANOTHER STORM AT THE WEST—INTERRUPTION OF TELEGRAPH LINES.**—The sleet storm on the night of the 12th again prostrated nearly all of the wires extending out of the Chicago office. All of the lines connecting with the East were down excepting one connecting us with Cleveland. Several operators were dispatched out to Calumet Station, from whence three wires East were found "OK." Superintendents and managers went to work recopying business, and it was forwarded to Calumet, and communication with the East was thus opened.

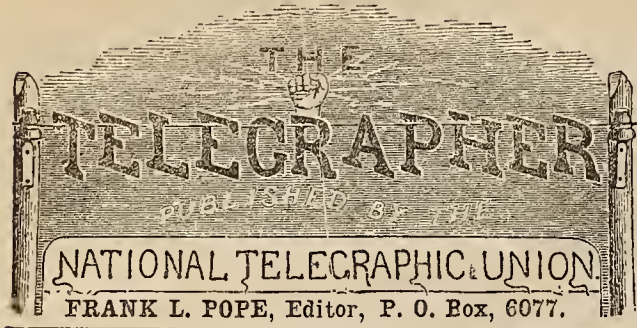
**NEW INSULATOR FOR TELEGRAPH WIRES.**—A patent has recently been obtained by SAMUEL C. BISHOP, agent of the Bishop Gutta-Percha Company, at 113 Liberty street, for an improvement in the insulation of electric wires or conductors by using in the place of gutta-percha or india-rubber, which have heretofore been employed for that purpose, a gum known by the name of "valata" or "balata," which is obtained from a tree or plant indigenous to certain portions of South America. This material is more tractable, and easier to work than india-rubber in its unprepared state, and less brittle than gutta-percha, and capable of being worked or used under much higher temperatures than the latter substance.

**THE HUGHES TELEGRAPH SYSTEM IN TURKEY.**—The Constantinople correspondent of the *New-York Tribune*, says that AGATHON EFFENDI, the Director General of Telegraphs in Turkey, who was at the Paris Exhibition, was so much impressed with the exceptional honors paid to our fellow-citizen, Professor HUGHES, that he at once invited him to come to Constantinople and introduce his system there. A new direct line was opened to Vienna to be worked with the Hughes instrument. The Servian Government at first objected to a direct line through that country, but at last gave in, and the line has been opened. Mr. HUGHES has been for some weeks in Constantinople, and has won golden opinions not only for his telegraph, but for himself. His machine as now perfected, is certainly one of the wonders of the age. The operators declare that they can do as much work with it in two hours as with the Morse instrument in eight. Mr. HUGHES is still a young man, and it is to be hoped that unlike most inventors he may live to enjoy the fruits of his invention.

**MARRIED.**

**WILLIAMS—CATON.**—At Ottawa, Ill., Dec. 11, by Rev. Dr. M. K. WHITPLESEY, NORMAN B. WILLIAMS, Esq., of Chicago, and Miss CARRIE CATON, eldest daughter of Judge J. D. CATON, of Ottawa.





SATURDAY, DEC. 21, 1867.

### WORK FOR THE NEW YEAR.

THE new year is close at hand, and with its advent we hope to see a goodly number of names added to our books. A few of our friends have done nobly in adding to our subscription-list, foremost among whom stands that zealous worker, Mr. A. H. BLISS, of Chicago. There are hundreds of our readers each of whom by using a little individual effort could aid us, and benefit the profession by inducing others to become not only readers but patrons and joint proprietors, for this journal is the representative of the telegraphic profession, and all should realize the necessity of sustaining it, in order to enhance their own interests. We are not backed by a capital of forty millions (?), and cannot afford to distribute this sheet gratuitously, and pay the postage in advance, but we shall strive to render a fair equivalent for the money invested, and to this end we again invite our friends to send in all items of interest to the fraternity, without pausing to inquire whether others had sent the same. An editor is supposed to be equal to any emergency, but he cannot be in every telegraph office, and secure every item; he cannot make an acceptable journal without them, neither can he pay the printer without money; so while thanking our old friends for their noble efforts in behalf of THE TELEGRAPHER, we invite the hearty co-operation of the whole fraternity in this good work, which is of far greater importance to them, as a body, than to us, as an individual.

### TELEGRAPHIC COMPETITION—WHAT CONSTITUTES AN "ANSWER."

A FEW days since a wager was made by the respective managers of the Western Union and Atlantic and Pacific telegraph offices at Oswego, N. Y., as to which could forward a certain message from that city to New-York and get an answer in the shortest space of time. It appears that owing to circumstances connected with the delivery of the message in this city, the parties interested have thus far been unable to come to any satisfactory decision as to which is entitled to the stakes, and they have therefore referred the matter to THE TELEGRAPHER for decision. The statements of both parties have been placed in our hands, and we will give a brief summary of the facts set forth, promising that the two statements entirely accord with each other in every important particular:

It was agreed between the two managers, Mr. FULLER, of the Western Union, and Mr. WEED, of the Atlantic and Pacific, that each was to take a copy of the following message, the contents in each case being the same, and the one first receiving and delivering an answer to the sender was to be entitled to the stakes:

OSWEGO, November 29.  
To BROWN, WATKINS & SHAW, 128 Nassau street, New-York:  
Send check for four hundred and forty (440), will you? Answer immediately.  
J. D. HAMMOND.  
11 pd.

Mr. FULLER states that it was also agreed that in case the party refused to answer both messages that the wager should be decided as a "draw."

The message by the Atlantic and Pacific line was delivered at the office, 128 Nassau street, about half a minute in advance of that by the Western Union, although the office of the latter company is three blocks nearer the destination of the message than that of the former. The clerk in the office at 128 Nassau street had just finished reading the message by the Atlantic and Pacific line when the Western Union messenger arrived with the other dispatch, and he informed the messengers that none of the firm were in and no answer could be given at that time. To the Western Union messenger, who was importunate for a reply, he said: "We will answer when we get ready." This verbal reply of the clerk was put in the form of a message, and delivered by Mr. FULLER to Mr. HAMMOND, the sender of the original dispatch. This document reads as follows, the handwriting being that of Mr. FULLER:

NOVEMBER 29, 1867.

To J. D. HAMMOND—By telegraph from New-York:

Will answer when we get ready.

6 dh D

BROWN, WATKINS & SHAW.

Upon it is the following endorsement, in pencil:

*This is not a correct answer.*

B. W. & SHAW.

An hour or two later, BROWN, WATKINS & SHAW sent a reply to the message in due form by the Atlantic and Pacific line. Mr. WEED claims that this was the first and only answer, and that he is therefore entitled to the stakes. Mr. FULLER claims that the clerk being left in the store to do business for the proprietor, his answer was for the time being the firm's answer to Mr. HAMMOND.

The decision of this matter turns upon the question whether the document delivered by Mr. FULLER to Mr. HAMMOND was or was not an "answer," in the proper acceptation of the term, and it seems to us that the decision might with more propriety have been left with the sender of the message; but as it has been referred to us we will briefly state our opinion upon the subject.

The message by the Atlantic and Pacific line being delivered first, the party to whom it was addressed would undoubtedly have answered by that line had he been present at the time of its delivery. The original message inquired if the check would be sent, and an answer, either negative or affirmative, was required. It appears that when the party returned to his office he did answer the message by the Atlantic and Pacific line. We do not think that a notification that an answer could not be obtained can be considered as an answer in itself, and it is evident that Mr. FULLER himself did not think so, or he would not have taken the course of putting the notification into the unusual form of a message from BROWN, WATKINS & SHAW to Mr. HAMMOND instead of the form prescribed in the rules and regulations of the Western Union Telegraph Company. As the parties in New-York neither sent the message delivered to HAMMOND, nor authorized any one else to do it for them, we do not consider it an answer to the original message in the proper sense of the term.

We are of the opinion that, according to the terms agreed upon, Mr. WEED is the winner of the wager; but at the same time we do not consider this contest as being any criterion whatever of the relative claims of the two lines to the patronage of the business public. Two messages delivered simultaneously to the two rival lines, without any means of dis-

tinguishing them from the ordinary run of everyday business, would afford a much more reliable test of the promptness with which business is ordinarily dispatched, than when sent with the full knowledge of all parties concerned that it is a "race" between the two lines.

THANKS.—We are indebted to the members of the Philadelphia District, through their Director, Mr. J. R. WOODRUFF, for cards of invitation to the annual ball of the District, which took place last evening. We deeply regret that the pressure of our duties prevented us from attending, as it was our intention to do. We learn that the ball was in every respect a decided success.

### PERSONAL.

B. F. COGGER has accepted a position in the Chicago and N. W. R. R. Telegraph office, Chicago.

STEVE MASON has accepted a position in the Chicago office.

CHARLES B. DORR, formerly of Toledo, O., has taken a position on the Chicago and Great Eastern R. R. at Chicago.

—TALBOT, recently from Cincinnati, has taken a position on the Union Pacific R. R.

MR. THOMAS TYRRELL, chief operator at Milwaukee, who has been on a visit to the East, returned to his post on the 11th.

CHARLES A. LEWIS is agent for the Western Union Commercial News Department at San Francisco.

A. H. ZEUBLER, late of the Western Union office at Bloomfield, N. J., has accepted a position with the Atlantic and Pacific Company at Schenectady, N. Y.

E. A. FRANKLIN has resigned his position in the Cincinnati office and gone South.

F. S. VAN VALKENBURG, recently of Julesburg, Col., is now working in the Buffalo office.

W. T. LINDLEY has resigned his position in the Chicago office.

DUG BURNETT, who has just returned from an extended tour through Europe has taken a position in the Chicago office.

BENJAMIN F. FOLLETT, of the Western Union Troy office, has been elected president of the Troy Young Men's Association.

M. A. MCCOY, of the Western Union Telegraph office, Pittsburg, Pa., has accepted a position in the New-Orleans office.

FRANK JILSON has been transferred from Watertown, Wis., N. W. Co.'s office, to the St. Paul office of same company. Mr. CONVERSE, of Burlington, Vt., takes place made vacant by JILSON.

WILLIAM R. YONTZ, late manager of the California State Telegraph office at San Francisco, Cal., has been appointed assistant superintendent of that company.

JAMES S. URQUHART has been appointed to the managership of the above office.

JAMES L. LILLIS, formerly with the American Company at 145 Broadway, N. Y., has been appointed chief operator at the San Francisco office, *vice* URQUHART, promoted.

PERSONAL.—Our young friends, ALBERT G. WARRINER, of this village, and Mr. WM. H. BAKER, of Troy, have purchased the photograph gallery owned by D. S. PIERCE. The new proprietors are busily engaged in refitting this establishment, which we hope, under the management of Messrs. WARRINER and BAKER, will lose none of its former prestige.—*Saratoga Republican*.

Mr. WARRINER, familiarly known as OBE, is an old telegrapher, and had charge of the Union Hotel, Saratoga office, during the past season. His many friends in the fraternity will wish him abundant success in his new field of labor.

GEORGE B. COWLAN, recently of the Chicago office, has gone to New-Orleans for the Western Union Telegraph Company.







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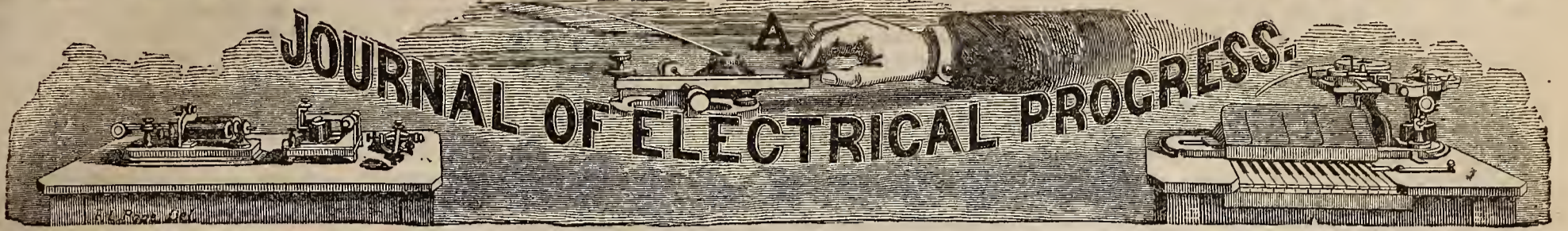
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# THE TELEGRAPHER.



Vol. IV.—No. 18.

New-York, Saturday, December 28, 1867.

Whole No. 76.

## The Russian Telegraph Expedition.

WE are pleased to be able to place before the readers of THE TELEGRAPHER the following facts concerning the Russian Telegraph Expedition, which were communicated to the *Chicago Tribune* by W. A. WALKER, Esq., one of the gentlemen who embarked in that enterprise, and who has recently returned home:

PORT CLARENCE, Russian America, Aug. 3.

We sailed from San Francisco, July 11, 1866, on board the flag-ship *Nightingale*, in command of C. M. SCAMMON, commodore of the fleet in the service of the Western Union Telegraph Company, bound for Plover Bay, East Siberia, with one hundred and fourteen persons, including passengers and crew. The vessel carried also a large cargo of stores and telegraph material, besides two small stern-wheel steamers, for use on the upper rivers, which completely encumbered her deck and rendered the voyage rather disagreeable. Nothing of interest occurred until our arrival, except the death of one of our constructors by delirium tremens, and his burial at sea, three days out from San Francisco.

On the 14th day of August, thirty-four days out from San Francisco, we anchored in the harbor of St. Lawrence Island, near the foot of bold, barren and precipitous mountains, with deep gorges filled with perpetual snow. A dense fog came slowly creeping along, gloomily shrouding their peaks and gradually settling down upon us with a cold rain, which fell in large drops through the thickening mist. This weather continued for three days, and although the mercury stood at about fifty degrees above zero, the extreme humidity of the atmosphere seemed to rapidly rob the system of its heat and chill us to the very bone. Indeed, such forbidding aspect did everything present, that nearly every one wished himself back again in a more genial climate. The bark *H. L. Rutgers* had arrived here three days before us, with twenty or thirty constructors, telegraph material and lumber from Puget Sound. On the 18th the steamer *Geo. S. Wright* arrived with Colonel BULKLEY on board, and, a few days afterward, the vessels moved up to the head of the harbor, and the landing of stores and building of quarters for the party who were to remain at that station immediately commenced. A route was explored to Penkigu Gulf, on Behring Straits, a distance of fourteen miles, at which point the cable was to be landed on the Asiatic side, and the construction of the line commenced in that direction, seven miles of which were completed before the departure of the fleet.

After the arrival of the *Golden Gate* on the 26th, parties were organized for the different stations to be established on the line, and provisions, stores and building material were distributed and transferred to the different vessels. On the 11th of September our party, consisting of forty-two men, under command of Captain D. B. LIBBY, took their departure for this station on the bark *Rutgers*, leaving in port the ship *Wright* and ship *Nightingale* with a party of sixteen or eighteen men, who were to report to Major ROBERT KENNICOTT at Fort St. Michaels, R. A.; the bark *Golden Gate*, with a party under command of Captain R. BUSH, to establish a station on Anadyr Bay, East Siberia; and the whaling brig *Victoria*, with her rudder gone. A party of sixteen men were also left at that station, under Captain W. H. KELSEY.

We arrived here on the 16th of September, having con-

sumed five days in crossing Behring Sea. On the 14th, GEORGE O'CALLAHAN, one of our constructors, died of brain fever, and was buried on shore, after our arrival. The harbor is situated on Cape Prince of Wales, about ninety miles east of the narrowest point in the straits. It is about ten miles in length by eight in width, and is protected from the sea by a long, narrow sand-spit, extending from Cape Douglas to within about one mile of Cape York. Its mouth is narrow, and too shallow to admit vessels drawing over three fathoms of water. At the head, and separated from it by a small sand-spit, is Grantley Harbor, about sixteen miles in length and three in width, on the northern shore of which Captain MOORE spent one winter while in search of Sir JOHN FRANKLIN. On the southwestern side are several small coves and lakes, divided from the harbor by sand-spits, and on the northeastern side a strip of low, boggy ground, about one and a-half miles in width, containing several small lakes, back of which lies a range of hills about six hundred feet high. In a southeasterly direction, and about thirty miles distant, are seen a range of snow-covered mountains, called by the natives Kiglovight, about three thousand feet high, with jagged peaks, among which the sun plays bo-peep for about an hour and a-half during the short days in winter. In the opposite direction is another range, which extends along the straits towards Kotzebue Sound.

As we entered the harbor, the vessel's guns were loaded and every precaution taken to guard against surprise by the natives, as whalers and Russians had represented them as being very treacherous and hostile, some having been attacked with a view of capturing the vessel. Upon landing, however, we found them friendly and hospitable. Grounds were selected on the northeast side of the harbor, and the erection of quarters and landing of stores and material hurriedly pushed forward, as the lateness of the season would admit of no delays, and as we expected every day that the ice would close in upon us. A large lot of poles, wires, and other telegraph material, with nineteen tons of coal and commissary stores for nine months were left us, and on the arrival of the steamer *Wright*, on the 28th of September, our Arctic habitations were completed and the bark ready to leave. The steamer brought us tidings of the safe arrival of the party on board the *Nightingale* at St. Michaels, the sad news of the death of Major ROBERT KENNICOTT, and the report from Victoria of the success of the Atlantic Cable, which were our latest dates from civilization during the winter. Colonel BULKLEY and Colonel WICKER came ashore and examined our quarters, expressing satisfaction and bidding us farewell, and at four o'clock the steamer towed the bark out to sea, and we were left for the winter.

The station consisted of four buildings, one of which was constructed of planed matched boards eighteen feet in length by twelve in width, with double walls twelve feet high with a space of about ten inches between them filled with moss. On two opposite corners are small towers, the upper portion of which is larger than the lower, and lined with plank sufficient to render it bullet-proof. Through the sides and that portion of the floor extending over the lower walls, port-holes were cut to afford means of protecting the building against any hostile demonstration from the Indians. The other buildings, constructed of telegraph poles and sod, were each

eighteen feet square with walls about three feet one on each side of the lower house occupied by the constructors and one in the rear used as a storehouse. Each building has two small double windows and one door, facing the southwest.

The work on the line, after the sailing of the vessels, was energetically carried forward, so that sixteen miles were completed and in working order on November 26. Then first spoke the electric machine o'er the eternal snows of Russian America, swelling and throbbing in unison with its kindred subtlety, the Aurora, and astonishing the Esquimaux, who crossing himself termed it the evil one. Severe weather compelled the return of the working parties to camp on December 7, and nothing but exploring was done until spring.

Trips were made in all directions, north to Kotzebue Sound, west to Behring Straits, south to I-gak Island, and west to Fort St. Michaels, the latter trip being made in the dead of winter, five hundred and sixty miles, with the mercury frequently 68° below zero. The Esquimaux everywhere treated us in a friendly manner, acting as guides and running ahead of our dogs for a few presents.

On the 15th of March the work was again resumed, the men sleeping in tents, with the mercury at 55° below zero. The work progressed slowly, on account of the difficult distribution of material and labor in digging post holes, the earth being frozen to a flinty hardness, and of such consistency as to challenge the steel points in the crowbars, frequently rendering them useless in a few minutes' work. Only twenty-two miles were finished when our provisions gave out and the work was stopped.

Through some culpable mismanagement of the company's agents, insufficient provisions had been left us, and for nearly three months starvation stared us in the face. Everything in the shape of food failed us just in the season when no game or fish could be obtained, and we were obliged to scatter among the Esquimaux villages and subsist on such food as they could provide, mostly walrus and seal flesh, which is anything but palatable to a civilized taste. Most of the party became so poor upon this diet that hope of surviving until our vessels arrived began to fail us, and a party was sent to Kingegan to intercept some vessel passing north and obtain some provision, which we succeeded in doing, after several attempts, but three days previous to the arrival of our vessels.

The seasons here are, properly speaking, but two—a long, cold winter and a short summer. Before our vessels left us, winter had actually set in, and early in October the rivers and lakes were frozen. On the 10th of the following month the bay and harbor were bound in its icy fetters. The weather gradually increased in severity, and howling storms of fierce and cutting wind and snow came down upon us from the east and northeast, frequently continuing for weeks, piling the snow in huge drifts, and so completely burying our habitations that we were compelled to find egress through the upper story window. The unfortunate traveler caught in these storms stands but little chance against the freezing and tempestuous elements. Two of our party were caught in one of these gales, while hauling poles about six miles from camp, and barely escaped with their lives. The atmosphere was so densely filled with drifting snow that they were obliged to trust entirely to their dogs, who, poor things, taking the shortest route, precipitated them-



selves and sledge over a frightful precipice, howling most piteously in their unlooked for descent to the hard crust-ed snow beneath, the men escaping the leap by slipping from the sledge just as the leading dogs pitched over the cliff. The sledge was so broken that the dogs became detached and came home alone, awakening still greater anxiety among those in camp for the safety of their comrades. Several attempts were made to go out and find them, but the storm was so fierce that it blinded and almost threw the men from their feet. After about six hours' absence they arrived, completely exhausted and almost frozen, having buried themselves in snow-drifts to rest, and battled with the elements until they reached camp. Two others were lost in a similar storm, and traveled for five hours in circles, within a mile of the station, endeavoring to reach home.

From the middle of October to the latter part of March the days are short and gloomy, and at the winter equinox, there are but two hours of daylight. During these months the mercury is always below zero, reaching 43° on the coast, and 68° a short distance in the interior. Everything is desolate and dreary. Nothing is to be seen but vast fields of snow and ice, occasionally relieved by some dark jutting crag in a distant mountain. The cold is so intense that ice formed on the floor of our sleeping apartments, and frost and sparkling crystals hung from the roof four inches in length, and the blankets in which we slept became stiff as boards and froze to the walls.

The summer, although short, is strangely in contrast with the desolate winter. From the first of May to the latter part of August, there is no night, the sun barely hiding his face behind the mountains for a short time, and appearing again in the northeast. About June 21st we saw its face for nearly two weeks without setting. At this season it is quite warm. The continued glare and reflection upon the snow causes snow-blindness, and frequently blisters the face. The snow melts rapidly, and the streams, which have so long been closed, burst forth in rapid torrents, rendering traveling out of the question until the bays and harbors open in the latter part of June, when travel can be done only by water. The grass and a few delicate flowers spring up in the valleys, as if by magic, frequently growing within a few feet from an immense snow-drift. Mosquitoes swarm in myriads and compel a person to protect his face and hands from their bloody attacks.

The natives are a strong, robust-looking people, usually below the medium stature, but are occasionally found among both sexes measuring six feet in height. Their color and general physiognomy are strikingly similar to those of the Chinese race, and they possess the same almond eye and high cheek-bone peculiar to these latter people. The males have no beards, and wear only a rim of hair around their heads, the top being sheared as closely as possible. On each side of the lower lip a hole is cut, and a stone or blue bead ornament inserted. The females, after reaching a certain age are tattooed with perpendicular lines on the lower lip. Their dress consists of a deerskin ah-tega (coat), with no opening except for the face and at the bottom, the edges trimmed with sloth or wolf skin: nelle-kaks (breeches), of either seal or deer skin, girdled about the loins instead of the waist, extending just below the knee; and kum-muks (boots), with uppers and legs of seal or deer skin, reaching to the knee, and soles of thick walrus or seal hide, corrugated at the heel and toe to shape them to the foot. The females dress differs from that of the men only in the breeches and boots, being in one garment, and the coat being longer in the front and back than at the sides, and ornamented with white deer skin trimming. In wet weather, over this dress is worn a kap-ai-tuk (shirt), of the same shape as the deer skin coats, made of walrus or seal intestines, which are cleaned and dried for that purpose.

Their tu-pecks (huts) are constructed of drift-wood, under ground, and nearly square, with a small window in the center of the roof covered with kap-ai-tuk-shuk (prepared seal intestines), which is sufficiently transparent to admit nearly as much light as glass. On each side of the room, and raised above the floor about four inches, are shallow stone or wooden vessels filled with oil, with burning moss upon their edges, over which hangs a huge piece of walrus or seal blubber, which by

its continued dripping supplies the lamps with oil. This combustion furnishes ample heat and light for the apartment.

In the month of June, when the whalers and traders pass north, the Esquimaux flock to the coast with their articles of barter, which are sable or stone marten, mink, black, white and red fox, beaver, otter, muskrat, ermine and wolf skins and walrus tusks, which they trade for shot-guns, powder, shot, bullets, caps, white drilling, knives and tong-ruk (alcohol). Much trading is done in these articles among themselves, and many of them bring on board fifty to two hundred valuable skins, while others bring but five or ten, the price of a single or a double barrelled gun. They are quite shrewd and careful in their trade, bringing out their skins in small lots and receiving the article of exchange for each singly. For alcohol they will trade almost anything they have, such a strong liking have they for the intoxicating drink. The traders dare not give it to them until they have weighed anchor and set sail for their departure, on account of its rapid influence upon the Indians. It takes but about three table-spoonsful to make them so drunk that they foam at the mouth, and when they are drunk they are anything but peaceable, cutting and killing every one they meet, even their own relatives, until they fall down with intoxication. The squaws also, not only drink themselves, but give it to their children, even to the infant at the breast. There is not an Indian on the cape who has not numerous scars from wounds received in these drunken brawls. Those who are quiet and peaceable can only escape the thrusts of the others by flight.

The bark *Clara Belle* arrived here June 27, and we are once more in communication with the world, and about to bid adieu to our Arctic prison. Never did men feel more rejoiced than did our party when the vessel sailed into anchorage in this port. Starvation, with all its attendant evils, fled with her approach, and the sufferings were forgotten in her arrival. We are informed that this is now United States territory, and the stars and stripes are now floating over our station in honor of the event. The *Clara Belle* will take us to Plover Bay, E. S., where we will await the arrival of the *Nightingale*, while she will go to gather the other parties at that place, after which we shall all start for home.

#### Prominent Southern Telegraph Men.

MR. JOHN VAN HORN, who is now general superintendent of the Southern Grand Division of the Western Union Telegraph Company's lines, held a position a number of years since as manager of the telegraph office at Sandusky, Ohio. He first made his debut on the Southern lines as manager of the Tusculumbia, Ala., office, having succeeded JULES LOMBARD, the celebrated vocalist, in that position. Mr. A. E. TRABUE was then superintendent of the northern section of the lines of the New-Orleans and Ohio Telegraph Company, while the southern section was in charge of Mr. D. FLANERY, who has lately been appointed district superintendent at New-Orleans, La., by the Western Union Telegraph Company. Mr. VAN HORN was afterwards appointed superintendent of the Memphis section.

At a later period these lines assumed the name of the Southwestern Telegraph Company, and Mr. VAN HORN was appointed general superintendent of the company. During the war, Mr. VAN HORN remained in the South looking after the interests of the Southwestern Company. At the subsequent consolidation of the American, United States and Southwestern with the Western Union Company, he was appointed to his present position.

Dr. N. GREEN, who is now one of the vice-presidents of the Western Union Company, was formerly a practicing physician at Ghent, Ky. Previous to the grand consolidation, he was president of the Southwestern Telegraph Company. Like other prominent telegraph men in the West he has become very wealthy, and lives in elegant style in Louisville, Ky. His residence at the corner of Third and Chestnut streets is among the finest in that city.

A CABLE TO JAMAICA.—A dispatch from Havana, dated Dec. 7, says: "It is expected that Jamaica will soon be in telegraphic communication with the United States by the cable *via* this city."

#### A Dream of Insulation.

I WAS sitting in the office after office hours one night,  
Engaged in getting my reports to balance up all right;  
The business had been brisk all day, and I felt tired out;  
My eyes so heavy grew I scarcely knew what I was about;  
So hurriedly I urged my pen in silence swift along,  
But still some cents were lacking—I wondered what was wrong.  
They lurked in ambush somewhere, so I tried it once again,  
But still I could not find it, and—and then (a nod)—and then  
A veil of dreams fell softly o'er my sleep-bewildered eyes;  
I found myself within the telegrapher's paradise.  
There lofty frescoed ceilings stretched far up above my head;  
No doors were there, but curtained, columned arches served instead.  
Between them were bowed windows with stained panes of every hue,  
Where the lights upon the richly tiled and marbled floor fell through;  
And near them ebon tables were arranged within the space,  
And I heard the "tick" of instruments in steady silv'ry pace.  
There were operators grouped about beside these ebon stands,  
Appareled neat and tastefully, with white and well-kept hands;  
Much I marveled, looking round me as I scrutinized each face,  
That no hint of frown or wrinkle could I find a single trace;  
There seemed a spirit prevalent of unanimity,  
Of peace, content, and quiet systematic industry;  
Seemed manipulation evenly the pulsing of the wrist,  
And the armatures repeated it in echoes sweetly *triste*.  
And then, to give my growing curiosity relief,  
For the secret of the harmony I queried of the "chief;"  
Motioned he without the windows where the wires stretched away  
Over poles securely poised, their base protected from decay.  
"Please remark those insulators, the invention of D. BROOKS;  
They prevent the least escapement; see how nice that cross-arm  
looks.  
Here is comfort, steady working, pay good, and our hearts are light,  
And we've time to be contented, also time to be polite."  
Fell my head against the table ere I'd time to make reply,  
And I raised it quickly, looking round with wakened, wond'ring  
eye;  
Found myself among realities, a sickly current near,  
The relay ticking feebly with a sound I scarce could hear.  
Then I mentally contrasted what I'd dreamt with what I saw,  
And wondered why Americans ne'er recognized the law,  
"Economy is time," just meant "do well what's done at all,"  
And "Labor saved is money saved," would make stocks rise, not  
fall.  
Instead their lines are poorly built to serve the *present* day,  
Stability is scouted at, with thoughts of all decay;  
And though D. BROOKS has given them an insulation good,  
They'd rather use the flint or glass within the arms of wood.  
Injected never are their poles as lines across the wave  
(As our European brethren have learned their time to save).  
We're somewhat a shirking nation, caring but for present fame,  
And naught to leave posterity the bright, untarnished name  
We might if we but thought the "*nows*" the stepping-stones of  
Time;  
And coming years but echo "*now*" with sad or gladsome chime.  
O. P. ERATOR.

#### A Formidable Monitor.

ONE evening during the war times, when iron-clads and rifled cannon were objects of great interest to all good citizens, a young man stepped into the American Telegraph Office at Providence, and lifted over the counter a huge pair of calf-skin brogans, saying that he was told to leave them there. The "owl" on duty measured them with his eye, compared them with his own liberal understandings, and finding that they laid over his by several sizes, concluded they must be the property of W., who was then off duty. With the assistance of the clerk the property was removed to the rear of the office. Not being crowded with "report" that night, the owl passed the silent hours away by remodelling one of the mammoth shoes, laboring with such zeal that when "good-night" was sounded a full-rigged monitor had been formed with one shoe serving as the hull, while on deck the blackened turret, contained one solitary Quaker gun; and with the stars and stripes floating gracefully from her stern, she was a saucy-looking craft to be stationed on the top of the switch-board.

It was generally supposed that W. was the owner of those brogans, though a stranger called for them the next afternoon. BRAD happened to be at the counter as the inquiry was made for a missing pair of shoes. He rushed to the switch-board, and being a muscular man, he carefully conveyed the gunboat to the astonished gentleman, saying, "The boys have rigged up this craft a little, but we won't charge you anything for the alteration."

MORAL.—Men with large feet should be careful about having their goods sent round.



## 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.

## Telegraphing as a Field of Labor.

TO THE EDITOR OF THE TELEGRAPHER:

SO much has been said and written in reference to the employment of females as telegraph operators, that it would seem that the questions involved must have been pretty fully presented and discussed.

The subject, however, involving as it does the interests of that portion of the human family which, by every proper means and in every practicable manner, the men of this nation are in duty bound to advance and protect, is of so great importance that it deserves to be considered calmly and patiently, and with an earnest and sincere desire to remove unreasonable prejudices, and secure a just and equitable regard for the rights of all concerned.

In considering the alleged failure of female operators generally to reach that standard of excellence and proficiency attained by their more fortunate brothers, there is one consideration which in all that I have read upon the subject has never been presented, and which perhaps furnishes an ample apology for the fact of such failure. While even the most friendly critic must admit that they have thus far as a class failed to demonstrate, in actual service, equal ability and proficiency with their male associates, it has not demonstrated that the comparison is just, nor that with equal advantages they may not prove equally competent.

The true premises of the problem have never to my knowledge been correctly stated, even by the warmest advocates and defenders of female telegraphers, and the conclusions arrived at are as a consequence unwarranted, and really unjust in their effect upon that portion of the telegraphic fraternity.

In order that a just comparison and test of their respective abilities may be instituted, we should take impartially from the ranks of the male operators a number equal to the whole number of female operators, whose telegraphic education and service have not extended through a longer period of time than those of the females, and particularly of those only—whose education in the business commenced at a period of life not less advanced than did that of the females—and it will be found that such a comparison, if not absolutely damaging to the male operators, would show that in all that constitutes real adaptability and skill, the females are at least the equals of their competitors.

It is a well-known fact that the art of telegraphing, like that of music (which is perhaps its nearest kin), is far more difficult of mastery when undertaken beyond the age of twenty years than earlier in life. What percentage of female operators began the study of the art so early in life as this, and what percentage of the really first-class and rapid male operators commenced so late? It is an undeniable fact that female operators as a class have not been permitted as thorough experience as males, being restricted to the less important offices, while males of no better qualifications have been entrusted with those where greater practice developed greater facility and skill of operating.

Again, hindrances and discouragements of no inconsiderable proportions arise from that cruel, wicked, and utterly unmanly prejudice which permits a female to do the same amount of work, in as perfect and prompt a manner, for less pay than is given for like service to the males; a fact disgraceful to the man or management that allows it, and which gives foundation (especially in the minds of those of the male members of the fraternity of selfish inclinations and narrow comprehension) for that spirit of intolerance toward female telegraphers so often manifest, because it brings in competition with theirs a cheaper labor. Now, it is not too much to assume that in this employment, as in the ordinary social conditions, men and women are too often regarded somewhat in proportion to the amount of money or salary they command, and since the services of a lady of fine abilities, and faithfulness far beyond the average of male telegraphers, may be secured for twenty-five or fifty per cent less than would be paid to a young man of no better

telegraphic skill, and of average faithfulness, she must accept the results, and be content to be treated by the aspiring lads whose fortunes bring them upon the same circuit as less than their equal, perhaps "only a plug;" and that earnest faithfulness which, prompting her to ask a word of repetition where the ambitious youth would guess at an expression, subjects her to the same incivilities of language which young men in their incipiency and pride of advance boyhood so frequently lavish upon each other, when at the safe distance of intervening miles the respect of personal presence gives no restraint.

Very many of the telegraph offices of this country would be better managed by females than they now are by the other sex, and could they whose duty it is to provide operators for these offices rise above the unjust and cruel prejudices which now prevail, the effect upon the business would be to elevate and refine, while at the same time an act of justice toward the women of America would be done, and those feelings of discomfort dissipated which now disturb the equanimity of certain lads and young men who, from want of proper consideration, or because of the example of their superiors in position, or from other inexcusable fancy, have grown up to regard female telegraphers as their natural enemies, usurpers of their inborn rights, and deserving of the contempt which should attach only to the unworthy.

Only let it be understood that telegraphic operators male and female, are to be accepted on their real merits and fitness for the positions to be occupied, and a revolution of reform would at once be inaugurated. Many a young man of generous impulses, who now, from want of consideration, sympathizes with the general prejudices, or at least remains silent when words of rebuke would be deserved, pausing to take an impartial survey of the contested field, would take the manly and noble position, that since the "field of labor" for woman is more limited than for man, every office, the duties of which might be as acceptably performed by the former, properly and justly belongs to them, and if not absolutely yielding a desired position to his feminine competitor, would accept it with a far different feeling from that which now holds so many young men in positions where finer sensibilities and higher aspirations would prompt relinquishment to her to whom the place would be so great a boon. The writer would not deny that for many situations and positions in telegraphing, men are naturally better adapted than women, and only justice is all she asks. Every progressive step which brings us nearer to impartial justice and equal rights for all, whether male or female, marks the advance of Christianity and civilization.

AILED.

## MISCELLANEA.

TO CORRESPONDENTS.—S. R. L.—Sublette. Culley's Handbook of Practical Telegraph (English) \$5. Best American work, Prescott's, price \$2 50. Sold by D. VAN NOSTRAND, New-York.—Harrisburg.—The columns of THE TELEGRAPHER contained the obituary of the *Telegraphic Journal* several weeks since. We know of no means by which you can recover the amount of advanced subscription to that sheet. The gentleman with his "easy-chair in the executive rooms of the Western Union Telegraph Company" may possibly be able to give you the desired information. You and many others have our sympathy.

TELEGRAPH RECONSTRUCTION IN CHICAGO.—The lines of the Western Union Company throughout the city of Chicago, are to be taken down and entirely rebuilt the coming spring. The new lines will lead out of the city in three directions—North, South, and West—from the main office at the corner of Lake and Clarke street. The poles will be of cedar, fifty feet in length and neatly painted.

LIGHTNING MARCH OF INTELLECT.—The following choice bull is said to have been perpetrated in one of the offices of our new Metropolitan City line. A message was sent containing the words, "What is her capacity?" and was received thus: "What is her C. A. Pacific?"

WESTERN TELEGRAPHIC ITEMS.—The Western Union Telegraph Company have just completed a new wire for the Chicago, Rock Island and Pacific R. R. between Chicago and Davenport, Iowa. The same company have

opened an office in the Phenix Hotel at Lexington, Ky., and Mr. ROLSTON, recently of Nashville, has been appointed operator. The lines are now kept open all night between Chicago and San Francisco, the latter having been made a "night office."

AN ELECTRIC MIRACLE.—The cable authorities in this city say that a telegram was sent last week from London to Washington in *nine minutes, thirty seconds*, or, in other words, it was received in Washington in four hours, fifty-eight minutes, and thirty seconds in advance of the hour of its leaving London.

The New-York *Tribune* remarks:

"Suppose it to have kept on around the world, the circuit would have been made within an hour. What said SHAKESPEARE? 'I'll put a girdle round the earth in forty minutes.' If the dispatch referred to above had started from London at one minute past eleven on Dec. 20, it would have gone around the globe and arrived at its starting point by fifty-eight minutes past eleven Dec. 19—apparently making the girdle of the earth nearly twenty-four hours before it started. 'Canst thou send the lightnings, that they may go and say unto thee, Here we are?'"

BOGUS CABLE NEWS.—It having been ascertained that false reports of the foreign market prices of the United States bonds have been circulated in the New-York Gold Exchange, purporting to have been received by the Atlantic cable, a reward of five hundred dollars has been offered by the members of the Board for the detection of any person engaged in originating or circulating such dispatches with fraudulent intentions. A committee has also been appointed to call at the office of the Atlantic Telegraph Company, and ascertain, if possible, any facts or information relating to this imposition.

THE MURDERER GORDON.—A note received from JOHN PARKHURST, Esq., agent and warden of the Clinton Prison, relative to the employment of GORDON, the murderer of OWEN THOMPSON, as telegraph operator at the prison and of the line between Dannemora and Plattsburg, states that GORDON is not now employed as operator, and that he was placed in that position only temporarily, until another operator was secured.

AN ELECTRO-MAGNETIC CAR BRAKE.—The French Academy has awarded a prize of twenty-five hundred francs to M. ACHARD, an engineer of Paris, for an electro-magnetic brake, but refrains from recommending its adoption. If it were worth a prize it ought to have been worth a trial.

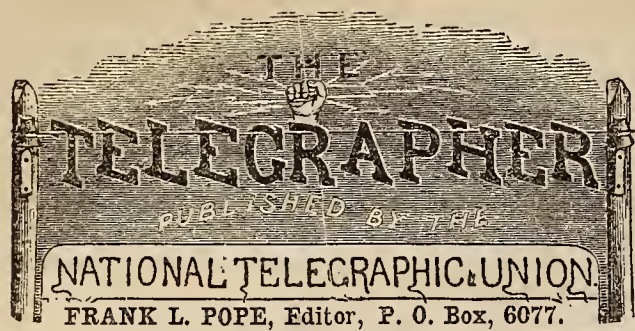
Important experiments with this invention were recently tried on the Southwestern Railway in England. On the train were numerous directors and officers of the principal companies, and a printed programme was furnished to each, to enable him to understand the various signals, and the rapidity and accuracy with which they would be obeyed. The experiments proved entirely successful, and the rapidity in the transmission of the signals was scarcely more admired than the accuracy of their interpretation. The original cost of the apparatus for each car was fifteen dollars, and the expense of keeping it up was represented as only trifling. The magnetic circle is completed by a wire extending outside the car, and the connection between two cars is made by an elastic spiral.

The need of some such contrivance is strongly felt in England, where so many cases of assault and murder have occurred in the secluded compartments of the railway carriages. Some of the London journals recommend the adoption of the American system of car signals as a much more efficacious remedy against crime; and in Southern Germany and Switzerland, approaches are made to the long cars so familiar to us.

## DISTRICT PROCEEDINGS.

CORRY DISTRICT.—Special meeting of this District held Dec. 18. Called to order at 8 P. M. to act upon Mr. J. J. HENDRICKS's resignation as District Director, his duties being such as to prevent him from giving the office that attention required. After considerable discussion the resignation of Mr. HENDRICKS was accepted. W. C. LONG was proposed by Mr. E. WADE, and his resignation as District Treasurer having previously been accepted, he was unanimously elected District Director. J. A. VAUGHAN, of Corry, was elected District Treasurer for the remainder of ensuing year. There being no further business, the meeting then adjourned.





SATURDAY, DEC. 28, 1867.

### THE CONSTRUCTION OF TELEGRAPHS IN CITIES.

It will one of these days become a question of serious importance to our leading telegraph companies, as to the manner in which their wires shall be carried through our large cities. It is evident that in case the expansion of the telegraphic system in the future keeps pace in any degree with that of the last few years, that the adoption of some other method than the one now in vogue will become a matter of imperative necessity. Look, for instance, at the city of New-York at the present time. The buildings in the business part of the city are completely covered with an interlacing network of iron threads, while in every street and avenue leading towards the upper portion of the island, the forest of poles and "cross-arms" with their burden of parallel wires, gaily festooned with kite-tails, "old clo'" and discarded crinoline in the last and most hopeless stage of dilapidation, fairly darkens the air, and unless measures of relief are speedily provided, the inhabitants of some portion of our metropolis will be doomed to dwell forever in a "boundless contiguity of shade." It was beginning to puzzle the political, as it for a long time has the domestic economists, how to dispose of the enormous and constantly increasing accumulations of old hoop-skirts, but the tenement-house population of this city appear to have hit on a happy solution of the difficulty, by pitching them out of the fourth story window and lodging them securely upon the wires of the telegraph, thus causing page after page of the "diary" at 145 Broadway to be ornamented with the oft-repeated entry: "Nos. one, two, three, four, etc., crossed in city; sent man out."

When, in addition to the enormous number of wires belonging to the different telegraph companies centering in the city, we take into account the fire and police telegraph, as well as a large and increasing number of private lines, it is not difficult to foresee that this labyrinth of wires will finally become an intolerable nuisance, not only to the public, but to the telegraph companies themselves.

The fact is notorious among telegraphers that the largest share of "trouble," arising from crosses and escapes, upon the lines leading out of New-York is within the limits of the city itself. The multiplicity of wires crossing each other in every direction, renders it impossible to prevent their frequently coming in contact with each other, not to mention the recurrence of other difficulties of a nature before referred to. The constant accumulation of smoke and dirt on the inner surface of the insulators, renders them to a very perceptible extent, conductors of electricity, causing such an amount of escape in wet weather as to seriously retard and in some cases even to prevent altogether the working of the lines. It may be well, therefore, to consider if some improvement cannot be made over the present method of constructing lines through cities.

The plan of laying the wires underground suggests itself as the most feasible alternative, and a careful consideration of its merits leads us to the belief that it would not only be found far more reliable and satisfactory, but more economical than the present mode of placing the wires on poles along the streets or over the buildings.

Great improvements in the preparation of gutta-percha and other materials for insulation have been made since the failure of the extensive systems of subterranean wires in Prussia and elsewhere, and the construction of lines of this character is now considered entirely practicable. It is furthermore stated by well-informed English telegraphic engineers that as far as wires running through cities are concerned, the substitution of the underground for the overhead system has proved a great saving in expense as well as trouble.

The plan which is now adopted in London for laying the wires, and which has been found to answer admirably, is to draw them through cast iron pipes, laid under the foot-pavement. The pipes are prepared by being carefully cleaned, smoothed, and dipped into tar while hot from the mould. Oblong boxes are placed at distances varying from fifty to one hundred yards apart, the covers of which consist of iron frames, into which a piece of flag-stone is fitted, so that when the cover is placed upon the box, it is flush with the pavement. The ends of the pipes fit into these boxes, which afford a ready and convenient means of access to the wires. The insulated wires are made up into bundles about a quarter of a mile in length, and are drawn into the pipes by means of these boxes, the strain upon them being thus divided. If at any time a length is found to require removal, a new "cable" is connected in a loop between it and the next length, and as the defective cable is drawn out the new piece is drawn in to replace it. In this manner the whole line may be renewed without interrupting communication or digging up the pipes. The defective wires in the old cable are taken out and repaired at the gutta-percha works. It is usual to provide spare wires when a new length is put in, so that it need not be renewed until several wires have failed. It has not been found practicable to draw out a single wire, or even a portion only of the wires, as the friction would strip the gutta-percha coating from them and destroy the insulation.

It will be seen by an item in another column, that the Western Union Company are about to reconstruct all their lines in the city of Chicago at a heavy expense. A more favorable opportunity to give the underground system a trial could hardly be wished for, although the necessity of it there is probably not nearly so great as in New-York. It is our opinion that no telegraph company, after having given it a fair trial, would be willing to return to the present system, and the interruptions and annoyances which are inseparable therefrom. It is very little to our credit that we should be so far behind the rest of the world in almost everything relating to telegraphic engineering. If we have not the genius to originate improvements of our own, we might often imitate with advantage those which have passed the ordeal of investigation and approval in other countries.

THE RUSSO-AMERICAN TELEGRAPH.—On the 16th of December, the Russian minister, Baron STOECKL, in behalf of his Government and the officers of the Western

Union Telegraph Company, executed the official papers mutually releasing each other from the engagements which they had entered into to secure a telegraphic communication with Europe by the way of Behring Straits and Siberia. This great enterprise may therefore be considered as officially brought to a close.

### PERSONAL.

WANTED.—The address of C. E. KING, who was operator at Point Levi, C. E., some three years since, and afterwards with the Provincial line at Montreal. Supposed to be somewhere in the States.

H. W. COWAN is hanging out at Pine Bluff Station, U. P. R. R.

T. W. ANDERSON has been transferred from Beaumont to Columbus, Texas.

R. B. LINES, late of Corinth, Miss., has accepted a position with the Franklin Company at Washington, D. C.

J. E. CLARKE, of Franklin line, Boston, has resigned and accepted position as cable operator at Plaister Cove, N. S.

ROBERT EDWARDS has accepted position with B. and B. Co., Boston.

C. N. CHEVALIER, late of the Grand Trunk Railway Telegraph office at Point Levi, C. E., has been appointed ticket clerk in the office of the same company at Island Pond, Vt.

JOHN T. WINNE, formerly of the Atlantic and Pacific Company's office at Albany, has been appointed manager of the Troy office on same line, vice W. O. CARPENTER, resigned.

JOHNNY RILEY, formerly of Franklin Company's Bethel, Conn., office, has taken charge of the New-York City Telegraph Company's office at 93 Wall street, in this city.

A. F. SWAN, who has been for the past four years cashier and receiver at the Western Union branch office at 21 Wall street, in this city, has resigned his position, to take effect January 1st. He goes to California, with the intention of making that State his future residence. His uniform politeness and attention to the wants of the business public have won him many friends, who will learn of his departure with regret. He has our best wishes for his future success.

THE ATLANTIC TELEGRAPH.—The late reduction in the cable tariffs to twenty-five dollars for a message of ten words, exclusive of five free words of address, date and signature, has already increased the cash receipts one hundred and twenty per cent, while the number of regular patrons has increased threefold. The press are charged only one-half regular rates. The business is now transacted with great dispatch, both the land lines and the cable being in fine working condition.

THE CABLE WIRE.—The new line which has been built during the past season from Boston to Halifax, especially for Atlantic cable business, forms one of the finest working circuits on the continent. It is usually worked through from Plaister Cove to New-York with a single repeater at St. John, N. B., a distance of nearly eleven hundred miles.

TELEGRAPH CHANGES IN THE SOUTH.—A portion of the old line between Columbus, Ga., and Apalachicola, Fla., has been abandoned, and messages for those places and also for Fort Gaines, Ga., Gordon, Ala. (formerly Woodville), and Mariana, Fla., are hereafter to be sent via Eufala, Ala., instead of Columbus. The office at Chattahoochee, Fla., has been closed.

THE KEYSTONE TELEGRAPH COMPANY.—The lines of this company are now completed and working from Philadelphia to Pittsburg via the Pennsylvania Railroad. Their charter covers every part of the State as well as the right along any and all roads therein.

TELEGRAPHS ON LONG ISLAND.—The Western Union Telegraph Company offer to establish a line from Hunter's Point to Northport, if the people will pay the cost, \$175 a mile, and guarantee monthly receipts of \$25 at each office maintained.







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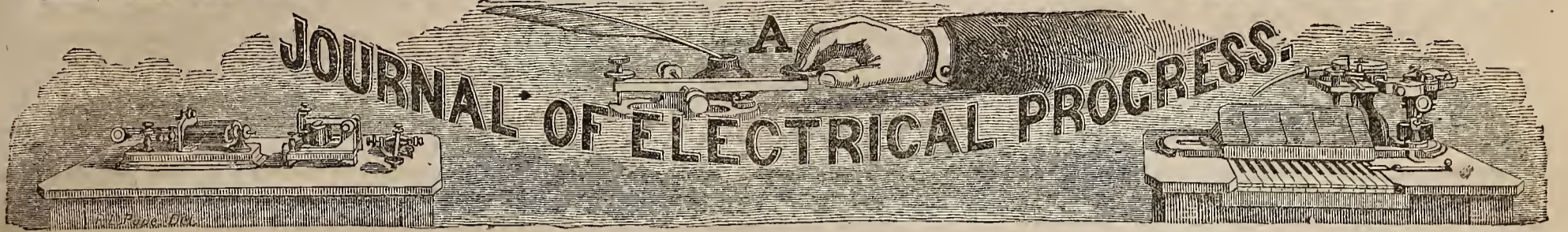
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Aside from the advantages apparent upon inspection of these magnets, their acknowledged merits consist in the construction of the helix, which was patented Aug. 15, 1865. This being of naked copper wire, so wound that the convolutions are separated from each other by a regular and uniform space of the 1-600th to the 1-800th of an inch, the layers separated by thin paper. In helices of silk insulated wire, the space occupied by the silk is the 1-150th to the 1-300th of an inch; therefore a spool made of a given length and size of naked wire will be smaller and will contain many more convolutions around the core than one of silk insulated wire, and will make a proportionably stronger magnet, while the resistance will be the same.



# THE TELEGRAPHER.



Vol. IV.—No. 19.

New-York, Saturday, January 4, 1868.

Whole No. 77.

## Fire-Alarm Telegraphs.

THERE appears to be considerable excitement in Albany just at present, in regard to the fire-alarm telegraph question, if we may judge from the amount of space devoted to the subject by the local newspapers. In closing a lengthy article reviewing the merits of the different systems proposed, the *Argus* makes the following remarks:

"We are altogether in favor of a firm-alarm telegraph, but can't quite see the necessity of going out of town for no better an article than we can get at home, and paying three times as much for it besides.

"Our city is full of telegraph offices: The Western Union, Atlantic and Pacific, and New-York Central, are stocked with talent of the highest order—from the superintendent down to 'Patsey'—almost any of whom could build a telegraph line as well as the fire-alarm men. Let the Fire Commissioners pick out a good telegrapher to superintend the construction, under their own discretion. Let them select from the scores of alarm boxes—the country is full of them—the most approved one. Philadelphia is using one, and almost every telegraph machinery maker in the land has an alarm box that is better than everybody's else. The wire running for the most part upon houses, the expense of poles will be saved and the line should not cost over \$200 per mile. Twenty miles would more than cover the city—\$4000. Forty alarm boxes, at from \$50 to \$100 apiece—\$2000 to \$4000 more. At the outside, \$8000. Now let the chief operator take up his headquarters, with his battery, etc., at the Police or Fire Commissioner's Office—where there is always some one on duty, and he alone can run the whole concern. He could sleep near his instruments, and the policeman on duty could awaken him in case of the line breaking, which would occur seldom, if ever. In five minutes he could locate the break and go back to bed again. The beauty of such a simple system is, that it needs so little attention. Only keep the battery up to a requisite strength, and look out for breaks, and machinery does the rest. Each alarm box gives the alarm in every engine and police station, which is spread by the bells upon those houses, or by the large bell at the headquarters, or, what would be better, by both.

"Just such a system of alarm bells as we have suggested is in use in Buffalo, and has been for years, with the most perfection satisfaction. For years before they had a fire-alarm telegraph the big bell struck the district by man power. It is located near the Fire Commissioners' headquarters, on a wooden tower about forty feet high. The bell weighs a trifle over seven hundred pounds. Such a bell and tower could be provided here for less than \$4000.

"The objection to such a system as above is, somebody don't get the \$15,000."

## The Atlantic Telegraph.

AN extraordinary general meeting was held December 3 for the purpose of appointing a committee to assist and advise the directors as to the best means of carrying out such measures as may be deemed necessary to improve the position of the company, either by amalgamation with the Anglo-American Telegraph Company, or by raising the necessary capital to redeem the existing charge of £125,000 per annum on the revenue, and to aid the board in consideration of other important matters.

Right Hon. J. S. WORTLEY explained the object of the

meeting. It had been proved now that the deeper the cable the safer the cable, and that cables submerged three miles in the bottom of the Atlantic were safer and more certain in their operations than land cables in a country like Newfoundland. And, thirdly, the communications on the Atlantic side were complete. They had now two cables across the Atlantic, two wires from Newfoundland and Nova Scotia, beside the old line across that colony. Their receipts from traffic had been most satisfactory, and approached, if they did not exceed, the amount originally hoped for, viz., £1000 a day, and this increase had been gradual and regular, showing that it was the result of regular business, and might be regarded as a settled revenue. He added that their original calculations were that the utmost they could obtain from their cables was five words a minute, whereas they were actually getting fifteen, and occasionally twenty. The gross average receipts were now more by £140 a day than at this time last year, and had averaged since July this year more than £900 a day.

Sir C. LAMPSON, referring to the receipts, stated that for the first year up to the 30th of November they had been £99,108, or £792 a day; and for the second year, up to the same date, £116,727, or £934 a day. In regard to the reduction in the tariff to five guineas for twenty-five words, he anticipated a loss at first, but after two or three years he expected that the returns would show a considerable increase.

The chairman remarked that for some years, at least, all fears of competition might be discarded, adding, that despite the proposed guarantees from the French Government, it had been found impossible hitherto to form a company for carrying out that project.—*London News.*

## Western Union Telegraph Company.

At a meeting of the Board of Directors of the Western Union Telegraph Company, held on the 11th inst., the following resolution was adopted, which we give for the benefit of the stockholders, viz.:

"Resolved, That the Executive Committee be requested to prepare a concise but full statement of the affairs of this company, founded on the treasurer's report made to-day for the past year or eighteen months, as they may see fit, and that the same be printed and distributed to stockholders; and also a brief summary of the results shown by such report for publication in the newspapers."

Although the usual January dividend will not be made, the statement will show highly satisfactory results. It will show the net profits of the lines for the eighteen months, subsequent to July 1, 1866, to have been \$3,836,149.88, equal to over 6 per cent annually upon the capital of the company.

With a full appreciation of the importance of regular dividends from the earnings of the lines, and the hardship in special cases of any temporary suspension of their payment, the board could not avoid the conviction in view of all facts presented, that the permanent interests of the stockholders would be best promoted by passing the January dividend.

It is proper in this connection that the stockholders should be advised as to the disposition of the earnings so exhibited; and in advance of the authorized report, we are permitted to submit a brief statement of disbursements during the period named:

Invested in construction . . . . .	\$864,767.18
Dividends January and July, 1867 . . . . .	1,610,365.34
Interest . . . . .	439,157.48
Payment of bonds maturing in 1867 and floating debt . . . . .	648,100.77
Invested in purchase of bonds maturing in 1875 . . . . .	160,000.00

It will be seen that the omission to pay the January dividend was not because it had not been earned, but because it is deemed better as well as sounder policy to appropriate the earnings to the extinguishment of the floating debts created by the bonds of 1867 and for construction, than to increase the indebtedness of the company by the issuing of new bonds at such sacrifice as would be required to realize funds for that purpose.

—*Journal.*

## The Telegraph and Ladies' Fairs.

THE telegraph is becoming a necessary adjunct to ladies' fairs, and scarcely one is now held but that has this very beautiful and remunerative attachment. The blank message heads prepared for these miniature lines are in many instances quite witty. The following one, gotten up by a well-known telegrapher for a fair recently held in Buffalo, contains some pretty good points. The company is incorporated under the name of "The Aerial, Etherial and Ephemeral Telegraph Lines," and claims to be in operation

"From Greenland's icy mountains,  
And India's coral strand,"

to

"Where Africa's sunny fountains,  
Roll down their golden sand."

It is further stated that "this company is organized under the belief that, had there been a telegraph in the Garden of Eden, it would have been precisely such a one as this, with the single exception that the tariffs would probably have been higher."

"The lines of this company being insulated by a process used several million years ago in China, but hitherto unknown in this country, will work in all weathers, in fact, whether or no; while, so preternaturally strong are its wires, and so superhumanly smart are its operators (who, indeed, are said to have been practiced electricians before the science was even thought of), that no interruption to working is anticipated from anything short of the kicking over of the tables, or the general upheaval of all (the) things."

Messages are taken by this company subject to the following conditions:

"The company does not promise to transmit messages before it receives them, nor to receive them before they are sent; but it does promise to exercise good faith, and (for a sufficient pecuniary consideration) all the other cardinal virtues towards the public.

"A reduction will be made in favor of 'night messages,' which will be sent some time during the next day, and be promptly delivered on the following Sunday.

"With a view to obviating hindrances to the transaction of business, it is requested, as an especial kindness, that small boys will deny themselves the pleasure of standing on the operating tables, and that little girls will forego the delight of bathing (and abandon, as useless, the hope of catching fish) in the battery jars, the enjoyment of those luxuries being unfortunately incompatible with the rapid working of the wires.



"In opening the lines for business, the directors feel justified in expressing the belief that no other company exists on earth (nor off of it) which affords such unexampled opportunities for cheap telegraphing, its facilities for transmitting messages being subject to but one restriction—the ability of the public to pay for them.

"T. E. L. KEY, Secretary." "T. POLE, President.

### Napoleon and the Battery.

NAPOLEON, during his whole career, was in the habit of personal intercourse with the savans of Paris, and he not unfrequently attended the sittings of the Institute. Upon being informed of the decomposition of the alkalies, he asked with some impetuosity, how it happened that the discovery had not been made in France? "We have never constructed a battery of sufficient power" was the answer. "Then," exclaimed Napoleon, "let one be formed without regard to cost or labor." The command of the emperor was of course obeyed; and, on being informed that it was in full action, he repaired to the laboratory to witness its powers. On allusion to the taste produced by the contact of two metals, with that rapidity that characterized all his motions, and before the attendants could interpose any precaution, he thrust the extreme ends of the battery wires under his tongue, and received a shock that nearly deprived him of sensation. After recovering from its effects, he left the laboratory without making any remark, and was never afterwards heard to refer to the subject.—*Ayrton, [Paris, M. D., Life of Sir Humphrey Davy.*

### Great Telegraphic Feat.

THE longest special dispatch ever sent to this city was that of the *Times* night before last, giving the President's Message in full.

The dispatch numbered nearly thirteen thousand words, and was telegraphed here between the hours of 7:20 P. M. and 3 A. M. Comparison with the copy by mail since received, prove that this immense work was performed by the telegraphers without a noticeable error or a single omission.

The message was received at this end of the line by the chief operator of the Mobile office, Mr. C. W. MOORE and his assistants, Mr. CHARLES DEFORREST and Mr. S. J. HOFFMAN, taking by sound, and writing incessantly from first to last. When the fatigue incident to such rapid and continuous writing, coupled with the close attention to the instrument required, is considered, the herculean effort will be appreciated.

Messrs. LINES and HILL worked the message at the other end of the line. To all these gentlemen, for their great care in giving us a perfect copy, and the extra labor of all night's work, we are under special obligations. Also to the efficient superintendent of this division of the telegraph lines, Mr. C. G. MORRIVEATHER, for his efforts to afford us the facilities for obtaining this important document by special dispatch, when we found it would not come to the Associated Press, and we had determined not to wait the slow time of the mails.

While on the subject of telegraphing, we will take occasion to return our thanks to Mr. WM. SANFORD, the courteous manager of the Mobile office, and the several gentlemen connected, to whom we have often been indebted for favors.

THE NEW CABLE.—The proposed new cable from France to the United States is said to be in a fair way to be successfully laid. The preliminary soundings, begun four months ago, are announced by the Paris papers to be completed, and they state that the cable will be laid from Brest to St. Pierre Miquelon, in Nova Scotia, it having been ascertained that the bottom of the ocean along that line is favorable. From St. Pierre it will go along the coast of New-Brunswick, and the shores of Maine, New-Hampshire, Massachusetts and Connecticut. The immersion of the cable, now making in London, is to begin next May, and the *Great Eastern* is to be employed to lay it. It is hoped that a month will suffice for the work, and that in July, 1868, telegraphic communication will be opened,

### The Electric Telegraph.

"HARP of a thousand strings,"  
Swept by a mightier minstrel than the wind—  
A viewless spirit whose unfettered wings  
Leave all save thought behind!

Thine is the magic spell,  
With the wildest touch, the human heart to thrill,  
The power outvying feeble speech to tell!  
Tidings of good or ill.

Peace, tumult, joy, or woe,  
These, fleet-winged minstrel, we entrust to thee;  
All that our frail humanity may know,  
Thy harp deep lays must be.

Thou who dost herald on  
To the vast islands, stretching far and wide,  
Tales of the ship whose port is not yet won,  
Which still the waves must ride;

Mocking o'er hill and plain,  
The traveler spurring on his panting steed,  
The engine's fiery breath and thundering train,  
Outvying all their speed;

We pause and gaze on thee,  
Marking with wondering eye the tiny cords,  
Weaving, perchance, our fortunes yet to be,  
Still unrevealed by words.

Telling of kings and thrones,  
A nation's downfall, or an empire's birth;  
Revealing in the weird and mystic tones  
Strange histories of earth;

Of famine, fire, and flood,  
Of raging whirlwind, with its stormy breath,  
The fierce revolt, the battle's field of blood,  
The pestilence and death;

Or tidings sweet and dear,  
The blissful messages of love and peace,  
The waiting hearts which yearn from thee to hear,  
Hope, joy, return, release.

Thou who shalt link all lands,  
Thou who at last shalt chain the mighty sea,  
Binding the nations into brother bands,  
How shall we sing of thee?

Thine are the magic strains,  
Whose triple chords shall make the electric zone,  
Which east and west in closest union brings,  
Where space no more is known.

"Harp of a thousand strings,"  
Touched by a mightier minstrel than the wind—  
A viewless spirit whose unfettered wings  
Leave all save thought behind.

### 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.*

### Progress of the Telegraph in South America.

TO THE EDITOR OF THE TELEGRAPHER:

KNOWING the great interest you feel in telegraphic matters in general, it affords me great pleasure to send you the following telegraphic intelligence from Peru. Before giving a particular account of what is transpiring here, I may remark that the natives in this part of the world appear to be somewhat jealous of the American "go-aheadiveness." This prominent Yaukee trait is well appreciated here, although we have so little of it ourselves. The operation of the American system of telegraphing, introduced by Mr. ADRIAN S. MORSE, shortly after the opening of the Arequipa Line, as referred to in my former letter to THE TELEGRAPHER, has excited much admiration in this country, and at the present time the wealthy merchants here are manifesting great interest in the establishment of telegraphic communication throughout the whole republic. In the present month of November two new companies have been established, one called "Compania Telegrafica Nacional," and the other "Compania Telegrafica Peruana." The capital of the former company is one hundred and fifty thousand dollars (gold), in three thousand (e) fifty dollar shares. It has obtained a grant from the Government to establish telegraphic communication between the city of

Lima and the port of Callao, Chancay Huacho and Lambayeque, one hundred and fifty leagues in length, and having thirteen stations. The company has also received from the Government an advance of fifty thousand (gold), bearing interest at the rate of six per cent per year, as a means of protection, by which the capital and the interest thereon is to be payable in Government messages within the space of ten years. The company has taken possession of the old line between Lima and Callao, but have decided to use the Morse system throughout as soon as the change can be made conveniently.

The projector of this line is a young native of Peru, educated in the United States, named CARLOS PAZ SOLDON, who was formerly secretary of the Peruvian minister in the United States. This young man is not altogether ignorant of the rudiments of telegraphy.

The other enterprise referred to is worthy of the specific attention of your readers. It was projected by Mr. ADRIAN S. MORSE, an American telegraphic constructor. Mr. MORSE is an estimable gentleman, and is greatly respected by the most distinguished Peruvians for his intelligence and enterprise. He has obtained from the Government a very favorable grant to establish, by means of a private company, an important telegraphic communication between the port of Callao, and the city of Lima, Pisco, and the rich Guano islands of Chincha, which has an immense commercial traffic in the exportation of guano, amounting, it is believed, to over forty million dollars annually.

The line will be one hundred and ninety miles in length, with four hundred and twenty-five miles of line wire, and will at present have fifteen stations. It will be constructed in a very superior manner, using steel posts and the unequalled insulator of BROOKS. The Compania Telegrafica Peruana has also a capital of one hundred and fifty thousand dollars (gold), and has received from the Government an advance of twenty-five thousand dollars, on the same terms as the first-named company. The projector of the line has succeeded in making the Government pay a fair tariff for their messages, therefore the line, as a money-making enterprise, will be almost as good a thing in its way as the Western Union. The line will be managed in the same way as the American lines, and will use the Morse system. None but well-qualified telegraphers will be employed by the company. The greater part of the material is already on hand, and the work will probably be commenced in a few days. We ardently desire to see this enterprise completed, and do not doubt that it will be immortalized as an era in the history of this republic, and give new life to the commercial and mining interests of Peru, a country of rich but undeveloped resources. HENRY J. DINEGRO.

*Lima, Peru, S. A., December 12, 1867.*

### Letter from Boston.

TO THE EDITOR OF THE TELEGRAPHER:

BOSTON, December 27, 1867.

ONE of our irrepressible Union men started this morning with a paper headed "Subscriptions for THE TELEGRAPHER," and from the smile, growing broader and broader as he passed from desk to desk in the operating department gathering up the only passes that are good on any line, those of Mr. SPINNER, for three, six, and twelve months' subscription to our paper, I could not doubt his success, but when I saw him take a three-barred gate at one leap and land among the astonished receiving clerks and take them by storm with his ready arguments, I was, I may say, a bit surprised, though when he disappeared down the dummy (*a la Santa Claus* without the reindeer) into the delivery department, thence up to the linemen's and battery rooms, meeting with success everywhere in his pet scheme of increasing the number of subscribers to THE TELEGRAPHER, I was thankful indeed that our District had such men, and that so much interest and good-will towards our Union by all those connected with telegraphing in this city. By the way, he is now in the messengers' room using the different dialects that do most prevail in that classic locality, and can any doubt but with success? What a capital missionary to the Indians some people would make?

A new wire (the seventh one cast) has just been completed by the Western Union Telegraph Company, between Boston and Plaister Cove, to be devoted exclu-



sively to business for the Atlantic Cable. The promptness and accuracy with which this class of business is now transacted is quite remarkable, taking into consideration the country over which the lines traverse and the many obstacles the company have to encounter in that unsettled region in the shape of hard storms, falling trees, etc. Would that some good genius would invent a self-adjusting repeater, and that all companies working long circuits would adopt it. Besides doing a great service to these companies, the religious effect would be quite remarkable, but then the recording angel, I take it, places by the side of those hard words in the big book, as she wipes away a tear, "He was attending a repeater." The Bankers', Brokers', and Commercial lines of telegraph, under the charge of Mr. R. C. EDWARDS, have opened an office adjoining the Gold Room, in Congress square, this city. Business is very fair, I understand.

All the telegraphers in this city join together this year for the purpose of making their annual levee a grand success, and from the character of the gentlemen having charge of the same it undoubtedly will be.

WINSLOW.

TELEGRAPHIC EXTENSION IN TEXAS.—Mr. W. A. WHERRY, formerly of Texas, but more recently chief operator of Nashville office, is constructing a line "on his own hook" from Marshall to Waco, Texas, distance about three hundred miles. Citizens on the route of the line are subscribing liberally. There will be some profitable offices on this line, as it penetrates the celebrated wheat growing portion of Texas. The Western Union Company propose extending their line from Millican to Waco at once to connect with Mr. WHERRY'S line. They have also just extended their line to Columbus, Texas. The poles have been contracted for, for the extension, thence to the Rio Grande, taking in Lavaca, Indianola, Brownsville, and other important places. This company is also negotiating with Mexican gentlemen for the construction of a line to Monterey, Mexico, connecting with the Western Union at San Antonio, Texas.

SPIRITUAL TELEGRAPHY.—A correspondent, who has just had an interview with Mrs. MARGARETTA FOX KANE, writes as follows:

"Mrs. KANE'S spiritual mediumship is said to be not only as popular as ever, but very curious. An ordinary telegraph apparatus, at a remote end of the room where she holds a seance, will print messages by the yard as rapidly as by the electric agent. Nevertheless, Mrs. KANE'S views of the thing have not changed. She regards it as the work of spirits of a degraded order, if not diabolical, utterly unreliable, treacherous, and tending to evil only. Those who pursue it, she thinks, will meet with disappointment, if the result be no worse. Only the pressure of grim necessity has driven her to mediumship."

DOLLY DAVENPORT'S BODY WANTED.—Fortunate is the man who can read his own epitaph. This old proverb has just been, or rather about to be, realized by our old friend, A. H. DAVENPORT, of the Academy of Music. It appears that a few days since a Mr. DAVENPORT died in this city, his death being duly announced by the papers. Yesterday, while DOLLY was busy inspecting the Black Crook traps and superintending the *entrechat* of the ballet, the following alarming telegraph was placed in his hands:

"NEW-YORK, December 15, 1867.

"Messrs. SPALDING & BIDWELL, Academy of Music:

"Please send body of A. H. DAVENPORT, deceased, by steamer, to his mother, — street, New-York city.

"\* \* \* \* \*

Imagine DOLLY, thus in one fell moment discarded into the other world. We are informed by persons present that the dying hues of the dolphin or the fabled variegations of the chameleon were nothing to the colors that passed over his countenance at the reception of this posthumous fame. DOLLY has been too long a veteran of the stage, however, to ever forget his part, as the answer to this funeral announcement plainly shows:

"NEW-ORLEANS, December 15, 1867.

"\* \* \* \* \* I will try and bring my body myself—never was better able to do so in my life.

"A. H. DAVENPORT."

The fun to be experienced by this prematurely deceased person, thus cut off in the flower of his youth, at

reading the obituaries that will doubtless appear in the New-York papers, will be a luxury that few of us are destined to enjoy.—*New-Orleans Times*, 17th.

THE DEATH OF R. A. SANFORD.—*Tribute of Respect from the Chicago District.*—The following preamble and resolutions were presented at the last regular meeting of the Chicago District by the director, Mr. YORK, and have been sent us for publication:

"FOR the third time since the establishment of this branch of the 'Union' have we been called to the grave's mouth to lament the sudden cutting off of beloved members, and to unite in solemn resolution of condolence, and to consider upon what a frail tenure we hold life.

"On the last occasion of this character the object of mourning was our very dear brother, ROSWELL A. SANFORD, bound to us by fraternal bands and the ties of friendship—over which last, be it spoken with happiness, death has no power. Since it has pleased the Lord of death to separate him from us, it is

"Resolved, That we accord an expression of the profound grief into which we are thrown by this visitation which snatches from us and earthly usefulness a valuable member of this body, an endeared associate, and a light in society. And

"Resolved, That particular mention be here made of the services which deceased has rendered our District in an official capacity—that we express a lively appreciation of the zeal and fidelity which characterized the performance and our perception of the assurance of loyalty to the 'Union' which such performance afforded. And

"Resolved, That reference be had to the worthy manner in which deceased has observed his obligations to this organization since the hour of his affiliation. Be it further

"Resolved, That we extend to his bereaved family and friends the purest and deepest sympathy, and that a copy of these resolutions be sent them in token thereof. And lastly,

"Resolved, That a memorial copy be placed upon the records of this district and one forwarded to THE TELEGRAPHER for publication."

VOTING BY MACHINERY.—The Washington City Council is soon to vote by machinery. By an arrangement of wires similar to that of the hotel annunciator, connecting the desks of the members with the voting apparatus, members will be enabled to vote all at once, and the result—that is, the individual vote of each member, together with the aggregate, respectively, of the "yeas" and "nays"—can be plainly shown upon dial plates. Simultaneously with the summarized results, the name of each member voting may be printed for the use of reporters for the press.

FEMALE TELEGRAPH OPERATORS.—The *Deseret News* of Dec. 9 says in behalf of women:

"Eleven of the offices of the Deseret Telegraph Line are now supplied with female operators. In several other offices young ladies are being instructed in the art of telegraphy; and, before long, we presume that nearly every office on the line will be furnished with female operators. If they steadily apply themselves to their duties, we know of nothing to prevent their becoming efficient telegraphers. In repairing the lines and other out-door labors connected with the telegraph, of course men can be employed; but for all office work, it seems to us that females will answer as well as males. There are so many demands for men's labor in this country, with every prospect of the demand increasing, that the education of women, with the view to fit her for the lighter employments which men now follow, is a move in the right direction. There are many branches of business which she can profitably follow—for which she has a peculiar aptitude."

TELEGRAPH ITEMS FROM THE FAR WEST.—The new line which the Western Union Company have just completed along the line of the Union Pacific Railroad, runs on the railroad company's poles from Fort Kearney, Neb., to Cheyenne City, Dak. The U. P. R. Co. and the Western Union Telegraph Company have been at logger heads for some time past, and it is rumored that the latter company have been requested either to remove their wire from the poles of the railroad company or to sell it to them. In the latter event the W. U. Company

will construct another line over that route. An Omaha dispatch, of Dec. 19, states that the Union Pacific R. R. line was to be completed to Fort Sanders on the 21st instant.

TELEGRAPHIC COMMUNICATION BETWEEN THE UNITED STATES AND MEXICO VIA DENVER.—We learn that a project is on foot for the construction of a line of telegraph from Denver, Colorado, via Santa Fe to Mexico. There are a number of places in New-Mexico of considerable importance, and a telegraph line through that country to Mexico might prove a very remunerative investment. Mr. B. F. WOODWARD, formerly manager of the Western Union office at Denver, has gone to Santa Fe, and it is rumored that his trip has some connection with this new enterprise. General GEORGE P. IHRIE, who is the United States paymaster at Denver, is now at Washington seeking aid both from the United States and Mexican Governments.

THE ATLANTIC AND PACIFIC TELEGRAPH COMPANY.—The lines of this company have been completed to Erie, Pa., and are expected to reach Cleveland within a week. Offices have been opened west of Buffalo, at Dunkirk, and Westfield. Mr. C. W. DEAN, formerly of the United States Company's office at Cleveland, will have charge of the Atlantic and Pacific office in that city. This company opened an office in the Astor House block in this city on January 1.

The New-York *Tribune* says that the project of connecting Vera Cruz and New-Orleans by a submarine telegraph has been several times broached, and it wonders that capitalists have not taken up the enterprise. The distance from Vera Cruz to the mouth of the Mississippi, is about eight hundred miles, and there is no apparent reason why the laying of a cable across the Gulf of Mexico should not be easily accomplished.

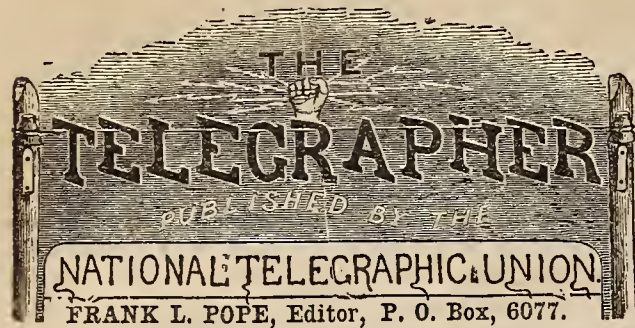
CLEANING MARBLE.—It may be of some value to telegraph operators who have marble-based instruments, to know that the common solution of gum arabic is an excellent absorbent, and will remove dirt, etc., from marble. 1. Brush the dust off the piece to be cleaned, then apply with a brush a good coat of gum arabic, about the consistency of a thick office mucilage, expose it to the sun or dry wind, or both. In a short time it will crack and peel off. If all the gum should not peel off, wash it with clean water and a clean cloth. Of course, if the first application does not have the desired effect it should be applied again. 2. Make a paste with soft-soap and whiting. Wash the marble first with it, and then leave a coat of the paste upon it for two or three days. Afterward wash off with warm (not hot) water and soap.—*Scientific American*.

THE BOGUS CABLE TELEGRAMS.—A statement appeared in THE TELEGRAPHER of last week that the brokers in the Gold Exchange, at a recent meeting, had resolved to pay a reward of five hundred dollars for the detection of parties circulating bogus cable news. We learn that the trouble originated in consequence of a blunder made in the office of the Commercial Bureau of the Western Union Telegraph Company. Instead of reporting the price of Bonds in London at 71 and 11-16, the manifold writer unfortunately wrote upon one batch of copies 71 and 1-16. The above facts were ascertained upon a strict investigation of the matter, and the Commercial Bureau "acknowledged the corn."

THE TELEGRAPH AMONG THE MORMONS.—BRIGHAM YOUNG'S telegraph line now extends from Salt Lake City to Cache Valley on the north, and southward to St. George, the whole distance being over five hundred miles. He now has eleven women employed on the line as operators, and intends to employ them in every office on the line.

FIRE-ALARM TELEGRAPH IN TROY.—Mr. MERWING, of New-Haven, was yesterday heard before the Board of Fire Commissioners, in regard to Fairchild's patent alarm telegraph. He submitted a statement to the effect that the system could be placed in this city, complete, to the extent of thirty-six boxes, and not more than twenty-six miles of wire, with alarms in the different engine and station-houses, for \$10,000, the line to be completed in less than four months. Additional boxes to cost \$150 each. The proposition was referred to the Committee on Telegraph.—*Troy Whig*, Dec. 6.





SATURDAY, JAN. 4, 1868.

"A HAPPY NEW-YEAR."

ANOTHER year, with its long record of events, tinged with bright and vivid gleams of success, or darkened with shadows of those dismal clouds of adversity which constantly beset our paths, has been gathered to the realms of the past, and we have now entered upon the unwritten pages of the new year, hopeful that its passage will be unblemished by a single experience which shall lessen the present standing of the fraternity.

As we glance backward over the names of those who during the past twelve months have been stricken from the roll of this worldly life, we cannot suppress a feeling of sadness which pervades our hearts as we think of the many more whose transfer to another world during the coming year will throw a veil of gloom over the lives of their dear friends, who may yet remain to welcome the advent of many a "New-Year." Man thinks all others mortal but himself, yet the sickle of death is impartial in its passage through our ranks, and those who to-day are strong and reliant may soon be added to the harvest of that untiring reaper. In order to alleviate so far as possible the wants or sufferings of dependent relatives, a wise and beneficent plan has been inaugurated by the National Telegraphic Union, by which any telegrapher may assure himself that, in case of his death, the hands of hundreds of his surviving brothers will be extended in aid of those whom he may leave behind. The present occasion seems a fitting one to impress upon our readers the necessity of making proper provision for the future, and we hope none will fail to avail themselves of the opportunity now afforded them to insure their lives at the lowest possible rate consistent with the untold benefits which will accrue when a sufficient number become associated together for this purpose.

We have exerted our feeble efforts in endeavoring to teach our friends that we labor for their interests, and we wish that all would recognize the vast importance of the measures which have been adopted by the Union, for the benefit not only of its paying members, but for the good of its enemies, so long as they continue in the profession.

THE TELEGRAPHER also comes in for its share of attention, as an exponent of its subscribers, and as a vehicle of information to many who read and appreciate its usefulness, but seemingly forget that it is their duty to add to its strength in order that it may long continue an earnest, unflinching organ, devoted strictly to telegraphic interests, unbiased by a single mercenary thought of favor or of self.

We cannot drop our pen without paying tribute to our Boston friends who have lately made such successful efforts in adding many names to this subscription-list, of which we were already proud. We would gladly mention the names of those who continue to work for us "without money and without

price," but there are men so thoroughly gorged with transient authority as to look upon their exertions as an expression of enmity toward the great power, so we refrain from mentioning names, but tender to our friends our hearty appreciation of their labor, and to all of our readers, with thanks for their many kind tokens of sympathy and good-will, we wish "A Happy New-Year."

PERSONAL.

H. D. CAMPBELL has gone to Oshkosh, Wis., temporarily for the C. and N. W. R. R. Co.

FRANK WADDELL, recently of the Atchison, Kansas, office, has taken a position in the W. U. Telegraph office at Cincinnati, Ohio.

DAVID S. ANDERSON has accepted a position as "night report" operator in the Chicago office.

SEÑOR E. ARRANTANE, the accommodating inspector at Havana of the Cuban telegraph, who has been seriously ill, has recovered, and is now at his post again.

HAM FITCHETT, of the Western Union Poughkeepsie office, is seriously ill. His place is being filled by JOHN F. COLLINS, late of the Athens, N. Y., office, which has been closed for the season.

WANTED.—Any person knowing the whereabouts of W. H. ETTER, will confer a favor by informing the editor of THE TELEGRAPHER.

COL. C. S. BULKLEY, Engineer-in-Chief of the late Russo-American Telegraph, is now in San Francisco, Cal.

JAMES K. PARSONS, late of the Atlantic and Pacific Telegraph office in this city, has accepted a position in the Western Union office at Plaister Cove, N. S.

J. J. SABIN and JOE PIERCE, late of the Russo-American Telegraph, are now employed in the telegraph office at Salt Lake City.

JESSE ROBINSON, another of the "Siberian exiles" is now in the office at Sacramento, Cal.

F. L. VANDENBURG is now superintendent of telegraph construction on the Central Pacific Railroad.

LEVY WILD, of Missouri, is manager of the telegraph office at Virginia, Montana.

FRANK BELL, of Canada, is division superintendent of the California Telegraph lines in the mountain regions between California and Nevada.

GEORGE J. GOULDING, manager W. U. Company's Junction City, Kansas, having been appointed agent for the U. S. Express at that point, has moved his instruments, etc., into the office of the express company, and taken charge of both.

A. F. GRAHAM, late of Milwaukee, has accepted a position as agent and operator on the Milwaukee and Prairie du Chien Railway at Black Earth, Wis.

A. H. POST, formerly of Hartford, Conn., is working in the San Francisco, Cal., office.

J. F. ALLEN, of Canada, is chief operator in the Sacramento, Cal., office.

DOCTOR LOVEJOY, originally of New-York, an old telegrapher of twenty years' standing, is the officiating "wire-puller" as well as tooth-puller at Petaluma, Cal.

FRANK H. LAMB, formerly of the United States Military lines, is now superintendent of the Western Union lines north of Victoria, V. I., including the Russian Extension as far as completed.

"JIMMY" CALLAHAN, formerly of the P. Ft. W. and C. R. R., has accepted a place in the Western Union Telegraph office, Pittsburg, Pa.

CAPTAIN W. H. KELSEY, formerly of the Chicago office, who has been absent for nearly two years in the service of the Russo-American Telegraph Company, returned from California by steamer a few days since. He is now visiting his relatives at the West.

D. S. RYAN, formerly of Richmond, Va., and Augusta, Ga., offices, has taken a position as operator in Galveston, Texas, office.

J. E. SLATER, of Montgomery, Ala., has gone to Harrisburg, Texas, *vice* J. T. WALKER, deceased.

P. H. FALL has reopened the Millican, Texas, office, closed on account of the death of J. F. REARDON.

MISCELLANEA.

PERSONAL.—Our old friend, LEW SPELLMAN, who has been in bad health for several months past, has been sojourning at the celebrated Piedmont Springs, Texas. Its waters appear to have had the desired effect. He contemplates raising another crop of cotton near Millican.

THE POSTAL TELEGRAPH.—We are informed on good authority that the Postal Telegraph project will be revived and acted upon during the present session of Congress.

WHO IS THE "PIRATE"?—A message addressed to the President, private, was sent from Council Bluffs, Iowa, a few days since. When it reached Washington it read, President and pirate. The Washington office sent a message back saying: "Don't know who President and pirate are." We delivered it to the President of the United States, supposing it intended for President and private.

THE CUBAN CABLE TARIFFS.—An official order from WILLIAM ORTON, President of the Western Union Telegraph Company, dated Dec. 18, 1867, says: "The tariff between Havana and all points in the United States west of the Mississippi river, will be fifteen dollars in gold for twenty words, and seventy-five cents in gold for each additional word instead of ten dollars for twenty words, and fifty cents for extra words as heretofore. In all other respects previous orders remain in force."

PERSONAL.—Mr. HUMPHREY CHAMBERLAIN, manager of the East Oswego office, Western Union Telegraph, has tendered his resignation, taking effect January 1st, 1868. His connection with the telegraph business during the past four years has won for him many friends who regret his withdrawal. The firm of BICKFORD & CHAMBERLAIN, druggists, have the good wishes of the fraternity.

THE ALBANY FIRE-ALARM TELEGRAPH.—The committee of the Fire Commissioners and Common Council, who have been on a tour of inspection for the purpose of examining the operation of various systems of fire-alarm telegraph in other cities, returned to this city on Thursday evening. It is understood that the committee were satisfied, from an examination of the practical workings of the Gamewell system in Boston, that it is in all respects the best now in use, and that they will recommend its adoption here.—*Albany Argus*, Dec. 21.

PRESENTATION.—Mr. C. S. JONES, manager of the operating department in the W. U. Albany office, was on New-Year's day the recipient of two richly bound volumes, "Shakespeare" and "The Loves and Heroines of the Poets," the gift of his operators.

A GOOD CLIMB.—GEORGE THOMPSON, line repairer for the Western Union Company, recently ascended the one hundred and fifty foot mast standing at the junction of State street and Broadway, in Albany, and put up new halliards.

THE ALBANY AND SUSQUEHANNA RAILROAD AND TELEGRAPH.—The progress of this road is gratifying to its friends, and to that large section of the State to which it is the only outlet by rail to the eastern markets. The road has recently been extended to Harpersville, Broome county, a distance of one hundred and twenty miles from Albany. The telegraph line keeps pace with the road, and offices have been opened at Afton and Harpersville.

TELEGRAPH CHANGES AT ALBANY.—The "Dr." office in Troy has been closed, and the night work in "Da." office in Albany abolished, and the operators transferred to a new office opened in the depot recently erected at the Albany bridge.

The office at the steamboat landing in Albany has been closed for the winter, and JOHN CARROLL, who has had charge of it during the summer, takes charge of the W. U. office in the State Capitol.

GOOD TIME.—A telegraph dispatch from London, dated Dec. 1, at two o'clock A. M., was received at St. Paul, Minnesota, at half-past ten o'clock on the night of November 30.







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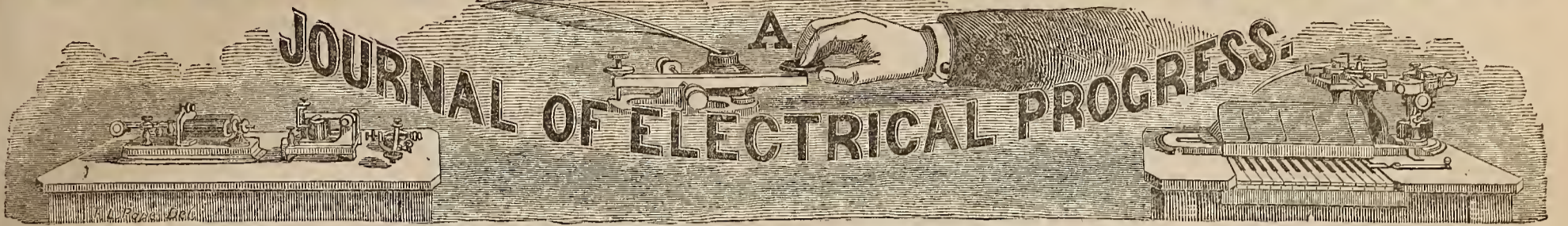
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# THE TELEGRAPHER.



Vol. IV.—No. 20.

New-York, Saturday, January 11, 1868.

Whole No. 78.

[FOR THE TELEGRAPHER.]

## Waifs.

IN the former waifs, from the notes of a telegrapher, taken from behind an operator's spectacles in leisure hours, that I have sent you, I have dealt only with the superficial phases of humanity, carefully avoiding personality, dealing only with the facial contortions and grimaces that have caused the *genus homo* to present the grotesque and ludicrous side of the great study of mankind. But as I have blinked leisurely and observantly through my spectacles, with the silken kerchief of charity zealously removing the dust of suspicion or the emerald taint of prejudice, there has been a more thoughtful, a more serious tone oftentimes given to my reveries. Laying aside the mechanical monotony of working hours, there has been given vein to thought and feeling, and whilst I have been convulsed over the failings and foibles of my kind, I have given a tear, besides, to the frailties that have veiled the good. Perhaps I am not exactly orthodox in my physical or mental philosophy or theology, but I claim that common sense is the promoter of religion. Religion is built upon charity, as the Holy Word proclaims, and common sense but sees through charity; whilst orthodoxy, as I hold it, lays its corner-stone upon the bigoted notion of following in the grooves worn by the footsteps, in their treadmill existence, of those gone before.

With due reverence for our predecessors, the charity of common sense maintains that bigotry is error and oppression, and that liberty and Christianity spring from progression. Thus, then, avowing myself as charitably unorthodox, I discredit the generally-received idea of original sin, whilst I avow my belief that good predominates in our composition. Man is naturally perverse, has been asserted. I admit and deny it. That is, I accept the fable with a different signification from my translation, seeking for the origination of this "Imp of the Perverse," and finding it in this: Man is mind, and the rule is good, for it works both ways, hence, mind is mau. Then it follows that as a man thinks he is, and his thoughts are himself, the physical idea of man, a falsity. Thus man will naturally resemble the thought you give him of himself. Make him think he is either good or perverse, and he is either. Bigotry teaches that he is evil, and utterly disheartened in the tough contest with opinion, he becomes a fiend, where charity would bind his wounds, heal his broken faith, and with renewed honor and heart teach him to believe in his manhood, whilst he learned the sublimity and simplicity of the promise, "Believe and be saved, he who *doubteth* is damned." But with the dread that you think me some moth-eaten divine with more theology than brains, and less wit than either, I have resource to my silken kerchief that I may remove the suspicious dimness from my spectacles that may cloud their clearness of vision, and I perch them again above my nose, avowing the purpose of this sudden step "from gay to grave." I have to do with *The National Telegraphic Union*. Some one tells me that ignorance is a blank page upon which we may write, but error is a scribbled one upon which we must first erase. The existence of the N. T. U. is such a scribbled page, upon which truth would bring out clearly the characters alone worthy to fill it. Unity, since the symbol given the world in the Trinity, has ever been the most beautiful and purest of principles, whether it be

given in the type of filial and parental affection, the ties that bind a nation, or that rarest and faintest type of brotherhood given us by our Divine Brother, where love and mutual interest unisolated cements the tie. So, then, to me, the unity of any profession in life has ever held an aspect of loveliness, and the original principles of the *N. T. U.*, as I have understood them, have been full of beauty and worthy emulation. A united principle of upholding mutual honor, sympathy, and liberty. Honor seorns suspicion, and your friends rejoice at your vote against a secret association, in this "avoiding even an appearance of evil." Your sympathy is still unbroken, and in worthy instances your fealty is strengthened by the flight of years, and the waves of opposition that have bound together in one, in form as strong and beautiful as the *cocina* along the Floridan coasts, with which you shall build a fort that shall, too, "last a thousand years." But however this may be, your sympathetic ties lack power, because embodying too much of force in your endeavors to mould opinion. It is *electricity* you should properly represent, not *steam*, the powerful subtlety of *tact* united with the force of your mutual talents. You have the science now, but you lack in a measure the power of skill. Using the simile of a nail and a screw, it is all very well, in theory, to talk of "hitting the nail on the head," but I prefer driving a screw slowly, surely, steadily, and securely to its place. By this I mean your sympathetic sense of liberty is a trifle erroneous. As I have said, I am appealing now to your common sense and innate sense of good. Not that I care for you less, but for your welfare more; heartily desiring that your *back-bone* may have the *right* stamina. Not poker-back with bigotry, but of that pliancy that will bend to truth and spring with the elasticity of conviction to its place, and not fall broken, leaving an unsightly stiffened stalk at the first strong wind of opposition. Liberty is ours to do as we please, until we infringe the rights of others in struggling for our own, and then the law of common sense must keep us in the balance. Hence, then, to obtain liberty we must be in ourselves strong. Frailty but strengthens our oppression. "We forge our chains, then curse that fate that hangs the fetters on our will." Liberty is ours, and ours the right to win it. We have no claim to what is underserved. Had we absolute liberty now unity would soon die. Even liberty must have its bonds, and ours the bond of unity. If we scratch the face of our adversary, he has the right to scratch back again. But we should desire the velvet paw of charity that hides the unwelcome claws of equality of right to the claims of humanity, whilst it cooers with panther-like grace and power the obedience to justice and right desired sooner than all the nails of sarcasm and sharpness of unpalatable truths would accomplish in centuries. This is then the sum total of my appeal. Until we are strong enough to demand equal rights we must exert ourselves to gain equal strength, and in the meantime use less time in pulling down the rocks about our ears, to impede our progress from the mountainous influence of our adversaries, than in raising ourselves to higher eminence—building ourselves up *together*, talking less than acting, until we may come from out the shadows of loftier heights to the sunshine that shall be ours as well. But my spectacles are dimmed again, and my leisure hour is past, and I replace them in their case, finally beseeching you to heed the

injunction of St. Paul: "As far as lieth in you, live peaceably with all men," or the appeal of Abraham to Lot: "Let there be no strife between us, I pray you, for we are brethren." O. P. ERATOR.

## Telegraphing in the Tropics.

AN English publication contains some particulars concerning telegraphing in the tropics, from which we extract the following: In India the conditions of the country render a different method of constructing the telegraphic wires necessary. Traversing, as the wires do, dense jungles and forests swarming with birds and animals, it is necessary to make the wires very much stronger than we do in this country. They are, in fact, small bars of iron three-eighths of an inch in thickness. An amount of rigidity is thus obtained which is necessary to meet the requirements of the country. The bars of iron are placed on the tops of bamboos at a sufficient height to allow the country carts to pass underneath them, and even to give passage to loaded elephants. The size of these conducting bars is necessitated by the heavy rains which fall in the wet season in India. Even in England, the rain dripping in a stream from the telegraphic wire to the post is sufficient to stop the working of the wire, inasmuch as the electric current escapes directly to the earth, and is then dispersed. The same rule that obtains in one dependency will obtain in all other tropical countries, and deviations from the European method of constructing electric telegraphs will be necessitated.

In all countries where thunder-storms are frequent, and where dense fogs prevail, it is necessary at times to have increased battery power in order to drive the electric current through the storm. When a thunder storm occurs, even in this country, the electric spark sometimes runs along the wire from station to station, and does great damage to the finer parts of the working apparatus. If such mishaps occasionally occur in these temperate regions, what must be the casualties that have to be provided against in the Indian monsoon? Lightning conductors in such countries are necessary at various parts of the line to conduct to the earth this unwelcome visitor, which, in the most temperate climates, is sufficient to reverse the polarity of the needles.

In England there is a system of switches employed resembling those on railways, by the use of which one wire can be put in communication with any other, instead of the direct one it is usually placed in communication with. In this manner a thunder-storm which interferes with its working may be escaped, and a circuitous route, free from the passing storm, secured. Fogs are dodged in the same ingenious manner, a divergence in the route of a hundred miles or so causing no loss of time, inasmuch as the speed of telegraphic communication is equal, at least, to the speed with which light travels.

THE EAST INDIA TELEGRAPH Co.—A dispatch from Shanghai, of December 27, says that this company propose to lay a submarine cable within six months. The cable is now on the way from England.

THROUGH TO HELENA.—On Monday evening, January 4, the lines were again connected through, and quite a lengthy conversation held between Messrs. CATLIN, of New-York, NICHOLS, of Cheyenne City, Dak., and WILLEY, of Helena, Montana, the latter being nearly six hundred miles from Salt Lake City, on a branch line.



## The Merchant and the Messenger.

A Story for Good Little Boys and Wicked Old Men.

ONE night, while plunged in slumber deep,  
This dream came to me in my sleep :

'Twas on a New-Year's morning that  
A merchant in his office sat.

Without, the storm howled o'er the sea;  
Within, the fire burned merrily.

And, sheltered from the biting cold,  
The merchant counted o'er his gold.

Though blessed with much of earthly pelf,  
He was a parsimonious elf;

And as he counted up his store,  
A little urchin oped the door,

And with a glance of hopefulness,  
Held out a "Messenger's Address."

Within the year that little lad  
The merchant's heart had oft made glad,

As he swift telegrams had brought  
Of vessels safe arrived in port;

Or advantageous sale or trade,  
By which the merchant fortunes made.

And so, with look of hopefulness,  
He brought his "Messenger's Address."

But charity to rock and stone  
And miser's heart is all unknown.

And with a look as sour and cross  
As if his gain had all been loss

(And as a bear with had sore head  
Doth growl), the crabbed merchant said :

"Your office pays you every week;  
What right have you for gifts to seek?"

"Sir," said the lad, and oped the door,  
"You're very rich, we're very poor."

"Poor!" quoth the other; then just look  
Within the pages of the Book;

"In Matthew's Gospel you will see  
These words (perchance they'll comfort thee);

"They're short and sweet: 'Blest are the poor;'  
Now start along—go—shut the door."

With disappointment on his face,  
The little fellow left the place.

A grin the merchant's features lit;  
He chuckled at his own keen wit.

Again I slept, and dreamed once more,  
And this is what I heard and saw :

The merchant, after years of toil,  
Had shuffled off this mortal coil,

And trembling like an aspen leaf  
(They shake, you know, past all belief),

As if uncertain of his fate,  
He knocked at heaven's outer gate.

And, as he stood in fear and doubt,  
These words a trumpet voice spake out :

"O wretched man of wretched wit,  
Within the Sacred Book 'tis writ—

"In Matthew's Gospel you will see  
The words (perchance they'll comfort thee),

"'Blest are merciful, for they  
Shall obtain mercy; go thy way."

And quick as falls a flash of light  
The merchant vanished out of sight.

And where he went I do not know,  
But into heaven he did not go.

The moral here is writ so plain,  
I need not write it down again.

ARREST OF A TELEGRAPH OPERATOR.—M. C. BALDWIN, an operator in the Western Union Telegraph office, in Chicago, was arrested on Thursday, charged with using the wires of the company to transmit messages for BENNETT, PETERS & Co., wholesale liquor merchants, without the knowledge of the officers of the company.

The dispatches were transmitted between Chicago and Omaha, and show an intention on the part of those to whom they were sent to defraud the Government by evading the revenue laws.

The accused waived an examination, and was held in \$2000 bail to appear at the Recorder's Court.

## 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 Telegraphic Alphabet.

CONCORD, N. H., Dec. 30, 1867.

TO THE EDITOR OF THE TELEGRAPHER :

THE alphabet used in Europe has been published in both telegraph papers, and has had a large circulation among the profession. I have been hoping to see some comments in regard to it, but as none have appeared, I venture to write this, hoping that it may provoke reply, and the matter be thoroughly discussed.

This alphabet seems to me to be slow and tedious, and the rule that those letters most frequently used should be the shortest, seems not to be observed. Take the letter C, for instance, for which there are four characters, and the letter O three dashes, etc. This letter O as one of the vowels, occurs very frequently in every language, and the constant repetition of three dashes must have a serious effect on the speed with which words can be transmitted in that alphabet.

In this office we have occasion to work both the Morse and Bain alphabets. The Bain alphabet has always been considered slow by Morse operators, but it is far superior in point of speed to the new alphabet, besides being fully as sure, as it has no space letters. As this alphabet may not be familiar to most operators I give it here. It is in use between Boston and Montreal, and from Springfield, Mass., to Canada :

A ---	N -----
B ----	O ---
C ----	P ----
D ----	Q -----
E -	R ----
F -----	S ---
G ----	T -----
H ----	U --
I --	V -----
J -----	W -----
K -----	X -----
L -----	Y ---
M -----	Z ----
& -----	
1 -----	6 -----
2 -----	7 -----
3 -----	8 -----
4 -----	9 -----
5 -----	0 -----

The period and interrogation are the same as in the Morse system. No other punctuation marks are used. If any were required, it would not be very difficult to manufacture some which should be as short, at least, as those of the International alphabet. The figures in Bain are very similar to those of the new alphabet, one part of each acting as a check upon the other part. It will be seen that the letters C and O do not take up one half the time in transmitting that they do in the International system. The combination of five dashes, the Continental cipher, is not used in the Bain alphabet.

In counting the dashes and dots in each alphabet (twenty-six letters), I find the Morse is composed of seventy-seven, the Bain, seventy-nine, and the International, eighty-two.

I contend, if we must have a change, let it be for the better. If we can find a good alphabet, let us change; and if it proves better than the one across the water, let them adopt ours. But it is hardly fair that we should take up with a poor alphabet because it happens to be in use in Europe.

To the space letters of the Morse alphabet have always been charged the blunders and mistakes of inexperienced operators. They have been made to shoulder all the mistakes of first-class operators and of plugs. But is this charge true? Do we not find in looking over the humorous items in telegraph papers that only a very small proportion of the blunders are made on space letters. Mistakes are principally the result of carelessness, and no alphabet, however perfect would entirely prevent them.

The new alphabet may be very sure, but if the reports of ludicrous blunders which we see in foreign papers are true, correctness of telegraphing in this country will not suffer in comparison with that of Europe.

The practical operators of this country would hardly be willing to accept such an alphabet as the one proposed in place of the Morse, which has become dear to every operator. It would seem like a step backward. The new alphabet may do well enough in those countries where little besides commercial business is transacted, but for press reports it would be sadly deficient. Let us keep the old Morse alphabet at least till a better one is proposed.

"ONE OF THE BOYS."

## Maine—The Banner District.

PORTLAND, Dec. 30, 1867.

TO THE EDITOR OF THE TELEGRAPHER :

ON the 30th of November last, we admitted to membership in this district eighteen persons, three of whom were old members who had been honorably discharged, and fifteen new members.

Of this fact you have already notified your many readers. We did not, however, stop there—we did not rest satisfied with this—but we kept at work, as you will acknowledge when I inform you that at our regular meeting on the 28th inst., we admitted to membership twelve persons more, making thirty members added to our number in two months.

If any district in the Union can beat this, just let them step three paces in front and we will lower our banner to them, and cheerfully own up that we are out-done. If there are none we will still wave our banner aloft in triumph. Yet, we do not wish to boast unduly. We would rejoice if it could be shown that every district had done better, even, than we have; for the prosperity of our excellent organization is the main point with us, and my object in making this statement to you is, more than anything else, for the purpose of encouraging our entire membership in every district to "go and do likewise," or as much better as possible.

And I trust that no one can be foolish enough to entertain for a moment the idea that our exertions for the purpose of increasing our strength and effectiveness as an organization mean war upon or even the slightest feeling of ill-will towards our employers. Nothing can be farther from our thoughts or wishes. Is not the whole thing clearly stated in the preamble to our Constitution, "uniting ourselves for the purposes of mutual protection in adversity," "promoting and maintaining between ourselves and our employers just, equitable and harmonious relations, and advancing the general interests of the fraternity," "recognizing the principle that the interest of the employer and employé are identical," etc.? What can be better, more honorable, open and above-board than this? The sick benefit feature of the Union is enough in and of itself to commend the organization to every person engaged in the business of telegraphing, to say nothing of other benefits derived from it.

This district now numbers forty-five members in all, and we have the pleasant prospect of still greater accessions to our ranks, and we have no intention of relaxing our efforts at present, for we hold that every good man in the telegraphic business should cast in his lot with us. We are all embarked in the same ship; our interests are identical; what is for the benefit of one is for the benefit of all, indirectly if not directly, and there is no good reason why every one should not come in and help us, and by so doing help himself.

I understand that in some districts the old members, or a portion of them at least, still entertain the outrageously foolish and pernicious opinion that none but operators and those of some years' experience should be admitted to membership.

We think this is wrong, decidedly, and we are right glad that the St. Louis Convention, so heartily, and with such unanimity, changed the Constitution in this respect, so that every good man, whether operator, clerk, repairer, or even messenger, can be admitted. And why shouldn't it be so? Is it very modest for any one class of employés to set themselves up as the *creme de la creme* of the entire business? Such an assumption is simply ridiculous. Clerks, repairers and messengers are just as important and necessary to the business as operators, and



*vice versa.* We cannot dispense with any; "and the eye cannot say unto the hand, I have no need of thee, nor again the head to the feet, I have no need of you." Nay, much more, those members of the body which seem to be more feeble are necessary.

All the members of the body are *necessary* to the proper discharge of the functions of the body, and just so surely is *every member* of the great telegraph body *necessary* to the proper discharge of the functions of that body.

Then, brother operators, telegraphers, all, we appeal to you, to your better feelings, to your sense of justice, to have done immediately, once and for all, now and forever, with such ridiculous notions and assumptions, and that you invite with a hearty and cordial good feeling *all good men* in the business to join us, thus assuring for our beloved Union an onward and upward career of prosperity and perpetuity.

UNION.

### Westbrook's Rapid Writer.

TO THE EDITOR OF THE TELEGRAPHER:

A PRACTICAL system capable of transmitting messages more rapidly than any other now in use is a desideratum in telegraphy.

The Morse system has probably reached its highest point of speed, and eliminates in about eighteen hundred words an hour. The House and Combination printers will transmit from two thousand to twenty-six hundred per hour. These results are triumphs of science and skill; but the growing requirements of the age call for greater achievements in the direction of speed.

The *Writing Telegraph* is a recent invention looking to a supply of this need. It possesses the elements of much higher speed than hitherto attained by any system in use, being capable of transmitting four thousand words an hour; and it is believed that five thousand may be reached.

The writing bears a resemblance to manuscript. The letters are traced on paper with printer's ink; are of uniform accuracy, compact and easily read.

The instrument will work on any circuit of any length where the Morse system can be worked. Repeaters can be used in connection with it, and any required number of circuits thus worked systematically.

A description of the invention will shortly be published. In the meantime it may be seen in operation at Harrisburg, Pa., where the inventor will be happy to demonstrate the claims herein set forth to those who may give him a call.

### MISCELLANEA.

**THANKS.**—We are indebted to W. A. McELROY, Secretary of the Chicago District, for complimentary tickets to the first annual ball of that district, which is to come off at Crosby's Music Hall, on Friday evening, January 17. When the Chicago boys set out to do a thing it is generally done right. Consequently a good time may be confidently looked for. The fraternity generally are cordially invited.

**THANKS.**—JOHN HORN, Jr., chairman of the Ball Committee of the New-York Telegraphers, has laid us under obligations for a complimentary ticket to the entertainment which will come off on the evening of the 24th, as will be seen by an announcement in another column.

**TO CORRESPONDENTS.**—H. C. M. Your lines are good and would be published were it not for a pressure of matter of more general telegraphic interest. T. A. E. Port Huron. Good! Come some more.

A BRANCH of the Western Union supply department at Cleveland has been opened at Chicago, in charge of C. H. SEAVER.

THE CANADIAN TELEGRAPHS.—It is stated that a movement will be made in the Canadian Parliament at Ottawa in favor of the Government purchasing and assuming control of the telegraph lines in the new dominion.

A VALUABLE INVENTION.—An exchange says that the New-York and New-Haven Railroad Company now have an electric signal in operation which notifies engineers of approaching trains, whether the draw is closed or open. This is the invention of Mr. Hall, of Stamford, and has been previously referred to in our columns.

THE BLUE NOSES WAKING UP.—Halifax is to have a fire-alarm telegraph. The insurance companies contribute towards defraying the expense.

THE PACIFIC AND ATLANTIC TELEGRAPH CO.—This company have their poles up between Columbia and York, Pa., and the line will shortly be in operation to the latter city.

THE TELEGRAPH CHURCH BURNED.—The Calvary Baptist Church in Washington took fire a few days since, and was nearly destroyed. It was worth \$100,000, of which AMOS KENDALL had contributed \$80,000. It was familiarly called the "Telegraph Church," from the fact that KENDALL, at the time he made the liberal donation toward its erection, had been making very profitable investments in telegraph stock.

CHICAGO TELEGRAPH ITEMS.—Owing to the decline of business since the close of navigation on the lakes, the use of the printing instruments on the Chicago and Milwaukee circuit has been discontinued since the 1st inst. They will be put in operation again upon the opening of navigation. The printing operators, Mr. BLANCHARD, of Milwaukee, and Mr. NOYES, of Chicago, have been ordered to report at New-York.

A TELEGRAPH REPAIRER IN "IRONS."—Several prisoners were at the Peoria, Illinois, depot, recently on their way to the State Penitentiary, when a repairer of the Western Union Telegraph Company happened to step into the room with his ladders on. The prisoners were very much amused at the way the *other prisoner* was ironed.

PROPOSED TELEGRAPHIC EXTENSION.—Denver (Colorado) papers advocate the immediate construction of a telegraph to Santa Fe, even if it is necessary to raise every dollar there.

SEVERE FLOODS IN CALIFORNIA—DAMAGE TO TELEGRAPH LINES.—A San Francisco telegram of January 5th states that great floods were prevailing in the vicinity of Sacramento, and the telegraph lines were nearly all prostrated, the water in some parts of the city being seven or eight feet deep. It will probably take several weeks to get the lines in complete working order again.

NEW GALVANIC BATTERY.—We have had in use in our laboratory a most singular looking piece of apparatus, devised by MOSES G. FARMER, Esq., the well-known electrician of this city. It is a new form of instrument for converting heat into electricity, and most satisfactorily does it perform its work. All that is necessary to put it into active operation is to light a gas jet, and in a few moments the electrical impulses are manifested, and the battery is ready to be set to work. It deposits metals with great facility, and the development of the agent is constant and uniform so long as the heat is supplied. It resembles a "fretted porcupine" as much as anything we can compare it with. The metals employed in its construction are antimony and copper. The strips or arms of copper protrude outward from the bars of antimony, so as to secure the cooling influence of an air-current, while the gas is heating the other extremity. A portion of the heat of the flame is transformed over into electricity, thus showing the easy convertibility of one imponderable into another, and the correlation of the forces.—*Boston Journal of Chemistry.*

EFFECT OF ELECTRICITY ON SEEDS.—M. BLONDEAU asserts that, after many experiments, he has found the action of an induction current on seeds, before planting, produces very beneficial results, noticeable in their subsequent growth. In experiments with beans, peas, and cereal grains, the seeds were soaked in water for some time, and were then submitted to the action of a current for several minutes. After this they were planted in pots filled with good garden earth, and at the same time other unelectrified seeds were planted and kept under the same conditions for the purpose of comparison. The former always came up first, grew more rapidly, and gave much more vigorous and fruitful plants than the latter. "But," says M. BLONDEAU, "one very singular fact is that many of the electrified seeds obstinately persisted in growing with the true root pointing up in the air, while the stem was directed downward;" which gives a little shade of incredulity to the whole statement, but the experiment is an easy one for any interested person to try for his own satisfaction.

A NOVEL HITCHING POST.—The party comprising the Russian American Telegraph expedition, on their return from the northern region, have brought home many interesting relics. An ivory tusk, twelve feet long and measuring seventeen inches in circumference, was purchased for twelve leaden bullets from Indians living in the new territory of Alaska. Near the junction of the Anadyr and Myan rivers the party found a tusk of enormous size sticking some six or eight feet out of the ground, and endeavored without success to dig it up. The frost in the ground held it so firmly that they were not able to ascertain whether the other bones of the mastodon were beneath or not. The Indians said that they had used it for a hitching post for many years, and that was all they knew or cared about it.

MAGNETIC IRON ORE.—The richest kinds of this ore, as that occurring on the west side of Lake Champlain, contain seventy per cent of metallic iron; other varieties—conglomerates—do not yield more than twenty to twenty-five per cent of the metal. Large and valuable beds of magnetic iron are found in New-Jersey, Pennsylvania, New-York, and Ohio. The iron mountains of Missouri also appear to belong to this species. It forms the main body of iron ore in Sweden.—*Scientific American.*

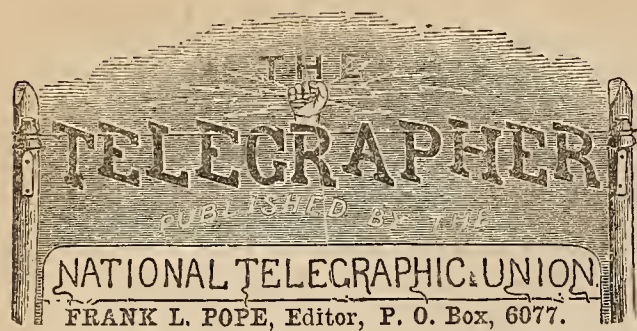
WESTERN TELEGRAPHIC ITEMS.—A new wire has just been strung between Chicago and Milwaukee for the use of the Chicago and Northwestern Railroad. There are now three wires on the poles of the Independent, and three on those of the Western Union Line. The Independent Company have moved from their former location into the office formerly occupied by the United States Company, near the Chamber of Commerce, in Chicago. The office of this company at Racine, Wis., has been closed, and the operator transferred to Chicago.

A NEW-YEAR'S CELEBRATION AT CINCINNATI.—On New-Year's evening the Adams Express Company gave an oyster supper to the telegraphers and clerks of Cincinnati, which came off at the St. Charles Restaurant, one of the most fashionable resorts in the city. Numerous prominent persons connected with both organizations were duly toasted, including Messrs. ORTON, STAGER, WADE, HUNTER, STEVENS, ARMSTRONG, and others of the telegraph; and Messrs. GAITHER, BRADLEY, WEIR, and RHODES, of the express company. A toast was also given to the memory of the late CHAS. DAVENPORT, who was district superintendent of the Western Union Company at Cincinnati. Appropriate remarks were made by Messrs. L. C. WEIR and W. D. GENTRY, and the company were also favored with songs from Messrs. GUTHRIDGE, DOAN, WHALEN, and NEWMAN. The occasion was immensely enjoyed by all parties concerned.

THE APPLICATION OF THE TELEGRAPH TO MILITARY USES.—We learn from the recently published report of Gen. GRANT, that the course of tuition in military signaling and telegraphing has been definitely established and commenced at West Point, and that preliminary steps have been taken to secure the arrangement upon similar plans, so far as practicable, of the study of these duties at both the military and naval academies. He also says that a project for the general communication of the army and navy by signals common to both services has been brought under consideration. When these plans shall have been carried into effect the active forces of the United States will be prepared to use in contingencies of the service either aerial or electric telegraphy.

THE ATLANTIC AND PACIFIC TELEGRAPH COMPANY.—This company have completed their lines as far west as Cleveland, and the office in that city was opened on the 8th instant. It is situated in the Kennard House block, in Bank street, and is in charge of Mr. C. W. DEAN, formerly of the U. S. Company. The extension of this line westward has been carried on in a manner highly creditable to Mr. VAN KLEECK, the contractor. The line is well and durably built, with heavy posts and the best quality of wire we have ever seen. The poles through the city of Cleveland are fifty feet in height, of an octagonal form, and present a fine appearance. Under the energetic and efficient management of the new general superintendent, Mr. M. L. WOOD, the Atlantic and Pacific Company can hardly fail to become the leading competing telegraph organization of the country.





SATURDAY, JAN. 11, 1868.

#### A GOOD APPOINTMENT.

MR. M. L. WOOD, formerly general superintendent of the United States Telegraph Company, has accepted the position of general superintendent of the Atlantic and Pacific Telegraph Company.

Mr. Wood's known and generally acknowledged ability as a business-man, and his long telegraph experience and well earned reputation as a telegrapher eminently qualify him to discharge the onerous duties of his new position with credit to himself and to the advantage and advancement of the interests of the company.

Had Mr. Wood's labors in behalf of the United States Telegraph Company been coöperated with, as the interests of that company required, by the controlling management, it would have now been established as a permanent success, and would have rendered unnecessary the attempt now being made to establish other competing organizations.

The Atlantic and Pacific Company's lines are now in operation to Cleveland, Ohio, and are to be rapidly extended West.

We have reason to believe that this arrangement will not prove prejudicial to the interests of the Co-operative Telegraph Company, of which Mr. Wood is president, but that the object of that organization—the establishment of permanent competition in the telegraph business of the country—will be advanced thereby.

#### ANNUAL BALL OF THE NEW-YORK TELEGRAPHERS.—

The annual ball of the telegraphers of this city will come off on the evening of Friday, January 24th, at the New-York Assembly Rooms. From the well-known enterprise and good taste of the committee having charge of the arrangements, we are confident that it cannot fail to be as great a success as the similar entertainments of previous years have been. Members of the profession and their friends from other cities are cordially invited. Tickets may be obtained at any of the telegraph offices in the city.

A CORRECTION.—A statement appeared in THE TELEGRAPHER of the 4th, that an error had been made in the Commercial News Department of the Western Union Telegraph Company in this city, whereby the price of bonds was quoted at 71 1-16 instead of 71 11-16. We were misinformed in this matter, the fact being that the operators of the Newfoundland line, in transmitting the telegram, made an error in a cipher word which caused the trouble. We cheerfully make this correction as a matter of simple justice to the Commercial News Department, and regret having been led into an unintentional misstatement of the facts in the case.

At an annual meeting of the stockholders of the Cleveland and Pittsburg R. R. Co., held January 1, J. H. WADE, formerly President of the W. U. Telegraph Co., was elected one of the directors.

#### PERSONAL.

J. A. CASSELL, who has been on the sick list for some time, resumed his duties in the Louisville office, on Monday, 30th ult.

J. W. CURTISS, of Toledo, has taken Mr. GERLING'S place at FD office, Chicago.

MR. DINGMAN, formerly night operator at XD office, Toledo, succeeds Mr. CURTISS at DS.

H. D. CAMPBELL, the "lightning operator," formerly of "SJ" office, C. & N. W. Railway, Chicago, has accepted a situation on the Union Pacific Railway.

JAMES T. SALMONS, formerly of Mobile, Alabama, office, has accepted a position in New-Orleans office.

J. B. R. SPALDING, formerly of Montgomery, Ala., office, has accepted a position in New-Orleans office.

W. G. WILKIE, recently of New-Orleans office, has resigned, to accept a position in the Mobile & Great Northern R. R. office, at Montgomery, Ala.

J. A. WRIGHT has resigned his position as agent and operator on the Oil Creek R. R., and gone into the "Copper Seroll Lightning Rod" business (Hill's Patent). He has the sole right for Ohio, Pennsylvania, and Western Virginia.

DICK DUNCAN, the champion telegrapher of the West, and of any other part of the country, for that matter, was in Chicago on the 28th. Mr. DUNCAN is traveling about the country for pleasure. He has not been engaged in the telegraph business for a year or two past.

O. JENNINGS, late of the Independent Telegraph office at Racine, Wis., has been transferred to Chicago.

BILLY BLANCHARD and CHARLEY NOYES, who have been working the printers between Chicago and Milwaukee, are now in the former city awaiting orders.

H. L. BRAY has been relieved at Milwaukee in consequence of the reduction of force, also McKILLOP, book-keeper, all of Independent office.

F. G. WADDELL, formerly of Atelison, Kansas, has accepted position in W. U. office, Cincinnati.

S. L. GRIFFIN, late of Cincinnati, has accepted position in Franklin office, this city.

STEPHEN C. FOSTER, the composer of "Old Dog Tray," "Old Folks at Home," and many other pieces, was a telegrapher. He worked for many years at Greenburg, N. Y.

W. W. CAMPBELL, manager of the W. U. Telegraph office at Fairmount, West Virginia, was presented with a New-Year's gift on the morning of January 1, in the shape of a fine daughter. Ye editor, in common with the rest of the brethren, wish him a "Happy New-Year," and many returns of that same. "Klosh kakwa"! (Good so.)

— HANCHETT has vacated his position in the Cleveland office.

FRANK BURTON, formerly of Milwaukee office, has taken a position in the office at Watertown, Wis.

A. C. CONVERSE, of Watertown, has gone to LaCrosse, Wis.

MR. SHAFE, for many years connected with LaCrosse office, has resigned and gone into business at LaCrosse, Wis.

MR. HINMAN, of Milwaukee, has obtained leave of absence for a few months and gone to Syracuse, N. Y.

MISS ALLEMAN, of Red Wing, Minn., has taken a position in the Western Union Company's office at Milwaukee.

MR. McRAVEY, formerly of Prescott, has taken a position at Hudson, Wis.

JERRY O'CONNELL, the "bog trotter," has since the suspension of the printer been out of work.

T. J. SMITH, from the Burnet House office, P. & A. line, has taken a position in the P. & A. main office, at Cincinnati.

FRANK UNDERWOOD, has taken the Speneer House office, Cincinnati, P. & A. line.

BILL PENDERY, from Speneer House, has taken Burnet House office, P. & A. line, Cincinnati.

CHARLES E. BROSS, who is a brother of Lieut.-Governor BROSS, of Illinois, fills the office of manager of the Madison, Wisconsin, office, and is agent for the Merchants' Union Express Company. He also acts as reporter for several newspapers.

THE W. U. Co. opened a branch office, 30th ult., on Fourth street, near Race, Cincinnati. FRANK WADDELL in charge temporarily.

THE ATLANTIC CABLE AND THE CRETANS.—In a letter to the Boston *Advertiser*, Dr. S. G. HOWE says that the reason why the Atlantic cable gives such untrustworthy reports about affairs in Crete, is that the only wire between the Grecian Archipelago and Europe, passes through Constantinople. Hence, the Turks are always dispatching but never conquering the Christians.

SCHNEIDER, HIS BILL.—The following, sent us by a friend in Philadelphia, is a "true copy. It explains itself: AUGUST 27 the 1862.

The man wat had put up the telligraft wire.  
Detter to PETER SCHNEIDER for Bording.

JOHNSON & COMPANY.

Dinners,	.	.	.	.	.	2
Suppers,	.	.	.	.	.	4
28 Breckfest,	.	.	.	.	.	6
Dinner,	.	.	.	.	.	4
Suppers,	.	.	.	.	.	6
29 Breckfest,	.	.	.	.	.	6

JOHNSON 3 meals at last at 19 per meals.

Oct. 22, 4 meals more.

Oct. 22, Received the above in full up to date.

PETER SCHNEIDER.

TELEGRAPH AND TORTOLA.—The Atlantic cable does tell such lies!—to this country: let us hope not from it. *Query*—What are the comparative numbers of falsehoods on an average daily issuing from this end of the cable and that?

All the electric wires, however, from abroad, bring so many false messages, that "telegram" will soon be synonymous with "errammer." Whenever anybody says the thing which is not, his hearers will observe, "That's a telegram!" and when you tell a girl anything that she doesn't believe, she will exclaim, "Oh, you telegram!" instead of "Oh, you story!"—*Punch*.

"SIX CENTS."—The Portland *Argus* says that the lessee of an exhibition hall there recently received a dispatch inquiring what his terms were. The telegraphic reply was, so many dollars and "six cents." The showman thought this six cent business a very mean one; but the dispatch should have read "six seats."

THE gross income of the Atlantic cable is \$5000 a day.

ALASKA.—WM. H. DALL, chief of the scientific corps of the Western Union Telegraph Company, has explored the geology of the Alaska coast for thirteen hundred miles, and finds little of value or interest. The coal deposit is of good quality, but so limited in quantity as to be practically worthless.

A POETICAL "KNIGHT OF THE KEY."—The little poem in another column of our paper entitled "The Merchant and the Messenger," was written as a New-Year's address for the Buffalo messenger boys by FOWLER BRADNACK, an operator in the Doek office in that city. There are evidences of considerable poetic ability in this unpretending effort which give promise of future good things from the same source. It *ought* to have aided the boys in securing a goodly harvest of "stamps," and probably it did.

G. B. A.—A correspondent of a Boston firm who keeps them posted on the "Gold Market," has such confidence in the discretion of the operators in "K" office, that he fails to give the address of his messages. During the holidays the regular operator was absent, and his substitute mistaking the state of the market for the address of one of those telegrams, sent it to Messrs. STRONG & STEADY. After a few minutes delay, "Ba" office reported that he could find no such firm as "STRONG & STEADY," and asked for better address. After making a few inquiries the "K" operator discovered the "eritter," but carelessly allowed the facts to leak out.

REDUCTION OF FORCE.—It is stated that the Western Union Company intend soon to make a reduction in their operating force at the main office in this city.







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OF RAILWAY TELEGRAPH LINES.

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Atlantic and Pacific.....R. C. Clowry, St. Louis.
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Baltimore and Ohio.....A. G. Davis, Baltimore, Md.
Buffalo and Erie.....John Desmond, Buffalo, N. Y.
Burlington and Missouri Riv...C. E. Yates, Burlington, Iowa.
Camden and Amboy.....Robt. Stewart, Bordentown, N. J.
Central R. R. of N. J.....Charles Vogel, Elizabeth, N. J.
Central Ohio.....R. W. Jones, Zanesville, O.
Cincinnati, W. and Zanesville...Geo. T. Williams, Cincin., O.
Cin., Ham. and Dayton.....Geo. M. Lane, Dayton, O.
Chicago, Alton, and St. Louis...W. H. Miller, Springfield, Ill.
Chicago, Burl. and Quincy....Fred. H. Tubbs, Galesburg, Ill.
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Chicago, Rock Island, and Pacific...A. R. Swift, Chicago, Ill.
Chicago and Milwaukee.....G. H. Bliss, Chicago, Ill.
Chicago and Great Eastern..John McCormack, Richmond, Ind.
Cleve., Col. and Cincin.....T. J. Higgins, Cleveland, O.
Cleve. and Pittsburg.....John Thomas, Wellsville, O.
Cleveland Painsv. and Ash.....T. H. Miles, Cleveland, O.
Cleve. and Toledo.....H. W. Stager, Cleveland, O.
Dayton and Michigan.....Geo. M. Lanc, Dayton, O.
Dayton and Western.....C. S. Rogers, Richmond, Ind.
Detroit and Milwaukee.....Angus Fox, Detroit, Mich.
Delaware, Lack. and W.....Garret Bogart, Scranton, Pa.
Del. and Hudson Canal Co.....C. Peterson, Honesdale, Pa.
Erie Railway.....W. J. Holmes, New-York.
Dubuque and Sioux City.....R. S. Fowler, Dubuque, Io.
Erie and Pittsburg.....D. H. Fitch, Linesville, Pa.
Grand Trunk Railway of Canada...H. P. Dwight, Toronto.
Great Western " " "T. J. Waugh, Hamilton, C. W.
Hannibal & St. Josephs.....A. C. Waterhouse, Hannibal, Mo.
Hudson River R. R.....S. K. Rupley, Poughkeepsie, N. Y.
Indiana Central.....J. F. Wallick, Indianapolis, Ind.
Indianapolis and Madison... " " "
Indianapolis, Cincin., & Lafayette..C. H. Summers, Cincin., O.
Illinois Central.....L. A. Louis, Centralia, Ill.
Iron Mountain R. R.....R. C. Clowry, St. Louis.
Jeffersonville.....A. L. Eggleston, Jeffersonville, Ind.
Lehigh Valley R. R.....J. B. Yetter, Mauch Chunk, Pa.
Lit. Miami, Col. and X.....T. D. Gibbins, Xenia, O.
Louisville and Nashville.....E. Marsh, Louisville, Ky.
Louisville, Cincin. & Lexington..W. L. Biggert, Louisville, Ky.
Louisville, N. Alb. and Chi..J. C. Showerman, N. Albany, Ind.
Michigan Southern and N. I.....Wm. Kline, Jr., Toledo, O.
Michigan Central.....M. D. Woodford, Kalamazoo, Mich.
Milwaukie & Prairie du Chicn..E. B. Wakeman, Milwaukee, Wis.
New-York Central.....A. L. Dick, Syracuse, N. Y.
Northern Central.....Cameron Wilson, Harrisburg, Pa.
North Missouri.....M. D. Crain, St. Louis, Mo.
New-York and Harlem.....D. Waldron, New-York.
Ohio and Mississippi...C. W. Temple, Vincennes, Ind.
Oil Creek.....P. H. Dwyer, Corry, Pa.
Penn. Central..Divison Oprs. { Jesse Crouse, West Phila.
A. R. Kiefer, Harrisburg.
J. Suter, Outer Depot, Pittsburg
Phila. and Erie..Div. Operators, { H. R. Rhoads, Williamsport.
John B. Young, Renovo.
A. B. Spooner, Eric.
Phila. and Reading.....C. T. Sellers, Reading, Pa.
Phila., Wilm. and Balt.....J. A. McLaughlin, Philadelphia.
Pittsburg, Col. and Cin.....J. B. McMullen, Steubenville, O.
Pittsburg, Ft. Wayne and Chi.....O. H. Booth, Mansfield, O.
Platte Country R. R.....R. C. Clowry, St. Louis.
Pacific R. R. of Mo.....K. McKenzie, St. Louis.
Raritan and Delaware Bay..R. H. Woodward, Red Bank, N. J.
Rensselaer and Saratoga.....Isaac Ford, Troy, N. Y.
Sandusky, Mansfield and Newark.....J. Lytle, Newark, O.
Sandusky, Day. and Cin.....A. C. Frey, Sandusky, O.
Toledo, Wabash & Western..... { Eastern Div., W. A. Beach.
Western Div., H. Loosley.
Toledo, Peoria and Warasw.....D. K. Smith, Peoria, Ill.
Terre Haute and Richmond ....J. E. Simpson, Indianapolis.
Terre Haute, Alton and St. L....B. F. Wellover, Terre Haute.
Union Pacific.....H. H. Cook, Omaha, Neb.
Union Pacific (Eastern Div.)...R. B. Gemmell, Wyandotte, Ks.
Vermont Central & Vt. & Canada..C. F. Randall, St. Albans, Vt.

Our friends throughout the country are particularly requested to inform us of any necessary additions or corrections in the above list.

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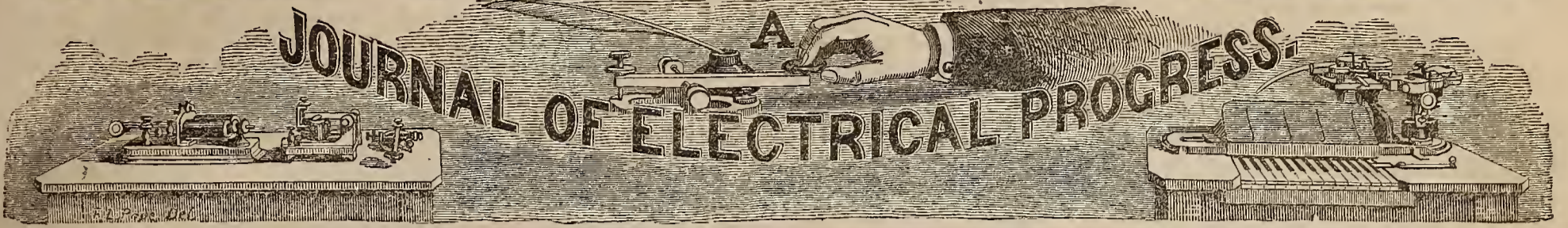
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# THE TELEGRAPHER.



Vol. IV.—No. 21.

New-York, Saturday, January 18, 1868.

Whole No. 79

## Statement of the Affairs of the Western Union Telegraph Company.

We find in the official publication of the Western Union Telegraph Company, the following interesting exhibit of the affairs of that Company up to January 1st, 1868:

To the Stockholders of the Western Union Telegraph Company:

At a meeting of the Board of Directors, December 11, 1867, the report of the Treasurer being under consideration, the following resolutions were unanimously adopted:

First—

“Resolved, That in the judgment of this Board it is inexpedient to declare the usual January dividend.”

Second—

“Resolved, That the Executive Committee be requested to prepare a concise but full statement of the affairs of this company, founded on the report of the Treasurer made to-day, for the past year or eighteen months, as they may see fit, and that the same be printed and distributed to the stockholders; and also a brief summary of the results shown by said report for publication in the newspapers.”

In pursuance of the second resolution, the Executive Committee submit herewith the following report from the Treasurer:

### TREASURER'S REPORT.

To the Executive Committee:

As no general report by the management has been made to the stockholders since October, 1865, it may be proper, in connection with the financial exhibit, to submit a brief statement of the present condition of the Company, which will be shown by the following tables:

#### No. 1.

##### CAPITAL STOCK.

At the date of the Report of October, 1865, the capital stock of the Company issued was, \$21,355,100

Date	Description	Amount
October, 1865	by conversion of Bonds	500
Nov.	“ by exchange for stock of California State Telegraph Company	122,500
December,	“ by exchange for Lodi Telegraph Stock	500
December,	“ by exchange for Trumansburg and Seneca Falls Telegraph Stock	3,500
December,	“ by issue to HICKS & WRIGHT for Repeater Patent	1,500
December,	“ by exchange for Missouri and Western Telegraph Stock	400
December,	“ by exchange for House Telegraph Stock	1,400
April, 1866	by 2½ per cent Stock Dividend, to equalize stock as per Consolidation Agreements	472,300
June,	“ by issue for U. S. Pacific lines	3,333,300
April,	“ by consolidation with U. S. Telegraph Company	3,845,800
July,	“ by consolidation with American Telegraph Company	11,818,800
July,	“ by exchange for P., C. & L. Telegraph Stock	4,100
Dec. 1, 1867	by fractions converted, to date	49,100

Total, present Capital, \$41,008,800  
 Of the stock issued for U. S. Pacific lines, there was returned to the Company, as consideration for completing construction of Pacific Line, \$883,300  
 The Company owns also, 120,800  
 \$1,004,100

Out of this we have issued

Southern Express Co.'s Telegraph Lines	\$150,000
California State Telegraph Co.'s Stock	124,700
Other Telegraph Lines	80,000
<b>Total</b>	<b>354,700</b>

Now owned by the Company, 649,400

Balance, on which we are liable for dividends, \$40,359,400

This is subject to be increased by further exchanges of outstanding American and United States Telegraph Companies' Stock, as provided for in the agreements of consolidation, viz.:

For American Stock	\$133,800
For United States Stock	145,300

No. 2.

#### BONDED DEBT.

Bonds of the American Telegraph Company, due in 1873	\$89,500
Bonds of the Western Union Telegraph Company, due in 1875	4,857,600

Total Bonded Debt, December 1, 1867, \$4,946,800

No. 3.

#### STATEMENT OF INCOME AND EXPENSES FOR EIGHTEEN MONTHS FROM JULY 1, 1866, TO JANUARY 1, 1868.

(To bring this statement up to January 1, 1868, the business for December is estimated.)

1866.	Gross Receipts.	Working Expenses including Paid Other Lines, Rents, Taxes, Reconstruction, etc.		Net Profits.
July,	\$562,292 97	\$410,382 40	\$151,910 57	
August,	548,716 96	346,742 31	201,974 65	
September,	556,955 95	298,931 99	258,023 96	
October,	623,528 31	344,245 07	279,283 24	
November,	571,036 02	322,508 66	248,527 36	
December,	551,971 40	302,596 41	249,374 99	
	<b>\$3,414,501 61</b>	<b>\$2,025,406 84</b>	<b>\$1,389,094 77</b>	
1867.				
January,	\$580,560 53	\$341,104 71	\$239,455 82	
February,	483,441 77	314,617 26	168,824 51	
March,	530,642 66	297,076 59	233,566 07	
April,	545,586 30	320,869 41	224,716 89	
May,	525,437 94	326,829 83	198,608 11	
June,	488,754 55	318,100 99	170,653 56	
	<b>\$3,154,423 75</b>	<b>\$1,918,598 79</b>	<b>\$1,235,824 96</b>	
1867.				
July,	\$536,156 89	\$360,917 53	\$175,239 36	
August,	570,676 85	375,970 17	194,706 68	
September,	601,548 79	375,641 50	225,907 29	
October,	623,836 74	393,459 92	230,376 82	
November,	583,723 66	370,429 57	213,294 09	
December,	estimated, 555,000 00	375,000 00	180,000 00	
	<b>\$3,475,942 93</b>	<b>\$2,251,418 69</b>	<b>\$1,224,524 24</b>	
<b>G'd Totals</b>	<b>\$10,044,868 29</b>	<b>\$6,195,424 32</b>	<b>\$3,849,443 97</b>	

No. 4.

#### STATEMENT SHOWING APPLICATION OF NET PROFITS.

Total Net Profits from July 1, 1866, to December 1, 1867, 17 months, as per table No. 3,	\$3,669,443 97
Miscellaneous Profits,	15,253 18
<b>Total,</b>	<b>\$3,684,697 15</b>
Applied as follows:	
Dividends.	
Dividend No. 22 July, 1866, (bal.)	\$8,897 34

(Brought forward,)	\$ 8,897 34
Dividend No. 23, Jan. 1867,	796,634 00
Dividend No. 24, July, 1867,	804,890 00
<b>Total</b>	<b>\$1,610,421 34</b>

#### Interest on Bonds.

Six months to Nov. 1, 1866,	\$77,665 66
Six months to May 1, 1867,	186,761 32
Six months to Nov. 1, 1867,	174,730 50
<b>Total</b>	<b>\$439,157 48</b>

Appropriat'n to Sinking Fund for purchase of Bonds of 1875.

Seven months to Dec. 1, 1867, at \$20,000 per month,	\$140,000 00
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Redeemed American Bonds,	53,175 00
Redeemed Bonds of 1867,	563,180 00

Invested in construction of new lines, \$788,463 21

Less avails of Bonds sold,	202,460 00
<b>Total</b>	<b>586,003 21</b>

Purchase of Sundry Telegraph Stocks,	125,644 27
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Paid on account Buffalo Bond and Mortgage,	10,000 00
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**Total** 3,527,581 30

Balance unappropriated,	157,115 85
Balance on hand, July 1, 1866,	17,828 94

Balance unappropriated Profits, Dec. 1, 1867. \$174,944 79

No. 5.

#### STATEMENT OF ASSETS AND LIABILITIES DEC. 1, 1867.

##### Assets.

Telegraph lines, Equipment, Franchises, etc.,	\$46,875,838 28
Western Union Telegraph Stock owned by Company,	649,422 50
Productive Stock in other Telegraph Companies,	49,870 00
Real Estate,	142,800 00
Due from Railroad and Telegraph Companies,	187,048 50
Due from Government and Press,	31,744 20
Due from Offices and Superintendents,	140,417 42
Bills Receivable,	62,141 55
Cash,	152,323 41

##### Liabilities.

Capital Stock,	\$41,008,800 00
Bonded Debt,	4,946,800 00
Bond and Mortgage, Buffalo Property,	15,000 00
Due on Dividend and Interest account,	75,818 56
Due Railroad and Telegraph Companies,	152,205 87
Due on Loan acc't, Due for Internal Revenue,	134,821 58
Due Offices and Superintendents,	16,933 98
<b>Total</b>	<b>5,451 54</b>

Total Liabilities, \$43,355,831 53

Profits used for purchase of property, 1,747,330 78

Profits appropriated to Sinking Fund not yet expended, 13,498 76

Profits on hand unappropriated, 174,944 79 1,935,774 33 48,291,605 86



No. 6.

ESTIMATED AVAILABLE BALANCE, JAN. 1, 1868.

Balance unappropriated profits, Dec. 1, 1867, see table No. 4.	\$174,944	79
Estimated net profits for December,	180,000	00
Total,	\$354,944	79
Less.		
Estimated construction, Dec.	\$40,000	
Appropriat'n to Sinking Fund, December,	20,000	
Sundry Assets unavailable	30,000	90,000 00
Estimated available surplus, Jan. 1, 1868.	\$264,944	79
All of which is respectfully submitted.		
January 13, 1868.	O. H. PALMER, Treasurer.	

### A Day and a Night With the Telegraph.

"THE world was not startled a quarter of a century ago, by the bursting to its full blaze of perfection of the magnetic telegraph, but it rather waited long years for the coming of the men and the time, which should develop out of these disconnected atoms, the symmetrical whole; which should make from the facts—interesting and wonderful scientifically viewed—a practical instrument for the advancement of the world to its ultimate destiny.

"From its infancy and weakness—offspring of two continents—tenderly nursed in this country by Prof. MORSE, and in Europe by distinguished savans, it has steadily grown to a vigorous manhood, wielding a power which is felt and recognized by all, and dividing with its twin-brother, the railroad, the honors of this progressive age.

"From the single experimental wire between Washington and Baltimore, the face of old mother earth has come to be furrowed with these lines of thought, serving to the body politic and social, the same purpose as the nerves to the body physical.

"Although so common that one can scarcely step into the street but he is confronted with the silent sentinel, bearing aloft the attenuated tale-bearer, and none so poor in social position or purse but avails himself of its advantages, few have an intimate acquaintance with its secret life—its 'life behind the scenes.'

"The telegraph, like the individual, has its senses; but with the sense of feeling and hearing, the public has the closest relation. With its long ears the gossip of the world is collected, and with its tongue of flame tattled to all creation. Its willing ear is open to the tale of woe, sorrow, joy, which it bears with perfect indifference, all careless of the pang or happiness it causes. With its long, wiry fingers it feels the pulse of the commercial and financial world, and predicts and reports disaster or success. With its army of messengers, it feels its way into the pockets of the people, taking its tolls whether they will or no. It is the great conservator of the equality of all men—in the matter of intelligence. With its aid the remote and near place alike are apprised of the thoughts and actions of the financial and commercial centers, rendering undue advantage almost impossible. It enables the press to lay before the intelligent world daily a history of the day just closed.

"This every-day, outward life of the telegraph, is familiar to all. Its inner life is yet unwritten. The struggles, as it were, of its great soul, to do more for humanity, to step forth free from the clogs which hamper it, and fly through the world perfect in all its proportions, scattering greater blessings in its flight, are apparent to the close student of the science, and inspire the hope that the time is not far distant, when as a medium for the interchange of the thoughts of the world, the telegraph will be as universally used as speech, and as reliable as attested documents.

"The subtle influence, so powerful in itself, must needs work through mechanism often illy adapted to the necessities of the case. Genius is slow in devising instruments through which the benefits of the great laws of nature may flow to mankind; and in building up a pathway for this last discovered servant of man, it is often lead into direct conflict with other laws, which will neither give way nor assimilate. The fault is laid at the door of the law, that it is not perfectly adapted to the wants of men; when the truth is, the law is perfect, but man is behind with his appliances.

"Familiar as we are with the telegraph, yet an hour

with it in its 'sanctum,' will perhaps be neither unprofitable nor uninteresting. So necessary has it become to our business and social life, that the hours of its service have grown from fashionable banking hours to all day and all night; and its employés, who were at first looked upon as a 'peculiar people,' who had intimate relations with a higher power, are now no more than other folks, and receive their full share of public 'cussing.' Where at first no quarters were too pleasant, and all the conveniences which comfort could suggest and money procure were granted, now all departments of business are crowded into the smallest possible space, and only the absolute necessities allowed.

"But it matters little to the current whether its surroundings are pleasant or not. Only furnish it a conductor and it will follow into cellar or attic. No matter to it if the operator is being gradually killed by impure air and long hours; it obeys its laws, all unconscious of human feelings.

"How much like the awakening of a city in the morning is the early rising of a large telegraph office. With the former, as the light begins to dawn, the silence is broken by the rumbling cart and the foot-fall of the solitary pedestrian. The curling smoke, too, indicates life within. The morning air bears distinctly the sounds that break its silent repose. The cart and pedestrian give place to others and yet others, until the air is torn with dashing waves of uprising sound, and distinctness is lost in its ocean depths. So with the latter, a single call breaks the repose that succeeded the busy day previous. Some office, scores of miles away, is thus early testing his machinery. His call is answered, and another, and another, until, as the operators drop in one by one—until full-voiced, the rattle amounts to a roar and continues without intermission through the day.

"And, now, as darkness shuts gently down upon the face of nature, the roar of the machinery dies out, the day force is relieved by the night force, the ticking of individual instruments is again distinguishable, an occasional click is heard, and silence reigns—broken only by the nervous transmission of messages bearing sad intelligence of sickness and death.

"We read with admiration of the affection shown by the artilleryman for his gun, and how amid the roar of battle he can distinguish its voice. So the telegrapher, in his instrument's tick, hears the voice of a familiar friend, and reads and copies it, undisturbed by the conflicting voices around him. If interruptions occur on the line, the instrument tells by its incoherency its nature, and by careful tests the operator locates it and directs its repair. If its strength is exhausted by incessant use, it faintly indicates it, and its energies are renewed.

"The operating room, to a stranger, is a place of meaningless sound—unintelligible jargon—'confusion worse confounded.' He is bewildered by the noise around him, and wonder-struck that mortals like himself can converse with other mortals miles and miles away, instantaneously. The speech of angels could scarcely be more rapid. Nothing is visible save vulgar furniture, paper, pens, ink, common-looking machinery, dust-covered wires crossing and recrossing the walls and ceilings, and with the cob-webs forming graceful festoons both ornamental and useful. From such low causes, what marvellous effects!

"With a feeling of relief to the nerves, he steps from the operating room to the laboratory. In the quiet of that mysteriously appointed room his nerves find rest, but his olfactories are attacked by the perfumes of a dozen drug shops, over and above and penetrating all of which, is a sense of the proximity of a volcano, with its pent fires and escaping sulphurous vapors. The air is heavy with gases. In slippered feet, with ever lighted pipe as a disinfectant, the master spirit of this Inferno moves, conscious of his power over its elements, but with sober respect for it, not caring to provoke its slumbering wrath. Long lines of jars filled with liquids, in which polished metals lie, yielding up their 'solid charms' to the continual gnawing, at the call of science. Bottles and carboys, and jugs and pots, and curiously fashioned fixings in brass, and a maze of wires running here, there and everywhere, and barrels of sulphates and boxes of supplies of all kinds, are the provisions for generating that influence or fluid or

whatever it is, that floods the wires with the life-blood of the great telegraphic system. It is a gentle influence to the sight, but *shocking* to the touch. In exhibiting its powers, its keeper arms himself with a miniature lightning-rod, at the touch of which, fire—intense, hissing, hot—leaps out, not stopping to melt, but burning whatever is in its way. A feeling, not exactly of fear, but rather a desire to be absent, steals over one at this exhibition of temper, and the open air is a welcome exchange for the scenes of the day.

"A telegraph office, during a lightning-storm, is not altogether a pleasant place to be in. The approach of a storm can be detected while it is yet many miles off, by the grunting of the instruments, charged with more of the fluid than they can bear. But when the storm breaks over the office in all its fury, then the injunction 'keep your hands off the brass' is best heeded. The surcharged wires bear the fiery torrent into the office, bursting and burning the machinery, flying from the wires unable to carry such a load, rolling in balls of livid fire over the floor and bursting with a report like a gun and a flash like a meteor.

"By the interposition of 'lightning arresters,' as they are called, ordinary thunder-bolts are conducted to the ground before doing any damage; but no human agencies are equal to the task of governing the movements of a first-class bolt. It comes and goes, leaving but a charred wreck to mark its pathway, and the effect of its hot breath."

[We find the above article in the Albany *Argus*, and more than half suspect it is from the pen of our esteemed correspondent "J." Although evidently written for the general public, it will not be altogether uninteresting to our profession.—ED. TELEGRAPHER.]

### The Duke of Wellington and President Johnson.

LONDON, Dec. 24.—At a banquet given at the Royal Polytechnic on Saturday night last, in reply to the following sentiment from the Duke of Wellington, a felicitous telegram from the President of the United States was read amidst great enthusiasm. Not a little of the interest attaching to these dispatches grows out of their rapid transmission:

"LONDON, Dec. 21.—The Duke of Wellington, the Directors and scientific guests, now at the Royal Polytechnic, London, England, send their most respectful greeting to the President of the United States, their apology being that to the discoveries of science the intercourse between two great nations is indebted."

The above message was nine minutes and thirty seconds in transmission from London to Washington.

"WASHINGTON, Dec. 21.—Duke of Wellington, London:—I reciprocate the friendly salutation of the banqueting party at the Royal Polytechnic, and cordially agree with them in the sentiment that free and quick communication between Governments and nations is an important agent in preserving peace and good understanding throughout the world, and advancing the interests of civilization. ANDREW JOHNSON."

The reply occupied twenty-nine minutes in actual transmission. On the same evening a message of twenty-two words was started from the Polytechnic for Heart's Content at exactly nine P. M., and at ten minutes past nine o'clock the reply of twenty-four words were delivered.

### The Fire-Alarm Telegraph.

WE clip the following from the report of the Detroit, Mich., Fire Department, for the year 1867:

"Early in the year the fire alarm telegraph was put in practical operation, and it has ever since been in working order, never once having failed through any cause to act when called upon. The mode of giving alarms is so simple that any person can understand it, and consequently very few mistakes have been made in giving alarms. It has no doubt been of great advantage in preventing the destruction of property. With the telegraph in perfect operation and hot water continually in the boilers there is not much chance for a fire to gain headway before it is deluged with water. The department has suffered considerable annoyance from persons tampering with the wires. There has not been so much of this lately as when the wires were first put in operation.



The novelty of the thing has in some degree worn off, and patent locks upon the boxes have kept out boys and evil-disposed persons. Probably there will be less still of this annoyance in future, if not, the ordinance of the city should be rigidly enforced against all persons who may be detected in committing the offence referred to."

**The Age of Electricity.**

SINCE the Atlantic cable was successfully laid and the electric spark flashes the news of each day across the ocean, capitalists seem to have found a new Eldorado in submarine telegraphy, and are eagerly investing in cable schemes that promise them profitable returns. Two cables lie at present between England and America, and one connects our country with Cuba. Several smaller ones are also in constant operation, and we are to have a cable from France to the United States via the Island of St. Peters, and another from Brest to New-York. The latter enterprise, under the auspices of the "Franco-American Submarine Cable Company," will be organized with a stock of nearly one million sterling and will probably be carried through next summer. The stock and directors will be represented in the United States, France and England by one-third for each country. In addition to some valuable concessions made by the French Government and by the Submarine Telegraph Company across the English Channel, the new company promise expedition and cheapness in the transmission of their dispatches. There will be no necessity then for repeating messages on this side of the Atlantic, as is the case at present between New-York and Heart's Content. The contract for the manufacture of the new cable has already been made, and the enterprise is being pushed forward as speedily as possible.

Thus the progress of the age annihilates space, time and labor, and binds the world with links of fraternity and intelligence. Continents are united in bonds as sacred and indissoluble as those of matrimony: the sealy dwellers of the deep sea open their staring eyes still wider in wonder at the new tenant of their domain; the depths of the ocean quiver as Europe and America converse together, and business of all kinds is conducted on broader principles than was ever known before. And yet this is but the beginning of the great work. Before many years have rolled by the entire civilized world will be united by a network of cables and land lines and will throb with the pulse of electricity in every part of its vast body. Its capitals—New-York, Paris, London, Moscow, Calcutta, Jeddo and San Francisco—will hold daily converse and reflect instantaneously the fluctuations of trade and commerce in each city. The influence of ocean telegraphy has already been felt everywhere to a material extent; but it has only commenced its labors. What the climax will be no man can conceive, and the world of the future may laugh at our ideas of progress as we regard the puny efforts of our ancestors.—*Herald*.

**Magnificent Electrical Phenomenon.**

ONE of the most beautiful electrical phenomena imaginable was witnessed last evening in the office of the Atlantic and Pacific Telegraph Line. Wire No. 1 of this line was down between this city and Syracuse. Suddenly, it was discovered that neither wire would work. A continuous current of electricity was then observed to be passing over the wires through the several instruments, and this while the batteries were detached. The current seemed to be of the volume of a medium-sized pipe-stem, and it gave the several colors of the rainbow, beautiful to behold. With the key open, the current flowed in waves or undulations, and from the surcharged wire it would leap over the insulated portions of the key and flow along the wires beyond. The same phenomenon was observed at Buffalo and Cleveland. The gas in the office here was lighted without difficulty by holding the end of a wire within an inch or two of the gas-burner. The current was intense enough to shock one holding the wires or instruments—indeed, one of the employes of the office had his fingers scorched by the current. With closed keys the current was continuous, as before stated.

The theory advanced by an experienced electrician with whom we conversed in regard to the phenomenon is this.

The electrical equilibrium of the atmosphere had become disturbed by the sudden and extreme cold of the past two days—and we may say here that this phenomenon has never been witnessed except when cold weather prevails extensively—the electricity, instead of descending to the earth as in a thunder-storm or in warm weather, ascends in the atmosphere—thus destroying the equilibrium and producing these magnificent displays. The broken wire spoken of, which rested on the ground, was the point of communication for the current from the earth. The electrician advances the theory that the Aurora Borealis is produced from the same causes, and we submit that it is not an improbable theory. Every one has seen, undoubtedly, the wavy or undulating motions of the Aurora Borealis, and the wavy motions of the current last night with the batteries off and the key open were precisely the same.

Here we may notice one thing not generally known. A portion of the Irrepressible Conflict Speech of WM. H. SEWARD, in this city, a few years since, was telegraphed to New-York and from Boston to Portland by the electrical influence of the Aurora Borealis—all the batteries on the line being detached. This feat, it is said, has never been repeated.—*Rochester Union*.

**General "Issimo," the Great Strategist.**

THE readers of THE TELEGRAPHER will remember the account of a laughable mistake made in Albany some time since in regard to Gen. GARIBALDI'S son.

It appears from the following extract from a letter to the Dresden *Argus*, that the "bull" is being enjoyed across the water:

"But how I am running on! One thing more and I close. You may repeat it at discretion. The Vienna *Freie Presse*, of the 20th or 21st, wont be certain which, had a rather severe hit at the *Argus*. It seems the cable telegraphed that GARIBALDI had 'named his son MINOTTI, Generalissimo of the troops.' The New-York correspondent of the *Presse*, comments on the distortion of messages in American papers, and quotes from the Albany *Argus*, a prominent paper published in the capital city of the State, the following version of the message: 'GARIBALDI has named his son MINOTTI. General ISSIMO commands the troops.' Note of the editor: 'General I. is considered a great strategist.' So, every time I get an *Argus*, I am asked if there is any more news concerning 'General ISSIMO, the great strategist.' No use denying, they wont believe; so, now you must take up the defence. I'd sue the *Presse* for libel, for of course I do not believe a word of it."

**MISCELLANEA.**

**CROWDED OUT.**—A very interesting description of the Western Union Telegraph office in Chicago, in readiness for this number, will appear next week, having been crowded out by the pressure of other matter.

**THE PROPOSED LINE TO NEW-MEXICO.**—We learn that twenty-four thousand dollars were subscribed on the 28th ult., at Santa Fe, New-Mexico, towards the proposed telegraph line connecting that place with Denver, Col. The building of the line may be looked upon as certain. It will pass through Trinidad, Col., Virginia City (near the newly discovered mines), Taos, Moro, Los Vegas, and Fort Union, and thence to Santa Fe. It is thought that the enterprise will be a paying one from the commencement.

**REMOVAL OF AN OFFICE.**—The Western Union Telegraph office at Chittenango, N. Y., has been moved to the office of J. J. L. BAKER. Miss JANETTE A. NOURSE has charge of this office.

**NEW OFFICE OPENED IN ALBANY.**—A Union Telegraph office has been opened in the new Railroad depot recently erected at the west end of the Hudson River bridge in Albany, into which half a dozen commercial and railroad wires enter. It is very pleasantly located, and is destined to become quite a busy place.

During the day the office is in charge of Miss DUGAN, formerly of the N. Y. C. office in Troy, and Miss A. H. ADGATE, of Brandon, Vt. The operator in charge nights, is M. J. BARTLEY, recently night operator in the N. Y. C. office, Albany.

"LIVE AND LET LIVE."—If any of our friends or the fraternity generally have occasion to purchase anything in the line of provisions or country produce, we recommend them to call on NOAH LODER, at 88 Murray street. He is an old telegrapher, and though some time out of the business, has "kept the run" of the boys by subscribing constantly for THE TELEGRAPHER, of which he showed his appreciation by donating to "ye poore editor," as big a turkey as he could conveniently carry home for his New-Year's dinner, for which "we and ours" desire to express infinite thanks.

**THAT "BOGUS" CABLE DISPATCH AGAIN.**—More recent developments seem to require that we correct our correction of last week in regard to this matter. It appears that an error was made by the operator of the Newfoundland line, but which would not have resulted in an erroneous quotation of United States Bonds had proper care been exercised by the person who copied the dispatch at the Associated Press Rooms. The false quotation was caused in fact by a combination of errors not likely to occur again, and for which neither party are solely to blame. The Commercial News Department, however, are in no way responsible for the mistake. As the matter has caused considerable talk in business circles, we are glad to be able to give an authentic explanation of the matter.

**A NEW REPEATER.**—By reference to Dr. BRADLEY'S new advertisement on the last page of this paper, it will be noticed that he has engaged in the manufacture of BUNNELL'S repeater, a new invention, which is very highly spoken of by those who have had an opportunity of testing it. We shall probably publish a description of it in an early number of THE TELEGRAPHER. It will also be noticed that he has introduced the use of a new metal for the construction of his instruments known as "Oreide" (not "Oxide" as a contemporary apparently would lead us to believe). This appears to be an improvement over brass in respect of quality and the fineness of finish to be obtained. The instruments furnished by Dr. BRADLEY for the Atlantic and Pacific line are exceedingly creditable to his skill as a manufacturer.

**THE LIFE INSURANCE BUREAU.**—Our readers will please notice a change in the address of J. W. STOVER, actuary of the Life Insurance Bureau of the N. T. U. All communications should in future be addressed to box 5551 instead of 6077, as heretofore.

**WESTERN TELEGRAPHIC ITEMS.**—The Independent Company's office in Milwaukee was closed on the 1st of January, and the Western Union Company have taken possession of the lines. The salaries of a number of the operators on the Michigan Southern R. R. have been raised.

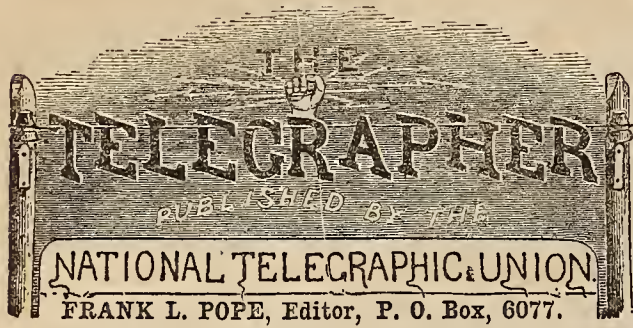
**A CHANGE OF BUSINESS.**—Mr. L. H. SMITH, the late editor of THE TELEGRAPHER, has just opened an elegant and commodious drug store, at No. 134 Court st., Brooklyn, which is not surpassed by any establishment in that city. His numerous friends will join us in wishing him every success in his new enterprise. If the fraternity or their friends wish anything in his line, they cannot do better than to give him a call.

**THE INTERNATIONAL OCEAN TELEGRAPH COMPANY.**—Major WILLIAM H. HEISS, who has been appointed general superintendent of the lines of this company, sailed for Havana on Saturday by the steamer *Bienville*, for the purpose of laying a short submarine cable, connecting Havana with Chorrera. Major HEISS will hereafter have his headquarters in Florida.

**THE CHICAGO FIRE-ALARM TELEGRAPH.**—The sum of \$5000 was voted last spring for the extension and improvement of the Fire-Alarm Telegraph in Chicago. It now has one hundred and seventy miles of wire and nearly the same number of signal boxes, which number is soon to be greatly increased. It is proposed to remove the wires from the house-tops to poles in the streets, which will much diminish the liability to interruption. E. B. CHANDLER is superintendent, and three operators and two repairers are employed. The system in that city is said to be exceedingly well managed, which, from the character of the superintendent we can readily believe.

"CABLEGRAM" is the latest from the mint of word counterfeiters.





SATURDAY, JAN. 18, 1868.

#### THE W. U. TELEGRAPH COMPANY.

ON our first page we print the Report of the Treasurer of the Western Union Telegraph Company, giving a résumé of its financial operations and their results for the eighteen months ending Dec. 31st, 1867. These figures will well repay attentive consideration and analysis. We have not room to present in full the suggestions derived from them, and can merely allude briefly to some of the more permanent facts and conclusions developed.

It will be seen that the gross earnings for the year and a half, covered by the report, exceed ten millions of dollars, and the net earnings three millions eight hundred and forty-nine thousand dollars.

These figures indicate the extent to which the telegraph business has grown, and its profitable character under ordinary circumstances and management.

Notwithstanding the large net earnings of the company, the directors found it necessary to pass the usual January dividend this year in order to pay off matured obligations of the company for five hundred and sixty-three thousand dollars. With this exception, regular two per cent semi-annual dividends have been declared since July, 1866.

The capital of the company has been watered to such an extent that its nominal capital is enormous, aggregating forty-one millions of stock and five millions of bonds, the latter mostly coming due in 1875, and partially provided for by a sinking-fund, reserved from the earnings of twenty thousand dollars per month. The actual investment of original proprietors of the stock of the company will not probably average over fifteen per cent, if so much, of the present nominal par value of the shares.

The nominal assets of the company are put at forty-eight millions of dollars, and could just as well be put at a hundred millions if the directors should choose so to do, as there is nothing to prevent their estimating the telegraph lines, equipments, franchises, etc., at any sum they may see fit, but the public evidently do not endorse the Directors' estimates, or the stock of the Company would not now be selling at from thirty-one to thirty-seven cents on the dollar. The actual cash value of the property of the company is probably about fifteen millions of dollars.

The failure of the Russian-American extension has entailed upon the company a heavy loss, which has to be paid out of the earnings present and prospective. If, with all these burdens and a costly and not very economical management in the true sense, the Company can yet realize an annual profit of from twelve to twenty per cent upon its actual investment, these would seem in that fact to be an unanswerable refutation of the argument that competing lines in this country cannot be made to pay.

A careful study of the figures here presented,

and a consideration of the natural increase in the use of the telegraph stimulated as it always is by active, healthy competition, cannot fail to satisfy an intelligent investigator that competing lines properly and economically located, constructed and managed, may be made profitable investments to the stockholders.

That such competition is demanded by the interests of the public, and the telegraph profession, has been so often demonstrated heretofore, that we will not repeat the arguments here.

This necessity has already brought lines into existence over some of the best territory covered by the Western Union, and these lines are being rapidly increased and extended. What is needed now is their concentration and union, so that future extensions may be made in such a manner as to build up and strengthen a general telegraph system. The interests of the public and of the telegraphers require that there should be two competing telegraph companies in this country to act as checks upon each other, and insure such telegraph facilities as the business of the country may require at reasonable rates of charges, and a proper regard to the rights and interests of the employés.

Such competition the public will have, and the sooner the Western Union Company recognizes this fact and governs itself accordingly, the better it will be for its stockholders. As shown by its Treasurer's report, the Western Union Company, notwithstanding the necessity of passing the January dividend is in a prosperous condition, and with judicious management and a true economy looking mainly to the interests of its stockholders, there seems to be no reason why dividends may not be expected regularly hereafter.

#### THE ATLANTIC AND PACIFIC TELEGRAPH COMPANY.

We are gratified to learn that notwithstanding the falling off of business consequent upon the closing of navigation, the receipts of this company are steadily increasing, the December report showing a gain of fourteen per cent over that of the preceding month.

The material is now being got in readiness for active operations early in the spring, when construction in the direction of Chicago and St. Louis as well as Cincinnati will be vigorously pushed forward.

The lines of this company are built in a most substantial manner, the poles being capable of carrying half a dozen or more wires, whenever such additional facilities become necessary.

The manner in which the work has thus far been done seems to afford every assurance that the public may at length realize a permanent and healthy competition in the telegraph business, not merely to the extent of the lines now under contract by this company, but through a still greater expansion of lines similarly constructed, connecting with all the commercial points of the continent.

#### A WORD FOR OURSELVES.

WE would call the attention not only of all directly interested in the telegraph business, but of the public generally, and especially those persons holding stock in telegraph companies to the value of THE TELEGRAPHER as a record of the progress and prospects of the telegraphic system in America. In no other form can so great an amount of valuable

information be obtained respecting telegraph lines now in operation or projected. By means of our correspondence from every part of the United States, our readers are kept fully informed of every item of interest, and our columns are filled with valuable information which no person in any manner interested in telegraph property can afford to dispense with, in consideration of the fact that it only costs two dollars per annum. Try it for one year, and we think you will not regret the investment.

#### PERSONAL.

GEN. ANSON STAGER, is said to have taught the celebrated DICK SLITER the art of jig dancing. The General in his younger days was an "expert."

B. F. COGGER, is relieved from C. & N. W. Chicago office, by S. E. FRENCH, who has returned from an Eastern trip.

WILLIAM JACQUES, has been appointed operator at the A. & P. office in the Board of Trade, Cleveland, O.

CORNEY DUGAN has taken charge of the A. & P. office, at Erie, Pa.

KIT DOUGHERTY, of the Denver City, Col., office, has been transferred to Cheyenne City, Dak.

EDWARD CHICHESTER, of Elmira, has been appointed operator at Adrian, N. Y.

J. H. NELSON, late of Albany, has taken charge of the Brandon, Vt., office.

The HON. AMOS KENDALL, who has just returned from a trip through Europe, Palestine, etc., brought cedar, olive, and Sycamore wood from the garden of Gethsemane to a gentleman in Baltimore, who has used it in binding an elegant edition of the New Testament.

NEWSPAPER ENTERPRISE.—The San Francisco *Daily Times*, the youngest, but one of the best papers published in that city, we observe, had the President's Message entire telegraphed to it, and published it exclusively. The Message made 14,000 words. This was about the most expensive piece of telegraphing ever sustained by a single newspaper.

A GREAT CONVENIENCE.—In Paris, on the 1st, a new telegraphic system was put in operation for persons who frequently send telegraphic messages. Adhesive telegraphic stamps are issued, to be put on the original dispatches by the senders themselves. Special boxes for the receipt of these dispatches are placed in the different quarters of the city. These boxes will be cleared every ten minutes. As the dispatches will be sent to the different offices by the atmospheric tubes, they must be enclosed in envelopes of given dimensions in order to insure their immediate transportation.

CABLE TOLLS.—A still further concession to the public has been decided upon by the Atlantic Telegraph Companies as follows: Five words for address, date and signature, heretofore accepted without charge, but subject to limitation as to letters, will hereafter be forwarded irrespective of the number of letters they contain, provided the privilege is not abused.

A SURPRISE PRESENTATION.—We inadvertently omitted to notice a very pleasant affair which came off at St. Louis a few weeks since. The operators and other telegraph employés of that city presented Col. R. C. CLOWRY, the superintendent of the ninth district of the Western Union Telegraph Company, with an elegant rosewood cabinet organ. The presentation took place on Christmas eve, and the worthy colonel, for once in his life, was taken completely by surprise, when a large delegation of his operators called on him bringing the instrument with them. Mr. E. R. BROWN, the manager of St. Louis office, made the presentation speech in behalf of the donors, which was aptly responded to by Col. CLOWRY, in behalf of himself and his estimable lady. Mrs. CLOWRY, who is a most accomplished musician then favored the company with a few choice selections, and after an hour or two of social enjoyment, the party dispersed, happy in the consciousness of a good deed worthily accomplished.



HE COULDN'T SEE THE POINT.—Prof. KETCHNER, formerly chief operator on the Western Union side in Pittsburg, is very near-sighted. One day about three years ago, the "Colonel," as he was generally called, wishing to test the strength of the main battery, touched the battery point on the switch-board with one hand, lifted the other in the direction of the gas pipe, but, instead of reaching it, he thrust his fingers on a sharp message-hook. "Pretty strong current there," muttered the colonel.

If there had been an Atlantic cable during the last war with England, the battle of New-Orleans would not have been fought. General JACKSON won his victory fifteen days after peace was made at Ghent.

**BROOKS'**

**Paraffine Insulator Works,**

No. 22 SOUTH TWENTY-FIRST STREET, PHILADELPHIA.

WILLIAM R. ALLISON, Proprietor.

**NATIONAL TELEGRAPHIC UNION**

**Life Insurance Bureau.**

THE NATIONAL TELEGRAPHIC UNION, by authority of its special charter, granted by the State of New-York, proposes to insure the lives of all persons connected with the Telegraphic business under the following rules and regulations:

Applicants for insurance must be connected in some capacity with the Telegraphic business, must be not less than eighteen years of age, in good health, and able to earn a livelihood. Every applicant shall pay an entrance fee of two dollars, one dollar of which shall be reserved for creating a permanent fund, and one dollar towards the amount to be paid the heirs of the first insured person deceased, who will receive as many dollars as there are persons insured.

Whenever a death occurs among those insured, an assessment of one dollar and ten cents will be levied upon all. This dollar goes to the widow, orphans, or heirs of the next insured party deceased, and the ten cents to be applied to the payment of current and necessary expenditures.

Applications must be made to the Actuary, in writing, accompanied by a certificate, signed by not less than two persons in the Telegraphic business of good character, that they know the applicant is fully qualified under the preceding rules.

A small annual assessment not to exceed one dollar may be necessary to cover working expenses after the first year.

This plan of insurance will be conducted under the supervision of the Executive Committee of the N. T. U., and it will be their aim to make it as inexpensive as reliability and security will allow. It is unnecessary to make any extended remarks, or any comparisons of the great advantages this plan affords for the payment of ready money, at the event of death, over Life Insurance Companies.

Parties wishing to insure should write out the following questions with their answers thereto:

- What is your name?
- What is your age?
- Where is your residence?
- What is your occupation?
- Have you any constitutional disease or debility?

Sign the above statement, and forward it to the Actuary, with a certificate signed by two persons connected with the Telegraphic business, that the applicant is well known to them, and that the answers given by him to the above questions are correct?

Applications may be sent to

J. W. STOVER, Actuary, Box 6077, New-York.

**TELEGRAPHERS'**

**Mutual Life Insurance Association**

This Association is now ready to receive applications. The qualifications are, ability to work, and the certificate of a reputable manager of a Telegraphic Office of character and eligibility. The initiation fee is one dollar and fifty cents. At death heirs are entitled to as many dollars as there are members of the Association. An assessment of one dollar will be made on every member when a death occurs. The number of members is limited. Applications to be made to the Secretary, at 145 Broadway, New-York city.

JAMES D. REID, Treasurer. D. R. DOWNER, Secretary.

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**Bankers' and Brokers' Telegraph Co.**

CAPITAL, \$1,050,000.

Lines extending from New-York to Washington and Georgetown, D. C.

WM. CALLOW, President. Baltimore, Md. JOHN L. CRAWFORD, Secretary and Treasurer. Philadelphia. J. W. DYER, Acting Superintendent. Philadelphia.

**Pacific and Atlantic Telegraph Co.**

OF THE UNITED STATES.

CAPITAL, \$3,000,000.

Lines completed from Philadelphia to Pittsburg and Cincinnati. [In progress.]

GEO. H. THURSTON, President. Pittsburg, Pa. E. J. ALLEN, Secretary and Treasurer. " D. MCCARGO, Superintendent. Pittsburg, Pa. A. Q. CASSELBERRY, Assistant Superintendent. Pittsburg, Pa.

**Franklin Telegraph Company.**

CAPITAL, \$1,000,000.

Lines extending from Boston to Washington.

J. B. STEARNS, President. Boston. J. W. BROWN, Treasurer. " J. G. SMITH, Superintendent. New-York.

**International Telegraph Company.**

CAPITAL, \$300,000.

Lines completed from Boston to Bangor, Me. [In progress.]

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Lines extending from Lake City to Key West, Fla., and Havana, Cuba.

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**Northern Telegraph Company.**

CAPITAL, \$100,000.

Lines completed from Boston to Bristol, N. H. [In progress.]

Hon. FREDERICK SMYTH, President. Manchester, N. H. W. W. STORRS, Treasurer. Concord, N. H. J. W. ROBINSON, Superintendent. "

**Atlantic and Pacific Telegraph Co.,**

CAPITAL, \$5,000,000.

Lines completed from New-York to Cleveland. [In progress.]

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**Northwestern Telegraph Co.**

CAPITAL, \$1,150,000.

Lines extending from Milwaukee through Wisconsin, Michigan, Iowa, and Minnesota.

Z. G. SIMMONS, President. Kenosha, Wis. H. B. HINSDALE, Secretary and Treasurer. " S. ROBERTSON, Superintendent. Milwaukee, "

**Western Union Telegraph Co.**

CAPITAL, \$40,000,000.

Lines extending throughout the United States, Nova Scotia, and New-Brunswick.

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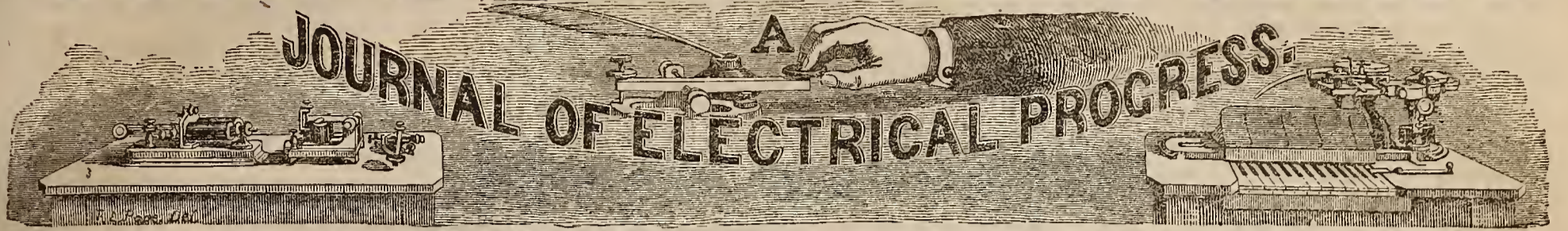
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# THE TELEGRAPHER.



Vol. IV.—No. 22.

New-York, Saturday, January 25, 1868.

Whole No. 80.

## The Telegraph Operator's Story.

VERY few people know much about telegraphing, how it is done, or what strange things sometimes happen over the wires. So strange that I often wonder that no one ever writes a story about them. Such a story could be written, a true story, but a very thrilling one nevertheless. People like you, who live in cities, only see down stairs in an office, and know nothing of the actual operators. All you see is an office with a couple of clerks, each of whom has a pen in each hand, one behind each ear, and another in his mouth, to show you how busy he is, telegrams going up a miniature dumb-waiter and coming down the same, and small boys, more or less dirty and noisy, who, on receiving these telegrams, start off with deceptive haste, which moderates as soon as they are fairly out of sight. A messenger never walks unless he has an important message. On all other occasions he arrives at an awe-inspiring trot, which impels you to bestow sixpence upon him. But of the actual operator you know but little. He is of all men most mysterious. His name is generally Mae, occasionally Jim. No one knows where he lives. He knows a fellow called Bill in Chicago, who gets a hundred and ten dollars. He carries a photograph of a female with him, but he always calls her a "gal." If he does not wear a slouched felt hat, he luxuriates in a painful beaver.

I couldn't explain so that you would understand me how it is that a line is worked. Any way, there are two sorts of operators, one those who read by sound, one those who read by paper. You see the current is alternately let out and broken so as to raise or depress a brass needle. When the needle is down it makes a mark on a narrow band of paper which runs under it. If it is only down for a short time it makes a dot, like this ·, if for a longer time it makes a dash, like this —. Combinations of these two signs make up the alphabet. This was the old way of working. The present and quicker way of reading is by sound. A dot makes a certain sound, a dash makes a sound a little more distinct, and by practice one learns to read this as naturally and quickly as if listening to the human voice.

Now in all large offices they read exclusively by sound; but at country offices the operators, whom we call "plugs," read by paper. It is much slower, and is not half as reliable, especially in wet weather, when instruments work with great difficulty.

Now the story I have to tell you actually occurred in Canada a couple of years ago. At the time I was working in a city office. The line extended a couple of hundred miles from Montreal to Caradel. About midway was a large town, Binville, the other offices were at country villages. The operator at Binville was a young man named CHARLTON, who had been some years in the States, and was a very expert operator and clever fellow at anything. He was not the actual agent of our company. The actual agent was a respectable lunatic named CHIGGLE, who was also postmaster. He knew little or nothing of his business, but entrusted it all to CHARLTON, who did pretty much as he liked. So CHARLTON was in effect postmaster and operator.

Perhaps you don't understand the working of the post-office. A few words will explain all that it is necessary you should know to understand my story. When they dispatch a mail from an office, they send with it a letter bill. On that bill is entered the amount of postage due

on letters forwarded to the office to which the mail is sent, and the amount of postage paid in money or by stamp on letters mailed at the dispatching office. On the right hand half of this bill are entered the numbers and addresses of all registered letters and parcels forwarded by that mail. When a letter is registered its address and number are entered in a book, and on the letter bill. The receiving postmaster enters it in his book, and initials the letter bill as an acknowledgment.

There was an agency of the Caradel Bank at Binville, and every week, sometimes twice a week, the head office remitted packages of its own notes to Binville, to be put in circulation there. These packets contained from four to six thousand dollars, and were sent by mail registered. You will see that if through omission of the mailing clerk such a parcel was not entered on the letter bill, the receiving clerk could pocket the parcel, and say he never received it. There would be nothing on the bill to show that such a parcel was forwarded.

One Sunday morning in April, while CHARLTON was sorting the mail from Caradel by the flickering gas-light, he came across a large packet from the Caradel Bank. He threw it aside as usual till he had completed the task of sorting the mail. When he came to compare the registered letters with the bill he found seven letters in the parcel, only six entered. The clerk at Caradel had omitted to enter the bank parcel!

CHARLTON sat down and thought it over. It was a big temptation, six thousand dollars. It was Sunday and no offices were open. CHIGGLE never looked at the bills, the postmaster at Caradel would never suspect anything wrong, the agency at Binville would wait till Tuesday expecting their parcel. He had two days' start. He sat down an honest man and rose up a robber. It was a terrible temptation to go through, and I think that many a stronger fellow than CHARLTON would have fallen. He put the parcel into his satchel, went home to breakfast, came back and attended to his office duties. At noon the office closed, and his work was over. He broke up the parcel, stowed the notes away about him, changed his dress, and hired a horse to go to a French village some dozen miles from Binville. It was a wet Sunday, the early spring roads were deep with sticky mud, the wheels sank to the axles, and slipped in the cavernous ruts. Arriving at this village, he left his horse and walked on three miles to another little hamlet, where he engaged a wrinkled old *habitant*, a furry horse, and a springless cart, on the representation that he was a telegraph repairer sent out to fix some damage done to the line. On he jolted until he reached the village of Kena, about twenty-five miles from Binville.

He left his venerable charioteer at a tavern, and walked boldly over to the telegraph office, which was in a private house. It was presided over by a fat girl in a hat and red shawl. She was about the pluggiest of "plugs" that you ever heard of. Her instruments about matched her. They were shaky, old-fashioned, out of all adjustment, apparently compounded out of a thrashing mill and a wooden clog. The weather was abominable. The instruments worked accordingly, sometimes getting off a hundred fine dots utterly invisible to the naked eye, and concluding with a stubborn dash six feet long. The operator was almost crying over it, and no wonder.

But CHARLTON's practised ear caught two words "robber escaped."

His breath came quick for a minute, the room swam before him, and he almost fell. In another second his self-possession came back, and he asked the mixed operator if the line was working well now? The girl turned round and asked his name. JOHN BELL, a repairer. He was sent down to investigate the working of the offices, and see after the line generally. The poor girl was overjoyed to see the providential BELL. The line was working wretchedly, the weather was bad, the instruments old, and she had an important message to take. It was addressed to the chief constable, and she could not make out a word. Would Mr. BELL help her?

Of course he would. So he cut off the register, and working on the feeble, rickety old relay, the following message ticked faintly off:

BINVILLE, April 10, 1866.

To Chief Constable, Kena:

The operator here, one CHARLTON, has stolen parcel bank notes, six thousand dollars. Robber escaped. Probably passing your way. Bills on Caradel Bank. Arrest him. Officers on his track about an hour behind him. SAMUEL CHIGGLE.

If you think, however, that CHARLTON copied out this message you are mistaken. He listened to it, and then, interrupting the sender, asked him to repeat it slowly as the line worked very badly. The operator swore, and recommenced. CHARLTON calmly wrote out this.

BINVILLE, April 10, 1866.

To Chief Constable, Kena:

Post-office robbed of six thousand dollars, Caradel Bank bills. Robber escaped up your way. One thousand dollars reward. He will try to pass himself off as a detective in pursuit of Mr. CHARLTON, and has forged a warrant. Seize him. SAMUEL CHIGGLE.

This message was sent to the chief constable, a fat little Canadian, principally clad in a pair of beef-boots and a fur cap. One thousand dollars! He would be a millionaire, a thousandaire rather. Local prints would narrate his sagacity and bravery, and his grandchildren would talk of him as the man who single-handed captured the desperate robber of the Caradel Bank.

But there was no time to lose. The valiant chief constable and six myrmidons hid themselves in the adjoining room, having first *ceinturid* themselves elaborately for the fight. CHARLTON asked the next office when the detective had passed, and saw that he had a clear half-hour before him. He went to the tavern, ordered his patriarchal charioteer to sup and be ready to leave in an hour, ordered his own supper, left his satchel conspicuously on the table, went to the office and telegraphed that the robber was arrested, and that they need not be on the watch, and then took to the fields. He went down towards Binville, and at a turn of the road met a cart reeling and rocking furiously through the swashing mud. A stout man was lashing the horse furiously with the reins, and swearing lustily at the road-inspector. CHARLTON crouched under the fence till he passed, and then struck for the river. He found an old wrinkled *habitant*, who came grumbling and shivering to the door, shading his guttering candle with his dirty fingers. CHARLTON hired this old man and his two bead-eyed, black-haired boys to put him across the river. It was a case of life and death, he said. The river was high and the ice running. The course of the stream was choked by huge, grinding sheets of ice. Occasional crooked channels of clear water showed between these, smoking in the chill night air under the light of the moon. They pushed off in a crazy wooden canoe,



and with bold hearts adventured into the floating ice. Sometimes it was fair paddling through the channels, every minute becoming narrower as the ice-fields came together. Then they had to leap out and drag the canoe over a cake of ice, straining wearily at the gunwale. "Courage, my old, sacred milch cow!" shouted the cheery old inhabitant. "Embark! embark! she is at large; paddle, paddle, my friends," he chirruped.

"En roulant ma boule roulant,  
En roulant ma boule."

Plashing into clear water, then one leg in the canoe, the other in the floating puddle impelling it onwards. After four hours' hard work they reached the opposite shore, five miles down stream. Too late to cross back, so the ferryman slept there. No sleep for CHARLTON, for in half an hour he was clattering and plashing over the roads in a French cart, bound for the frontier. He passed a buyer of cattle and oats, dodged along unfrequented roads, and at two o'clock on Tuesday morning was across the lines in the land of freedom—to him. He got away, and probably is a flourishing and enterprising merchant by this time.

But to go back again to our heroic detective, who was swearing along the road to Kena. He arrived there and drove direct to the office. He leaped from his seat, and dashing up the steps, panted:

"I'm a detective."

"Hurrah!" shouted the vigilant rustic chief, bursting from his ambush and, followed by his myrmidons, flinging himself upon his city confrère.

Tableau. The combat thickens; on ye brave! "Sacree-c-e. Bull of Heaven! Sacred milch cow! Tail of a cow! Name of a nightingale!" shouted the warriors as they triumphantly bore down the officer. "Hurrah! the thousand dollars is to us—is to us!" The foe was stretched gasping on the floor with two black eyes, a jellied nose, nine front teeth knocked out, his hair strewn to the winds of heaven, and his clothing pulpy. In vain his assertions, his protestations—in vain the warrant. They were prepared for that. The unfortunate man was bound hand and foot, placed in a cart, and escorted by most of the able-bodied population of Kena, at once started for Binville. It was two o'clock in the morning when they arrived there. The news had preceded them, and the little city was all awake to see the triumphal entrance of the daring robber. On wound the mournful procession, the village chief, intoxicated with joy, dancing in front of the cart, his faithful myrmidons encircling it, like Indian bearers around a palanquin. The captive had howled and kicked himself hoarse, and was now lying exhausted in the cart, occasionally giving an apathetic wriggle or a despairing bleat. They haughtily waved back the throng, and led him to the jail. The gray-haired old jailer came wheezing forth with his keys clanking.

"Let me get at him!" howled the fiery CHIGGLE, bursting through the crowd; "let me strangle him!"

In furtherance of this charitable intention, Mr. CHIGGLE seized the prisoner by the throat. Then with an unpronounceable shriek, a perfect hash of a word, he stove in the saltatory country constable's hat.

"Great heavens," he cried, "it's the detective!"

Tableau.

[FOR THE TELEGRAPHER.]

### The Chicago Office of the Western Union Telegraph Company.

THE city of Chicago may be considered the great telegraphic center of the West as New-York is of the East. It is the distributing point for nearly all the telegraphic business destined for the States of Illinois, Wisconsin, Minnesota, Iowa and Kansas, as well as for the Western Territories and the Pacific States. Everything passing through to points beyond is repeated or recopied there with the exception of the Associated Press report, which goes through a repeater to Milwaukee. This great amount of business necessitates a large force of employés, and renders the Chicago office one of the most busy in the world.

It is only nineteen years ago that the electric telegraph first reached Chicago. After the success of the original line between Washington and New-York had become established, the wires were pushed forward via Albany to

Buffalo. Meantime the enterprising and indomitable O'REILLY and his associates were hard at work extending the telegraph westward from Philadelphia, with the ultimate object of connecting the Atlantic, the Lakes and the Mississippi—which was at that time virtually the western boundary of civilization—by a great system of telegraph lines, owned, it is true, by different companies, but organized on the same general plan throughout, and working as a harmonious whole. In December, 1846, the line had reached Pittsburg, and at the close of that month telegraphic communication was opened for the first time between the seaboard and the valley of the Mississippi. The great work was vigorously pushed forward and one year later found the O'REILLY lines complete to Cincinnati and St. Louis, and also from Buffalo to Detroit, these two sections being joined by a line crossing from Cleveland to Pittsburg via Akron and Wellsville, making in all three thousand miles of wire built in one year. About the same time parties were engaged in constructing a line known as the SNOW line, connecting with the O'REILLY line at Monroe, Mich., and extending westward to Chicago, which was completed early in the year 1848. The first line actually in operation in Chicago was the one connecting that city with Milwaukee, of which the late Col. J. J. SPEED was the principal contractor. This was finished and put in operation shortly before the completion of the Eastern connection, the first message being sent from Chicago on the evening of January 15th, 1848, by an operator named Cook. The Chicago office was situated in a small room over a grocery store. The Erie and Michigan line was subsequently constructed from Chicago to Dunkirk by Col. SPEED, where it connected with CORNELL'S New-York and Erie telegraph to New-York city.

From this small beginning the telegraphic system of the Northwest has rapidly grown, and expanded, until its present extent may be inferred from the fact that there are forty-three lines now running into the Chicago office. Instead of the little room over the grocery store where the click of the electric machine was first heard nineteen years ago, the telegraph now occupies a spacious office on the southeast corner of Lake and Clarke streets, the best business corner in the city. The receiving department, which is in charge of Mr. C. B. COFF, is situated on the first floor of the building. The operating department is located in a spacious and airy room on the second floor, which has recently been refitted, painted, varnished and decorated, so that it is not excelled by any operating room in the United States. Since the lease of the Illinois and Mississippi (Caton) lines, the partition separating that office from the Western Union office has been removed. On the left of the entrance is the office of Mr. R. C. RANKIN, who has been connected with the telegraph business in Chicago for over fifteen years. In the right hand corner of the office two switch-boards of the largest size attract the attention of the observer. One of these is devoted to the commercial and the other to the railroad wires. The office wires have recently been overhauled and re-arranged in the most thorough and complete manner, by Mr. GEO. C. YORK. This is a piece of work requiring no little skill and judgment, and the manner in which it has been performed reflects great credit upon Mr. YORK's ability as a telegrapher.

Thirty-two operators are at present employed in this office, and among them are numbered some of the most skillful manipulators in this or any other country. Mr. F. C. SWAIN has charge of the operating room during the day and Mr. H. C. MAYNARD at night. Both are first-class telegraphers and exceedingly capable men, devoting their careful personal attention to the prompt dispatch of business. Since the lease of the "Caton" lines by the Western Union company, Mr. E. D. L. SWEET, who was superintendent of the western division of the I. & M. Company, has assumed charge of the affairs of the consolidated company at this point. His district is nearly, if not quite, the largest one belonging to the Western Union Company.

Lines are worked "direct" from Chicago office to New York, Cincinnati, St. Louis, Omaha, Salt Lake and many other of the principal points in the United States, and it is not infrequent that the wires are worked through direct to San Francisco—of course, by the aid of "repeaters."

With the opening of the Pacific railway and the rapid

increase of population and business in the far West, it seems probable that the next few years will witness an extension of the telegraphic facilities of Chicago not less wonderful than that of the past. For all that vast area of country it seems certain that for many years Chicago cannot fail to be the distributing point. PILGRIM.

### The Electric Ball.

THE Annual Ball of the New-York Telegraphers, which came off on Friday evening last at the New-York Assembly Rooms, was one of the most fashionable and select reunions of the season. A goodly representation of the telegraphic fraternity from the city and vicinity, with a few from other cities, was present. The display of costumes was brilliant, and the beauty of the ladies who were present was remarked by all. The delicious music of Wallace's celebrated band added not a little to the enjoyment of the occasion.

One of the features of the evening was the Electric Light Quadrille—danced by the illumination of the electric light. This was of the most splendid description, and similar to that used by Professor DOREMUS in his celebrated lectures. It was made by a battery of great size and power; identical in principle and construction to those used now almost universally by telegraph companies, and first introduced to them some five years since, by Messrs. CHARLES T. & J. N. CHESTER—but very much greater in size. The battery used weighed about a ton, and employed Messrs. CHESTER nearly two days in erecting and preparing for use. Though so large and cumbersome, it might be fairly called a masked battery, being concealed beneath the orchestral platform, and astonishing the performers by its magnificent coruscations and showers of burning metals. The light was produced in the usual way by the contact of carbon poles, but various metal poles were also furnished to illustrate the colors of metallic deflagrations. The battery would be competent to supply electricity for all the lines diverging from the city. A huge "sunder"—almost ten times the size and power of the ordinary instrument—was also placed in connection with a portion of this battery, by means of which the announcements of dances could be thundered out to the telegraph fraternity in a language mysterious to all others, but quite intelligible to them.

Among the distinguished guests present we noticed Mayor HOFFMAN and lady, CYRUS W. FIELD, Hon. WILLIAM ORTON, president of the Western Union Telegraph Company, and others. Among others who were present and participated in the festivities of the occasion we noticed a gentleman and lady who attained some celebrity in the profession, a year or two since, by a spirited newspaper controversy upon the "lady operators" question. As they were seen amicably "tripping the light fantastic" together on this occasion, it is supposed that they have "buried the hatchet," and that the vexed question has at length been settled on a basis of lasting peace and harmony. The General Committee consisted of Messrs. HORN, OLTMAN, REDDING, PAGE and THOMPSON, who were assiduously engaged in looking after the welfare of their guests. Altogether the affair passed off very pleasantly, and reflects much credit on the gentlemen having charge of the arrangements.

TELEGRAPHS IN OHIO.—The report of the general superintendent of the Western Union Telegraph Company to the State Commissioner of Telegraphs, under the law of last winter, gives the following statistics: No less than ten original corporations have been merged into the Western Union, which has in Ohio 3928 miles of poles, and 8550 miles of wire, and 279 offices with 526 operators. The president of the Pacific and Atlantic Telegraph Company reports the lines but partially constructed in this State, and only two offices opened for business. The new line approaching Cleveland from the East, through Northern Ohio, has not reported. No other telegraph companies have reported under the law, as doing business in Ohio. Owing to imperfect data in possession of the officers reporting, the Commissioner was unable to get full information upon many points of interest as to telegraph management in Ohio. He will recommend the Legislature to enforce, by severe penalties, prompt transmission of messages.—*Cincinnati Commercial.*



**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 New District.**

TO THE EDITOR OF THE TELEGRAPHER:

THE operators of the Baltimore and Ohio Railroad line west of Piedmont to Wheeling and Parkersburg, have been endeavoring to establish a district of the NATIONAL TELEGRAPHIC UNION, and I think we have at length succeeded. Our first meeting was held November 15, 1867, when it was decided to call the organization the West Virginia District of the N. T. U. J. H. SUTOR was elected Director, his headquarters to be at Newburg, West Virginia. By the direction of the district, I send a portion of the minutes of the last meeting for publication.

Yours respectfully,

ORIN JENKS, Jr., Secretary.

Parkersburg, W. Va., Jan. 6, 1868.

[The proceedings referred to will be found below.]

**The First Annual Ball of the Chicago District.**

TO THE EDITOR OF THE TELEGRAPHER:

THE Telegraphers' Ball of the Chicago District of the National Telegraphic Union, was given at CROSBY'S Music Hall, on the evening of January the 17th, and was a grand success in every sense of the word. Eighty-five tickets were issued and seventy-five couples were present. The ball was strictly a telegraphic affair—none but telegraphers and their friends being present. The music was furnished by the celebrated Great Western Light Guard Band, of Chicago, and it was superb. The ladies were elegantly dressed, and all enjoyed themselves to the fullest extent. The arrangements were all perfect, and nothing transpired to mar the festivities of the occasion. It is acknowledged by all parties to have been one of the grandest affairs of the kind ever given by the telegraphers of Chicago.

The following was the programme of the evening:

- |                            |                     |
|----------------------------|---------------------|
| 1 GRAND MARCH,             | N. T. U.            |
| 2 QUADRILLE,               | Churchill.          |
| 3 SCHOTTISCHE,             | Franklin.           |
| 4 QUADRILLE,               | Lanciers.           |
| 5 WALTZ AND POLKA,         | Hughes.             |
| 6 CONTRA DANCE,            | Virginia Reel.      |
| 7 POLKA MAZOURKA,          | F. B. F. M.         |
| 8 QUADRILLE,               | Hammond.            |
| 9 SICILIAN CIRCLE,         | The Telegrapher.    |
| 10 VARSOUVIENNE AND GALOP, | York.               |
| 11 PORTLAND FANCY,         | Lightning.          |
| 12 WALTZ,                  | Chicago District.   |
| 13 QUADRILLE,              | Our Friends.        |
| 14 SPANISH DANCE,          | Atlantic Cable.     |
| 15 CONTRA DANCE,           | Monnie Musk.        |
| 16 POLKA REDOWA,           | J. D. Caton.        |
| 17 QUADRILLE,              | Caledonia.          |
| 18 HIGHLAND SCHOTTISCHE,   | Lady Operators.     |
| 19 QUADRILLE,              | Lanciers.           |
| 20 WALTZ,                  | Absent Members.     |
| 21 QUADRILLE,              | Montabella.         |
| 22 POLKA AND SCHOTTISCHE,  | Electric.           |
| 23 QUADRILLE,              | Chicago Fire-Alarm. |
| 24 CONTRA DANCE,           | Opera Reel.         |
| 25 WALTZ AND GALOP,        | Home, Sweet Home.   |

The Committee of Arrangements consisted of Messrs. M. A. HUYCK, W. A. McELROY, E. B. CHANDLER, A. G. STOLBRAND, A. H. BLISS and JOHN DONNELLY. The three first-named gentlemen also acting as floor managers.

Chicago, Jan. 18, 1868.

PILGRIM.

WEST VIRGINIA DISTRICT.—An extra meeting of this district was held Dec. 29, 1867. Messrs KELLY, of Grafton, and WALKER, of Fairmount, were appointed assistants to the District Director. It was noted that the Secretary be instructed to write to all operators within the limits of the district who would be likely to join the Union, and who would be a credit thereto, and urge upon them the benefits they would derive from becoming members. It was also voted that all members of this district who are not subscribers to the TELEGRAPHER, subscribe at once. The Secretary was instructed to transmit a copy of a portion of the proceedings of this meeting to the editor of THE TELEGRAPHER. The meeting adjourned at 10:30 P. M., subject to call of District Director.

**MISCELLANEA.**

EIGHT MORE CABLES PROJECTED!—We notice by the following clipping taken from one of the morning papers that there are eight projects for new cables to Europe. We have read that "too many cooks spoil the broth," but whether anything will be spoiled with so many cables, we cannot say:

1. Franco-American Company—direct from Brest to the United States.
2. French line from Brest to the United States via St. Pierre.
3. Spanish line—from Spain to the United States via Porto Rico, Canaries and Cuba.
4. English line from Scotland via Iceland, Greenland and Labrador.
5. English line from Falmouth, England, to Halifax.
6. Russian line via Behring Strait (said to have hope yet.)
7. The Franco-American Land and Ocean Telegraph Company, to touch at the Azores.
8. American Atlantic Telegraph Company, which it is thought will take any route that may remain after the others are supplied.

NEW OFFICE AT BRIDGEPORT.—The Franklin Telegraph Company have opened an office in Bridgeport, of which WILLIAM H. BOOTH, has been appointed manager. Mr. BOOTH was for many years connected with the American and subsequently with the Western Union Company's office in that city.

NEW TELEGRAPH OFFICES.—A telegraph office has been opened at Westfield on the Central R. R. of N. J., in charge of Miss MIXWELL, late of Glassboro', N. J., and another at Pamapo, N. J., in charge of Miss MARY HARRIS, late of Harrisburg, Pa.

THE NEW-YORK, NEWFOUNDLAND AND LONDON TELEGRAPH Co.—During the past year this company have constructed two entire new lines from Plaister Cove, C. B., to Heart's Content, N. F., one via Aspy Bay, and the other via Sidney and St. Pierre. On the latter route a cable three hundred and fifty-one miles long forms the portion of the line between Sidney and Plaentia. This forms a connection between the Western Union lines and the Atlantic Cable by three new and reliable lines. The cables across the Gulf of St. Lawrence, on the lines running via Aspy Bay, are respectively eighty-five and eighty-nine miles in length.

OFFICE CLOSED.—The telegraph office at Fair Haven, Mass., has been closed, and the operator, Mr. BOOTH, transferred to the New-Bedford, Mass., office.

SELF-ADJUSTING RELAY AND REPEATER.—A thorough practical test of DUXBURY & ROBERTS' self-adjusting relay and repeater, was recently made over the Western Union line between Boston and Portland.

The trial took place in the presence of many experienced operators, all of whom were highly pleased with the successful result.

Escapes, resistance, etc., were introduced into the circuit, but the faithful instrument recorded every dot, without requiring a single change in adjustment. It gives us great pleasure to speak of this improvement, not only as a proof of the gradual progress of the science of telegraphy, but as a tribute to the zeal and ingenuity of the inventors. Messrs. DOXBURY & ROBERTS, of Boston, have been long connected with the business, and are well known to many of our Eastern readers. When telegraph companies stand in readiness to introduce improvements which are really needed and valuable, we expect to see the genius of its employes stimulated to still greater exertions in every direction.

THE TELEGRAPH PROSECUTION.—M. C. Baldwin, the telegraph operator who was charged with the larceny of eighty-four dollars' worth of lightning from the Western Union Telegraph Company, was discharged by the action of the Grand Jury on Friday, that body failing to find a true bill. It is supposed that the failure to prove arose from the impossibility of identifying the property. It was proved that no money had passed hands whatever, and that the general custom among operators, and one that is allowed by telegraph companies, has been and is to frank messages over the wires to their personal friends.

THE news goes over the ocean by going under it.

GEORGE PEABODY'S GIFT TO CYRUS W. FIELD.—STARR & MARCUS, John street, New-York, have now ready for examination this magnificent gift. It consists of twelve pieces of solid silver, inlaid with gold, elegantly and elaborately chased, and on each piece medallions of Mr. PEABODY and Mr. FIELD. On each article also is inscribed the following:

GEORGE PEABODY

TO

CYRUS W. FIELD,

In testimony and commemoration of an act of very high commercial integrity and honor.

New-York, Nov. 24, 1866.

The pieces are as follows:

1. Tureen, massive and of beautiful design.
  2. Epergne. Supporting the fruit or flower basin, is a solid silver figure, representing the genius of the New World standing on a globe, on which are engraved the signs of the zodiac. On either side of the basin are euids—one sharpening an arrow, the other bearing a flambeau.
  3. Ice bowl, supported by sphinxes.
  - 4, 5, 6. Cake and fruit dishes.
  - 7, 8, 9, 10. Vegetable dishes, so made as to be convertible into eight pieces.
  11. Decanter, very elegant.
  12. Coffee kettle, massive and of beautiful design.
- All of these pieces bear the Field arms—a hand holding the globe, and bearing the old family motto: SANS DIEU RIEN.—*Journal of the Telegraph.*

ANOTHER CABLE.—A company is being organized to lay a fourth cable across the Atlantic from Brest in France, to New-York. The company will have a capital of £900,000 sterling. The United States, England, and France, are to share the stock. England has already subscribed its share, while French bankers have guaranteed their third. An English company has contracted to make 3700 miles of cable, and the new company has been promised all the transatlantic business coming this way that touches French wires. The cable will be laid next summer.

THE PROPOSED POSTAL TELEGRAPH SYSTEM.—In the recent report of the Postmaster-General, he remarks as follows:

"The subject of connecting the telegraphic system of the country with the postal service has attracted public attention, and has received, to some extent, the consideration of my predecessor. It has recently transpired that the telegraphic system of Great Britain has been put in charge of the British Post-office Department. It is a matter of very great importance, and its propriety and practicability ought to be thoroughly investigated by Congress."

INFORMATION WANTED!—A Harford Common Councilman asked at a recent meeting how, if the telegraph fire-alarm wires were to run over the tops of the buildings, was a man to get up to them to pull them?

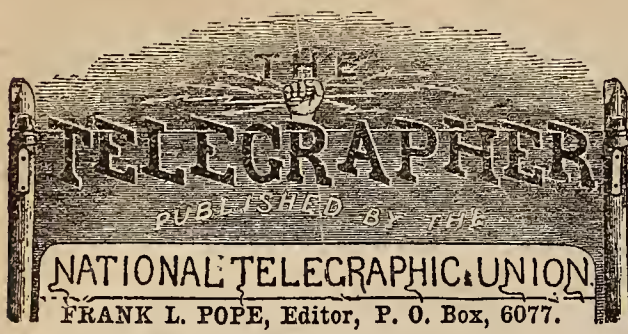
TELEGRAPHIC COMMUNICATION TO ST. THOMAS.—Admiral PORTER, in a letter on our recent purchase in the West Indies, says: "The United States can have direct telegraphic communication with St. Thomas. Wires could be laid from the capes of Florida across the shoal water which extends, with some interruptions (of not very deep water), as far as Turks Island, and thence direct to St. Thomas. The distance would be somewhat greater than to Cuba, but, comparatively speaking, it would not be an expensive line, as there would be so much shoal water."

GIRDLING THE EARTH.—The New-York Post points out a mistake made by DICKENS: "In Bleak House, Chapter 12, is the following sentence: 'Weariness of soul lies before her as it lies behind her—Ariel has put a girdle of it round the whole earth, and it cannot be unclasped.' It was the Puck of *The Midsummer Night's Dream*, and not the Ariel of the *Tempest*, that 'put a girdle round the earth in forty minutes.'"

ADVERTISEMENTS BY TELEGRAPH.—The Herald receives advertisements by telegraph from all parts of the country. It recently had some sent in this way from San Francisco.

LADY OPERATOR—Cincinnati.—He is now in the Western Union Telegraph office at Plaister Cove, Nova Scotia.





SATURDAY, JAN. 25, 1868.

**FAST TELEGRAPHING—A WONDERFUL FEAT.**

DURING the past few days a number of experimental trials have been made for the purpose of accurately ascertaining the rate of speed at which a telegraph line is capable of being worked by American operators. This is done in pursuance of a request which has been received by the Western Union Telegraph Company from Professor MORSE, who is now in Europe, and who, we believe, was one of the Committee on Telegraphs at the Paris Exposition. Several trials have already been made in different parts of the country, but the results attained in a trial on the evening of January 21st are so remarkable that we would call the special attention of our readers to them. We frankly state that it far exceeds all our preconceived ideas of the rapidity with which the Morse system may be worked by skilled operators.

On the above evening the wires were connected direct from Philadelphia to Buffalo via New-York, a distance of about four hundred and fifty miles. The wires were in fine order and worked well. The result of an hour's continuous work was as follows: New-York sending simultaneously to Philadelphia and Buffalo:

First	9	minutes	(MARKS sending)	373	words.
Next	11	"	BAGLEY	450	"
"	10	"	"	374	"
"	10	"	"	460	"
"	10	"	"	430	"
"	10	"	"	433	"
Total,	60	minutes		2520	words

The average rate being forty-two words per minute. The above was received by sound, and legibly copied with a pen without a stop or break by Mr. NICHOLAS J. SNYDER, of Philadelphia. This remarkable feat was accomplished by Mr. SNYDER with the greatest apparent ease. The operator at Buffalo did not succeed in copying the dispatch, but retired without "breaking."

The following calculation will give the uninitiated some idea of the rapidity of manipulation required to accomplish the above feat. As a fair sample, we will take the following sentence from the message blanks of the Western Union Company:

The rules of this company require that all messages received for transmission shall be written on the message blanks of the company, under and subject to the conditions printed thereon, which conditions have been agreed to by the sender of the following message.

The above sentence contains forty-three words, and two hundred and seventeen letters, to transmit which, in one minute by the Morse alphabet (exclusive of punctuation), requires *nine hundred and thirty-six* distinct movements of the key, and consequently of the hand of the operator. It will be observed that this rate of speed was considerably exceeded during the latter part of the trial. We therefore find that Mr. BAGLEY is capable of making an average of *fifteen movements of his hand per second*, and of doing this continuously for nearly an hour! This seems, at first sight, utterly

incredible, but that it actually was performed as above stated is an incontestable fact.

It may not be uninteresting to our readers to compare the above results with those attained by European operators in similar trials. Mr. E. B. BRIGHT, Secretary of the Magnetic Telegraph Company of England, in his recent work, states that the average speed of the "acoustic" telegraph used by that company is between thirty and forty words per minute, the operator copying by sound as with us. The sounds in this instrument are produced by short, quick blows upon two muffled bells of different pitch, instead of a "sounder." The maximum rate of speed in the trial recorded by Mr. BRIGHT, was thirty-seven and one-sixth words per minute.

CULLEY, in his recent work on the telegraph (1867), gives the following as the rate attained by the double needle and Morse instruments in a fair trial of speed.

The highest speed on a circuit of a little under two hundred miles was:

Double needle	35	words per minute.
Morse	38	" " "

Average of between two and three hours' continuous work reporting a speech of Mr. BRIGHT:

Double needle	24.3	words per minute.
Morse	26.5	" " "

The speed of the American operators in the recent trial was:

Average rate	42	words per minute.
Maximum	46	" " "

We believe that the highest speed on record which has yet been attained in this country was in the fall of 1860, when JAMES FISHER, of Nashville, Tenn., office sent fifty-five words in one minute, and at the rate of fifty-two words per minute for five minutes, Mr. JAMES LEONARD, of Louisville, receiving it. The "copy" was taken at random from the pages of *Harper's Magazine*.

The greatest speed attained by BURNS, the "champion," was two hundred and fifty words in five minutes and forty seconds, being at the rate of forty-four words per minute.

We would like to see the speed of the printing instrument accurately tested for the sake of comparison with the above.

**PERSONAL.**

T. ROCHE, formerly with the Western Union Co., has accepted a situation in the Franklin office, Boston.

JNO. F. CROWLEY, late of Baltimore, W. U. office, has accepted a position at Lake City, Fla., with International Telegraph Co.

CHARLES HATCH, formerly with the W. U. Co., at Calais, Me., has been transferred to same company's office, night duty, at Augusta, Me.

J. M. HETRICH, late manager of the Western Union office, at Mauch Chunk, Pa., has been appointed superintendent of the Lehigh and Susquehanna Railroad Company's Telegraph line from Easton to Scranton, Pa.

W. S. VAN KIRK, late of Gainesville, Fla., has been appointed night operator at Somerville depot, N. J.

C. L. SUYDAM, late of Lake City, Fla., has accepted a position in the Central R. R. Telegraph office, Elizabeth, N. J.

JAMES SILVERS, of Jersey City, has been appointed day operator at Bound Brook, N. J.

J. O. CHAMBERS, of Jersey City, takes the position of night operator at same place.

ALBIN M. SMITH has taken charge of the office at White House, on the Central R. R. of N. J.

R. M. BILLINGS, formerly manager of the office at Leavittsburg, O., has taken a position as night operator, at New-Market, N. J.

"THE WONDER-WORKING WIRE."—Within three days after the delivery of the President's message, the editorial comments of the London *Times* were read in this country.

POLICE TELEGRAPH IN ST. LOUIS.—The City Council of St. Louis have passed an ordinance authorizing GAMEWELL & Co. to erect a police telegraph throughout the city, at a cost of \$26,500.

CORPORATIONS HAVE SOULS.—During the late heavy snow-storm at the West, the Cleveland and Toledo Railroad was obliged to stop running for twenty-four hours. The suspension, of course, compelled travellers to "lay up." The company paid their bills at the hotels, and offered the free use of the telegraph to the passengers to communicate with their friends. This act of liberality shows that there is one corporation that has a soul, and that one is the Cleveland and Toledo Railroad Company. Pass them around.

We have now, besides the Cuba cable and many other small ones, two Atlantic cables in operation, a third one on the eve of construction from France to the Island of St. Peter's, and thence to the United States, and at the present time a company is being organized in England to submerge a fourth cable across the Atlantic, of which Brest, France, and New-York will be the *termini*. The company is called the "Franco-American Submarine Cable Company," and will organize with a capital stock of £900,000. One-third of the stock and directors will be given to England, one-third to France, and one-third to the United States. The books have been opened in England and its share of the stock subscribed. The French bankers, it is said, have guaranteed the subscription of another third. A contract has already been made with the India-Rubber and Gutta-Percha Telegraph Company, of Silvertown, London, for the manufacture of three thousand seven hundred miles of cable, which will support itself in water a distance of thirty miles. The contractors have taken the English subscription as an advance payment, and will at once proceed with the manufacture of the cable, which will probably be laid next summer. This new company have received valuable concessions already, including one from the French Government, giving them for five years all transatlantic business coming this way that touches French wires, and one from the Submarine Telegraph Company across the English Channel, who agree to give them all the messages that touch their wires *en route* to Brest.

MAGNETIC METAPHORS.—The *North British Review* seems to have been simultaneously possessed by Emerson and electricity. It says that his epigrams are a series of electric shocks, underlaid by a vein of soft irony. The reader who recalls the influence of soft iron in magnetic manifestations will be amused by the accidental expression of a joke in a critique intended to be sober and scientific.

A GROTESQUE SIMILE is sometimes very expressive. We may mention that of a conductor who, in a discussion as to speed, said that the last time he ran his train from Syracuse the telegraph poles on the side of the track looked like a fine tooth comb.

A STUBBORN OPERATOR.—For the convenience of the different railroads that center in Albany, and for the accommodation of the large local business between Albany and Troy and their suburbs, a city wire has been erected. For the purpose of giving the railroads the correct time, an office is located at the Dudley Observatory, and an instrument attached to the great clock of that institution, by which at five minutes before meridian it commences to beat the seconds until noon, when a train of wheels is released and the words "Dudley Observatory time" are ground out. As soon as the beating commences all the offices give way. An office has lately been opened in the new depot at the Albany bridge, and the operator not understanding the ropes, objected to being broken so unceremoniously and fought *man-fully* for the circuit, in direct defiance of the "regulation book," which forbids struggling for circuit. She tells a brother operator that there is a strange fellow at "Do" who breaks in when he pleases and will have his say out, and she considers him very stubborn.

Wonder if she has read of the little controversy a Canadian operator had with a clock which he fought all night, or of the "Durip" operator who fought a cross till it "5d."



**THUNDERBOLTS AS REMEDIES.**—An English writer argues that several physical maladies can be cured by lightning. The doctrine that "likes cure likes" holds good, he asserts, in the case of maladies to which the destructive elements gives birth; whether the fright, or some proper action of the electric fluid works the cure, it is hard to say; but the fact is incontestable. Several cases are reported where individuals, paralyzed from their youth, have recovered complete use of their limbs by lightning strokes in after years. A country clergyman, in Kent, was paralyzed by apoplexy in 1761, and struck by lightning about a year after, when all traces of the paralysis left him. A man who had lost the use of both arms was guarding some animals in a field; lightning fell upon him, and when he came to his senses, he found that he could use both arms and hands. These are but a few out of many recorded instances. A variety of ailments besides paralysis have been cured or ameliorated by the same agency, even blindness; for one GARDLEY, some time an actor at the Surrey Theater, who had been for many years blind of one eye, had his sight quite restored by a lightning flash.

**MARRIED.**

**MUMFORD-DANA**—In San Francisco, Cal., on Tuesday, Dec. 10, 1867, at Grace Cathedral, by the Right Rev. Bishop W. J. KIP, GEORGE HART MUMFORD, of Rochester, General Agent of the W. U. Telegraph Co., to SARAH, daughter of the late DANIEL DANA, Jr., of this city.

**HERRINGTON-COX**—In Titusville, Pa., Dec. 25, 1867, M. M. HERRINGTON, of Titusville, to Miss MARGARETTA J. COX, formerly of the American Telegraph Office in this city.

**DIED.**

**LONG**—In Hydetown, Pa., Jan. 23, W. CLAUDE, infant son of W. C. and A. M. LONG, aged 2 days.

**BROOKS'**

**Paraffine Insulator Works,**

No. 22 SOUTH TWENTY-FIRST STREET,  
PHILADELPHIA.

WILLIAM R. ALLISON, Proprietor.

**NATIONAL TELEGRAPHIC UNION**

**Life Insurance Bureau.**

THE NATIONAL TELEGRAPHIC UNION, by authority of its special charter, granted by the State of New-York, proposes to insure the lives of all persons connected with the Telegraphic business under the following rules and regulations:

Applicants for insurance must be connected in some capacity with the Telegraphic business, must be not less than eighteen years of age, in good health, and able to earn a livelihood. Every applicant shall pay an entrance fee of two dollars, one dollar of which shall be reserved for creating a permanent fund, and one dollar towards the amount to be paid the heirs of the first insured person deceased, who will receive as many dollars as there are persons insured.

Whenever a death occurs among those insured, an assessment of one dollar and ten cents will be levied upon all. This dollar goes to the widow, orphans, or heirs of the next insured party deceased, and the ten cents to be applied to the payment of current and necessary expenditures.

Applications must be made to the Actuary, in writing, accompanied by a certificate, signed by not less than two persons in the Telegraphic business of good character, that they know the applicant is fully qualified under the preceding rules.

A small annual assessment not to exceed one dollar may be necessary to cover working expenses after the first year.

This plan of insurance will be conducted under the supervision of the Executive Committee of the N. T. U., and it will be their aim to make it as inexpensive as reliability and security will allow. It is unnecessary to make any extended remarks, or any comparisons of the great advantages this plan affords for the payment of ready money, at the event of death, over Life Insurance Companies.

Parties wishing to insure should write out the following questions with their answers thereto:

- What is your name?
- What is your age?
- Where is your residence?
- What is your occupation?
- Have you any constitutional disease or debility?

Sign the above statement, and forward it to the Actuary, with a certificate signed by two persons connected with the Telegraphic business, that the applicant is well known to them, and that the answers given by him to the above questions are correct?

Applications may be sent to

J. W. STOVER, Actuary,  
Box 5551, New-York.

**Bankers' and Brokers' Telegraph Co.**

CAPITAL, \$1,050,000.

Lines extending from New-York to Boston, Mass., and Washington and Georgetown, D. C.

WM. CALLOW, President..... Baltimore, Md.  
JOHN L. CRAWFORD, Secretary and Treasurer.....  
G. H. GRACE, Supt. Eastern and Middle Div..... New-York.  
J. W. DYER, Supt. Southern Div..... Philadelphia.

**Pacific and Atlantic Telegraph Co.**  
OF THE UNITED STATES.

CAPITAL, \$3,000,000.

Lines completed from Philadelphia to Pittsburg and Cincinnati. [In progress.]

GEO. H. THURSTON, President..... Pittsburg, Pa.  
E. J. ALLEN, Secretary and Treasurer.....  
D. MCCARGO, Superintendent..... Pittsburg, Pa.  
A. Q. CASSELBERRY, Assistant Superintendent.. Pittsburg, Pa.

**Franklin Telegraph Company.**

CAPITAL, \$1,000,000.

Lines extending from Boston to Washington.

J. B. STEARNS, President..... Boston.  
J. W. BROWN, Treasurer.....  
J. G. SMITH, Superintendent..... New-York.

**International Telegraph Company.**

CAPITAL, \$300,000.

Lines completed from Boston to Bangor, Me. [In progress.]

E. K. HARDING, President..... Bath, Me.  
Hon. WOODBURY DAVIS, Treasurer..... Portland, Me.  
CHAS. H. SAWYER, Superintendent.....

**Keystone Telegraph Company.**

[Lines extending from Philadelphia to Harrisburg and Pittsburg.]

JOHN S. McMILLEN, President..... Philadelphia, Pa.  
H. H. SHILLINGFORD, Secretary and Treasurer.. " "

**International Ocean Telegraph Co.**

Lines extending from Lake City to Key West, Fla., and Havana, Cuba.

WM. F. SMITH, President..... New-York.  
M. M. DELAFIELD, Treasurer.....  
W. H. HEISS, Superintendent.....

**Northern Telegraph Company.**

CAPITAL, \$100,000.

Lines completed from Boston to Bristol, N. H. [In progress.]

Hon. FREDERICK SMYTH, President..... Manchester, N. H.  
W. W. STORRS, Treasurer..... Concord, N. H.  
J. W. ROBINSON, Superintendent..... " "

**Atlantic and Pacific Telegraph Co.,**

CAPITAL, \$5,000,000.

Lines completed from New-York to Cleveland. [In progress.]

A. F. WILLMARTH, President..... New-York.  
C. A. HARPER, Secretary.....  
M. L. WOOD, General Superintendent..... " "

**Northwestern Telegraph Co.**

CAPITAL, \$1,150,000.

Lines extending from Milwaukee through Wisconsin, Michigan, Iowa, and Minnesota.

Z. G. SIMMONS, President..... Kenosha, Wis.  
H. B. HINSDALE, Secretary and Treasurer.....  
S. ROBERTSON, Superintendent..... Milwaukee, "

**Western Union Telegraph Co.**

CAPITAL, \$40,000,000.

Lines extending throughout the United States, Nova Scotia, and New-Brunswick.

WM. ORTON, President..... New-York.  
O. H. PALMER, Secretary and Treasurer.....  
MARSHALL LEFFERTS, Engineer.....  
THOS. T. ECKERT, General Superintendent..... Eastern Division.  
ANSON STAGER, "..... Central Division.  
JOHN VAN HORN, "..... Southern Division.

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**THE TELEGRAPHER:**

A Journal of Electrical Progress,

PUBLISHED EVERY SATURDAY,

BY THE

**NATIONAL TELEGRAPHIC UNION,**

AT

No. 16 BROAD STREET, NEW-YORK.

WITH the number of August 31st THE TELEGRAPHER enters upon its fourth volume. In the future, as it in the past, it will be the aim of its conductors to make it in every respect

A FIRST-CLASS TELEGRAPHIC NEWSPAPER.

It will continue to advocate, as it has done heretofore, in an independent and fearless manner the just rights of the TELEGRAPHIC FRATERNITY, to whom it owes its origin and support. It will seek to point out and correct abuses, wherever existing, to elevate the moral and scientific standard of the Telegraphic profession.

It will not support the views of any particular person or corporation, but will discuss all subjects relating to Telegraphy in a progressive, independent, and liberal spirit.

THE TELEGRAPHER will contain numerous original contributions upon Electrical and Telegraphic science; Correspondence from various parts of the world; Literature and Poetry upon Telegraphic subjects; Notices of changes of Telegraphic offices; and other incidents and items of personal interest, together with a large and varied selection of Telegraphic News-Items, Notes, and Memoranda of every description.

THE TELEGRAPHER will continue, as heretofore, to be illustrated with a large number of

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Aside from the advantages apparent upon inspection of these magnets, their acknowledged merits consist in the construction of the helix, which was patented Aug. 15, 1865. This being of naked copper wire, so wound that the convolutions are separated from each other by a regular and uniform space of the 1-800th of an inch, the layers separated by thin paper. In helices of silk insulated wire, the space occupied by the silk is the 1-150th to the 1-300th of an inch; therefore a spool made of a given length and size of naked wire will be smaller and will contain many more convolutions around the core than one of silk insulated wire, and will make a proportionably stronger magnet, while the resistance will be the same.

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Excellent Registers.....	40 00
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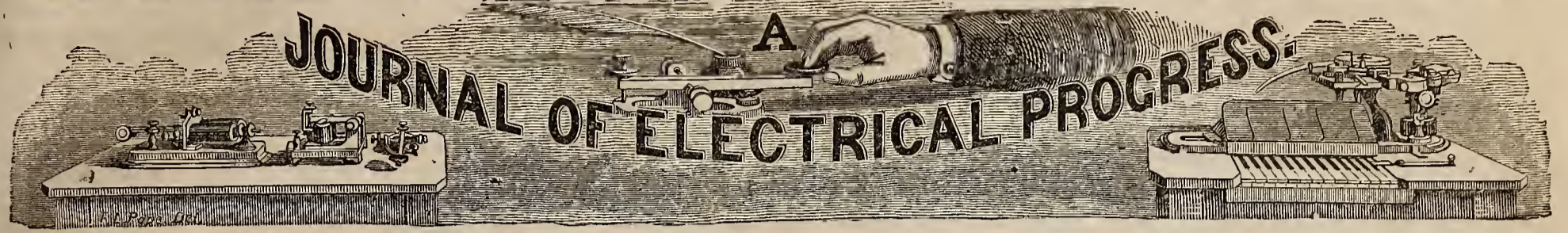
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# THE TELEGRAPHER.

JOURNAL OF ELECTRICAL PROGRESS.



Vol. IV.—No. 23.

New-York, Saturday, February 1, 1868.

Whole No. 81.

## The Chamber of Commerce and the Telegraph.

WE see by a San Francisco paper that the telegraph played quite a prominent part at a banquet held in honor of the completion of the new Chamber of Commerce in that city.

Among other attractions in the banquet hall was a set of telegraphic instruments in complete working order, communicating with the merchants of New-York and elsewhere. The paper says:

“At half-past 10 o'clock the president of the evening, Mr. SNEATH, read a message whose click over the wires had been heard over the hubbub of two hundred tongues and the rattle of plates, dated New-York, 7:40 P. M. It was from W. E. DODGE, president of the New-York Chamber of Commerce, congratulating the Chamber and regretting that until the Pacific Railroad joined the Eastern and Western gates of commerce, invitations at such short notice could not be accepted.”

“The following was one of the toasts of the evening:

“*The Magnetic Telegraph*—The nervous system of commerce animated by the lightning, which obeys the human will, and flashes the intelligence of merchants between the trade marts of the world.”

“G. H. MUMFORD, of the Western Union Telegraph Company, responded, and among other remarks, said: ‘The one thing, above all others, which the telegraph represents, is the unity of that body whose nerves it supplies. Your interests are hemmed in by no city limits, or State lines, or national boundaries, but are wide as the whole earth, co-extensive with the whole human race. And the telegraph is the visible sign and bond of that union—the wedding-ring with which commerce has encircled the earth.’

“A letter was received from Col. CHARLES S. BULKLEY, of the Western Union Extension, regretting his inability to accept an invitation to the banquet.”

## Telegraph Enterprises.

THE success attending the working of the two submarine cables which connect the New and Old Worlds, and the one between Florida and Cuba, is attracting the attention of capitalists everywhere, and we hear of at least six other projects for similar enterprises. Last week a company of New-York business men organized under the name of the “Central American Cable Company,” proposing at an early day to lay a cable between the Island of Jamaica and the Isthmus of Panama. This company expect to obtain a grant from the Spanish Government to land the northern end of their line in Cuba, but if they fail in this, they propose to connect the new line with the existing Cuban cable at Key West, Fla. In addition to this, the company intend to construct cable and land lines from Jamaica to St. Thomas via St. Domingo and Porto Rico. For this purpose negotiations are pending for the purchase of the Russian American Company's cable, and it is thought that the chief part of the work will have been completed by next fall. Lines are also in process of construction between Rio Janeiro down the Atlantic coast of South America to Montevideo, to connect with the cable laid last year across the Rio de la Plata to Buenos Ayres. A company will construct a line next fall across the Argentine Republic, on the Pacific side, from Buenos Ayres to Valparaiso, connecting the South Atlantic coast with the Pacific. The

Spanish and American Company has also organized, under a grant and heavy subsidy from the Governments of Peru and Chili, to lay a cable within three years between Valparaiso and Callao. This company are also taking the preliminary steps to extend their cable to Panama, thus bringing Calcutta, India, through the chain of cables and land lines into communication with Rio Janeiro. The total number of miles of telegraph wire now laid or projected to bring about the result we have indicated, will reach seven thousand four hundred and eighty. The benefits which will enure to American commerce by the diversion of the trade of the West Indies and South America from the channels in which it now runs, can scarcely be over-estimated should these telegraph plans be consummated.—*N. Y. Times.*

## Atlantic Telegraph Company.

THE London *Times* of the 10th of January has the following in its city article: The Atlantic Telegraph Company has issued proposals for the creation of £1,300,000 ten per cent preferential capital to rank next to the £641,845 eight per cent preference stocks now existing. The object is to bring the entire undertaking into one establishment by paying off the shareholders of the Anglo-American Company, which they have a right to do, at a premium of one hundred per cent. Under this arrangement the capital will consist of £641,845 eight per cent preference, £1,300,000 ten per cent preference and £617,750 old stock, making a total of £2,559,595. The revenue of the undertaking for the year ended the 27th of July last was £205,000, and for that ending in July next it is estimated to amount at least to £265,000. This revenue would show the following result upon the capital now proposed:

Eight per cent on £641,855 preference stock now existing.....	£51,348
Ten per cent on the new issue of £1,300,000 now offered.....	130,000
Four per cent on the old stock, £617,750.....	24,710
Expenses (mortgages being cancelled by new capital).....	20,000
Total.....	£226,058

Leaving a surplus of over £38,942 applicable to a fund for reserve or for increasing dividend, in which or for any other increase the new ten per cent stock will at all times participate ratably. Under the system now in operation, and to which it is proposed to put an end, a similar revenue of £265,000 would be dealt with as follows:

Expenses of two establishments and interest on mortgages.....	£30,000
Anglo-American dividend.....	125,000
Making	
To be earned before the Atlantic shareholders receive anything.....	£155,000
Atlantic Telegraph Company, eight per cent....	51,348
Do., ordinary stock.....	24,710
Total.....	£231,058

Leaving a surplus of £38,942, of which £16,971, being one-half, would be absorbed by the Anglo-American Company. As regards the future working of the cables, there can be no question that the new arrangement is calculated greatly to promote an extension of the business to the advantage of the public. The extraordinary result to be attained by a reduction of charges has lately been demonstrated, and it was the conflicting operation of the two administrations that prevented the development of this power of increase at a much earlier date.

## Sketches of Southern Telegraph Superintendents.

THOMAS JOHNSON, who is superintendent of the Corinth, Miss., district of the Western Union Company, first engaged in the telegraph business, and was for many years an operator in the Nashville, Tenn., office.

S. C. BAKER, superintendent at Little Rock, Ark., is a step-son of Mr. JOHN VAN HORNE, general superintendent of the Southern Grand Division of the Western Union Telegraph Company, and was formerly an operator in the Memphis, Tenn., office.

GEORGE W. TRABUE, superintendent at Nashville, Tenn., is a brother of A. E. TRABUE, formerly superintendent on the Southern lines, and author of the humorous sketches entitled “The Adventures of Short Sirkit.” Mr. TRABUE was engaged as an operator previous to his appointment as superintendent at Nashville and vicinity.

D. P. SHEPARD, superintendent at Houston, Texas, originally hails from Lynchburg, Va., and was for a long time an operator in New-Orleans; first in the Seaboard Company's office, and afterwards with the S. W. Co.

JAMES COMPTON, superintendent Western Union Telegraph Company, at Jackson, Miss., was for many years manager of the Jackson, Miss., office, afterwards general ticket agent of the New-Orleans and Great Western Railway, and subsequently appointed superintendent telegraph.

O. G. MERRIWEATHER, who is superintendent Western Union Telegraph at Mobile, first entered the Mobile office some twelve years ago as manager, and was appointed superintendent after the close of the war.

JAMES COLEMAN, superintendent at Memphis, Tenn., formerly in connection with H. A. MONTGOMERY, owned a line between Memphis and Waynesboro', Tenn., connecting at the latter point with Nashville and Louisville and New-Orleans. Mr. COLEMAN was also manager of the Memphis office. This line was consolidated with the S. W. Company. Mr. COLEMAN was engaged in the rebellion as an officer on the staff of General J. C. BRECKINRIDGE, of whom he is a relation. Mr. COLEMAN is a gentleman of culture and refinement, and a universal favorite.

HOW TO SLEEP WITH THE MERCURY 68° BELOW ZERO.—The Toledo *Commercial* publishes a letter written by one of the late telegraph expedition to Siberia. The writer says:

“You say that you cannot imagine how we live in such a climate. I couldn't until I tried it. I didn't believe that it would be possible for me to lay out on the snow without shelter, in a temperature of even twenty below zero, but I have done it once in fifty below, and repeatedly in forty-five. One of BUSH's parties, in February of last year, passed the night in an open, barren steppe, with their spirit thermometer standing sixty-eight degrees below zero, or about one hundred degrees below the freezing point. Quicksilver they moulded into solid bullets with four minutes exposure to the air. It is true they didn't dare go to sleep that night, but I believe that had they been properly fitted out with heavy furs and wolf-skin sleeping-bags to tie up tightly over the head, they might have done it with perfect safety. I am afraid you would think I was availing myself of a traveller's privilege, and relating a very large “yarn,” if I told you how comfortably I have slept on the snow in temperatures of thirty-five, forty, and forty-five degrees below.



We are obliged to sleep in fur bags, of course, with our faces entirely covered, and to take the utmost care to have our fur stockings perfectly dry; but I have slept in that way through the long Arctic nights as comfortable as I ever did in a bed at home. From September, 1865, until I came aboard the *Onward* a few weeks ago, I never slept in a bed or on anything softer than the snow, or on a board. So you can imagine the sensation was a curious one."

## 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.*

### Intemperance Among Telegraphers.

UTICA, N. Y., Jan. 10, 1868.

TO THE EDITOR OF THE TELEGRAPHER:

I DESIRE to introduce a subject for the consideration of your readers which may possibly strike you as being one not strictly entitled to publication in your columns. I desire to write touching the morals of telegraphers at large. Your paper is the mouthpiece of an association which makes it a chief desire "to point out and correct abuses wherever existing, and to elevate the moral standard of the telegraphic profession;" therefore I write plainly upon a subject which I know you will agree with me in saying should be more freely discussed and commented upon. Many who read this will say, or if they do not say, will think, that I paint the picture with almost too glaring colors. The truth should be told, and where will you find more glaring colors than surround truths when uttered in connection with the subject of temperance?

I hope your columns will be open wide for the free discussion of this subject, especially if that discussion is likely to result in the saving of but a single operator from a life of dissipation.

Having drained the cup of bitter experience to the bottom, I know how to sympathize with those who, in thoughtless moments, launch themselves out upon the sea of intemperance. If we could have the testimony of every telegraphic operator of three years' experience, I doubt whether we should find one disagreeing with me when I say that, as a general thing, there is more dissipation among telegraphers than among any other class of men, excepting perhaps railroad or express-men. Furthermore, I think all would bear me witness that telegraphers are more liable to be led into intemperate habits than any other class. Why is this? Let me see. A boy fourteen years of age enters an office to learn the art of telegraphing. He makes that his especial business, and gives it all his thoughts. Very soon a superintendent thinks he is far enough advanced to take charge of a small station. Two or three months pass by, and a still further improvement is followed by a promotion. As he becomes more and more capable, more and more important positions are in waiting for him (providing that his moral character has not been stained before that time, in which case his promotions will be few), and by the time he has attained to the distinction of "A No. 1," he has perhaps been moved ten or fifteen times, the last change leaving him hundreds or thousands of miles from his "paper tape and silent register." After a few removals he begins to rather like it. New and strange scenes, new and jovial acquaintances, a love for travel, are all exceedingly pleasant. He finds he cannot be contented long in one place. No matter how many attractions a city can boast of, if he has been a resident of that city a few months they have no power over him. He is tired of the place, and is not satisfied till he is changed to new scenes. Soon, even the novelty of change wears away; time drags along monotonously; his nervous system having been habituated to a certain amount of excitement, now requires other artificial stimulants, or life becomes a grand farce. The requisite amount of stimulant is soon found in another shape, and a new life as it were begins; but, alas! where does it end? Again: An operator's duties forbid much healthful exercise of body or mind. He works hard at the key all day, and is relieved for the night at, say, six, eight, or nine o'clock.

The moment he is released, be the hour early or late, it's "Hurrah! boys, now for a few hours of fun. I've been housed up in that old trap 'mid the clatter and buzz all day, with my mind in a feverish whirl and my body cramped (not tired); but oh! how jolly I feel now; what a weight of responsibility off my mind; how exuberant my youthful blood; any fun, any excitement, any adventure will just suit me!" We know where such feelings lead some young men, especially those who have no pleasant homes to which they can retire, or cheerful wives to salute them at the doorstep with a loving kiss, after the labors of the day. I know where they will bring up, and so do many others who will read this.

Now we will look in on the night operator (who, perhaps, of the two is the most excusable). He commences his tasks at an early hour of the night; he sends message after message, item after item, till the small hours. Then the time commences to drag, those eyelids are becoming very heavy. The eliek, eliek keeps them open for a time, but there is a limit to human endurance; sleep will overtake him unless something is done, and that will never do. "What shall I do? What will keep me awake? O yes! I know. Here, Tom or Dick, take hold here. I won't be gone a moment. I won't be long."

No, he tells the truth, it won't take him long. Its only a step or two to the nearest "open at all hours" place. He soon comes back with a brighter eye and more jolly mien. He is not sleepy now, he has had an "eye opener." This has become a fixed habit, learned from past associations.

Does any operator believe that these pictures are overdrawn? Those who have worked in our larger offices know that many instances of a like character have come to their knowledge exactly similar to those I have mentioned.

Sometimes we hear of operators resigning or changing employers. Generally there is not much printed or said about the necessity of some operators resigning, but when we do hear it casually mentioned, that one whom we once knew as a "fast young fellow" had resigned, we generally make our own surmises as to whether he was obliged to resign or whether he did so voluntarily.

Thank God that many exceptions can be made to the general rule. Thank God that there are those in the telegraphic ranks who stand as shining examples of temperance, sobriety, and virtue, and that there are so many who pass the dangerous reefs of youth unharmed, and arrive at the place of safety unscathed.

We have a dark side and a bright side to look upon. What can be done to make the dark side brighter? We must concentrate all our energies upon the side which only needs them. If our superintendents and managers would devote a little time each day to the study of each of their employes' characters, with a view to placing each man in the right place, would not a step be gained? A superintendent or manager by personal observation could easily form an opinion as to the weak point of any of his operators. If he is inclined to dissipate, a little advice, freely spoken, a little care to place him in a position where he will be in a measure free from bad examples, might result in his being saved from a long course of dissipation.

There are temperance organizations in every city and almost every village in the United States.

One who fully realizes the alarming dangers by which you are all beset, advises you as a brother, and as a friend, to go at once and enroll your names upon the banner of temperance.

The door of the temperance room is wide enough for all of you to pass in abreast. The door to the loathsome pit of intemperance is equally wide, if not wider, but I warn you to choose the former, as it will lead you to happiness, whereas the other only leads to disgrace and infamy.

AGITATOR.

ST. LOUIS, Mo., Jan. 27, 1868.

TO THE EDITOR OF THE TELEGRAPHER:

PURSUANT to a yellow billet-doux from executive office lately issued, the operators of the ninth district have been in a flutter of excitement, in regard to the amount of business that could be done in the space of an hour. The interest in these trials was heightened, as it was known that it was for the purpose of contrasting the

American system of telegraphy with the European. With only one trial, Mr. FRENCH, chief operator, St. Louis, sent through a Hicks repeater forty messages, averaging twenty words each in the short time of thirty minutes. They were received by JOHN H. DWIGHT, manager of Leavenworth, Kan., office, the distance being three hundred and ten miles. When we take into consideration the fact that the most that can be transmitted by the European operators is twenty of such messages an hour, the above is very creditable. Mr. DWIGHT also sent Mr. W. M. SPINK, of St. Louis, two thousand one hundred words of Congressional news in fifty-six minutes without abbreviations or contractions, averaging thirty-seven and one-half words per minute. While in good practice in the winter of 1866-7, Mr. DWIGHT sent from Jefferson City, Mo., nine hundred and fifty words in a very few seconds over nineteen minutes, which is worthy of going on the annals of fast telegraphing. The fever seems also to have reached the superintendents, as our worthy colonel sent for sixteen minutes to Superintendent WILLIAMS, of the seventh district, at the rate of thirty-one words per minute, which was not by any means discreditable to either of them. OCCIDENTAL.

TO THE EDITOR OF THE TELEGRAPHER:

I NOTICE in THE TELEGRAPHER of 11th, among the changes of operators, "JERRY O'CONNELL, 'bog trotter,' since the suspension of the printer has been out of employment."

Mr. O'CONNELL is an operator of good standing here, and feels naturally grieved that a respectable paper should allow Chicago operators, who are too prone to slang, traduce him in this style. Aside from the abuse, the facts are untrue, as he has never been out of employment.

Yours truly,

A. WELLER, Manager W. U. T. C.

Milwaukee, Jan. 20, 1868.

From the Esquimaux.

### The Three Graves.

AMID the frozen Arctic, where the summer's hut a day,  
And brings the flowers to blossom for winter's quick decay,  
The white man's venturous footsteps have pressed the snowy sod,  
And three are laid beneath it, in communion with their God.

Two were called from 'mongst us; they'd filled the given span,  
And left their happy firesides here to meet the fate of man.  
The first who 'heved the summons died when near the shore,  
And his doubly orphaned little ones will welcome him no more.

The next, through out drear winter, was hovering near the grave,  
And when the wished-for summer came we hoped his life 'twould save;  
But from their snowy couches the flowers scarce peeped in bloom,  
Ere he knew the mystic meaning of the land beyond the tomb.

The other's cross is tottering, and unknown years have fled  
Since the sleeper, 'neath its shadow, was gathered to the dead;  
No mark upon its grayish face denotes who lies below,  
But in heaven they keep the record, which one day all will know.

The years pass by unheeded, they feel not the northern blast,  
Or the icy snows which winter above their dwellings cast;  
Their mourners are the ocean, and the mountains, towering high—  
Mute sentinels, who never tire of watching where we lie.

All here, too, soon must follow, and go, with reverenced awe,  
'Fore Him who has created all—the white, the Esquimaux;  
In His almighty mercy let us place our hope and trust,  
And pray to meet forever, in heaven, among the just.

J. J. H.

## LITERARY.

BY the kindness of J. H. ROBINSON, of Sacramento, we have received Volume I. of *The Esquimaux*, originally published at Port Clarence, Russian America, and Plover Bay, Eastern Siberia, in 1866-'67, but collected and republished at San Francisco by the editor and proprietor, Mr. J. J. HARRINGTON. It was a monthly publication, originated as a source of occupation and amusement by a party employed in the construction of the Russian Extension Telegraph, who wintered at Libbysville, Port Clarence, in 1866. It makes a readable and interesting volume, and is highly creditable to the editor and his talented corps of contributors. It also contains much valuable information in regard to the country, and the experience of those personally engaged in the conduct of this once promising but now abandoned enterprise.



This paper is the more worthy of notice, from the fact that it was the first literary publication of any kind in Russian America, and it is another illustration of the tendency of the Universal Yankee, wherever he may go, or however unfortunately situated, to establish and patronize a newspaper. Since the transfer of Russian America to the United States, we believe *The Esquimaux* has been succeeded by two three newspapers already established at Sitka.

We shall hereafter refer to *The Esquimaux*, and favor the readers of THE TELEGRAPHER with some extracts from its columns, which we think, although the occasion which gave birth to the enterprise in which these hard-working but jolly litterateurs were engaged has passed away, will still possess interest to the fraternity and the public.

We publish in this paper a very pretty and affecting little poem, from the number for July 7, 1867, entitled "The Three Graves," and cannot better conclude this article than with the farewell speech of Col. BULKLEY, Engineer-in-Chief to the Employés of the Land Service of the Russian Extension Telegraph, delivered on their arrival at San Francisco, Oct. 8, 1867, which is printed and bound up with this volume:

*"Officers and Men of the Overland Telegraph Expedition on board Ship Nightingale:*

"Our anchor is down. We are home again, and the bright skies of our country bend over us. Probably we are together for the last time; it is certainly our last meeting upon the same deck. Home, friends, business, ambition, and the thousand motives that govern our movements, will in a short time separate us forever, but memories of the past will linger still among these associations that I for one shall never forget. Some of your homes are shadowed by the domes and spires now in sight; and anxious hearts are waiting to welcome you back.

"I thank heaven that so few are left behind, who will never make glad the home circle again. They were our comrades to whom the last rites of humanity have been paid; the tears of brave men have dropped on their mortality, and held in icy graves, they sleep as gently as though shaded by the orange and palm.

"The trials and hardships to which you have been exposed, are understood, and the unfaltering determination to do your duty is appreciated. Although the work in which you were engaged is abandoned for the present, it does not detract from the credit which belongs to you; no men could have done more, and few men so much. Over nearly one quarter of the circumference of our globe, in frozen wilds, among savage tribes, and in unknown regions, you have steadily pursued your way, and although the telegraph is unfinished, the world will recognize and applaud the knowledge you have added to its store, and the daring spirits who have accomplished so much.

"From the Amoor, the Okhotsk, the Arctic and the North Pacific, let me welcome you to your country and homes, and be assured that one of the happiest events of my life will be to know that you are all within the pale of civilization once more.

"For the hearty support you have given me, accept my thanks, and if it is in my power to advance your interests, believe me ever ready.

"To the perseverance and energy of Major WRIGHT and Capt. NORTON, we are indebted for this early arrival of our Arctic parties, and the officers and crews of both ships have felt the liveliest interest in your rescue.

"Your work is finished. Let me welcome you home again, and now we part. Good-by, Good-by."

**TELEGRAPHS IN BRAZIL.**—There are three lines running out of Rio de Janeiro, Brazil. One to Petropolis, the summer residence of the Emperor and court, which is fifty-two miles in length, and used for the convenience of the court. One running along the coast to Cape Frio, a distance of three hundred and twenty-eight miles, which is used for reporting the arrivals and departures of vessels. One along the railroad to Victoria, a distance of fifty-eight miles, which is used for railroad purposes. There is another line now in course of construction which will be about eight hundred miles in length, which is to connect the capital with the army now fighting the Paraguayans. The Morse alphabet and system are used with slight alterations. Portuguese is the language used.

## PERSONAL.

HAM FITCHETT, of Poughkeepsie, has so far recovered from his late illness as to resume his duties.

HEMAN L. WATERBURY, has resigned his position as chief operator in the Albany office of the A. & P. Company. His successor is W. H. GAY, late of the Poughkeepsie office, same company.

GEORGE REED, lately of the West Troy office, who has been absent from duty for some time past on account of illness, has recovered, and resigned his position as operator. He enters into a partnership with his brother in the hardware business, in the village of Canajoharie.

## MISCELLANEA.

BOSTON, Jan. 30, 1868.

TO ALL MEMBERS OF THE N. T. U.—You are hereby notified that the delegates to Convention have this day elected A. H. BLISS, of Chicago, Corresponding Secretary, *vice* G. B. COWLAM, resigned.

H. W. WHEELER, Rec. Sec.

WANTED.—The address of ALBERT SMITH, who was operator at Kellysville P. O., Delaware Co., Penn., about a year since. Address the Editor.

BUNNELL'S REPEATER.—The next number of THE TELEGRAPHER will contain an illustrated description of a new repeater, invented by Mr. J. H. BUNNELL, which presents some novel features in its construction and is finding much favor among the telegraphic community.

BOSTON TELEGRAPHERS' ANNUAL ASSEMBLY.—The annual assembly of the telegraphers of Boston, is to come off at Fraternity Hall, on Wednesday evening, Feb. 5. We are indebted to Mr. J. C. CONNERS, Secretary, for a "complimentary." We trust they may have a full attendance and a good time.

TO CORRESPONDENTS.—*Constant Reader.*—*Sidney.*—An imperfect or loose line connection, causes the wire to work "shaky" when vibrated by the wind, in which case the receiving operator will be likely to miss a dot or two, occasionally. The trouble would be termed "break-ing." "Escape," is an expression used to denote the leakage of electricity from the wire to the ground through imperfect insulation or the contact of foreign conductors, such as trees, etc.

THE DESERT TELEGRAPH LINE.—This last enterprise of BRIGHAM YOUNG's seems to be progressing apace. We clip the following telegraphic dispatch from the columns of the *Deseret News*:

CHICKEN CREEK, Dec. 6.

Pres. B. YOUNG:

Opened office at 6 P. M., CHARLES C. JONES, operator. Go to Fillmore to-morrow. A. M. MUSSER.

CHICKEN CREEK, Dec. 6.

Pres. BRIGHAM YOUNG:

We thank you heartily for the telegraph office just opened. Will try and appreciate the favor by living nearer our God. Please name for us our new settlement—beautiful for location, three miles northeast of this place and just surveyed. ABRAHAM PALMER, President.

PAID OR COLLECT?—A little difference of \$10,000 in the Alaska business, the charge for cable dispatches, exists between Secretary SEWARD and the Russian Government. Both refuse to pay, and meanwhile the bill for the appropriation of the purchase money is still held in suspense in the Senate Committee on Foreign Relations at the wish of Secretary SEWARD.

CITY TELEGRAPHS IN PARIS.—A new system of telegraphing in Paris goes into operation with the commencement of the new year, and will show to how great an extent the telegraph wires may be employed. Adhesive telegraph stamps may be issued, to be put on the original dispatches by the senders themselves. Special boxes for the receipt of these dispatches will be placed at the Bourse, the tribunals of commerce, and in the different quarters of the city. These boxes will be cleared every ten minutes. As the dispatches will be sent to the different offices by the atmospheric tubes, they must be enclosed in envelopes of given dimensions in order to insure their immediate transmission.

HASN'T HEARD OF THE CONSOLIDATION.—A Worcester, Mass., paper, still heads its telegraph column, "Telegraphic News by the American Line."

TELEGRAPH AT BERGEN CUT.—The New-Jersey Railroad Company have adopted another safeguard against accidents, to the effect that hereafter two trains shall not enter the Bergen Cut at the same time. Telegraph stations have been established at each end of the Cut.

THREE new submarine cables are to be laid in China.

ONE night, in a thunder-shower, a little voice from the "trundle bed" called out, "O mother, the dark is wiiking! First it shuts up, and then it shuts down."

QUICKER THAN LIGHTNING.—The cable authorities in this city state that a telegram was last week received in Washington four hours fifty-eight minutes and thirty seconds in advance of the hour of its leaving London.—*N. Y. Times.*

Isn't it time for the newspapers to cease writing such nonsense, which confuses children and simple people? Why not say in so many words that clocks in London are about five hours ahead of clocks in Washington? That is the whole story.

BEHIND TIME.—The severe snow-storm we have just had has not been unproductive of fun. The latest we have heard was a dispatch from a gentleman who had been traveling, to his firm in New-York. It read as follows: "I shall not be in the office to-day, as I have not got home yesterday, yet."

"A RA'AL CONVENIENCE."—The Kennebec, Me., *Daily Journal* boasts that it has a branch telegraph office in its editorial room, and the compositors who set up the late dispatches are within arm's length of the operator.

NEWSPAPER ENTERPRISE.—Files of San Francisco papers just received here, show that the *Daily Times* of that city published exclusively a full copy of the President's message, received overland by telegraph—a bit of enterprise never before indulged in by the press of the Pacific coast. The message made fourteen thousand words, and when it was ordered to be sent, the agent of the *Times* on this side was so much astonished he inquired if they wanted it sent in full. A prompt answer in the affirmative started it at once. Our Metropolitan press have done some "big things" in this way, but nothing equal to this. The *Times* is the youngest as well as about the best paper on the Pacific coast.

THE PRINTING INSTRUMENT.—We learn that the Western Union Company propose to make a trial of the printing instruments between Cleveland and Chicago. Mr. BLANCHARD, recently of Milwaukee, having been ordered to Cleveland with his instrument. C. B. NOYES will have charge of the instrument at Chicago.

THE MISSISSIPPI VALLEY TELEGRAPH COMPANY.—We learn that the lines of this company are nearly completed between Minneapolis and Lansing, and that the work will be completed as far as Dubuque by spring. There has been quite a stir over the stock of the company at Lansing and La Crosse. The former place was assigned three thousand dollars of stock and its citizens have taken eight thousand dollars. At La Crosse the assessment of five thousand dollars was increased to ten thousand dollars, which has all been taken.

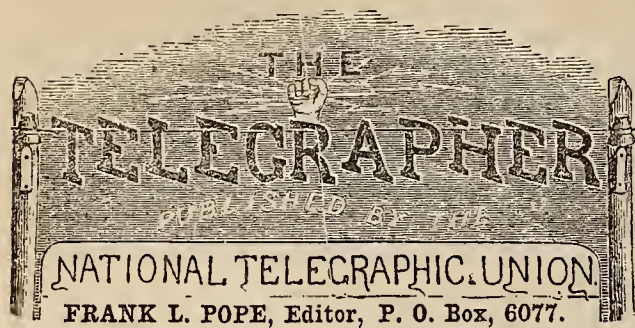
THE NORTHWESTERN TELEGRAPH COMPANY.—The lines of this company embrace one thousand eight hundred and eighteen miles of wire, in the States of Wisconsin, Iowa, and Minnesota, on which are employed two hundred and fifty operators.

THE FIRE-ALARM TELEGRAPH IN HARTFORD.—We learn that the Fire-Alarm Telegraph in Hartford has been completed and has been accepted by the commissioners. The price paid is ten thousand dollars. The system used is that of GAMEWELL & Co., with the new automatic signal-boxes of which there are thirty in all. Each engine-house, as well as the house of the Chief-Engineer and of the President of the Board of Fire Commissioners is supplied with an alarm-bell.

NEW OFFICE OPENED.—The Atlantic and Pacific Telegraph Company have established an office in Poughkeepsie, N. Y., and appointed Mr. WETMORE manager.

WHY is a drowned man like a night operator on a railroad? Answer. Because they both sleep in the deep-o.





SATURDAY, FEB. 1, 1868.

### PERSONAL.

WITH the present number of *THE TELEGRAPHER* the undersigned relinquishes its editorial management, the pressure of other duties having become so great as to prevent him from giving the time and attention to the paper that its interests demand, and which its patrons have a right to expect. This step would be taken with reluctance were it not that the arrangements which have been made for the future management of the paper are such as will tend to make it more interesting and valuable to the fraternity than it has been heretofore.

Words fail to express the gratitude of the retiring editor for the expressions of uniform kindness and encouragement which have met him on every hand during the few months he has had charge of the enterprise, and for the invaluable assistance which has been rendered by numerous correspondents and friends throughout the country, and without which the continued success of *THE TELEGRAPHER* would have been an impossibility. In taking his leave—in an editorial capacity—of the readers and friends of the paper, he trusts that his successor may meet with the same cordial and generous support which has been accorded to himself, and that *THE TELEGRAPHER* may continue to flourish through many years of uninterrupted prosperity.

FRANK L. POPE.

### TELEGRAPHIC MONEY ORDERS.

THE great public convenience as well as the pecuniary success of the system of post-office money orders which has been established in this country within a comparatively recent period, leads us to believe that some analogous arrangement might be devised as an important and profitable adjunct to the telegraphic business of this country. Many years ago, a plan of this kind was suggested by Mr. HENRY O'REILLY, but at that time many difficulties combined to prevent the idea from being successfully carried out, the principal one being the fact that the lines then connecting the principal business centers of the country were owned by a score of different telegraph companies, whose relations with each other were not always of the most harmonious and satisfactory character. But with one vast organization like that of the Western Union Company, whose lines reach almost every city and village of the slightest commercial importance throughout the Union, it would seem as if there could be no insurmountable obstacle at the present time to the establishment of an organization for receiving and paying out moneys as ordered by means of telegrams passing over their own lines. If, for example, the telegraphic cashier in this city, when receiving deposits for payments to persons in distant cities like Chicago, New-Orleans or San Francisco, could instantly order the cashier at either of those places to pay the amount to the person or firm it

was intended for, and to have a copy telegraphed back of the receipt taken from the party receiving the money, great financial transactions might be accomplished between parties residing respectively in New-York and San Francisco, almost as readily as if they were in different parts of the same city, the exchange being made without loss of time, and with a consequent saving of interest and increase of security. That some arrangement of this kind is one of the necessities of the age is apparent to every business-man, and the establishment of it could not fail to become, in a short space of time, an exceedingly profitable undertaking. The postal money order system, though a great convenience as far as it goes, is but a step in the direction of what is needed in an age like this. We have heard it asserted by prominent business-men familiar with the use of the telegraph that a line established and maintained exclusively for this kind of business would prove to be one of the most important business enterprises of the present day, and it seems strange to us that no steps have been taken to organize some sort of a telegraphic monetary exchange. Something has been done in this way, it is true, by express companies and private brokers, but the proper persons to carry out the undertaking are the telegraph companies themselves. It seems to us that it might be made the most profitable part of the whole telegraphic business, as there is scarcely a person who would not sometimes have occasion to make use of the facilities thus afforded, and its value would in many contingencies be altogether beyond calculation. There is no apparent reason why it might not be made equally available between this country and Europe by the establishment of agencies for the purpose in the principal European capitals. If the system were once put in operation we venture to predict that its success would be something astonishing. Why will not our telegraph officials give this matter the attention that its importance deserves?

VERY'S CODE OF SIGNALS.—We have received a pamphlet explanatory of a simple method of marine telegraphing by symbols, forming a code of signals for the use of all nations, designed by Capt. SAMUEL VERY, Jr., a native and long a resident of Salem, formerly in command of the clipper ship *Hurricane*, of New-York, and late acting master in the U. S. Navy. It appears to possess many advantages and is easy of application. We commend it to the attention of all concerned in navigation. Captain VERY now resides at No. 31 Fourth street, Chelsea, Mass., and he offers his method for the examination of all persons interested in commercial affairs, and requests their aid in the introduction of it to general use. Orders to his address will receive prompt attention.—*Salem, Mass., Register.*

A TELEGRAPH CONVENIENCE.—The managers of the Western Union Telegraph Company in this city, with a commendable disposition to accommodate the public, have opened a branch office in the office of the United States Express Company, on Fourth street near Race, from whence, as at the main office, messages will be sent in all directions. Such increased facilities will be appreciated and pay.—*Cincinnati Commercial.*

PROGRESS OF CABLE TELEGRAPHING.—The bottom of the ocean will soon be as extensive a means of human intelligence as the top of it. The Emperor of France is about to have his submarine cable to the Island of St. Pierre and New-York; the Government of Queen Isabella is also about laying down a cable to Cuba and Porto Rico by way of the Canaries; and now we hear of another projected line to lie between Brest and New-York. The latter is organized by a Franco-American Company with a capital of a million sterling—the stock and direction to be divided between England, France and this

country. The English share of the stock is said to be already subscribed. This company has received valuable concessions from the French Government, and the line will be laid next summer very probably.—*New-York Times.*

A PUZZLED TELEGRAPHER.—Pittsburg once boasted of an "artist" on whom all loved to play a joke. DICK DUNCAN, in common with the rest, loved fun, and one day conceived an idea which he immediately proceeded to put in practical form. He screwed the armature of the relay so close that it would not break the local circuit, and placed a key in the latter (the locals were in an adjoining room). Stretching his imagination a little, he came to the conclusion that he was in Wheeling and called Pittsburg. The first-mentioned "artist" whom we shall call JOHN, answered. "W. G. Hrs. 600 w special 77—w." I-I-I-I. DICK struck a moderate gait and gradually increasing it until the armature flew back and forward pretty lively. JOHN took it well enough at first, but as it became faster, he grew excited, and after having put down about one hundred words, hieroglyphically, attempted to break, but opening his key had no effect, he hammered it, turned up the adjusting screw, and gave it half an inch play, but still no effect. Determined to stop it, he tore a wire from the thumbscrew on the relay, but with the same result. He rushed to the switchboard, and threw off the button, but the evil one seemed to have possession of everything, for still the sonnder went click—click—click. One more desperate effort and the Wheeling wire was disconnected from the switchboard.

Whatever were his thoughts at this moment, they were quickly dispelled by a broad grin on the faces of all present with a liberal display of "yellow masticators."

ITEMS ABOUT INSULATORS.—The Western Union Company are removing the Leferts insulators from their lines in this city, and also along the railroad between New-York and Philadelphia, and substituting glass insulators of the pattern known as the "compromise," which was first introduced upon the lines of the United States Company by general superintendent M. L. WOOD. These have proved to be the most durable and serviceable glass insulator ever devised, as their extensive use at the present time sufficiently attests. They have been adopted also by the Atlantic and Pacific, and Pacific and Atlantic Companies.

We notice that the Western Union Company are making an extensive use of the "rubber hook" insulator in the West at the present time, which is somewhat remarkable, in view of the disastrous experience of the New-England lines with them only a few years since. The various railroad companies who have lines of their own are interested in having wires that will work, and are consequently using the paraffine insulator extensively. We know an instance where the traffic on an important railroad was seriously impeded for several days owing to the wretched condition of the line, caused by bad insulation, which rendered it impossible for the "dispatcher" to handle the trains with the necessary promptness.

TELEGRAPH LINES DESTROYED BY FIRE.—By the disastrous fire which occurred in Chicago on the night of the 28th ult., all the wires leading up Lake street, some ten or more in number, were torn down and destroyed for a considerable distance. Business was not delayed in the least by this accident, as the W. U. Company, with its immense number of wires, are always enabled to make a connection by some other route.

A NEW PROJECT BY MAJOR COLLINS.—Maj. PERRY MCD. COLLINS, author of the "Voyage Down the Amoor River," and a stockholder in the W. U. Company, proposes to construct a telegraph on the Pacific coast by way of Vancouver's Island, connecting Japan, Asia, and Russia with America. The work will cost about \$5,000,000, but he considers the enterprise entirely practicable, and goes to Washington this week to lay the matter before Congress.—*Chicago Times, Jan. 28.*

THE Indians on the plains call the telegraph "The Iron Talker."

### MARRIED.

MCDONALD—HUME—In Dartmouth, N. S., Jan. 7th, by Rev. CHARLES M. GRANT, A. G. McDONALD, Esq., manager of the telegraph department, Halifax, N. S., to Mrs. HUME, of Dartmouth.







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Our friends throughout the country are particularly requested to inform us of any necessary additions or corrections in the above list.

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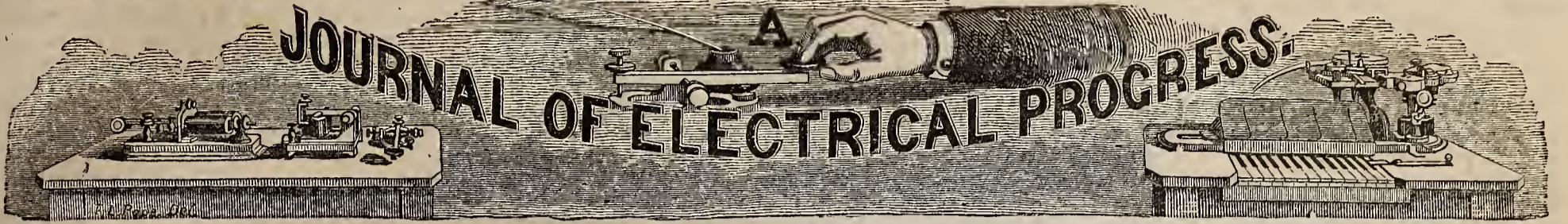
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# THE TELEGRAPHER.

JOURNAL OF ELECTRICAL PROGRESS.



Vol. IV.—No. 24.

New-York, Saturday, February 8, 1868.

Whole No. 82.

## Bunnell's Patent Telegraphic Repeater.

MANY different arrangements have been devised for the purpose of automatically duplicating telegraphic writing from one circuit to another, which are classed under the general name of repeaters. With the movement, growth and extension of the telegraphic system of this country they have now become an indispensable adjunct to the working of all important lines of telegraph. Ten years ago, scarcely a dozen automatic repeaters were in use throughout the United States; but at the present time the W. U. Company alone probably have more than two hundred of these instruments in use in the different offices. Nearly every repeater which has ever been practically used in this country has already been described and illustrated in the columns of THE TELEGRAPHER, and so many quite different devices have been already patented for securing the desired result, that it would seem scarcely possible to construct another without infringing in some degree upon the claims of previous inventors.

A new repeater has, however, recently been perfected by Mr. J. H. BUNNELL, which differs entirely in principle from any of its predecessors, and is believed to be, in many respects, an improvement over those now in use, and we take pleasure in presenting the readers of THE TELEGRAPHER with the following detailed description of the invention.

The arrangement of the main circuits in this repeater is exactly the same as in the ordinary "button repeater," and will be readily understood by reference to the annexed plan. The eastern main wire enters at the right, passing through the repeating point, *s'*, of the western sounder, *S'*, and through the coils of the eastern relay, *M*, and thence to the main battery and earth at *E*. The western main wire is similarly connected on the opposite side of the instrument. In the button repeater a switch is so arranged as to form a connection, cutting out the repeating points of the sounder on the opposite side when either line is working, and of course requiring a person to be constantly stationed at the instrument to make the necessary changes when two stations on opposite sides of the repeater are corresponding with each other. In BUNNELL'S repeater this duty is performed automatically by means of two "governor" or controlling magnets *G*, *G'*, the action of which we will hereafter describe.

The eastern and western main circuits both being closed and the apparatus at rest, the course of the local circuit of the eastern instrument is as follows: From the local battery, *L*, through the coils of the eastern sounder, thence passing through the closed relay points at *M*, and returning to the other pole of the battery. The

resistance of the governor magnet, *G*, prevents any appreciable portion of the current from passing through its coils, as long as the closed points of the relay, *M*, afford it a shorter route. If the local circuit be broken by the relay points at *M*, it is forced to pass through the coils of the sounder, *S*, and also of the governor, *G*. It is a well-known fact that when a circuit of low intensity like an ordinary local circuit passes through the coils of two magnets differing considerably in resistance, the at-

traction of the magnet having the least resistance is very small in comparison with that of the other. Mr. BUNNELL has made an ingenious practical application of this fact, in his repeater, by making the helices of the governor magnet of finer wire than that of the sounders. The effect of this is that when the local circuit is thrown through both magnets by the opening of the relay, that the armature of the governor magnet is attracted with considerable strength, while the magnetism developed in the sounder is not sufficient to move its armature, although the same current passes through its coils. This arrangement is, of course, the same on each side of the repeater, and by bearing it in mind the action of the instrument may be readily comprehended.

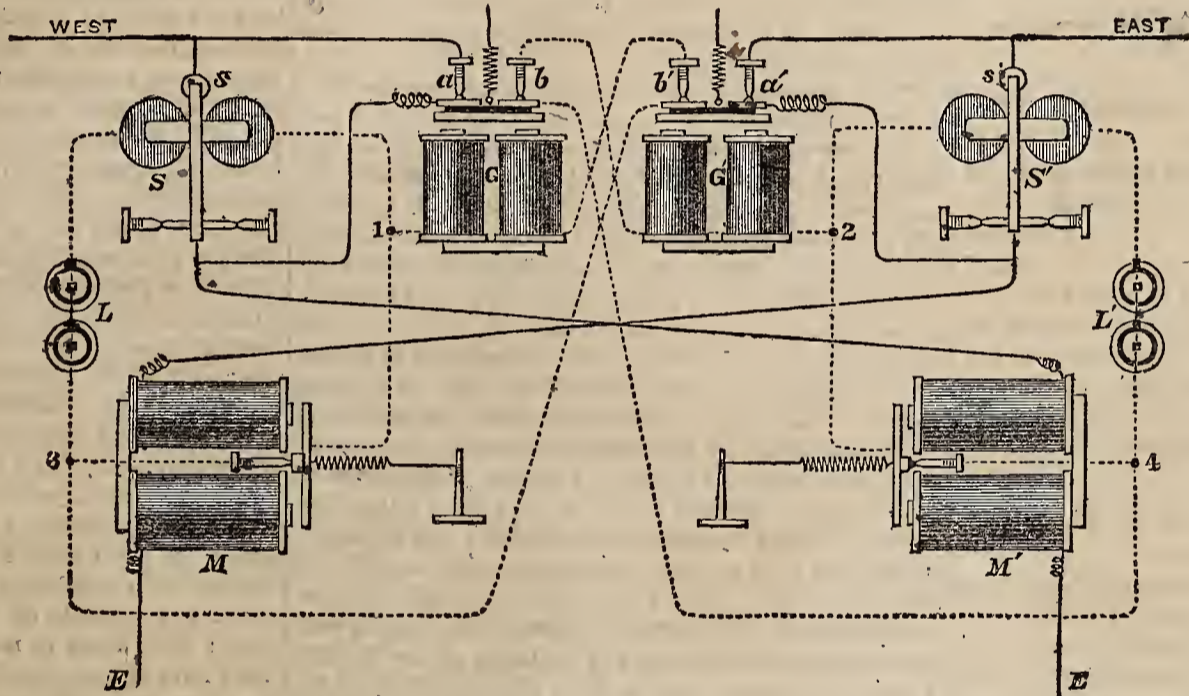
When both main circuits are closed and the repeater at rest, the governor magnets remain open, being cut out by the points of the relays, which, as well as the sounders, are closed on both sides of the apparatus. If, now, we suppose the circuit to be opened by an operator on the western main line, the armature of the relay, *M'*, falls back, opening the sounder, *S'*, and closing the governor magnet, *G'*, as previously explained. This breaks the eastern main circuit at *s'*, and also at *a'*, as well as the circuit of the opposite governor magnet, *G*, at the point, *b*. The breaking of the eastern main circuit at *S'* opens the eastern relay, *M*, and consequently its sounder, *S*, but the circuit of the governor magnet, *G*, being broken at *b'*, it remains inactive, and the western main circuit is complete through the points, *a*, although broken at the point, *s*, by the opening of the sounder, *S*. Upon

the closing of the western main circuit this action is reversed, and the apparatus resumes its original position. If the eastern main circuit be opened the same action takes place, but on the opposite side of the repeater. In most repeaters hitherto constructed one side of the apparatus remains silent while the opposite side is in action, but in this one the relays and sounders on both sides work together, the points, *a*, *a'*, on the armature of the governor magnets acting automatically in the same manner as the switch of a button repeater when moved by the hand of the operator.

The principle of using two magnets of different resistances in the same local circuit, though well known, has never before, to our knowledge, been practically applied in an instrument. The ingenious manner in which the application has been made in the present instance exhibits marked originality of invention, and the whole arrangement differs entirely from any instrument of the kind now in use, being, in fact, simply the old and well-known button repeater, with the addition of an automatic circuit changer.

This repeater embraces several important advantages, in its construction and mode of operation, over any other one known to us. As both sides of the instrument work together, the operator in charge is able to know exactly how both lines are working, and to keep it properly adjusted—a matter of some difficulty in the repeaters hitherto in use. It dispenses with the use of extra local batteries, which are not only a source of expense, but of trouble. When used as in other repeaters they are closed a great portion of the time on a circuit of small resistance, and soon "run down," thus throwing the apparatus out of adjustment.

Another important advantage of this invention consists in the fact that the armatures and levers of the relays and sounders are entirely unencumbered with extra armatures, springs, or other appliances, and act with the same freedom as in a common instrument. The simplicity of the adjustments are such that any operator who is capable of adjusting an ordinary relay and sounder can manage the apparatus without difficulty. This repeater has been for some time in use by the Atlantic and Pacific, Franklin, and Pacific and Atlantic Companies, and has given the utmost satisfaction. They can be seen in operation at the offices of these companies, in New-York, Philadelphia, Pittsburg, Hartford, Albany, and Buffalo. This invention has recently been patented, and any further information respecting it can be obtained by addressing the inventor, J. H. BUNNELL, at 11 Broad street, New-York, or the manufacturer, Dr. L. BRADLEY, of No. 7 Exchange place, Jersey City.





## 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 Slight Correction.

TO THE EDITOR OF THE TELEGRAPHER :

WE have always supposed that the mysterious process of creation without pre-existing material ceased long ago with the famous six days' work recorded in a certain ancient book. But after perusing THE TELEGRAPHER of January 25, we find ourselves mistaken, and that in one gifted mind at least there exists the power to originate, without even a shadow of foundation. We refer to an anecdote entitled, "A Stubborn Operator," which is quite as new and amusing to us as to any of your other readers. Although feeling deep regret at spoiling so good a story, truth compels us to say that it is simply one of those fabrications of which the originator's brain is well-known to be so productive. We should be very sorry to discourage our kind brother in his attempts at authorship; on the contrary, would urge him to persevere, confident that if in so doing he makes even a small portion of truth the basis of his creations, he may at some future day, when time has matured his intellectual powers, accomplish something which he will not be ashamed to acknowledge.

OPERATORS, Albany Bridge.

FEBRUARY 4, 1868.

TO THE EDITOR OF THE TELEGRAPHER :

IN order to avoid the errors caused by the use of the long dash for cipher (0), I would suggest the adoption of the following character, ----- . Please give your opinion.

OPR.

[We never heard of an instance of an error occurring in telegraphing in consequence of the similarity of the letter L and the cipher in the Morse alphabet, as the two are rarely if ever used in the same connection. The universal practice among operators, in fact, is to make the two exactly alike.—ED. TELEGRAPHER.]

BRIDGEPORT, Conn., Feb. 5.

TO THE EDITOR OF THE TELEGRAPHER :

THERE are one or two telegraph items of a local character here which may be of interest to the fraternity.

I learn that a telegraph line is to be put up the coming spring along the line of the Danbury and Norwalk Railroad, and several offices opened between Danbury and Norwalk. Such a line has long been needed, and will prove a great accommodation to the public, and especially to the railroad company.

Mr. WILLIAM H. BOOTH, formerly a House printing operator, but for some years past an assistant operator in the Western Union Telegraph office here, has resigned that position and accepted the management of the Franklin Telegraph office recently opened on Beaver street, in this city. The appointment is a good one, and gives very general satisfaction.

Mr. SIDNEY B. CURTIS, for many years the popular manager of the Western Union office, still retains that position.

Bridgeport is now well supplied with telegraph facilities.

FRANK.

## Modest, if True.

WE find the following among the Washington dispatches of the New-York Herald of Wednesday, the 5th inst. It was understood some time ago that the Western Union desired to sell its lines to the Government, but we think sixty millions of dollars rather too steep a price to be proposed by them even for a governmental purchase.

If true, it must be with that company as it was with the late ARTEMUS WARD, who once remarked: "My modesty hurts me! It's what has always kept me under!"

Parties in the interest of the Western Union Telegraph Company are here for the purpose of inducing the Government to purchase the lines of that corporation. They offer them to the Government for the modest sum of sixty millions of dollars, while the amount of nominal

stock barely reaches forty millions, and in the opinion of disinterested parties who are well posted in the construction of telegraph lines, the whole concern is not worth ten millions. The Government will not be caught on the line of the Western Union Company, however tempting the bait may be. The proposition to give the nation the control of telegraphic lines, in the same manner as it has now the monopoly of the postal business, is received with favor, and will, no doubt, at some future day, be adopted, but upon an entirely different plan from that which the Western Union Company is anxious to have carried out. New lines will be constructed of substantial and lasting material at a cost far less than the sum named by the Western Union Company for the purchase of their old worn-out wires and decayed poles.

NOTE.—Since the above was in type the Executive Committee of the Western Union Company have issued a card, denying the truth of the statement, and asserting that no offer to dispose of its lines to the United States or any other party on any terms, has been or will be made while the company continues under its present management. No copy of the circular having been sent to us we can only give its substance as above.

## The Telegraph—Free Trade or Monopoly.

THE *New-York Herald* of last Tuesday, in an excellent article under the above caption, after stating the inception and progress of the telegraph in this country, and noting the changes which have been wrought in every pursuit of life, and especially in the newspaper press, through its agency, says:

"Still the business of telegraphing in the United States is not yet out of its infancy, and our people have yet to experience its full benefit when properly controlled and effectively applied.

"The character of our Government has been one difficulty in the way of a thorough telegraphic system. Lines have been chartered by States and built piecemeal and then bought up and consolidated under a single company at prices largely above their actual value. A monopoly has thus been secured only at a heavy expense, and the necessity of charging correspondingly high rates for messages has induced the parties controlling it to continue to buy up all opposition lines as fast as they have been started, in order to prevent any competition in tariffs. The knowledge that the monopoly must get rid of rivals at any cost has incited speculators to start all manner of "wildcat" lines for the purpose of selling them out at their own figure; and thus the original stockholders of good paying companies have seen their stock watered by means of these constant consolidations and blackmail operations, until their once valuable interest has dwindled away to nothing. Nearly the whole telegraphic business of the country was concentrated some time since by such means as we have described in the hands of the Western Union, and business-men were for a while entirely at the mercy of that company. The cost of construction of the Western Union lines being thus about four or five times as much as they are actually worth, in consequence of repeated outlays to get rid of opposition and the purchase of many valueless lines, the managers of the monopoly have extorted from the business public a tariff about three or four times as high as the legitimate cost of telegraphing ought to be. They have also made repeated efforts to control the daily press of the country, and the association of newspapers for telegraphic news was originally designed for mutual protection against the attempted extortions and abuses of the telegraph companies.

"The public will be glad to learn that there are now successful opposition lines in working order to nearly every point of consequence reached by the extravagant Western Union monopoly, and that there is a good prospect that telegraphic messages will soon be sent from one end of the United States to the other at greatly reduced rates and with far more reliability and dispatch than at the present time. Two or three excellent opposition lines, including the Franklin and Bankers' and Brokers', are working to Washington. The Franklin is rapidly extending its communications east and west; the Atlantic and Pacific Company stretches away to Cleveland and Chicago, touching every point of consequence in this and other intervening States; the Pacific and Atlantic reaches Cincinnati and Louisville from Philadelphia, and connects with an independent Southern line, forming, in conjunction with the Franklin, an admirable line from this city all over the South and Southwest. There

are, therefore, now but few points that cannot be reached by the opposition companies, and all who use them speak in good terms of their reliability, accommodation and dispatch. There is no doubt that we shall soon have consolidated opposition lines all over the United States, and a corresponding reduction in prices that will render telegraphing no longer an expensive luxury and an undue advantage at the command of capital only, but a general method of transacting business such as all men can avail themselves of. The press will also feel the great advantage of a healthy competition, and under its influence will realize the full benefit of a system which is destined to work in the future still greater wonders than it has accomplished in the past."

## Telegraphic Brevities.

THE telegraphic operators have many sins to answer for. These gentlemen have but little respect for names; none whatever for their outside embellishments, for the ornamental apart from the useful. A telegrapher would scorn to transmit a title; not even a "Mr." A Quaker preacher would as soon inquire of colonel, general, or corporal somebody, if the spirit moved him to exhort. Thankful might be THEODOSIA AUBURN if a telegram to her has more than a T for her first name; Doctor POLYANTHUS ESCULAPIUS would feel sublime to find a few more letters beside the P in his baptismal; he would be elevated to the seventh degree in heaven if his medical degree on earth were retained in the dispatch. But the laws of electricity, like the Medean and Persian, are immutable, inexorable. The manipulators are a set of barbarians who would rather burn their fingers with a glass carboy of vitriolic in its wicker basket than spell out a decent Christian name in full or add a collegiate dubbing before it. Hence, no love-letters go over the wires; the insulators never serve to unite the disconsolate and separated, nor speed the soft intercourse from pole to pole along a good working line. For what is a love-letter without a profusion of the "noble CHARLES" or the "charming JULIA"? That's the solid substance of an amatory missive; the rest is surplusage. Simmer down the rest then, Mr. LIGHTNINGROD, as much as you please, but spare every CHARLES, every JULIA, every charming, every noble and generous, at least four or five times in every seven or eight consecutive words. Blooming youths will bless you and cover your moustache with wreaths and garlands; blushing maidens will adore you, and cover the cobwebs in your office, and crown your topknot with vine leaves and red roses. But the wretches are too mean to do it; they are bitter; they deal in acids; their deeds in more than one way are shocking. They have no tumultuous feelings, no gushing emotions, no sense for anything but brevity. Not one of them could spell "bliss" to save himself from perdition; none of their old bottle necks ever gurgled with the sweet sound; none of their gutta-percha rags pendant, and a torment to little birds, small boys and paper kites, ever hummed with it; no message lad copied it on paper in that peculiar hand, a compound of lucifer match dipped in an ink flood of lamp black. In the archives of electrical literature, bliss may in vain be searched for. When the lightning came down from the clouds to fetch and carry compliments and correspondence, flummery gave way before the fulminating rival, and in an excruciatingly graceful bow, with a high-flown speech, expired.

The telegraph, therefore, has materially contributed in cutting off the fine fringing at the edges of names; and the public should be grateful thereat, as we are gratified with its condensing into some ten words, what was in the olden time spread over ten pages. Once the Honorable, the Excellency, the Esquire extorted a religious veneration, a superstitious awe from the multitude; the tail of a comet of the first magnitude was not more grand, mysterious and potential. But since the incoming of the telegraph, and the invention of the greater refracting telescopes, even the tail of a comet can be seen through; and juveniles are no more frightened by its caudal brightness than they were spell-bound by the atmosphere surrounding a civic or military noodle with some sonorous appendages.

WHY is electricity like our police when wanted? Because it is an invisible force.



## PERSONAL.

F. B. GOODRICH, formerly in Western Union office at Omaha, N. T., has accepted a position as agent and operator, Union Pacific Railroad, at Antelope, Wyoming Territory.

DAN MURRAY, from Ohio, has accepted a situation at Dale Creek, D. T.

TONY SANFORD has accepted a situation at U. P. Co.'s office, at Cheyenne, D. T., and is acting train dispatcher. He was formerly from Painesville, Ohio.

BOB TALBOT, from Ohio, is employed at Cheyenne, D. T., by the Union Pacific R. R. Co.

J. B. MURRAY, formerly night operator at Phillipsburg, has been appointed ticket agent and day operator, at New Market, N. J.

C. S. LAMB, formerly of Clarendon Hotel office, Cincinnati, has gone to the main office of the W. U. Company, the former having been closed.

GEORGE EVERETT, a well-known lightning sender, is in Louisville looking for a job.

ED. CREIGHTON, ex-superintendent W. U. line, at Omaha, has a grading contract at Dale Creek, on the U. P. R. R.

D. K. SMITH, superintendent of telegraph, at Toledo, P. & W. Railroad, has been appointed assistant superintendent of the railroad, and has removed to Warsaw, Ill.

MR. HANCHETT, recently in the W. U. Cleveland office, has accepted a position at Leavittsburg, Ohio, on the Atlantic and Great Western R. R. lines.

WILLIAM ORTON, Esq., the president of the Western Union Company, has been admitted to practice in all the United States Circuit and District Courts.

B. F. WOODWARD, formerly manager of Denver, Col., office, and now interested in a line from Denver to Santa Fe, arrived in Chicago on the 25th, on his way East.

HECTOR LITHGOW has resigned his position as assistant train dispatcher, U. P. Railroad, Omaha, Neb., and is succeeded by JOHN E. KNAP, recently at Cheyenne City, D. T.

CHARLEY MONTAYNE has returned from a trip to New-York and gone to Cheyenne City for the U. P. Railroad.

CHARLEY BLOOMFIELD has vacated his position in the Omaha, Neb., office.

H. N. RANKIN, formerly of California State Telegraph, has been appointed operator at Secor, Ill., in place of GEORGE THODE, resigned.

GEORGE L. WALKER, late of T. W. & W. office, Springfield, has accepted a situation in general superintendent's office, T. P. & W. Railway, at Peoria, Ill.

W. R. ALBRIGHT, late of "MS" office, Peoria, Ill., has accepted a situation as passenger conductor, on T. P. & W. Railway, Western Division.

W. A. WALKER, late of Alaska, and Russian Telegraph, has been appointed agent and operator at Elraston, Ill., a joint office just opened by the T. P. & W., and the T. W. & W. Railway Co.

GEORGE HUDDLESTON, of Eureka, Ill., has been appointed operator and ticket agent at Warsaw, Ill.

H. L. BACON, formerly of Warsaw, has gone into the grain trade at La Harpe, Ill.

M. A. BACON, formerly of Homer, Ill., has been appointed agent at Clarksville, Ill., T. P. & W. Railroad.

B. F. BACON, formerly operator at Clayton, has been transferred to Hamilton, Ill.

HENRY W. POPE, who has been for two years past in the Boston office of the W. U. Co., has resigned his position, and taken charge of the Produce Exchange office of the A. & P. Company, in this city.

T. P. NIGHTINGALE, late of the Produce Exchange office, A. & P. Co., takes a position with the Franklin Company, at 11 Broad st.

NEW RAILWAY AND TELEGRAPH PROJECT.—In the Senate on Thursday, January 30, Mr. HARLAN introduced a bill granting aid in the construction of a railroad and a telegraph line from the Union Pacific R. R. to Idaho, Montana and Puget's Sound.

## MISCELLANEA.

TO CORRESPONDENTS.—OPR.—Railroad operators in the State you mention get from forty to fifty dollars per month.

UNPARALLELED TELEGRAPHIC FEAT.—On Saturday Feb. 1, early in the morning, the lines were connected through from San Francisco, Cal., to Heart's Content, N. F., the terminus of the Atlantic cable. The wires used were those of the New-York, Newfoundland and London Telegraph Company and the Western Union Telegraph Company, connecting the extreme points of the continent.

After exchange of the usual complimentary messages, at twenty-one minutes past seven A. M., Valentia time, a message was started from Valentia for San Francisco, passing through New-York at thirty-five minutes past two A. M., New-York time, and was received in San Francisco at twenty-one minutes past eleven P. M., San Francisco time, and its receipt at once acknowledged; actual time occupied being only two minutes. Distance traversed was fourteen thousand miles, though the largest distance worked in one circuit was but five thousand miles, viz., from San Francisco to Heart's Content.

Subsequently the operator at San Francisco transmitted an eighty-word message to Heart's Content direct, occupying three minutes in transmission, which was repeated back by the operator at Heart's Content in two minutes fifty seconds.

TO OPERATORS.—We are requested by Mr. M. L. WOOD, general superintendent of the Atlantic and Pacific Telegraph Company, to say that applicants for positions on the lines under his charge are desired (except when personally known to him) to send with their applications references and letters of recommendation, both as to character and capacity; and also to state what salary is expected.

Such applications will be placed on file and replied to as the requirements of the company may enable him to avail himself of the services of the applicants.

A NEW line is being strung up of galvanized wire No. 9 with BROOKS' last patent insulator, between Chicago and Madison, Wis., via Harvard. Many new poles have been put in to make it a thoroughly substantial line.

ONE of the lady operators in the Milwaukee office recently perpetrated the following: In a message going to Logansport, Ind., care of Chic. and G. E. Ry., she had it Chic. and Gery.

THE UNION PACIFIC R. R. LINE.—The construction company of the Union Pacific Railway, have extended their telegraph line from Carmichael's Station, the present terminus of the road, to Fort Sanders, D. T., a distance of thirty-five miles, with an office half way, at Dale Creek station.

A NOVELTY IN TELEGRAPHING.—MR. MOSES G. FARMER, after numerous experiments, has succeeded in constructing a thermo-electric battery, to be used as a substitute for the ordinary local, but far more economical and convenient. Mr. W. H. REMINGTON, of 109 Court street, Boston, is the manufacturer and general agent. His advertisement may be found in another column of this issue.

THE poem of "Beautiful Snow" was written by HENRY W. FAXON while a telegraph operator at Troy, N. Y. He was afterwards local editor of the *Buffalo Republican*, where he invented the "Silver Snake" story. He finally entered the army, became dissipated, and died.—*Exchange*.

GOT A SHOCK.—Yesterday morning as some of the police were engaged in stretching a flag across Seventh street at Odd Fellows' Hall, Sergeant WALLING, on the roof of the *Intelligencer* Building, took hold of one of the police telegraph wires when a message was being transmitted, and was unable to let go. Fears were entertained that he would fall, but the message having passed he was released from his dilemma safely!!!—*Washington Star*.

TELEGRAPHIC POSTAL COMMUNICATION.—MR. WASHBURN, of Illinois, is busily engaged in perfecting his bill to secure telegraphic postal communication with all parts of the United States. He has already received information from Europe pertaining to this subject, and is daily awaiting more. As he contemplates violent opposition

from the established telegraphic lines, he desires to make his proposed system so complete and desirable that there will be no doubt of its adoption.—*Washington Chronicle*.

EXTRAORDINARY TELEGRAPHIC FEAT.—On the evening of January 30, THOMAS S. A. VALIQUET, of the Chicago office, sent sixty messages, averaging twenty words each, to Salt Lake City in thirty-six and a half minutes. They were received by A. B. HILLICKER. After this the batteries and repeaters at Omaha and Cheyenne City were taken out and a straight circuit formed, and fifty-nine words were sent in two minutes over a line one thousand seven hundred miles in length.

MORE RAPID TELEGRAPHING.—MR. R. J. HUTCHINSON, operator, sent from New-York to Cleveland, Ohio, two thousand five hundred and eighteen words in one hour. The receiver being Mr. LOUIS SOMERS, an operator in Cleveland office, who did not break once during the time, copying the message in excellent chirography on manifold paper.

Of late there has been developed a much greater capacity of the Morse instrument for the transmission of business than has generally heretofore been deemed practicable. These experiments show what the telegraph may be made to do in thoroughly capable and experienced hands.

A NEW PRESS ASSOCIATION.—A general dissatisfaction has prevailed for a long time among the publishers of newspapers throughout New-England with the manner in which they have been served with telegraphic news, and the high prices charged therefor. An interchange of views led to a meeting being held in this city yesterday, at which the subject was fully discussed, and which resulted in the formation of an organization called the Eastern Press Association. All papers connected with this association will be furnished with news over the Franklin line.

This movement will lead to the establishment of news agencies all over the country, and the employment of various facilities for the collection of the news of the day, whereby it is believed the public will be better served than ever before. The organization will apply for a charter of incorporation when the Legislature meets. The officers of the association are: President, A. L. TRAIN, of the New-Haven *Palladium*; Vice-President, A. E. BURR, of the Hartford *Times*; Secretary, M. E. OSBORN, of the New-Haven *Register*; Treasurer, JOHN B. CARRINGTON, of the New-Haven *Journal and Courier*.—*New-Haven Journal*, 28th.

ELECTRICAL THERAPEUTICS.—Monday evening, Feb. 3, a meeting of persons interested in the advancement of medical science, especially that branch relating to electrical treatment, was held at Room No. 24, Cooper Institute. The chair was occupied by Judge BARNARD. The secretary, Mr. W. H. KNAPP, read a series of resolutions embracing the objects and aim of the advocates of the electrical system, after which addresses were made by Rev. JOEL PARKER, D. D., of Newark, chaplain of the Institute; Prof. A. J. STEELE, and others.

WHY is an operator like a message with an incorrect check? Answer. Because one is held for check, and the other is checked for H—l.

THE TELEGRAPH IN CUBA.—A special dispatch from Havana of the 27th says: "A telegraph was to be put in operation between the capitol of the island and Fajardo."

THE BURLINGTON AND MISSOURI RIVER R. R. Co.—This company completed its telegraph line from Burlington, Ia., to Osceola, Ia., on the 28th. The line is being built by the Western Union Company.

PROPOSED TELEGRAPHIC EXTENSION.—A correspondent of the Chicago *Tribune*, writing from Salt Lake City, Jan. 19, in speaking of the newly-discovered gold mines at South Pass City, D. T., says the Western Union Telegraph Company propose building a line in the spring that will connect them with the overland line.

OPERATORS down South amuse themselves by sending messages backwards.

It is said there is an operator out West who breaks so often that a person cannot tell whether he is receiving or SENDING.





SATURDAY, FEB. 8, 1868.

#### TO OUR READERS.

WITH the present number, as was announced in the last issue of THE TELEGRAPHER, the editorial charge is surrendered by Mr. F. L. POPE, who has for about a year past ably conducted it.

The writer, although not entirely without experience in such duties, has assumed the burden reluctantly, and not without misgivings as to his ability to make the paper a satisfactory organ and exponent of the National Telegraphic Union, and a welcome and desired weekly visitor to the members of the fraternity and others who are interested in the telegraph. We do not propose at the outset to raise any anticipations by confident promises and a brilliant programme of what it is expected to accomplish, but prefer that our words and deeds shall speak instead. If we do not succeed in meeting the expectations of the patrons of the paper, it shall not be for want of earnest and industrious effort to that end.

It gives us much pleasure, as it will the friends and readers of our paper, to know that Mr. POPE, while resigning its immediate editorial charge, will yet be intimately associated with us, and will not only contribute regularly to its columns, but will give the benefit of his valuable advice and assistance in its editorial management. It is unnecessary for us to enlarge upon his scientific acquirements and natural abilities as an editor and a telegrapher, for these have been shown through the columns of the paper while it was under his charge, and we are encouraged to hope that the change may not prove detrimental to the interests of the paper, as the combined talents and energies of the past and present editor will be engaged in its service.

We trust that we may meet with that kind encouragement and assistance in our task, not only from the members of the Union, but from the fraternity generally, without which we feel that our labors cannot prove adequately successful. Our friends can aid us much by interesting themselves in extending the circulation of the paper, and by thus adding to its income enable us to expend more money in elevating its character and increasing its attractions. If not the duty, it certainly is for the interest of every respectable telegrapher to unite himself with the National Telegraphic Union, and to subscribe for and sustain the only organ of the practical telegraphers in this country.

#### GOVERNMENT POSTAL TELEGRAPHS.

HON. E. B. WASHBURNE, of Illinois, is said to be perfecting a plan for a Government postal telegraph system, which he proposes to urge upon Congress for adoption at the present session.

Mr. WASHBURNE's well-known energy and earnestness in pressing any project in which he takes an interest is a sufficient guarantee that no possible effort will be omitted to secure the success of this

measure. At the same time there is little probability that he will be able, in the present financial condition of the Treasury, to induce Congress to undertake the establishment of a system which will entail upon the Post-office Department so large an additional expense, especially in view of the fact that, in its legitimate operations, its expenditures already largely exceed its revenues.

Aside from the financial aspect of the question, there are reasons which, upon investigation and mature consideration, will be found conclusive against the proposed assumption of this business by the Government.

However forcible may be the reasons which may be assigned for despotic or monarchical governments assuming the management and control of this great popular system of communication and information, they are inoperative in a republic like that of the United States. It is not the province of the Government to supervise or control, except in so far as paramount and legitimate popular and governmental interests may require, any branch of business which can be carried on by private enterprise. The propriety and advisability, even of governmental administration of the postal business of the country, has been seriously, and not without a good share of reason, questioned. It is the firm belief of many who have investigated the matter, that, if thrown open to private enterprise, the postal business of the country would be better and more satisfactorily done than it is under the present system. It is not designed at this time to discuss this question, but the propriety of any extension of the powers and duties of the Post-office Department may well be questioned.

The argument upon which this movement of Representative WASHBURNE, and previous efforts in the same direction, is founded, is; that it would result in a more general extension of telegraph facilities, and insure the transmission of dispatches at rates greatly below those at present exacted by the telegraph companies. It may well be contended that the establishment of active and energetic competition in the telegraph business of the country will insure as rapid an extension of facilities as its necessities may require, and insure such reasonable rates of transmission as experience may prove to be possible, with a due regard to the interests of the employés and reasonable remuneration to the capital employed.

Such competition is rapidly springing up, and there is a reasonable prospect that the close of the next season will witness the extension of competing lines to the principal important points of the country not as yet covered. Arrangements are now being perfected to accomplish this, and it is to be hoped that Congress will not take any action calculated to prevent or retard the success of these enterprises.

Another argument against Mr. WASHBURNE's project, and one which is likely to prove insurmountable, is that, in the hands of the Government, as a monopoly, which it must be necessarily, the telegraph will unavoidably become a great political machine, not only adding to an already too great amount of patronage, but giving to whatever party may be in power a supervision over telegraphic communication which would debar its opponents from its use in the transmission of political dispatches. This would be the inevitable result, as any one conversant with the telegraph business must know, however care-

fully it may be attempted to be guarded against. Business-men know how difficult it is, even under the present system, to insure proper privacy in regard to important messages, as is sufficiently demonstrated by the elaborate ciphers used in the transmission of such dispatches. In the hands of Government officials more or less interested in the retention of their party in power, their opponents would exhibit more folly than usually characterizes shrewd politicians, if they exposed their secrets to their political opponents. Telegraphers know to what an extent the telegraph is used and how important a part of its patronage comes from political correspondence during an active and exciting political campaign, at least one-half of which would be lost were the telegraph controlled by the Government.

This subject involves too many important considerations to be properly presented within the limits of this article; and other objections to the measure, and its bearings upon telegraph employés and the interests of the large amount of capital already invested in this business, and which is constantly being increased, will hereafter be discussed, should Mr. WASHBURNE persist, as he probably will, in bringing his project before Congress.

#### RESIGNED.

MR. EDWARD CHAPMAN, auditor of the W. U. Telegraph Company, has resigned his position. Mr. CHAPMAN's connection with the telegraph business commenced soon after it was introduced, and has been continued in various positions, all of which he has creditably and acceptably filled to the present time.

The following complimentary resolution was passed by the Executive Committee on accepting his resignation:

*Resolved*, That in accepting the resignation of Mr. EDWARD CHAPMAN, as auditor of the company, it is due that this committee should express to him, on behalf of the company he has so long usefully and faithfully served, its regard and esteem for him as a man and an officer, and to assure him of our official and personal satisfaction with the ready and intelligent discharge of the varied and important duties from time to time entrusted to him, and of our implicit confidence in his fidelity and integrity, and of our regret, that the need of less laborious and exciting cares requires a severance of relations so pleasant and agreeable. O. H. PALMER, Sec.

#### A MISTAKE CORRECTED.

M. L. WOOD, Esq., formerly superintendent of the United States Telegraph Company, and one of the most excellent of men, has been appointed general superintendent of the Atlantic and Pacific Telegraph Company. Some time ago we saw his name mentioned as president of a Co-operative Telegraph Company, an enterprise, we suppose, now abandoned.—*Journal of the Telegraph*.

We think that in the last sentence of the above the wish is father to the thought. We do not understand that Mr. Wood's acceptance of the position of general superintendent of the Atlantic and Pacific Company, involves the abandonment of the co-operative enterprise. On the contrary, as we were authorized to state in our notice of his appointment, the objects of the co-operative organization will be advanced rather than retarded or abandoned in consequence of his connection with that company.

INSURANCE.—In answer to many inquiries, we will state that the policies of persons insuring in the Insurance Bureau of the N. T. U., remain good so long as their dues are promptly paid. Withdrawal from the telegraphic business does not of itself invalidate the insurance.







Superintendents and Managers

OF RAILWAY TELEGRAPH LINES.

Atlantic and Great Western.....
Atlantic and Pacific..... R. C. Clowry, St. Louis.
Albany and Susquehanna..... S. E. Mayo, Albany, N. Y.
Alleghany Valley..... T. B. A. David, Pittsburg, Pa.
Baltimore and Ohio..... A. G. Davis, Baltimore, Md.
Buffalo and Erie..... John Desmond, Buffalo, N. Y.
Burlington and Missouri Riv... C. E. Yates, Burlington, Iowa.
Camden and Amboy..... Robt. Stewart, Bordentown, N. J.
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Our friends throughout the country are particularly requested to inform us of any necessary additions or corrections in the above list.

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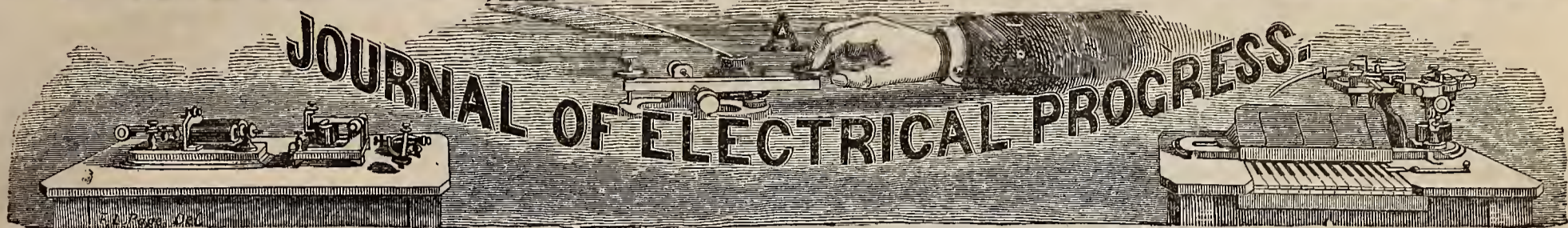
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# THE TELEGRAPHER.



Vol. IV.—No. 25.

New York, Saturday, February 15, 1868.

Whole No. 83.

## On a Resistance Measurer.

BY C. W. SIEMENS, F. R. S.

For the measurement of small resistances, the method formerly employed was that of the tangent galvanometer, which method is still valuable in the determination of resistances which are inseparable from a difference of electric potential, such, for instance, as a galvanic element.

In measuring wire-resistance, more accurate and convenient methods have been devised, amongst which that of the common differential galvanometer, and that known as WHEATSTONE'S balance, hold the most prominent places.

But both these systems have disadvantages which render them insufficient in a great many cases. For instance, in the first method a well-adjusted variable-resistance-coil is necessary, which, if the method is intended to be applicable between wide limits, will have impracticably large dimensions. The bridge method, though very beautiful, requires three adjusted coils, and frequently gives rise to calculation, which renders it unavailable for unskilled operators. The sine method, which is the most suitable for measuring great resistances, requires even a superior amount of skill and mathematical knowledge on the part of the operator. Many years experience of these methods made me feel the want of an instrument which would, by its simplicity of construction and ease of manipulation, be capable of employment by an unskilled operator, with a degree of correctness equal to that of the bridge method.

The conditions upon which such an instrument could be successful, appeared to be the following:—

1. The employment of a zero method, by which the galvanometer-needle would always be brought to the direction of the magnetic meridian or the same given point upon the scale, and, therefore, be independent of the unknown function of the angle of deflection.

2. The readings to be made upon a simple lineal measure divided into equal parts signifying equal units of resistance.

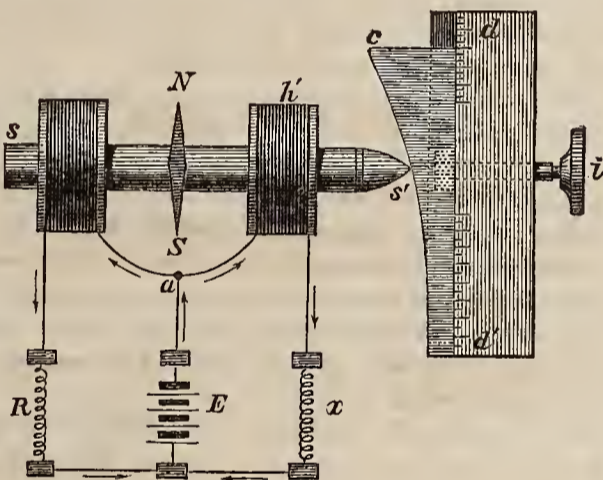
3. The employment of a single and unalterable comparison-resistance.

The apparatus constructed to fulfil these conditions is represented by the following diagram:

Two equal and parallel helices,  $h$  and  $h'$ , are fixed upon the common slide  $s s'$ , which moves in the direction of its length between guide rollers. This motion is effected by the end  $s'$  armed by a facing of agate, which presses against the face of the metal curve  $c$ . The latter is fixed upon a slide moving in a groove in the rule  $d d'$ , at right angles to the direction of  $s s'$ . The curve is moved in the direction of  $d d'$ , by means of a milled head  $i$ , on the axis of which is a pinion gearing into a rack underneath the straight edge of the curve  $c c'$ . The rule  $d d'$  is graduated into equal parts; and opposite to the divisions is a nonius up the straight edge and the curve

to divide each degree into ten parts. Whenever the milled head  $i$ , therefore, is turned, the position of the curve is altered; and as the point  $s'$  of the bobbin-slide is pressed against it by means of a spring, the bobbin follows it in all its movements.

The wires of the two bobbins are connected together, in the common point  $a$ , with the pole of a galvanic battery  $E$ , the pole being connected with two resistances  $R$  and  $x$ , and through these with the other ends of the galvanometer-helices. The resistance  $R$  is made constant, and adjusted, so that when  $x=0$  the index of the curve stands exactly opposite the zero of the graduated scale  $d d'$ , the unknown resistance being represented by  $x$ .



It is evident that the resistance in the bobbins being equal, as also their dimensions and initial magnetic effects upon the needle suspended between them, if we make the resistance  $x$  equal to  $R$ , the currents in the two branches will be equal, and the magnet-needle therefore balanced between them only when the helices are equally distant from it. Should, however, either of these resistances preponderate, the strength of current in that branch will be lessened; and in order to re-establish the balance it will be necessary to shift the bobbins, approaching the one in which the weaker current is circulating towards the suspended magnet.

The instrument is erected upon a horizontal metal table standing upon three levelling screws. The bobbins, with the suspended magnet, and dial-plate for observing the deflection and zero of the pointers, are contained in a glass case with glass cover, supported by four brass pillars. The instrument is supplied with terminals for the battery-connections, and a current-breaker for interrupting the battery-circuit. Opposite to these are four terminal screws for receiving the ends of the resistances  $R$  and  $x$ , with contact-plugs between them in order to quickly establish a short circuit in case the operator should be in doubt towards which side he has to move the adjusting-curve. Two constant resistances accompany the apparatus— $R$  that which is used during the

measurement, and  $a$ , a resistance of known value, which is introduced between the terminals  $x$ , in order to enable the operator for his own security to make a control measurement by which he may convince himself of the adjustment of the instrument at any time. Another purpose of this resistance is to facilitate the re-adjustment of the zero-point, in case the galvanometer should at any time be cleaned or a new silk fibre put in.

In constructing the sliding curve of this instrument, it might be determined by calculation from the formula given by Weber for the deflection effect of a circular current of known dimensions upon a magnetic point, and from the given distance of the coils from each other. I prefer, however, in practice to determine the curve of each separate apparatus empirically, because it is not possible to coil a helix mathematically true, or to set it, when coiled, absolutely at right angles to the plane of its horizontal motion.

In the determination of each curve I use a delicately adjusted rheostat or scale of resistances in the circuit of  $x$ , giving it varying values corresponding to the equal divisions of the engraved scale, and constructing the curve according to the position which it is found necessary to give to the point  $s'$  in order to arrive at the magnetic balance. With each instrument it would be possible to have two values of  $R$ —one expressed in mercury and the other in B.A. units; and in order to measure at pleasure in either of these units, it would only be necessary to insert the one or other between the terminal screws for  $R$ .

The instrument has been found to be very convenient for the measurement of the wire resistances of overland lines, or for the reading of resistance thermometers; it reduces the operation to the observation of the zero position of a needle, and the reading upon a graduated scale, which can be performed by a person of ordinary intelligence without experience in electrical measurement. In accuracy and range it fully equals the bridge method, while as regards portability and cheapness of apparatus, the advantages are decidedly in its favor.

[We are under obligations to D. BROOKS, Esq., of Philadelphia, for the above interesting paper, which is now published in this country for the first time. It was presented to Mr. BROOKS during his recent visit to Europe, by the author, Mr. C. W. SIEMENS, the distinguished electrician.—*Ed. Telegrapher.*]

**SOMEWHAT CHILLY.**—One of the telegraph explorers in Alaska has traveled 400 miles on snow shoes, when the thermometer's range was from forty to eighty degrees below zero.

**ADDITIONAL FIRE ALARM TELEGRAPH FACILITIES.**—At a recent meeting of the Metropolitan Board of Fire Commissioners of New York City, a resolution was adopted, requesting the Committee on Telegraphs to submit a plan of telegraphic communication of fire alarms between the towers and apparatus houses in the upper portion of the island.



## 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.*

## Letter From the Plains.

SIDNEY, DAKOTA, January 7.

TO THE EDITOR OF THE TELEGRAPHER.

THINKING you would be pleased to hear from the Far West and the Union Pacific Telegraph, I take this opportunity of giving you a few items which might be of interest to the readers of your valuable paper. The Union Pacific Road is in operation to Cheyenne, 515 miles west of Omaha. There are about thirty-five telegraph offices on the line, and the number of operators employed on the whole line is about seventy. Two operators are employed at each way station; three at North Platte repeating office, and four at Omaha and Cheyenne, in the despatchers' offices.

The line is under control of Mr. H. H. COOK, an efficient and gentlemanly Superintendent. The operators at way stations act as agents for the Express and R. R. Co. The Indians have caused no trouble with the line in some time, and probably will not before spring.

Mr. COOK was presented with a beautiful gold watch, a few days since, by the employees, as a testimonial of their respect, &c. The Union Pacific Company intend building 250 miles of road next season. Their road is at present extended to Dale Creek, thirty miles west of Cheyenne, but not for business.

Will write again anything of interest. I see the TELEGRAPHER circulated through the country quite extensively.

ANON.

## Telegraphic Changes in Cincinnati.

CINCINNATI, O., Feb'y 4.

TO THE EDITOR OF THE TELEGRAPHER.

THE following changes have taken place in this city since you were last informed on the subject.

H. L. SMITH, late of the W. U. Office, retired on the 1st inst. JACK BEEMER, late of W. U. Co.'s Cincinnati Office, and C. C. ROBINSON, late same Co.'s St. Louis Office, exchanged situations the first. JACK returns to his old position on night report, at St. Louis. M. B. GRAHAM, late P. & A. Co., this city, accepted situation in W. U. Office the fourth.

LUCIUS SHELDON, late of Louisville, accepted situation in P. & A. Office, third, vice GRAHAM resigned.

WM. PENDERY, of P. & A. Co., was re-instated in Burnet House Office, the first, vice C. D. TULL resigned.

GEO. SCUTHELL, late P. & A. Co.'s Brighton House Office, took charge same Co.'s Spencer House Office, the first, vice FRANK UNDERWOOD discharged. CHARLES CLARK, late messenger boy, took charge P. & A. Co.'s Brighton House Office, the first.

K.

## Another Telegraphic Feat.

CHICAGO, Feb. 7.,

TO THE EDITOR OF THE TELEGRAPHER.

IN compliance with a request from Mr. E. D. L. SWEET, Superintendent, to Mr. A. WELLER, Manager of the Milwaukee Office, to ascertain, by experiment, as to the length of time it would take to send 2,500 words from Milwaukee to St. Paul, Minn., over a line 400 miles in length, an attempt was made on the evening of Feb. 1st.

The matter sent was Congressional news, and it occupied just one hour. Mr. E. M. SHAPE, of Milwaukee Office, sent it, and it was received by Mr. EDWARD CURRY, Manager of the St. Paul Office. MESSRS. O. C. GREENE

and F. B. JILSON were time-keepers. The copy has been furnished for inspection, and is neatly and plainly written. The highest average rate of speed attained for any consecutive five minutes was forty-three words in the space of one minute. The fact was easily accomplished without any extraordinary exertion. Mr. SHAPE was out of practice, and expects to beat this time in another trial, which will soon take place.

— — — BLANK.

## The Western Union Co. and N. Y. Herald.

TO THE EDITOR OF THE TELEGRAPHER.

I have noticed the comments of the *Herald* and its Washington correspondent, upon the offer of the Western Union Telegraph Company, to sell its property to the Government for sixty millions of dollars. There is one phase of the question which the *Herald* has overlooked. The Western Union Company, some time since, filed its acceptance of the provisions of the National Telegraph bill under which the Government has the right to take the property of the Western Union Company at an appraisal to be made by one agent on the part of the Government, one on the part of the company, and a third to be selected by these two. It would be hardly safe for the Government to trust so large a job to three men—the chances for bribery would be too great, but we suppose that an appropriation would be necessary after the referees had fixed upon a price, and the whole matter would come before Congress. If any such sum as sixty millions should be fixed upon, it would afford ample margin, as the *Herald* suggests, for the Western Union Company to buy up the lobby, and to secure every member of Congress who might be willing to accept a retainer.

But the country cannot afford, and will never submit to such a swindle, and we do not believe that there are many members of Congress who would dare face their constituents after favoring such an enormous fraud.

Competition, existing and prospective, in the telegraphic business, has removed the best argument in favor of interference on the part of the Government, and if business men and the public generally, will bestow their patronage judiciously, they will secure for themselves, without government intervention, all that they have a right to expect, viz., promptness, reliability and fair rates.

WILLIAM.

CHICAGO, Feb'y 7th.

TO THE EDITOR OF THE TELEGRAPHER.

Mr. JAMES F. LEONARD, to whom you allude in your paper of the 25th ult., was well known to me, as I was associated with him as his assistant on the Southern Lines, at Louisville, Ky., when he was in charge there.

In Mr. LEONARD were combined rare qualities. As a telegrapher, he stood at the head of the profession in the Southwest, and was held in high estimation by Dr. GREEN and Mr. GEORGE L. DOUGLASS, who were the executive officers of the Southern Company. The fact that the salary paid him, was nearly double that paid by other companies, at that time, to persons occupying similar positions, is sufficient evidence of the estimation in which his services were held by those for whom he labored.

In addition to his abilities and acquirements as a man and a telegrapher, he possessed excellent moral and religious qualities, and was, in my opinion, and that of others who were intimately acquainted with him, a sincere Christian.

When the war broke out, Mr. LEONARD, who was a Southerner, who was born and grew to manhood in the vicinity of Frankfort, Kentucky, espoused the cause of the South, and died in the Confederate service, at Columbus, Miss., in the first or second year of the war. His memory is still cherished by all who knew him.

L.

## MISCELLANEA.

A CHANCE FOR GIRLS.—A Denver (Colorado) paper says that a thousand Yankee girls could get good husbands and homes in Colorado before Spring.

NEW TELEGRAPH LINE—FLUSHING.—The entire amount necessary for the erection of the telegraph line between New York, College Point, Whitestone, and this village, has been subscribed, and work will be commenced as soon as the frost is out of the ground.

A GOOD IDEA.—The San Francisco, California, papers publish a daily list of "Telegrams Unknown."

PROPOSED SPANISH-AMERICAN CABLE.—The Spaniards are moving for an Atlantic Cable of their own. The tenders have been invited for a line running to the Canaries, thence to Porto Rieo and Cuba, and then to Mexico, Panama, and South America.

ADVICE GRATIS.—A very funny bull was perpetrated between here and a place not a hundred miles east of Buffalo, a few weeks ago. The original message read as follows: "Do nothing about the hotel. Will write." It was received and delivered as follows: "Do not hang about the hotel. Will write." Fancy his pheelinx upon receiving that advice by telegraph.

Why is the Milwaukee office a desirable place to work in? Because they have "Tom and Jerry" there every day.

PROPOSED NEW TELEGRAPH LINE.—CHEAP CONSTRUCTION.—Mr. M. A. WHERRY, Superintendent M. & T. Telegraph Company, proposes, through the *Dallas* (Texas) *Herald*, to construct a line from Tyler to Canton, Kaufman and Dallas, Texas—a distance of one hundred miles—for ten thousand dollars, and give bonds, with three good sureties, to put up and finish within a specified time a first-class line of Telegraph over the route. We think that the people in that section had better accept the offer, for contractors don't generally do work at such reasonable rates.

TELEGRAPHIC LEGISLATION.—A bill has been introduced in the Wisconsin Legislature, now in session at Madison, taxing Telegraph and Express Companies three per cent. on gross receipts. A bill will also be introduced in the Minnesota Legislature to prevent telegraph companies from making exclusive contracts with newspapers for press reports.

TO DISTRICT DIRECTOR, ST. LOUIS.—Mr. JAMES H. MULLEN, of Salina Station, U. P. R. R., E. D., writes us that since July last, he has applied several times to get a transfer from the St. Louis to the St. Joseph District, but has failed to do so, and wants us to inform him whether the N. T. U. is defunct. We would call the attention of the District Director at St. Louis to this matter.

THE ATLANTIC TELEGRAPH COMPANY.—The Atlantic Telegraph Company announce an extension of the time for receiving applications for shares in the proposed new ten per cent. capital, with which it is designed to buy up the Anglo-American shares.

TELEGRAPH EXTENSION.—The Atlantic and Pacific Telegraph Company has completed its lines to Cleveland, Ohio, and opened offices at Erie, Pa., Dunkirk and Westfield, N. Y., and Ashtabula, Ohio. The Company has made arrangements to transmit business to Detroit, Chicago, Milwaukee, Toledo, St. Louis, and all points west. The Montreal Line has consented to take Atlantic and Pacific Company messages, which puts the latter in communication with Ogdensburg, Watertown, Adams, Mexico, Montreal and all points in the Canadas.—*Syracuse Journal*.

CONUNDRUM.—What is the difference between a butcher and a plug operator? One markets the bulls, and the other bulls the markets.



**A VARIABLE CLIMATE.**—One hundred and twenty-six degrees of difference in the temperatures of Sparta, Wisconsin, and Key West, Florida, on Monday. At the former place, the mercury was at fifty-nine degrees below zero, and at the latter place it was at seventy-five degrees above zero.

**DEATH OF SIR DAVID BREWSTER.**—The telegraph brings us intelligence of the death of Sir DAVID BREWSTER, in London, at the age of 87 years. He was born at Jedburgh, Scotland, in the year 1781. About the year 1808, his attention was first directed to optics, and he independently made several discoveries in regard to the polarization of light, which were also made by MALUS and ARAGO. From 1813, his contributions to the London and Edinburgh philosophical transactions contain the records of many of the most brilliant of modern discoveries in optics. He made many experiments on the absorption of light in passing through various media. These led to many similar results. Other sciences also claimed his attention and contributions—more particularly thermotics and meteorology. Our little as well as our large people will regret his loss the more sincerely upon learning that he was the inventor of the Kaleidoscope. His fame was augmented as an author by a "Life of Sir ISAAC NEWTON," and an "Elementary Treatise on Optics." He labored twenty-two years on the Edinburgh Encyclopedia, which was completed in 1830. He was, also, from 1824, the editor of the Edinburgh *Journal of Science*. The world can ill afford to lose such a man, even at his advanced age.

**AN IMPOSITION DISCOVERED.**—The *Moniteur Scientifique* asserts that one of the exhibitors at the late Paris Exhibition obtained a prize from the commissioners for an instrument which has been known for the last two hundred years, as an original invention. The exhibitor in question is Father SECCHI, the well-known Jesuit professor of Rome, and the instrument (which he called "metereograph") sent by him to the exhibition, gained him the first prize and the cross of an officer of the Legion of Honor. Soon after these honors were awarded to Father SECCHI, some scientific men examined the "metereograph," and found that it was simply a copy of Morland's steel-yard barometer, which was presented by its inventor to Charles II. in the seventeenth century.

**THE TELEGRAPHERS' ASSEMBLY.**—The annual assembly of the telegraphers of this city took place last evening in Fraternity Hall. The adjectives commonly used in describing occasions of this kind will hardly do justice to this particular assembly. It was not exceedingly brilliant, nor probably the most successful ball of the season as the term is generally understood; but it afforded much enjoyment and little embarrassment; social intercourse, without excessive etiquette; excellent music with none that was indifferent, and a refreshing display of general good nature, which rendered it as pleasant as an assembly can be made. The fraternal feeling which exists between the members of the press and their co-operators was manifested in the presence of quite a number of gentlemen of the note-book persuasion, who shared in the pleasures of their telegraphic friends. As it must be a matter of justifiable pride to have conducted an affair of so much enjoyment, it should be stated that the following named gentlemen deserve the credit: Floor director—J. E. WRIGHT. Aides—A. B. ROGERS, M. F. ADAMS, E. G. McELENNEY, M. F. GILLRAIN, J. A. MCGEE, J. J. A. GILLRAIN. Reception Committee—T. A. DAVIN, D. C. ROBERTS, E. F. LEIGHTON. Music—Edmands' band.—*Boston Advertiser*.

**A HEALTHY BULL ON SOMEBODY.**—In the Associated Press report on the evening of the 3d, in relation to the Alabama claims, the following words occurred: "The tergiversation of Secretary SEWARD will no longer avail." It was published in the Davenport *Gazette*, "the forgiving action of Secretary Seward," &c.

**A PACIFIC CABLE.**—We are to have another ocean telegraph. A dispatch from San Francisco states that a cable is to be at once laid in the Pacific.

**A GOOD SUGGESTION.**—There are contrivances for turning gas on and off by electricity; lighting any number of burners at the same instant of time. By connecting this with the burglar-alarm telegraph, the opening of a door or window would set the bells ringing and light all of the burners in the house at the same instant.

**WISE PRECAUTION.**—Hereafter no two trains are to enter the Bergen cut, on the Erie Railroad, at the same time. At each end of the cut, telegraph stations have been established; when a train is approaching the tunnel, its arrival is immediately telegraphed to the other end, where a signal man is on duty to stop all trains from entering until the one just signaled has passed through.

**MORE OCEAN CABLES.**—The bottom of the ocean will soon be as extensive a means of human intelligence as the top of it. The Emperor of France is about to have his submarine cable to the island of St. Pierre and New York; the Government of Queen Isabella is also about laying down a cable to Cuba and Porto Rico by way of the Canaries; and now we hear of another projected line to lie between Brest and New York. The latter is organized by a Franco-American Company with a capital of a million sterling—the stock and direction to be divided between England, France and this country. The English share of the stock is said to be already subscribed. This company has received valuable concessions from the French Government, and the line will be laid next summer, very probably.

**VALUABLE STATISTICS.**—The Commissioner of Railroads and Telegraphs has, in the comparatively short time since his office was created, made thorough investigation of the history, cost, construction, management, &c., of the various lines within the State. The collection and arrangement of these facts, in accessible form, is in itself of very great value, and not only affords a reliable basis for legislating upon this important class of interests, but exhibits to the world the most authentic evidence of the extent to which great public improvements have been carried in Ohio. The practical suggestions of the Commissioner upon the many delicate and intricate questions arising between the people and these useful corporations, are worthy of the most careful consideration.—*Annual Message of the Governor of Ohio*.

**DEPTHS OF THE SEA.**—A French journal says that the soundings for the new trans-Atlantic cable have enabled comparisons to be made of the depths of the different seas. Generally speaking, they are not of any great depth in the neighborhood of continents. Thus the Baltic, between Germany and Sweden, is only 120 feet deep; and the Adriatic, between Venice and Trieste, 130 feet. The greatest depth of the channel between France and England does not exceed 300 feet, while to the southwest of Ireland, where the sea is open, the depth is more than 2,000 feet. The seas to the south of Europe are much deeper than those in the interior. In the narrowest part of the Straits of Gibraltar the depth is only 1,000 feet, while, a little more to the east, it is 3,000 feet. On the coast of Spain, the depth is nearly 6,000 feet. At 250 miles south of Nantucket, no bottom was found at 7,000 feet. The greatest depths of all are to be met with in the Southern Ocean. To the west of the Cape of Good Hope, 16,000 feet have been measured, and to the west of St. Helena, 27,000. Dr. YOUNG estimates the average depth of the Atlantic at 25,000 feet, and of the Pacific at 20,000.

**MISPLACED CONFIDENCE.**—A suburban amateur horticulturist read in the papers that seeds planted one day and electrified or galvanized, would produce fruit the next. He fixed up a battery and shocked the germs, but he got no cucumbers. It was a consolation, however, to ascertain that the scientific paragraph was a lie.

**ATLANTIC AND PACIFIC TELEGRAPH COMPANY.**—This line is now in complete working order between this city and New York, with offices at all the intermediate points.

It also connects directly with Eastern and Southern telegraph lines to all important points in the New England and Southern States.

The rates of telegraphing as fixed by the Trustees are from twenty to twenty-five per cent. below those which the public have been paying for several years past. These rates are considered reasonable and fairly remunerative. It is hoped the business public will sustain the enterprise by their patronage, and not allow one company to monopolize the telegraph business.

The offices of this company in this city are at 84½ Bank street, (under Kennard House,) and Oviatt's Exchange.—*Cleveland Herald*.

**REMOVAL OF THE MEDINA POST OFFICE.**—The Medina Post Office has been removed to the North room in Kearney's New Stone Block. The front portion of the room will be used by Mr. A. PARMALEE as a News Depot, while the rear part has been neatly and tastefully fitted up for the Post Office and Telegraph Office. When the repairs are entirely completed, we think the location, as well as the whole arrangement of the room, will give very general satisfaction.—*Medina (N. Y.), Times*.

**WHAT THE ATLANTIC CABLE COULD HAVE DONE.**—The author of a French work on submarine cables, M. DE ST. MESSERIM, gossiping pleasantly concerning the usefulness of the Trans-Atlantic telegraph, writes the following anecdote:—"In 1861, when nearing the Isle of Cuba, the American vessel *San Jacinto* captured an English mail-boat. The British Government demanded satisfaction, and, in view of the possibility of war with the United States, made immense preparations. Twenty-five days were required for the exchange of diplomatic notes. During that time, quite a panic arose, and England expended in making ready for war about £250,000 sterling. At length President LINCOLN'S reply was received, and set forth that the United States were desirous of avoiding strife. A dispatch by the Atlantic Cable would have averted the panic, and prevented an outlay of a quarter of a million of pounds."

**TO CORRESPONDENTS.**—S. C. R.—The matter you refer to was inadvertently published. We intend to exclude such from our columns as rigorously as it has been done in the past.

J. J. B. F.—The proprietorship and management of the line you refer to is a matter of considerable doubt: but we have been informed that it was under control of the Western Union Company. Superintendent's name, if it has any, not known.

N. W. O.—Your favor, entitled "Electric Influence," is unavoidably crowded out. Will insert soon.

J. M. S.—Communication from "ANON" will give you information you request in regard to Union Pacific R. R.

ALBION M. SMITH, now at White House Station, Huntingdon County, Pennsylvania, was the operator at Kellyville P. O., Delaware County, Pennsylvania, a year ago.

#### BORN.

On 31st ult., a son to Mr. D. T. FRANCIS, Manager W. U. Telegraph Office, at Erie, Pa.

#### DIED.

At Erie, Pa., on 8th inst., Mr. CHARLES DUGGAN, aged 18 years. He had been employed for nearly three years on B. & E. R. R. Line, but was obliged to discontinue his labors some two months ago, in consequence of consumption. He was much liked by his fellow operators, who will grieve at his loss.

In Troy, N. Y., on the 6th inst., of consumption, HENRY P. JONES, aged 25 years, book-keeper for the American Telegraph Company, in the Albany and Troy offices.





SATURDAY, FEB. 15, 1868.

### THE NATIONAL TELEGRAPH UNION.

We would once more urge upon those employed in the duties of practical Telegraphy, the importance of connecting themselves, as active members, with the National Telegraph Union. While the accessions to membership in the Union have of late been very encouraging, and of the best material, it is of the first importance that all who have the good of the profession at heart, and who desire to elevate its character should, without delay, seek admission to the organization.

There seems to be on the part of many usually intelligent and well informed Telegraphers, a strange misapprehension of the character and purposes of the Association, and a supineness in regard to it, which prevents them from personally interesting themselves in its welfare. This should be dissipated, and every present member should make earnest efforts to secure the membership of every person connected with the Telegraph business, whose participations in its councils is likely to prove beneficial and desirable.

It is too true that the Telegraphic profession embraces some who are of no credit, but rather a disgrace to themselves and the noble profession with which they are unfortunately connected; but the proportion of this class in the business is very small, and they are so well known to those more immediately associated with them, that, with proper care, they may be excluded from our ranks. With this exception, the Union should include all who are eligible under the Constitution, and we hope to see a general and earnest effort to induce them, without further delay, to join hands with those who thus far, in good report and evil report, have sustained the organization and brought it to its present state of efficiency.

We frequently hear of operators complaining of this, that, or the other thing, in the management of the Union, and say if matters were thus and so they would be glad to join. Such complaints and fault finding are worse than idle. The Union is pre-eminently a democratic organization, controlled in its policy by the majority, and if any are dissatisfied with the present management, they have it in their power, by personal and united action within the Union itself, to alter it. We do not believe that any serious cause of complaint exists in reference to the past or present management of the Union. It is an association of Telegraphers for mutual benefit, and we believe has already proved of great advantage to the fraternity. That some mistakes may have been made in the past is very probable—no human institution is perfect,—but that it is and has been honestly conducted with a view to carrying into effect the purposes which underlie its organization, there can be no doubt.

Had it no other result, the fact that it has succeeded in establishing and maintaining an organ in which the views and interests of the profession can be presented—in short, affording a means of communication between the Telegraphers themselves, and their employers and the public, would warrant all the labor and sacrifices which have been bestowed upon it. It is only by maintaining the organization that this paper can be sustained, and every additional member of the Union and every additional subscriber increases its stability and efficiency.

Besides this, the Union is a bond of brotherhood between the members of the profession, which is of incalculable value. Through connection with it the profession are enabled to become more intimately acquainted with each other and more generally interested in each other's welfare, and a brotherly feeling is created and sustained, which, whether in prosperity or adversity, cannot but have a most beneficial influence. Membership in the Union, and, whenever possible, attendance upon the District meetings, we sincerely believe to be of the utmost importance. Will not every one who reads these lines and who is already a member of the Union, realize his duties and responsibilities as such, and use his utmost endeavors to induce those of his acquaintance, qualified for membership, and who are as yet outside of it, to connect themselves with us without further delay? And will not those to whom we may perchance address our appeal and who have heretofore neglected to enrol themselves among us, without further urging, take the necessary steps to enable them to participate in the councils and benefits of the N. T. U.?

Whether our ranks are generally recruited or not, the Union will be maintained, and is already an assured success. But its efficiency and value can be greatly increased if the profession generally personally interest themselves in it.

The Union has no hostility toward any Telegraph Company. Its members serve all the different companies, and to that extent it is interested in the success of all. While in the interests of its members, the profession generally, and the public, it regards as essential, competition in the Telegraph business, so that no one corporation shall have the power to dictate the status, compensation and privileges of those dependent upon it for support, neither the Union nor its organ is disposed to wage war upon any corporation, but rather desire to witness the success of all, realizing the fact that the prosperity of the employer and employed is mutual and indivisible.

### The Atlantic Telegraph Companies.

The Directors of the Atlantic Telegraph Company propose to buy out the interests of the Anglo-American Telegraph Company, and to pay off the indebtedness of the concern. This is the statement sent over the cable, and it shows a revival on the part of the dead equal to a resurrection. The Atlantic Telegraph Company was formed in 1856, of American and English stockholders. Under its auspices the cable of 1857, which broke before it was carried across the Atlantic, was partially laid. It forwarded the arrangements for the laying of the cable of June, 1858, which was unsuccessful. It was the cause of the laying of the cable of August in the same year, which was fully accomplished, but gave out in a very short time, under the management of De Sauty. The cable of 1865, which was partially laid and lost, was also prepared under the direction of the same company, and when the corporation ceased from its labors in that year, it had expended six millions of dollars to no purpose. When it was proposed, in 1866, to try it again, the Atlantic Telegraph Company was exhausted, and the stockholders did not feel much like "throwing good money after bad." They, therefore, agreed that a new company, the Anglo-American Telegraph Company, should be formed, in order to conduct the enterprise, and the latter made a bargain with the Telegraph Construction Company, which was also brought into the effort, for the manufacture of the cable, &c.

It might have been thought, and was supposed, that the Atlantic Telegraph Company had retired from any connection with the new cable, and the Anglo-American Telegraph Company was believed to be owner of the cable. But it must have been that the original Telegraph Company reserved a right to take the work in case of success; and now that time has demonstrated the profit-

able character of the work, the original improvers have determined to resume the gains which would have been theirs had they kept on without being weary of their endeavors. A good large sum of money, £1,300,000, will be wanted, in order to enable the old corporation to resume the direction of the property. It will be sufficient to pay off present liabilities; but in order to make the business thoroughly profitable, it should be sufficient to pay a fine profit in double that sum, because the expenditures, previous to 1866, were constant and hopeless losses.—*Philadelphia Inquirer.*

### The "Herald" and the Western Union Company.

The *N. Y. Herald* still continues its criticisms on the management of the Western Union Telegraph Company. In reply to the denial of the officers of that Company that its lines have been offered for sale to the Government, or anybody else, and their assertion that they will not be, while under the present management, it asserts that prominent stockholders not in the management are trying to engineer the job, though doubtless without the knowledge of the present executive officers. The *Herald* further intimates that the management of the Company is likely to be changed at the next annual election.

In connection with this matter, the communication in another column from "WILLIAM" will be read with interest.

### PERSONAL.

CHARLEY YORK has vacated his position in the Chicago office.

MR. HANCHETT, recently of the W. U. Cleveland office, has taken a position in the W. U. Chicago office.

GEO. W. BALCH, who was, until recently, telegraph superintendent at Buffalo, is in the safe business in Milwaukee, in company with his brother, D. BALCH. Their store was damaged by fire, Saturday night, to considerable extent. Fully covered by insurance. Business will be suspended for a short time only.

MR. L. READ, of Rutland, Vt., has been appointed circuit manager on Whitehall and Burlington wire.

J. A. TORRENCE has resigned his position in the Chicago office, and accepted a position in the St. Louis office, vice TRACY.

CHARLES E. WELLER, formerly in the Milwaukee, Wis., office, has located in St. Louis, where he is engaged in the photographic business.

JACK T. MCCONNELL vacated his position in the Chicago office on the 4th.

DENNIS KEARNEY, of the Milwaukee office, has been relieved on account of decrease in business.

MAJ. WM. H. KELSEY has accepted a position in the Salt Lake City office, vice JOE PIERCE, who goes to San Francisco.

JOHN E. KNAPP has been appointed train despatcher, Union P. R. R., at Omaha, Neb.

F. G. CHURCHILL, *President of the National Telegraphic Union*, has been appointed train despatcher of the Buffalo Division of the New York and Erie Railway. He will leave for his new field of labor on the first of March.

R. VALENTINE, of Janesville, Wis., office, having temporary leave of absence, his place is supplied by Mr. F. L. SMITH, of Green Bay.

A. W. ORTON, of the Western Union Office, 145 Broadway, has resigned his position. He goes into business in Rome, N. Y.

NEW TELEGRAPH ENTERPRISE.—Twenty-four thousand dollars were subscribed in Santa Fe the other day towards building a telegraph line to Denver. The line will succeed, it is said, and will run to Virginia City in the Moreno Mines.







Superintendents and Managers OF RAILWAY TELEGRAPH LINES.

Atlantic and Great Western..... Atlantic and Pacific..... Albany and Susquehanna..... Alleghany Valley..... Baltimore and Ohio..... Buffalo and Erie..... Burlington and Missouri River..... Camden and Amboy..... Central R. R. of N. J..... Central Ohio..... Cincinnati, W. and Zanesville..... Cin., Ham. and Dayton..... Chicago, Alton, and St. Louis..... Chicago, Burl. and Quincy..... Chicago and Northwestern..... Chicago, Rock Island and Pacific..... Chicago and Milwaukee..... Chicago and Great Eastern..... Cleve., Col. and Cincin..... Cleve. and Pittsburg..... Cleveland, Painsv. and Ash..... Cleve. and Toledo..... Dayton and Michigan..... Dayton and Western..... Detroit and Milwaukee..... Delaware, Lack. and W..... Del. and Hudson Canal Co..... Erie Railway..... Dubuque and Sioux City..... Erie and Pittsburg..... Grand Trunk Railway of Canada..... Great Western " " " " Hannibal and St. Josephs..... Hudson River R. R..... Indiana Central..... Indianapolis and Madison..... Indianapolis, Cincin., & Lafayette..... Illinois Central..... Iron Mountain R. R..... Jeffersonville..... Lehigh Valley R. R..... Lehigh and Susquehanna..... Lit. Miami, Col. and X..... Louisville and Nashville..... Louisville, Cincin. & Lexington..... Louisville, N. Alb. and Chi..... Michigan Southern and N. I..... Michigan Central..... Milwaukee & Prairie du Chien..... New York Central..... Northern Central..... North Missouri..... New York and Harlem..... Ohio and Mississippi..... Oil Creek..... Penn. Central. Division Oprs. { Jesse Crouse, West. Phila. A. R. Kiefer, Harrisburg. J. Suter, Outer Depot, Pittsburg. Phila. and Erie... Div. Operators. { H. R. Rhoads, Williamsport. John B. Young, Renovo. A. B. Spooner, Erie. Phila and Reading..... Phila., Wilm. and Balt..... Pittsburg, Col. and Cin..... Pittsburg, Ft. Wayne and Chi..... Platte Country R. R..... Pacific R. R. of Mo..... Raritan and Delaware Bay..... Rensselaer and Saratoga..... Sandusky, Mansfield and Newark..... Sandusky, Day. and Cin..... St. Paul and Pacific R. R..... Toledo, Wabash and Western..... Toledo, Peoria and Warsaw..... Terre Haute and Richmond..... Terre Haute, Alton and St. Louis..... Union Pacific..... Union Pacific (Eastern Div.)..... Vermont Central & Vt. & Canada.....

Our friends throughout the country are particularly requested to inform us of any necessary additions or corrections in the above list.

Revista Telegraphica, Menitor Scientifico e Noticioso. Published monthly at Lisbon, Portugal. A. WELLENKAMP, Director.

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TELEGRAPH INSTRUMENTS.

We would call the attention of all Telegraphers and Telegraph Companies to the fact that we are manufacturing

THE BEST

Telegraph Instruments in the country.

We are working all instruments with an ENTIRE NEW MAGNET, excluding thereby all use of Local Batteries. Our Main-Line Registers and Sounders have been put to the SEVEREST TESTS, and are pronounced by competent judges

"The Best Now in Use."

We claim to gain more power or effective working force in our Instruments, with ten ounces of wire, than has heretofore been gained by using one pound, as we get rid of the residual magnetism.

We also manufacture a Key with only ten ounces of wire, thereby putting very little resistance in the line, and doing the work well, as if not better, than those that contain one pound of wire and put a great resistance in the line.

HENRY A. MANN. SAMUEL F. DAY.

DISTRICT DIRECTORS

OF THE

NATIONAL TELEGRAPHIC UNION.

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at the late Great Fair of the American Institute, New York, and their superiority is generally acknowledged by operators who use them.

Aside from the advantages apparent upon inspection of these magnets, their acknowledged merits consist in the construction of the helix, which was patented Aug. 15, 1865. This being of naked copper wire, so wound that the convolutions are separated from each other by a regular and uniform space of the 1-800th of an inch, the layers separated by thin paper. In helices of silk insulated wire, the space occupied by the silk is the 1-150th to the 1-300th of an inch; therefore a spool made of a given length and size of naked wire will be smaller and will contain many more convolutions around the core than one of silk insulated wire, and will make a proportionably stronger magnet, while the resistance will be the same.

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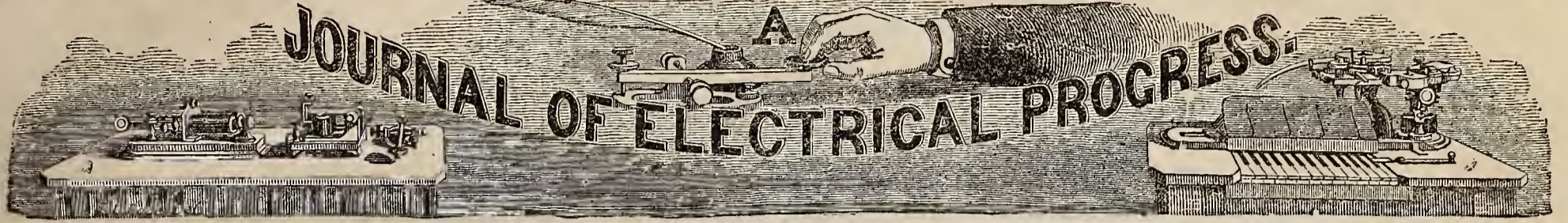
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All other appliances made to order. Extra spools for replacing such as may be spoiled by lightning, furnished at \$1 25 each. Old spools taken at the price of new wire by the pound. Goods sent to all parts of the continent, with bill C. O. D. Or, to save expense of returning funds by express, remittances may be made in advance by certified check, payable in New York, or by Post-office order, in which case he will make no charge for package. He has ample facilities for furnishing all other kinds of Telegraph Supplies at lowest manufacturers' prices.



# THE TELEGRAPHER.



Vol. IV.—No. 26.

New York, Saturday, February 22, 1868.

Whole No. 84.

## Subterranean Telegraphy.

In an interesting report upon the Telegraph apparatus and processes shown at the Paris Exhibition, written for the *London Illustrated News*, by Mr. ROBERT SABINE, we find some remarks upon the subject of underground lines, which will be of interest to the readers of THE TELEGRAPHER, in view of the increasing importance of this subject in our own country. In the Exhibition there were six different exhibitors of underground lines, plainly indicating the increased attention which is being devoted to this branch of telegraphy, and, therefore, a growing necessity for it. The telegraph posts in the vicinity of large cities are becoming overcrowded, and the erection of new wires, in many cases, endangers them, while the erection of new lines of poles is, in many places, almost an impossibility.

Underground lines, which, in 1862, were almost abandoned, have since that date been gradually creeping into favor, for the reason that the difficulties which formerly barred the progress of this branch of telegraphy, have, one by one, been materially lessened, while the inconveniences of the over-head system have become more apparent.

The principal difficulties with which underground lines have had to contend, have been the carelessness with which the wires have been laid, and the decay of the insulating materials. These difficulties have been met more completely in France than elsewhere. The prejudice which the French have against wires crossing their streets at all sorts of inelegant angles, has necessitated the employment of the underground system in their towns, and has shown that when sufficient care is taken in burying the wires, and in ensuring perfect cables before they are buried, that their electric condition will remain unimpaired for years. The underground cables used in Paris are composed of seven cores of copper wire, insulated with gutta percha. They are placed in the sewers, the catacombs, and in iron tubes under the streets. The cables which are carried through the sewers are enclosed in lead tubes to prevent the gases developed there from destroying the gutta percha. In the catacombs, which are free from any development of gas, the seven insulated wires are simply wrapped with a tape serving, prepared with sulphate of copper. Eight such cables, supported in a zinc trough 100 mm. deep, and 50 mm. wide, are led along these dark passages. The temperature of the catacombs seldom varies from 12 degrees cent., and the atmosphere is quite damp. These are the best possible conditions for the preservation of gutta percha covered wires in air. For the lines underneath the street, iron tubes are employed to protect them from mechanical injury, while they also prevent the circulation of air, and retard the deterioration of the gutta percha by oxydation. The tubes are like those used for gas, of cast iron, in lengths of 2.3 metres; the diameter being in proportion to the number of wires inclosed in them. They are placed in a trench, one metre in depth, and the separate lengths connected together with lead joints. At distances varying from 50 to 150 metres, a tube is inserted of larger diameter, which slides over the end of two neighboring tubes, so that by pushing it back, the lines can at any time be got at. These places are also used for drawing the cable through. This is done in lengths of four hundred metres, the cables being well covered with powdered talc, to reduce the friction against the sides of the tube. Five men are employed to lay the lines, and are said to be able to complete a statute mile per day.

The average cost to the French Government of a line of sixty-three wires, in nine cables of seven wires each, each contained in an iron tube of 120 mm. diameter, is as follows:

1. Cast-iron tubes, including trench, laying down and covering up.....	8,000f.
2. Nine cables (of seven conductors each) at 2,900f. per kilometre.....	26,100f.
Total.....	34,100f.

Taking sixty-three wires, therefore, the cost, per kilometre of wire is 541f., or less than \$170 per mile.

RATTIER & Co., exhibited two different kinds of cables for underground work—gutta percha covered wires protected with tape and tarred hemp, and cables which in addition to these are protected with an outer tube of lead. The cotton covered cables are largely employed by the French administration on their lines; the lead covered are mostly employed by the railroad companies for tunnels and crossings at stations.

D. NICOLL also exhibited specimens of his system of rigid sections for underground lines. The wires are of No. 16 copper, placed parallel, half an inch apart, in triangles of wrought-iron, eleven feet in length, and insulated with a bituminous compound. The wires protrude about an inch from each end, for the purpose of making the necessary joints between two sections. At one end of each section the wires are twisted in hollow coils; while at the opposite end they are left straight. In placing the sections, the straight ends of one section are pushed into the coils of the neighboring ones. The ends are to be previously tinued, so that the joint is made electrically perfect by simply applying a hot soldering iron for a moment to the outside of the coiled ends. When the wires are connected up, an iron trough, which embraces the end of both troughs, is put under them, and the space filled up with melted asphalt, by means of which the insulation of all the wires at the junction is effected at once, requiring little skill or practice on the part of the workmen employed. This is certainly a great point in favor of the proposed system. Mr. NICOLL has adopted a simple and sure way of keeping his wires apart in the melted bitumen. He covers them with coarse hemp, well dried, through the fibre of which the melted bitumen penetrates. Mr. NICOLL believes that the transport of these rigid sections with any number of wires insulated by this method, would be a matter of no difficulty whatever, and that the planting, joining up, &c., could be done much more rapidly than the same length of overland wire could be erected.

His system is not new, having frequently been tried both in France and England, but failed, partially because the material employed for insulation was too brittle, and partially because insufficient care was taken to keep the wires apart. But with the benefit of all the experience and failures of other inventors, it is to be hoped that Mr. NICOLL may succeed in his endeavors to construct cheap underground lines, by which he will be doing a most welcome service to telegraphy.

## The Electro-Static or Induction Coil an American Invention.

In the United States House of Representatives, Friday, February 14, Mr. MYERS, from the Committee on Patents, reported a bill authorizing the Commissioner of Patents to receive and entertain a renewed application of CHARLES GRAFTON PAGE, of Washington, for letters patent for his induction apparatus and circuit breakers, known as the "Induction Coil," and if he be found the first inventor

thereof, to issue a patent, reserving the rights of persons now owning and using such apparatus.

After explanation by Mr. MYERS, and the reading of the report, from which it appeared that the induction coil of RHUMKORFF, for which he was in 1864 awarded the French Imperial prize of 50,000 francs, was substantially the invention of PAGE, exhibited by him in 1839 and 1840, but not patented, because he was in the Government employment.

The bill was passed.

We have received from the author a copy of a new work containing the history of Volta-Electric induction to the present time. It gives evidence of great research, and effectually disposes of many of the perversions of history and anachronisms which have been promulgated in leading works on electricity and electrical science for a quarter of a century. We shall refer to this work again hereafter, our limits not permitting us to enter as fully into the subject now as we desire to do.

From the many facts brought to bear upon this subject, it is not only clearly proved that Professor PAGE produced and published, in 1838, an electro-static coil, having all the essential parts and properties of RHUMKORFF'S coil of 1851, but it is made equally clear that RHUMKORFF never invented, discovered or even improved any part or condition of the coil which bears his name, and for which he received the Emperor's prize of 50,000 francs. It is moreover shown that the peculiar spark-arresting circuit-breaker discovered by Professor PAGE in 1836, and connected with his electro-static coil of 1838, has been pronounced by the highest electrical authorities of France to be indispensable to the working of the large coils, and is called there the FOUCAULT circuit-breaker. It is also in evidence that the signal improvement in the winding of the coil by which it could be made to produce sparks of immense length, and which RHUMKORFF secretly obtained and permitted to pass before the Academicians as his own improvement, was the invention of ED. S. RITCHIE, of Boston. Thus, it is conclusively proved that the commencement and perfection of the electro-static coil are of American origin, and we trust will hereafter be so recognized by dropping the name of the RHUMKORFF coil. Count DU MONCEL has recently issued the fifth edition of his monograph on this coil, an excellent work of 400 pages. In it he states that the latest improvements in the large coils consist in the RITCHIE improvement, with a slight variation, and the FOUCAULT circuit-breaker, which we have seen belongs to Professor PAGE, thus unconsciously paying the highest tribute to American genius in the production and completion of this wonderful and important machine. We subscribe to DU MONCEL'S motto: "Render unto Cæsar the things which belong to Cæsar."

A NEW CABLE.—The China and East India Telegraph Company will soon lay its cable, which is now on the way from 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.*

## Original and Lucid.

HARTFORD, CT., Feb. 18th, 1868.

TO THE EDITOR OF THE TELEGRAPHER.

AS an illustration of the very lucid ideas which are entertained by many people (even newspaper editors) concerning telegraphing, I enclose the following item from the *Evening Post* of this city, of yesterday, in relation to a new set of repeaters just introduced into this office, which has created much amusement among the operators here at the expense of "ye local." "O."

"NEW TELEGRAPH APPARATUS.—The American Telegraph Company has just introduced into the office in the city, two self-acting regulating 'repeaters.' They are designed for use in bad weather, and when the wires work badly. By their action a message passing through this city in any direction, is re-written or run directly to its destination without a break. *By the old arrangements New York or Boston and intervening places could not send messages at the same time without reversing the batteries; but by this new apparatus strong additional electric force is applied, and dispatches can be forwarded without delay. The apparatus is very finely finished, and will add greatly to the public convenience.*"

## Notice to Correspondents.

CORRECTION.—A mistake occurred in our last number: ALBIN (not ALBION) M. SMITH, now at White House Station, New Jersey, was the operator at Kellyville P. O., Delaware county, Pennsylvania, a year ago.

J. B. A., ERIE.—Three cells of battery are used in working the Atlantic cable, each consisting of a glass jar about eight inches high. At the bottom is placed a circular disc of copper, with an insulated wire, forming the connection to the next cell. A few crystals of sulphate of copper are placed upon the copper, and the jar is then filled half full of saw-dust, saturated with water, upon which the zinc plate is placed. The distance from New York to Plaister Cove, by line, is 1,125 miles, and to Heart's Content, 1,180.

TO CORRESPONDENTS.—J. J. MITCHELL.—The information you ask for was given fully in the TELEGRAPHER of December 1st, 1866, and January 2d, 1867, illustrated with cuts.

F. D. S., Lock Haven.—As nearly as can be estimated, there are about 106,000 miles of Telegraph line constructed and in operation in the United States.

## A Deserved Promotion.

It gives us pleasure to record the promotion of our friend, W. H. ABEL, to the auditorship of the Western Union Telegraph Company, recently vacated by Mr. CHAPMAN. This is an excellent appointment. Mr. ABEL's experience as Auditor of the American Company, previous to the consolidation, and his intimate acquaintance with everything pertaining to Telegraph accounts, peculiarly qualify him to discharge his duties with credit to himself, and to the acceptance and advantage of the Company.

[By Atlantic Cable.]

## Proposed Government Telegraphs in England.

LONDON, Feb'y 17, Evening.

In the House of Commons this evening, Sir CHARLES BRIGHT called attention to the scheme for placing the telegraphic wires under the authority of the government, and inquired if any action had been taken, or if it was proposed by the Ministry to take any action to that end.

Mr. G. W. HUNT, Under-Secretary of the Treasury, replied that it was the intention of the government to purchase the lines of telegraph in Great Britain, and he promised that the plan for effecting that change, which was being matured in the Treasury office, would be submitted to the House within a week.

## PERSONAL.

MR. D. C. BLEAKNEY, of Pittsburgh, Pa., has resigned his position in the Western Union Office, and accepted a position in the Pacific and Atlantic Office, in that city.

GONE TO EUROPE.—MR. CYRUS W. FIELD, accompanied by two of his daughters, a niece, and another lady, sailed on Wednesday, in the steamship *Java*, for England. Mr. FIELD, on this trip, proposes to combine business with pleasure, and will be absent some weeks.

R. H. TRACY, of St. Louis, has resigned his position in that office and accepted the managership of Atchison, Kansas, Office.

CHAS. H. LAPP, has resigned his position as book-keeper in the W. U. Albany Office, and returns to his home in Buffalo to engage in other pursuits. His successor is STEVE C. SHELDON, formerly employed in the Troy Office.

JOHN F. COLLINS, formerly operator in the Boston and Athens (N. Y.) Offices, is at present engaged as door-keeper at the Bridge depot, Albany, N. Y.

MR. F. G. BARLOW has been appointed Agent and Operator of the Bay De Noquette & Marquette and Marquette & Ontonagon R. R., at Negaunee (L. S.), Michigan.

JACK T. STEPHENSON has vacated his position in the Chicago Office.

J. F. MCCONNELL and CHARLEY YORK have also resigned from the same office.

MR. E. A. STREET has resigned the position of night operator in the Western Union Office, at Peoria, Ill., and removed to Council Bluffs, Iowa.

MR. CHARLES O. JUDSON has been appointed agent and operator, Illinois Central Railroad, at Nora, Illinois.

MR. CHARLES B. NOTES, recently printing operator at Chicago, Ill., has reported at New York, and is ordered to W. U. Office, at Albany, N. Y.

MR. W. H. ALLEN, having obtained leave of absence from duty, at 145 Broadway, sailed for the Mediterranean on Wednesday the 12th inst., with the intention of being absent about four months on a tour of pleasure and recreation.

## Capabilities of the Morse System—Bagley and Nichols Outdone.

Our attentive correspondent ("L.") at Chicago, forwards us the details of another trial of the speed attainable in transmission and receipt on the Morse Telegraph Instrument. The results, we believe, surpass any heretofore accomplished in that direction.

On the evening of Friday, the 7th inst., 2,631 words of Press report, were transmitted between Milwaukee, Wis., and St. Paul, Minn., a distance of four hundred miles, in one hour, the report being neatly copied and ready for the printer. The sender was Mr. E. M. SHAPE, report operator at Milwaukee; and Mr. EDWARD CURRY, manager of the St. Paul Office, the receiver.

THE BROOKS PARAFFINE INSULATOR.—The Central Pacific Railroad Company have recently ordered a large quantity of BROOKS insulators, of the same style as those now being furnished to the French telegraph administration. We looked into Mr. ALLION'S establishment during a recent visit to Philadelphia, and saw a large number of the French insulators ready for shipment. They differ considerably from those hitherto used in this country, the iron case being provided with a shank, which is screwed into the pole, thus dispensing with the block.

## MARRIED.

In Janesville, Wis., on the evening of February 11th, by the Rev. M. G. Hodge, MISS FANNY HOVEY to MR. HARRY L. BROSS.

## DIED.

In Philadelphia, Sunday, February 16th, Mr. WILLIAM M. SWAIN.

## OBITUARY.

MR. SWAIN'S long and prominent connection with the Telegraph enterprises of the day, as well as his leading position in the public press of this country, render appropriate something more than a bare announcement of his decease in the columns of this paper.

MR. SWAIN was born in 1809, in Manlius, Onondaga County, New York. His father died when he was but three years old, but he was fortunate in having a mother of uncommon ability and force of character. He received a liberal education, and, after graduating at college, was engaged in teaching; but in 1825 he selected the art of printing as most congenial to his disposition, and in due time became a master of that art.

MR. SWAIN'S talents, however, soon placed him in a more responsible situation, and he became the manager of the *New York Sun*, in which position he was highly successful.

In 1837 he, in company with Messrs. ABLE and SIMMONS, started the *Public Ledger* in Philadelphia, and the *Sun* in Baltimore. Both of these were commenced as penny papers, and the experience, ability and capital of their proprietors rendered them very successful, and both are leading and profitable publications at the present time.

MR. SWAIN early appreciated the importance and prospective triumph of the TELEGRAPH, and, through his exertions, means were secured to extend the first experimental line from to Baltimore to Philadelphia, the *Ledger* subscribing \$3,500 of the amount necessary for that purpose, when but few could be found who regarded the matter as one of practical utility.

Early in 1846, he was elected a director of the Telegraph Company, and, under the influence of his practical business talents, the business became systematized, and no one has done more toward perfecting the Telegraph for business relations than he.

In 1850 he was elected President of the Magnetic Telegraph Company, extending from New York to Washington. He devoted to the business of the company that energy and application which always characterized him, and soon became complete master of all the details, both as regards construction and its internal workings and management.

By unanimous desire of the Company, and contrary to his own wishes, he was induced to continue as President until 1858, when he resigned the Presidency of the Company, but continued for some years longer to act as a Director, and until the Pioneer Company had been merged in the American Telegraph Company.

MR. SWAIN introduced many improvements into the business of Telegraphing, greatly facilitating and expediting the transmission and delivery of its dispatches.

Besides MR. SWAIN'S abilities and powers as a business man, he was liberal, enterprising and benevolent. He will be greatly missed in the community in which he has spent so many years of his life, and of him it may be truly said, "He has not lived in vain."

ASSISTANCE DECLINED.—Professor FARADAY'S widow declines the assistance proffered to her in England. She has commissioned a friend to make the following statement: "The whole course of her husband's life was so marked by his love of retirement that she feels most keenly the intrusion of his name even, while she cannot but be grateful for the kindness which causes her so much pain. She wishes me to assure all those who value Mr. FARADAY, that the recognition that has already been made of his merits has given her more than she either requires or desired; and she is most anxious that his name should not be used in a way which he never would have approved."



## MISCELLANEA.

MR. A. T. STEWART intends to have all the modern improvements in his new marble palace on Fifth avenue. He has just introduced into his picture gallery an electro gas-lighting apparatus, the same as that with which the dome of the Capitol of Washington is illuminated. There are 325 burners, each of which is instantaneously lighted by means of a platinum mix made red-hot by means of an electric current. Mr. STEWART says the apparatus is a perfect success. On turning the gas off and on, the effect is like that of represented flashes of lightning. The picture gallery was splendidly lighted, and from the street the view was magnificent, the reflected light being seen at the distance of several blocks.

THE SPREAD OF THE INDEPENDENT TELEGRAPH LINES.—The Dominion Telegraph Company was recently organized, with head-quarters at Toronto, in opposition to the Montreal Telegraph Company. Lines are immediately to be erected to all business points. Contracts for the poles are given out. The lines will connect on the United States side with the wires of the Atlantic and Pacific Company, in opposition to the Western Union lines.

DOUBTFUL.—The Chinese are afraid of telegraphs—they think little devils run along the wires and carry the messages, and so they have destroyed the few lines that have been put up in the empire.—*Exchange*.

The Sioux Indians on the Plains call the telegraph "mazza yap," which, in the Sioux dialect, means the "iron tongue."—*From one who has been there*.

HEAVY DAMAGES.—At Philadelphia, last week, in the case of KOHN and MARKS against the WESTERN UNION TELEGRAPH COMPANY, to recover damages for a mistake made in the transmission of a message, a verdict for the plaintiff for \$947.48 was rendered.

FIRE ALARM TELEGRAPH.—Mr. A. L. Whipple, at present Manager of the Central Railroad Telegraph Office in this city, has been appointed Superintendent of the Fire Alarm Telegraph.—*Albany Express*.

NEW TELEGRAPH CABLE.—The *Herald's* Havana special says: "The Council of Martinique voted 30,000 francs to aid the construction of a telegraph cable."

LIGHTING STREETS BY ELECTRICITY.—A machine is under experiment, in Boston, for lighting the street lamps by a simultaneous application of electricity, and it is claimed that the saving in labor in lighting and putting out will repay in one year the cost of introduction.

APPOINTED.—F. MINNERY has been appointed assistant operator of the Fire Alarm Telegraph, vice Mr. SHELDON, resigned.—*Buffalo Express*.

MR. M. C. STEBBINS, principal of the High School, has just added a new attraction to his apparatus for experiments for the instruction of his pupils. It is RITCHIE'S modification of HOLTZ'S electric machine, and differs from ordinary frictional machines, in that it generates electricity by induction. The experiments made with this machine, which is beautifully constructed, are as numerous as interesting, and all interested in scientific matters will be sure to go and examine it, at the Mechanics' Fair, in the City Hall, this afternoon and evening. The machine is but lately received. Its cost was \$100.—*Springfield Republican*.

DISSATISFIED CITIZENS.—A Hartford gentleman cut down one of the new fire alarm telegraph poles which the city had erected in front of his residence, and other threaten to do likewise.

NEW TELEGRAPH LINES.—A dispatch, dated Galveston, Feb. 13th, says—"The building of a telegraph line between San Luis and Matamoras has been commenced."

## The Pennsylvania Railroad Telegraph Lines.

We are indebted to J. B. LINDALL, for a copy of the Harrisburg, Pa., *State Guard*, containing some very interesting facts in reference to the telegraph department of the Pennsylvania Railroad. The telegraph lines of this company are divided into three divisions, to correspond with those of the railroad, each of which is under the supervision of a chief operator, acting under the immediate control of the railway division superintendent.

From this statement, it appears there are sixty-four offices in all upon the main line of the Pennsylvania Railroad, in which thirty-six ladies, and one hundred and six gentlemen are employed as operators. The above figures will give some idea of the amount of telegraphing necessary to regulate the traffic of this important line of railway. The wires of this line—two in number—are of superior construction, and kept in perfect working order.

## Honors to Scientists.

THE British government is about to confer a title upon Professor WHEATSTONE, the distinguished electrician. He has already received the degrees of D. C. L. and D. L. D. from the Universities of Oxford and Cambridge, and is corresponding or honorary member of all the principal scientific academies of Europe. He is also a Chevalier of the Legion of Honor, and has received two gold medals awarded by the Royal Society for attainments in physical science. He invented the concertina, the stereoscope and the solar clock. He was the originator of the submarine telegraph, and his researches in electricity conducted mainly to the introduction and development of the electric telegraph in its present practical form, as employed in this country. His latest invention is an apparatus for conveying instructions to the engineers and steersmen on board large steam vessels, which has received the favorable consideration of the Admiralty.

## The American Indian's Reflecting Telegraph.

FOR signalling, the Indians have a simple and effective code, which they work by means of *small mirrors*, from which they flash the sunlight, first in one direction, then in another. In this way they communicate intelligence from bluff to bluff, a distance of eight or ten miles. I do not know that the code used by them has ever been deciphered.

The sign-language used by the Indians is very complete. Their pantomimical power seems perfect. There are no two tribes of Indians that use the same oral language, but all are conversant with the same pantomimic code.—*Harper's Monthly*.

[Query]. May not the idea for reflecting galvanometers have been borrowed from the *American Indians*?

G. L.

Hudson City, 15th Feb., 1868.

ELECTRICITY IN A VACUUM.—A new apparatus has been brought out in Paris by MM. ALVERGNIAT for demonstrating the fact that electricity will not pass through a perfect vacuum. The tube which serves for the experiment contains two platinum wires, the free ends of which are separated by the space of about one-eighth of an inch. A nearly absolute vacuum is first created by means of a mercurial pneumatic machine; then, after a half hour's action, the tube is heated to dull redness, and the exhausting process continued until a point is reached when, in spite of the slight distance between the platina points, the electric spark ceases to pass. This experiment, which is but a confirmation of the observation first made by GASSIOT, bears in an important manner on the phenomena of the Aurora Borealis, proving that that electrical display can only take place within the limits of our atmosphere, and conversely that the atmosphere, although in an extremely attenuated state, extends to an immense height.

## International Insulatorial Interchange.

We are informed that while in England recently, Mr. DAVID BROOKS contracted with a number of English Telegraph Companies for the use of his Insulator upon their lines.

*Per contra*, it is reported that Mr. C. F. VARLEY has succeeded in inducing the Western Union Telegraph Company to adopt his Insulator for its lines.

If true, this may be regarded as an interchange of international telegraphic courtesies, and another illustration of the truth of the proverb, that "A prophet is not without honor, save in his own country."

## A Desirable Residence.

The *Denver* (Col.) *News* says that the new town of Coyote, below Hays City, consists of a train of Shoemaker's cars on a side track, used for boarding and sleeping purposes. One car is fitted up as a telegraph office. Two men and a woman have set up a shop in a tent, with a ten gallon keg of whiskey. One "vast illimitable" expanse of snow is all that greets the vision on every side, without a tree or twig to break the monotony.

## A Lively Time Expected.

ACCORDING to one Professor DELISSER, a series of celestial and terrestrial phenomena is at hand. On the night of the 27th of February, in the western heavens, there will be a conjunction of the moon with Jupiter and Venus; and three nights later Jupiter will pass Venus by only twenty-three seconds of a degree. The result of these conjunctions and perturbations will be atmospheric commotion—electrical discharges, heavy gales, high tides, earthquakes, and nobody knows what besides. Moreover, the whole year will be fearful for its storms, inundations, eruptions, quakings of the earth, &c., &c.

These are solemn portents. Added to the commotions incident to the Presidential campaign, such material outbursts will make life exciting. The newspaper reporters will be in clover.—*Evening Post*.

## An Adventurous Trip.

ONE of the employes of the late Russian Extension or Overland Telegraph Company has just made an adventurous trip across the country from the Nass or Simpson River, in the southern part of Russian America, starting in August last, to St. Paul, Minnesota, which he reached a few weeks since. He travelled variously, in canoes, on foot, on horseback and in dog sleds. It must have been an arduous as well as adventurous journey.

One not accustomed to that mode of life can hardly imagine the difficulties, privations, and dangers attending such a journey through a country, a large portion of which was inhabited only by the Indians, and dependent upon them for supplies of food for the traveller and guide, which were often obtained with the greatest difficulty.

RIVER CABLE.—A telegraph cable has been laid across the St. John's River, opposite Jacksonville, Florida.

Line inspectors and traveling agents are the latest titles given to repairers and messengers.

OAKLAND TELEGRAPH OFFICE.—The telegraph office at Oakland, which has been suspended for about a month, has been re-opened in the building of the Oakland Savings Bank and is in operation again.—*San Francisco Bulletin*.

Hon. AMOS KENDALL, of Washington, D. C., who paid \$100,000 to build the Calvary Baptist Church in that city, recently destroyed by fire, proposes that the structure shall be immediately re-built, it being understood that he will mainly pay the bills. The former house cost \$120,000, an organ in addition costing \$10,000. It is proposed that the new house shall be fully equal to the other.—*Chicago Tribune*.





SATURDAY, FEB. 22, 1868.

#### Removal.

The publication office of the TELEGRAPHER has been removed from No. 16 BROAD STREET to NOS. 16 and 18 NEW STREET, over the GOLD EXCHANGE.

Letters and communications should be addressed to the EDITOR OF THE TELEGRAPHER, BOX 6077, P. O.

#### OUR PAPER.

WE are perfecting arrangements to establish the TELEGRAPHER on a better and more economical basis, and to introduce such new features and improvements as shall render it even more satisfactory and worthy of generous support than heretofore.

We think that we may justly feel pride in the typographical appearance of the paper, which reflects much credit upon Messrs. RUSSELL BROTHERS, of the American Steam Printing House, 28, 30 & 32 Centre Street, who spare no pains to make it a model of typographical beauty and excellence.

We would urge upon our friends, and all into whose hands the paper may come, to aid us in increasing its circulation, and thereby extending its sphere of usefulness.

As the only organ of the Telegraphic profession in the country, established and published by the Telegraphers themselves, to advocate and advance their own interests, we deem it entitled from them to a generous and hearty support.

The general support and circulation of their paper is, perhaps, of more importance to the profession than many of them realize. It is a means of communication between Telegraphic employes and their employers and the public, without which their rights and interests would remain, to a great extent, unrecognized and unsupported. Through its columns they can speak to each other and to the public, and as a means of mutual encouragement, advice, and improvement, its beneficial influence cannot fail to be of great value.

Through its "Personals," which we regard as one of the most generally interesting departments of the paper, the changes of location, and situation of the members of the profession are constantly made known, and its readers are kept informed of the whereabouts and personal welfare of friends from whom they are unavoidably separated.

As a record of what is accomplished and proposed in the way of telegraphic extension and progress, of the construction of new lines, and of the improvements and advancement of electrical science and the Telegraphic art, no labor will be spared to make it complete.

In short, we seek to make it a *vade mecum* of Telegraphic information, and a weekly visitor, whose coming shall be eagerly looked for and greeted as that of a valued and cherished friend.

We have no complaint to make of the reception and support extended to the TELEGRAPHER in the past, but desire, by an increase of our subscription list, to diffuse its influence more generally than heretofore, creating and maintaining an *esprit du corps* and a fraternal feeling.

We would also request our friends to call the attention of stockholders in Telegraph companies, and all who are in any manner interested in the business, to the value of the TELEGRAPHER, as a compendium of Telegraphic information, by means of which they can be fully posted as

to the value of their property, present and prospective. As it is not the organ of any company, its information is not compiled in the interest of one company alone, but is intended to fairly represent all, without fear or favor.

The TELEGRAPHER is not intended to be a money making machine, and the profits of the paper will be devoted to its improvement and development, as THE TELEGRAPH PAPER OF THE COUNTRY.

#### THE INSURANCE BUREAU.

WE trust that none of our readers who can do so will fail to avail themselves of the benefits of the INSURANCE BUREAU, established under the auspices of the National Telegraphic Union.

It has already met with encouraging success; but there is opportunity for all who desire, by the contribution of a trifling sum now, to secure to those dependent upon them substantial assistance in the early days of bereavement, to do so.

Telegraphers generally earn, even if prudent and economical, save but little from their ordinary compensation, and when suddenly called away, too often those whom they love are thrown upon the cold charities of the world, and are at once reduced to unaccustomed dependence and poverty. No prudent or sensible Telegrapher can afford to neglect this opportunity to secure his family against such a misfortune. The necessity, upon the death of a Telegrapher, of passing subscription papers around among his late friends and associates, to procure the means of decent burial and temporary relief from want and suffering for those he leaves behind, no longer exists. Such appeals we know have usually been generously responded to; but at the best the amount collected is seldom sufficient to afford adequate relief.

By timely investment of a comparatively trifling sum, every Telegrapher has now an opportunity to avoid this disagreeable alternative, and make sure of certain and speedy provision for those dependent upon him. This provision is a matter of right, too, and not a charity, and as such commends itself to the immediate consideration of all who are interested.

Will not the members of the Union in their District meetings take up this matter in an earnest spirit, and each individual realize it to be his duty to insure his own life at once, and then urge upon his friends and acquaintances to also avail themselves of the indisputable benefits of this inexpensive plan of mutual life insurance.

Like the rest of mankind, Telegraphers are too prone to wait upon each other and delay action until the success of any proposed plan is assured before acting themselves. This has thwarted many feasible enterprises looking to the benefit of the fraternity. To make this project not only successful but vastly beneficial to the fraternity, it needs only general and prompt action on the part of those interested. The larger the numbers who enrol their names as contributors, the more extensive will be the provision made for each case which may arise. The expenses are very small, and in case of death the insured are certain to receive as many dollars as there are contributors.

Now is the time to act in this matter, and we hope to see at once a revival of interest in this enterprise undertaken by Telegraphers for their own benefit.

Every member of the Union should seek to sustain the Association by contributing to the success of the various beneficial organizations under it, rather than divide their strength. If members desire to insure only in one Bureau they should certainly, as it would seem, patronize the one organized under the auspices of the Union. Having done that, they are of course at liberty to seek such other and further insurance and provision for their families as their means will permit; but it seems to us to be of the first importance that the members of the Union should sustain the Union in every well considered project for their mutual benefit.

#### A GOOD EXAMPLE.

OUR esteemed correspondent, W. P. M., of Portland, Maine, in a recent letter communicates some interesting particulars relative to the past and present history and experience of the Maine District of the N. T. U. He shows what can be accomplished by energy and perseverance, and we commend this example to the emulation of other Districts which have become sluggish and lukewarm.

Referring to the failure of previous efforts to have the Constitution amended so as to admit clerks, etc., to the Union, he says:

"At the St. Louis Convention last year, however, I found, to my agreeable surprise, a different and better state of feeling existing in this respect, and we succeeded in having the Constitution changed so as to admit clerks, etc., and I came home with the intention of doing what I could to increase our membership, in this district, at least.

"We had then only sixteen members in the Maine District, and the District was almost dead—gone up. I began to pitch in, and try to get up an interest, and was chosen District Director and Secretary and Treasurer. Result is, we have now *fifty-one* members, all good men, and prospect of more members yet.

"We are now considerably ahead of the Boston District, even in numbers, and there is quite an interest in Union matters generally throughout the territory of the District, which embraces all the lines between Boston and Calais, and the Mutual Companies' lines between here and the Canada line."

Now, if every District would do as well as the Maine District, the Union would be in a highly flourishing condition, and would wield a power which could not fail to be beneficial to its members.

It only needs that in each District some one should feel the interest manifested by our correspondent in the Maine District, and the work would be done. Boston must look to her laurels. It is time that there was a powerful revival there, and we hope soon to hear that the example of their down-east brethren has quickened them into more life and activity.

#### NEWSPAPERS AND TELEGRAPHS.

THE persistence of the *New York Herald* in its expositions of the affairs and pretensions of the Western Union Telegraph Company, appears to have a rather depressing influence upon the stock of that Company, which has declined about three per cent. within the past two or three weeks. We have nothing to say as to the merits of the controversy; but the Western Union managers evidently stirred up a hornet's nest when they assumed an offensive attitude towards the *Herald*, and excited an attack whose bitterness is only exceeded by its persistency. The *Herald* is rendering good service to the Telegraph interests in calling public attention to the importance, necessity and feasibility of reasonable competition in the Telegraph business in this country. This competition the interests of the public demand, and we are glad to see public attention and interest turned in that direction.

#### A NEW CONNECTION.

THE DOMINION TELEGRAPH COMPANY, recently organized in opposition to the MONTREAL TELEGRAPH COMPANY, will connect on the United States side with the wires of the ATLANTIC AND PACIFIC TELEGRAPH COMPANY.

#### TELEGRAPH EXTENSION.

MR. VAN KLEECK, the contractor for the Atlantic and Pacific Telegraph Company, has made the contracts for poles for the extension of the lines of the Company to Cincinnati, Chicago and Milwaukee. Active building operations will be commenced as soon as the frost is out of the ground, and the work will be pushed forward as rapidly as is consistent with the proper and substantial construction of the lines, and it is expected to connect these points with the rapidly extending system of competing wires already in operation, during the coming season.



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Applicants for insurance must be connected in some capacity with the Telegraphic business, must be not less than eighteen years of age, in good health, and able to earn a livelihood. Every applicant shall pay an entrance fee of two dollars, one dollar of which shall be reserved for creating a permanent fund, and one dollar towards the amount to be paid the heirs of the first insured person deceased, who will receive as many dollars as there are persons insured.

Whenever a death occurs among those insured, an assessment of one dollar and ten cents will be levied upon all. This dollar goes to the widow, orphans, or heirs of the next insured party deceased, and the ten cents to be applied to the payment of current and necessary expenditures.

Applications must be made to the Actuary, in writing, accompanied by a certificate, signed by not less than two persons in the Telegraphic business, of good character, that they know the applicant is fully qualified under the preceding rules.

A small annual assessment, not to exceed one dollar, may be necessary to cover working expenses after the first year.

This plan of insurance will be conducted under the supervision of the Executive Committee of the N. T. U., and it will be their aim to make it as inexpensive as reliability and security will allow. It is unnecessary to make any extended remarks, or any comparisons of the great advantages this plan affords for the payment of ready money, at the event of death, over Life Insurance Companies.

Parties wishing to insure should write out the following questions with their answers thereto:

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What is your age?

Where is your residence?

What is your occupation?

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which is much RICHER AND FINER than brass, he now presents his work in a style and of a quality that are unsurpassed.

His relays were awarded the

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at the late Great Fair of the American Institute, New York, and their superiority is generally acknowledged by operators who use them.

Aside from the advantages apparent upon inspection of these magnets, their acknowledged merits consist in the construction of the helix, which was patented Aug. 15, 1865. This being of naked copper wire, so wound that the convolutions are separated from each other by a regular and uniform space of the 1-800th of an inch, the layers separated by thin paper. In helices of silk insulated wire, the space occupied by the silk is the 1-150th to the 1-300th of an inch; therefore a spool made of a given length and size of naked wire will be smaller and will contain many more convolutions around the core than one of silk insulated wire, and will make a proportionably stronger magnet, while the resistance will be the same.

**BUNNELL'S REPEATERS,**

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Relays, with helices in bone rubber cylinders (very fine).....	\$19 50
Small Box Relays.....	16 00
Same in Rosewood.....	17 00
Medium Box Relays.....	17 00
Same in Rosewood.....	18 00
Large Box Relay.....	18 00
Main Sounders, some as the above, with heavy armature levers without local connections, 75 cents less.	
Pocket Relays, with all the adjustments of the above, and good Lever Keys.....	22 00
Excellent Registers.....	40 00
Pony Sounders.....	6 75
Keys.....	4 50 to 6 50

All other appliances made to order. Extra spools for replacing such as may be spoiled by lightning, furnished at \$1 25 each. Old spools taken at the price of new wire by the pound. Goods sent to all parts of the continent, with bill C. O. D. Or, to save expense of returning funds by express, remittances may be made in advance by certified check, payable in New York, or by Post-office order, in which case he will make no charge for package.

He has ample facilities for furnishing all other kinds of Telegraph Supplies at lowest manufacturers' prices.



# THE TELEGRAPHER.

JOURNAL OF ELECTRICAL PROGRESS.

Vol. IV.—No. 27.

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Whole No. 85.

## Life of Judge John D. Caton, of Illinois.

JUDGE JOHN D. CATON, President of the ILLINOIS AND MISSISSIPPI TELEGRAPH COMPANY, is one of those self-made men who are, in a certain sense, the out-growth of our republican system of Government. Identified as he has been with the early struggles and the final success of the Telegraph in the northwest, we have thought that a brief record of his life (which includes the history of the Telegraph in that section of the country) would prove of peculiar interest to our readers, and afford encouragement to some who, perhaps, like him, are striving against adverse circumstances to acquire an honorable reputation and that success in life which should be the aspiration of every American citizen. Through a long, useful and laborious life JUDGE CATON has ever maintained an unblemished and spotless reputation as a business man and as a judicial officer, and now, as he descends the plane of life, still busy and useful even in his retirement from the employments which have hitherto taxed his energies and abilities in no ordinary degree, he enjoys the substantial pecuniary rewards of his labors, and the esteem and regard of his fellow-citizens. He has recently declined the offer of a nomination to the Governorship of his adopted State from one of the leading political parties, and, probably, there is no position in the gift of his party which would not be gladly bestowed upon him. To Telegraphers, especially, his life is full of encouragement and instruction, and will be read by them with no ordinary interest.

JUDGE CATON'S grandfather, ROBERT CATON, was a native of Ireland, but emigrated from England to Maryland in the early part of the last century. His father, ROBERT CATON, was born in Maryland in 1761. In 1776 he ran away from home and joined the Continental army, participating in the Revolutionary struggle till the Independence of the United States was acknowledged, when he found himself among the Highlands on the Hudson River, where he settled down as a farmer. He purchased a farm in the town of Monroe, in Orange county, where he married MISS HANNAH DEAN, the mother of JUDGE CATON—she being his third wife.

On that farm JUDGE CATON was born on the 19th day of March, 1812. Here, on the 5th of April, 1815, his father died, and from thence his mother subsequently removed with her four little children, one of whom (his brother William) was three years younger than himself, to Rothertown (now Deansville), Oneida county, New York, to the family of her brother, the late THOMAS DEAN, who was the agent of the Rothertown Indians. About a year afterwards she moved on to a farm belonging to her brother, a few miles from the village, occupying the half of a house and one acre of ground for a garden. Here she continued to reside, and supported her family by her own industry, with what assistance could be rendered by her children, after they became old enough to work. This was her only resource, except an

annuity of a hundred and one dollars and six cents per year, derived from her husband's estate. She remained there until 1828, when she removed to the city of Utica.

JUDGE CATON attended the District school, which was near his mother's residence, both summer and winter, until he was eleven years old; when, being very large and strong of his age, he commenced working out for wages among the neighboring farms during the summer season, but always attending the District schools during the winter terms. This was his life until he was fourteen years old. In his fifteenth year he learned the harness maker's trade, at which he became a pretty expert workman. At the end of the year, however, he became satisfied that this was not his proper calling, and returned to his mother's house and resumed his former course of life.

About this time his ambition to get an education was aroused and stimulated. Among other things which contributed to this was, that for a time he worked on a farm at the foot of College Hill, near Clinton, where he daily saw the College Professors and students passing to and fro. He was led to consider whether he might not have as much mental capacity as some of them, if it were but properly cultivated.

Constituted as he was, such reflections could not fail to lead to results, and he finally concluded that as a great many others had attained eminence through their own exertions, he could do whatever others had done, and that if he failed, it should not be for the lack of effort.

The young farmer boy was much encouraged in his resolution by the late PROF. COTTIN, who was then a teacher in Hamilton College, who had married a MISS DEAN, a cousin of his, and whom he often met at his uncle's house. From him he always received the greatest courtesy and kindness, and much excellent advice, which stimulated his ambition and sustained him in his resolution.

In the fall of 1828 he entered the academy at Utica, and applied himself diligently to study. His progress was so rapid as to elicit the decided commendation of his instructors, and at the end of the year he was advised that he was well qualified to teach a District school, which he resolved to undertake, as his funds were exhausted. He accordingly took a school at Seneca, and taught three months, for which he received eleven dollars per month. The school was a decided success, and he returned to Utica with sufficient funds to purchase a new suit of clothes, but not enough to enable him to re-enter the academy immediately. He accordingly returned to the country and resumed farm-work until August, when he had the misfortune to cut his foot badly with an axe. This was the last of his farming by the month. As soon as he could get about upon crutches, he went to Rome, N. Y., entered the school of MR. GROSVENOR, and commenced classical studies. He remained with MR. GROSVENOR till the first of December, when he took another

school, which he taught for four months, at sixteen dollars per month. He improved all the leisure time afforded from his duties as a teacher, to good purpose in advancing his own studies. At the close of the school he returned to MR. GROSVENOR, with whom he continued to study until the December following, when he commenced the study of law in the office of BEARDSLEY & MATTESON, in Utica. He devoted himself assiduously to the study of his profession, supporting himself meantime by trying causes before Justices of the Peace, and by drawing up legal papers, and the last half year, before his removal to the West, he received compensation from the late JAMES H. COLLINS, in whose office he was, at Vernon, N. Y.

In May, 1833, having completed his law studies, he decided to remove to the West, and in June of that year reached Chicago, which he decided to make his future residence.

JUDGE CATON was the first practising lawyer in that city, with the exception of the late JUDGE SPRING, who had preceded him by a few weeks.

At that time there were but few residents, and little law business in Chicago; but both increased very rapidly. JUDGE CATON brought the first suit that was instituted in the Circuit Court after his arrival at Chicago, and from that time he secured a good practice.

In October, 1833, he went on horseback, via Ottawa, Pekin and Springfield, to Greenville, in Bend County, to obtain his license from JUDGES LOCKWOOD and SMITH.

In July, 1835, he returned East and married MISS LAURA A., daughter of JACOB SHERRILL, of New Hartford, Oneida county, New York.

In 1836 he built the first house erected on the School Section west of the Chicago River.

He had a fair share of legal business and worked very hard in his profession, in fact, over-taxing his strength. He had, in the fall of 1833, and again in 1834, a very severe fit of sickness, from the effects of which he never entirely recovered. But for this his excess of labor would not probably have proved very injurious; but in consequence his health began to fail so that by 1838 he had become so enfeebled as to be unable to walk from his house to his office, and so extremely emaciated that his physician advised him that he could not live unless he adopted a more active life. Accordingly, he went into the country and tried the effect of farming for the restoration of his health, and in 1839 removed his family from Chicago to the farm near Ottawa. Here he remained until 1842, working much of the time on the farm, but keeping up the practice of his profession in three or four neighboring Counties. His health, during this time, decidedly improved, though he continued much emaciated till the winter of 1841 and 1842; worked hard in the woods and on the prairies during this time, for, under any circumstances short of positive physical inability, hard work seemed indispensable to him. Having by this time increased some thirty pounds in weight he con-



sidered his health re-established, and with much pleasure was enabled once more to devote himself exclusively to his profession.

The Supreme Court of the State at that time consisted of nine Judges, who also did Circuit duty. JUDGE FORD being assigned to the Ninth District, in which he principally practised. Mr. SNYDER, at that time the Democratic candidate for Governor, having died, JUDGE FORD, during the Spring Circuit was placed upon the ticket in his stead. While JUDGE CATON was attending the Circuit Court in Kane County, many members of the bar expressed a wish that he should succeed JUDGE FORD on the Supreme Bench, and immediately after the August election, at which the latter was elected Governor of the State, GOVERNOR CARLIN appointed JUDGE CATON as his successor on the Bench of the Supreme Court. He was then but thirty years of age, and it was certainly a great responsibility to be imposed upon so young a man, and an honor of which he might well be proud.

In the fall of that year he took up his residence in Ottawa, where he has ever since resided. He held the Fall Term of the Circuit Court in the Ninth Circuit, and, at the December Term of 1842, first took his seat upon the Supreme Bench of the State.

Under the provisions of the old Constitution of the State his commission from GOVERNOR CARLIN expired with the next session of the General Assembly, which was required to fill the vacancy. He was a candidate for the position before the Assembly, but failed of an election, Mr. JOHN M. ROBINSON, whose term as United States Senator had just expired, being elected on the 6th of March. He died, however, on the 27th of April following, and on the 2d of May JUDGE CATON was commissioned for the second time by Gov. FORD.

As the sessions of the Legislature were biennial, he had nearly two years to serve under his second commission, which gave him an opportunity to overcome the serious objection which had previously been effectually urged against him, of being too young for so high and responsible a position, and to demonstrate his abilities and qualifications for the place; and at the next session of the Legislature he was elected without opposition from any party, the Whigs as a matter of party policy casting their votes for Judge DAVID DAVIS, now one of the Judges of the Supreme Court of the United States. He accordingly received his third commission as a Judge of the Supreme Court of the State, on the 18th of February, 1845.

In 1848 the Constitution of the State was revised—the old Supreme Court abolished and a new Court created, to consist of three Judges only, who were to be elected by the people, and to be relieved of circuit duties.

At the first election held under the new Constitution, on the first Monday of September, 1848, Judge TREAT, now United States District Judge for the Southern District of Illinois, Judge TURNBULL, now serving his third term as United States Senator from Illinois and Chairman of the Judiciary Committee of the Senate, and Judge CATON were elected to constitute the new Court, and under this election Judge CATON received his fourth commission.

The new Constitution required a Judge of the Supreme Court to be thirty-five years of age, and neither of the successful candidates had a year to spare. It will probably be difficult to find another instance where all the Judges of so important a Court were so youthful. The subsequent history of all three proves that the people did not err in confiding to these three young men such an important trust.

At the first term of the Court the Judges had to draw lots for their respective terms, one to expire in three, another in six, and the third in nine years from the following June. Judge CATON drew the middle term and

Judge TREAT became Chief Justice, he having drawn the longest term. By the resignation of Chief Justice TREAT, in 1855, Judge CATON became Chief Justice of the Supreme Court until the expiration of his term, in the month of June following.

At the June election he was re-elected and received his fifth commission to the Supreme Court of his adopted State.

In 1857, on the resignation of Chief Justice SCATES, he again became Chief Justice, which office he held until his resignation, on the 9th of January, 1864, when he retired from public life and took leave of the active duties of a profession which was the choice of his youth and the great labor of his life.

NOTE.—In order to make the history of Judge CATON'S connection with the TELEGRAPH continuous, no mention of it has been made in this brief sketch of the leading incidents in his useful and laborious life. We shall next week give a detailed history of his connection with the early trials and struggles of the Telegraph in the North-west and its final success, which will prove of great interest to all connected with the business.

EDITOR.

#### New French Class.

We would state for the information of operators and others, desirous of acquiring a practical knowledge of the French language, that an evening class for that purpose is now being formed. This class will be under the tuition of PROF. JULIUS, one of the most experienced teachers and best linguists in this city. The terms will be very favorable. Applicants are requested to hand in their names immediately to Mr. J. W. STOVER, Manager Franklin Telegraph office, No. 11 Broad street.

#### A Telegraph Operator in Trouble.

WILLIAM ROCHE, recently an operator in the Franklin Company's Office, No. 11 Broad Street, was, on Saturday, the 22d inst., brought before Justice DOWLING, at the Tombs, on an affidavit of Mr. JAMES G. SMITH, the Superintendent of that Company, charging him with violation of the law of May 9th, 1867, in relation to divulging secrets contained in telegraphic communications.

It appears, from the affidavit of Mr. SMITH and other evidence adduced, that on the 11th of February, one W. B. SHAW, a well-known Washington correspondent and reporter for newspapers and speculators, sent a despatch from Washington, D. C., to HENRY CLEWS & Co., and a similar one to FISK, BELDEN & Co., and that ROCHE, who received the messages, communicated the information contained in them to one JOHN SAMMOND, a broker, and he sent to a friend of his, JOHN BUTCHER by name, a book-keeper in the office of the *Evening Post*, to ascertain if this information was correct. Through this indiscretion of Mr. SAMMOND, the facts became known, and ROCHE was discharged from his situation, and finally arrested as before mentioned.

After a partial examination of the case, on Saturday, it was adjourned till Tuesday, when it again came up and additional evidence was offered on the part of the prosecution.

At the conclusion of the examination, counsel for the defence moved for the dismissal of the complaint on the ground that the evidence presented was not sufficient to warrant the magistrate in holding the accused.

Justice DOWLING denied the motion, and the accused was held to bail to await the action of the Grand Jury.

[By Atlantic Cable.]

LONDON, Feb. 24.

CHARLES E. STEWART, Chairman of the Board of Directors of the Anglo-American Telegraph Company, died suddenly of apoplexy, in the Board room, on Wednesday last.

#### MISCELLANEA.

MISSISSIPPI VALLEY TELEGRAPH.—The *Minneapolis Tribune* says: The wire for this line, which was expected some time since, has at last arrived, and will be attached to the poles as rapidly as possible. It is expected to have the office in this city opened, and the line working as far as La Crosse, within the next thirty days.

The Governor of New Granada urges the Legislature to take immediate action in relation to the proposed cable to connect Florida, Nassau, N.P., St. Thomas, Barbadoes, Trinidad, Demarara and Brazil.

In Boston telegrams are only ten cents anywhere in the municipal limits—just one half of what they are in New York.

It is thought that telegraphic communication will be established between Porto Rico and St. Thomas within three months.

RATHER SARCASTICAL.—The Western Union Telegraph Company is growing in enterprise. On Thursday last we had occasion to telegraph from Washington to this city, and the message reached its destination in the surprisingly short space of FOUR HOURS AND THREE-QUARTERS, beating the railroad train in which we followed after the message two hours and a quarter. This looks well for this very enterprising company, or the railroad company, whichever the reader may please.—*Philadelphia Daily News*.

The Atlantic & Pacific Telegraph Co. have opened an office in Red Creek, and will always be ready to do prompt and quick business for their numerous friends there and at Woolcott.—*Syracuse Standard*.

NO MORE GALLOWS.—In view of the bungling work of some hangmen, in the execution of murderers, it is proposed to substitute electricity as the means of destroying life. It would be instantaneous, and not at all interesting.

They recently hissed an actress at a Parisian theatre for being "robed in a halo of electric light," and very little else, on the stage. A robe of that kind must be shocking, a contemporary thinks.

It is said to be estimated by the Directors of the Atlantic Telegraph Cable Company that their profits, under a reduced tariff, will be twelve hundred and fifty thousand dollars per annum.

COEYMANS MOVING.—We understand that a Bank is to be established in Coeymans, and that a telegraph office is soon to be opened in the village.—*Albany Express*.

CHANGE OF REPEATING STATIONS.—Since the first of January, Cheyenne has been the repeating station of the Pacific Telegraph between Omaha and Salt Lake, instead of Denver, as previously.

HOW IT HAPPENED.—One of our telegraph companies employs a well-known "professor" to look after its lines in the vicinity of this city, whose reports to head-quarters are sometimes rather unique in their way. Here is a "specimen brick:"  
To G——, N. Y.

Found No. 1 disjointed, four furlongs south of F——. Sharp curve; insulator off; wire flew across road. Supposed to have been ruptured by a tiller of the soil, to enable him to pass through and reach his place of worship. Continuity restored about forty minutes previous to high noon.  
S——.

The Government has completed a telegraph line from Fort Laramie, D. T., to Fort Fetterman, D. T., and Cheyenne City with an office at Fort "Davy" Russell. The line is about 200 miles in length from Fort Laramie. The old wire of its first Pacific Overland line, known as No. 1, was used. The line is kept in repair by detailed soldiers.



## 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.

TO THE EDITOR OF THE TELEGRAPHER.

Some very laughable things occur among the fraternity, and as your columns are open to anything interesting to operators, I send you the following, which is an actual fact:

Several years ago I was employed as operator on the line running from Milwaukee to La Crosse, Wis. On one occasion there was a message sent from "A," supt's. office, Milwaukee, to "K," Kilbourn City. In the message occurred the word "appraisal." It being a message of importance, "K," was requested to "repeat." He was "sound," but a little shaky.

It was repeated correctly to the word mentioned above, which "K" wrote "apprais." "A" broke and said "appraisal," but "K" mistook the last letters, "a l," for "a s," sig. and closing key, and said, "I have it so—apprais."

"No, no," said "A," "it is appraisal;" but before he cut off the "l," "K" said again, "I have it so—apprais." Said "A," "stand back from your key and let me finish—appraisal." "I tell you I have it so!" said "K"—"apprais."

"A" was vexed but kept his temper. "A" to "K," there are nine letters in the word "appraisal." "K" could not see the drift, but still took the letters "a l" as "a s" sig., and closing key, and said, "that's the way I have it—apprais." "A" to "K," "go away and let me finish. There are nine letters in the word and you have but seven. A 1, p 2, p 3, r 4, a 5, i 6, s 7, a 8, l 9—do you see it now!"

"K" said, "Oh!" and repeated it correctly. Operators can see how the "bull" occurred.

RELAY.

FULTON, ILL., Feb'y 18, '68.

DANBURY, CT., Feb'y 22d, 1868.

TO THE EDITOR OF THE TELEGRAPHER.

The citizens of Danbury are greatly dissatisfied with the present telegraphic rates, and as the Western Union Company pay no attention to appeals for relief, they are about to apply to the Franklin line, which has an office in Bethel, to run their wires through the place, and open an opposition office. It seems that the W. U. Co., not only charge 45 cents for messages to New York, but the operator collects ten cents additional for delivery, making an expense of 55 cents for a telegram from the Metropolis. Is it any wonder that our people are indignant.

CITIZEN.

TO THE EDITOR OF THE TELEGRAPHER.

One of the most remarkable men of the time died in this city last Sunday morning.—WM. M. SWAIN, founder and for a long time proprietor of the PUBLIC LEDGER.

He started in life poor—learned the printing business in Utica, N. Y.—taught mathematics—read law, and worked as a journeyman at Albany, N. Y.—Press-man, brains and moving power of the N. Y. Sun, until it obtained that strong hold upon the masses which it so long retained.

His various experiences were all brought to bear when in 1836, he, in connection with ABEL and SIMMONS inaugurated the Ledger, of Philadelphia. Under the rules laid down by him, and which governed his whole life, it became a power. His character as an employer may be judged from the fact that many members of the establishment have been there since its inception. He never made a mistake in reading character; when he had once selected a man, he kept him.

The present race of operators know only by hearsay of his services to the Telegraph, while in its infancy. His

mind grasped at once the extent to which this new agent could be made subservient to press and people, and he became the warm personal and professional friend of MORSE, and to his strong good sense may be attributed many of the improvements since introduced into the business. He was for a long time Director and President of the "Magnetic" line, and fought bitterly against its consolidation with the "American" Company, thinking and believing the public would be better served, and business increased by a healthy opposition element.

While in office, he gained the love and confidence of all—he always found time to listen to grievances and remedy them, to reward and encourage the deserving. In later years, he held his "old boys," as he called his operators, in remembrance,—always friendly—always a hearty shake of the hand—always a word of advice for them.

Like all men of original minds, he had enemies, and to such he was a "good hater," but he had hosts of friends also. Let the hundreds, whom he has assisted with time, influence and money, speak for the generosity and goodness of his heart. Though possessed of a princely estate—none plainer than he—none more unassuming—none less given to blazoning their good deeds to the world—what he gave away was known only to himself and his banker.

He was a man of good scholastic attainments—firm—resolute—energetic, and of inflexible integrity of purpose. He contained within himself all the elements of success, and he succeeded in paths where thousands before and since have failed.

May his memory long be kept green among the fraternity of a profession he so loved and for whom he did so much. He saw the Telegraph an infant, and left it a giant—connecting the Atlantic and Pacific oceans—the old and the new worlds—girdling the earth. He is gone, but his works live.

R. J. B.

PHILADELPHIA, Feb. 20, '68.

OSWEGO, Feb'y 19th.

TO THE EDITOR OF THE TELEGRAPHER.

DOMINION TELEGRAPH COMPANY—This Company was organized at Toronto, last week, in opposition to the Montreal Telegraph Company, the lines when built, to connect with the Atlantic and Pacific Line at Suspension Bridge, Detroit and Oswego. The work of getting out the poles has already commenced, and the company will commence to put up the line on the first section, from Suspension Bridge to Toronto, in April. While this is being done, the Company will determine how much to build the present season. The line will be built in the same manner as the Atlantic and Pacific, and will cover all points where the Montreal line runs. The order for the wire has already been sent to England, and with the opening of Spring the enterprise will be pushed with all possible vigor. The Company have appointed Mr. A. A. COLBY, of this city, Superintendent and Engineer of Construction. No better appointment could have been made. Mr. COLBY has had some eight years' experience in the telegraph business, with different lines and companies, and his large experience as a manager renders him eminently qualified for the position to which he has been appointed. This being known to the Company, they were so fortunate as to secure his services, on which they are to be congratulated.

Mr. COLBY, in company with Mr. OWEN, also of this city, put up the Atlantic and Pacific line, last summer, and is known as an energetic and capable man. He will make thorough work of the Dominion line. His headquarters will be at Hamilton.

SOUTH SHORE.

A Roland for an Oliver.

MILWAUKEE, WIS., Feb. 20th, 1868.

TO THE EDITOR OF THE TELEGRAPHER.

In your last issue appears—"The following was perpetrated by one of the lady operators in the Milwaukee

office: A message going to Logansport, Ind., care Chic. and S. E. Ry., was received Chic. and Sery," &c.

Now, I humbly beg leave to inquire if mistakes are confined to "lady" operators exclusively?

As Chicago seems to regard my mistake as sufficiently ludicrous to be published, perhaps, I may be permitted to laugh a very little at Chicago, where there are no "lady operators." Who, then, in receiving a message which was sent to ——— No. 1 Ida st., copied it, 1 Idea st.?

"PERPETRATOR."

Couldn't Tell His Name.

CHICAGO, Feb'y 19.

TO THE EDITOR OF THE TELEGRAPHER.

Few operators are better known than "DORSEY BERRY," one of the old time boys. DORSEY has an impediment in his speech. In the winter of sixty-four, at the wind-up of one of his "embalmings," he turned up in a recruiting office in New Orleans. The recruiting officer asked his name. He could not have asked DORSEY a harder question. "W-what did I u-unders-stand you to s-say?" asked DORSEY. The officer repeated his question. DORSEY thought he would make one effort. No go, the circuit was too weak. "C-e-captain my key s-s-sticks on that c-c-cussed n-n-name. I'll be ——— if ever I'll t-t-tell you w-w-who I am." And gathering up his hat, DORSEY left the office, saying, "B-b-berry by any other n-n-name would b-b-be just as s-s-sweet."

ARMY OPERATOR.

## Notice to Correspondents.

G. B. A.—If you have such a Repeater as you state, you would have little difficulty in disposing of it here. It would be necessary for you, however, to demonstrate its practicability and superiority, as Telegraph managers are apt to be rather incredulous in regard to the merits of new Repeaters or new Insulators.

L. S. K., FREEPORT, PA.—Your letter received, but unfortunately mislaid for some time. Have referred it to A. L. WHIPPLE, Treasurer W. T. U.

## Local Batteries.

READING, PA., Jan'y 31st, '63.

TO THE EDITOR OF THE TELEGRAPHER.

Please inform me through the TELEGRAPHER, how to prevent the copper of a DANIELS Battery adhering to the porous cup.

ELECTRON.

[If our correspondent refers to the copper deposit which forms upon the porous cells from the action of the battery, we can only answer, that no means have yet been discovered of entirely preventing it. By suspending the zinc so as not to touch the porous cup, and by cleaning the latter, at least, once a week, this injurious action may be greatly lessened, and in many cases prevented. The coppers, themselves, will not adhere to the porous cup, unless they are allowed to remain too long in contact with it.—ED. TELEGRAPHER.]

## A New Printing Instrument.

A CORRESPONDENT at 145 Broadway sends us the following good thing:

"It is amusing to hear some people ventilate their knowledge of things telegraphic. A day or two since, there walked into this office a very confident youth, accompanied by a friend whom he pompously escorted around, explaining the mysteries of the art. When he arrived at the large switch, turning one of the main wire bars which rotate in a circle of 25 letters used for making connections, he expatiated as follows: 'This is a very complicated affair, something on the principle of the House machines, and very liable to get out of order. Press one of these bars against a letter, and it will make the same letter at the other end of the line.'"

## MARRIED.

In Racine, Wis., February 17th, at the residence of the bride's father, by Prof. Wheeler, of Racine College, OSCAR JENNINGS, late of Chicago, to Miss NELLIE JOY, of Racine.





SATURDAY, FEB. 29, 1868

#### REMOVAL.

The publication office of the TELEGRAPHER has been removed from No. 15 BROAD STREET to Nos. 16 and 18 NEW STREET, over the GOLD EXCHANGE.

Letters and communications should be addressed to the EDITOR OF THE TELEGRAPHER, Box 6077, P. O.

#### IN UNION IS STRENGTH.

It seems singular that there should be so little practical appreciation of the importance and necessity of union among the Telegraphers of this country. The NATIONAL TELEGRAPH UNION is founded upon the idea of the beneficial influence of union upon the welfare and interests of the practical Telegraphers of the country. It was intended to embrace within the organization the great body of those who devote their time and energies to the practical duties of Telegraphy. It was intended, through it, to elevate the character of the profession and establish a higher standard of excellence, and secure respectability and trustworthiness on the part of those to whom these confidential and most responsible duties are entrusted, and to secure, as far as possible, just treatment and a due appreciation of their services on the part of employers. It was also intended to create a brotherly feeling, and provide for mutual relief in periods of sickness and distress to its members. If it has not accomplished these objects, it has been due to the snipeness of Telegraphers who have, to a considerable extent, failed to recognize its importance and avail themselves of its benefits.

It is not too late to remedy this. The UNION has been maintained by the persistence of comparatively a few who realized its importance, in the hope that eventually the Telegraphers might be brought to understand its necessity, and co-operate with them in developing its possibilities for good.

It does not seek to array its members against their employers, but to create a mutual kindly feeling between them, of the greatest benefit and importance to both parties. Its members may be found on every important Telegraph Line in the country, and should be found in every office. It is, therefore, interested in the general prosperity of all. As a body, no action has ever been taken inimical to any Telegraph Company. Its members generally favor competition in the Telegraph business, believing that such competition is not only inevitable, but essential to the interests of the profession and the public. This, however, is a matter with which, as an organization, it has nothing to do. Such being the fact, there is no reason why it should meet with opposition from the management of any Telegraph Company, or that any person eligible to membership should decline to connect himself with it.

As we have before stated, it is essentially a democratic organization, controlled by the majority of its members; and if any are dissatisfied with the manner in which it has been heretofore conducted, the remedy is in their own hands. Instead of remaining outside of the organization, they should at once connect themselves with it, and within the Union effect such reforms as may seem desir-

able. While they refuse or neglect to do this, they have no right to criticise and find fault with what is done or left undone.

We desire that every respectable Telegrapher should connect himself with the Union, and take an active part at its meetings and in the selection of the delegates to the Annual Convention; and that thus it should be made to reflect the general sentiment and embody the united wisdom of the profession in its councils.

United, the Telegraphers of the country would find their influence increased and made practically effective in securing the recognition of their just and reasonable requests from their employers.

It would seem as if the Telegraphers of the country should, above all other professions, be practically united. The nature of the business pre-supposes a more than average amount of intelligence among those engaged in it, and their constant communication with each other would seem to indicate *union* as a natural and inevitable result.

The UNION, of course, is not perfect. It doubtless can and should be improved, and made more effective in several respects. We do not desire, as has been charged, that it should become an organization through which to inaugurate *strikes*, as they are termed, for the purpose of extorting from employers compensation or privileges which cannot be otherwise obtained. This is entirely foreign to the purposes and objects of the UNION. We believe, furthermore, that strikes are seldom justifiable or expedient, and are certain that no probable combination of circumstances will render them expedient or necessary in the Telegraph business. A strike is only one mode, and almost always the worst, for effecting desired reforms. They seldom result in any permanent good to those engaged in them, and almost invariably produce much misery and suffering, and not unfrequently utter ruin to the participants.

By united action on the part of practical Telegraphers in presenting to employers the improvements and ameliorations desired, they will ultimately be received and considered fairly and dispassionately, and, when found reasonable, will eventually be conceded.

If properly organized, the Union would be the means of affording to its members aid and assistance in times of sickness and trouble much more effectively than at present, and which would prove of incalculable value.

Every member of the Union should be able to feel that he has in every other member a brother to whom he can appeal, in case of necessity, with confidence of meeting with aid and sympathy, and should hold himself ready, at any time, to respond to similar appeals from other members. While we would not have the Union an eleemosynary institution to provide for incompetent or demoralized Telegraphers, we think that its beneficial character should be extended, so as to make it a present and living reality to all who may become and remain connected with it. That this can and should be done there can be no doubt, and we hope to see the next Convention of the Union take up this subject, and act judiciously and effectively upon it.

We think there should be a Relief Committee in every district to whom members who, either through sickness or misfortune, are temporarily compelled to seek assistance, can apply, and whose duty it shall be to investigate such applications, and extend such temporary relief and assistance as may be needed. In furtherance of this object, the Corresponding Secretary, or some other officer of the Union, should receive stated reports from every District Director of the opportunities for obtaining employment in the different sections of the country, so that, on application, members seeking employment through the proper channels, can be informed where their services are needed, and assisted in reaching such localities; and thus much suffering be avoided.

Provision could and should be made for the ultimate repayment by those who are thus aided in obtaining employment of such advances, and thus that such relief might not prove onerous to the districts, and that a sufficiency of means should always be in the Treasury to afford such assistance. The sick relief is, of course, of a different nature, and we do not think that any member of the UNION would desire its repayment.

At the same time we would have the ability, character, and antecedents of every applicant for admission into the Union, carefully scrutinized, so that it should be a recognized fact that the recommendation of the proper officers of the Union is a guaranty of the character and capacity of an applicant for any position to which he may be recommended.

To effect these objects, however, it is necessary that the great body of the Telegraphers should connect themselves with the Union; and we hope to see a speedy revival of interest in it such as shall indicate a certainty of their accomplishment. There are good men enough engaged in the business, if they will but realize the importance to themselves and each other of the maintenance and perpetuation of the Union, to make it what it should be. Will not these at once seek admission and actively participate in its councils; and by their presence at its meetings cheer and encourage those who, through good and evil report, have adhered to it with an abiding faith that it would ultimately embrace within its membership a large majority of the Telegraphers of the country, who, by their character and proficiency in their several departments, are desirable as brothers and associates?

#### PERSONAL.

MR. GEORGE HUBBARD, an operator in the Western Union Office, at New Haven, Conn., has received and accepted the management of the Providence, R. I., Office, on the Franklin line, and takes his new position on the first of March next.

MR. B. FRANK ASHLEY, has resumed his former position as local editor of the *Bridgeport Standard*. Mr. A. was a telegrapher for thirteen years, having left the business about two years ago.

ALF. BREWER is now manager of Denver, Col., Office.

J. T. MCCONNELL has taken a place in the Peoria, Ill., Office, as night operator.

J. T. STEVENSON has resumed his position in the Chicago Office.

WANTED.—Any information of the whereabouts of ED. H. MCGINTY and HARRY ALLEN, operators, will be thankfully received by JAS. TURNER, operator, C. B. & Q. R. R., Coatesburg, Ill.

J. H. NICHOLS, formerly of Petersburg, Va., is now manager of Cheyenne, Dak., office. KIT DOUGHERTY and P. KEARNY are operators in the same office.

#### Serious Charges.

A communication in the *New York Herald*, over the signature of "Live and Let Live," charges that the Western Union Telegraph Company delay important commercial despatches in order to afford the commercial bureau of that Company undue and illegal precedence in the transmission of commercial intelligence. If this be true it is in violation of its charter and of the statutes in most if not all of the States through which the wires of that Company run. The managers of the Western Union Company cannot afford to rest under this imputation of unfairness in the transmission of business. A failure to disprove it will amount to a confession of judgment on the part of the Company.

It is further asserted, in the communication referred to, that the Commercial Bureau entails a positive loss of one hundred thousand dollars per year upon the Company in the decrease of tolls on account of commercial business destroyed or driven from the line through the operations of the bureau.



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**Life Insurance Bureau.**

THE NATIONAL TELEGRAPHIC UNION, by authority of its special charter, granted by the State of New York, proposes to insure the lives of all persons connected with the Telegraphic business, under the following rules and regulations:

Applicants for insurance must be connected in some capacity with the Telegraphic business, must be not less than eighteen years of age, in good health, and able to earn a livelihood. Every applicant shall pay an entrance fee of two dollars, one dollar of which shall be reserved for creating a permanent fund, and one dollar towards the amount to be paid the heirs of the first insured person deceased, who will receive as many dollars as there are persons insured.

Whenever a death occurs among those insured, an assessment of one dollar and ten cents will be levied upon all. This dollar goes to the widow, orphans, or heirs of the next insured party deceased, and the ten cents to be applied to the payment of current and necessary expenditures.

Applications must be made to the Actuary, in writing, accompanied by a certificate, signed by not less than two persons in the Telegraphic business, of good character, that they know the applicant is fully qualified under the preceding rules.

A small annual assessment, not to exceed one dollar, may be necessary to cover working expenses after the first year.

This plan of insurance will be conducted under the supervision of the Executive Committee of the N. T. U., and it will be their aim to make it as inexpensive as reliability and security will allow. It is unnecessary to make any extended remarks, or any comparisons of the great advantages this plan affords for the payment of ready money, at the event of death, over Life Insurance Companies.

Parties wishing to insure should write out the following questions with their answers thereto:

- What is your name?
- What is your age?
- Where is your residence?
- What is your occupation?
- Have you any constitutional disease or debility?

Sign the above statement, and forward it to the Actuary, with a certificate signed by two persons connected with the Telegraphic business, that the applicant is well known to them, and that the answers given by him to the above questions are correct?

Applications may be sent to

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CAPITAL, \$5,000,000.

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[In progress.]

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CAPITAL, \$1,150,000.

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H. B. HINSDALE, Secretary and Treasurer....."  
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**A Journal of Electrical Progress,**

PUBLISHED EVERY SATURDAY,

BY THE

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AT

Nos. 16 & 18 NEW STREET, NEW YORK.

[OVER THE GOLD EXCHANGE.]

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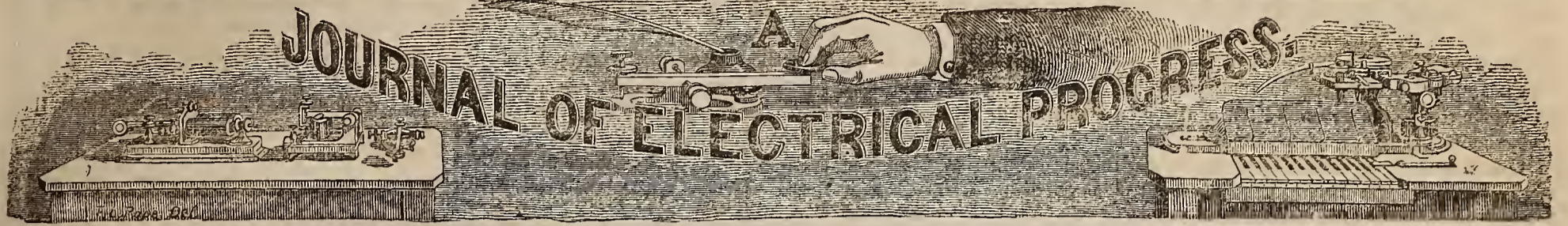
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# THE TELEGRAPHER.



Vol. IV.—No. 28.

New York, Saturday, March 7, 1868.

Whole No. 86.

## Life of Judge John D. Caton.

[Continued.]

### THE TELEGRAPH IN THE NORTHWEST—ITS EARLY STRUGGLES AND FINAL SUCCESS.

It was by the merest accident that JUDGE CATON'S attention was attracted to the Telegraph, and that he became connected with its struggles and triumphs in the Northwest. Thus it is that often the most important events in human existence are determined by the smallest occurrences or the slightest accident.

In 1849, on some slight errand, the JUDGE stepped into the Circuit Court room. He observed two friends conversing privately. Motioning to him to join them, they said that they had subscribed something to assist O'REILLEY to build the Telegraph through the State of Illinois, and asked him to go to Peoria and represent subscribers of stock in Ottawa, at the organization of the Company. It had never before occurred to him that he should have anything to do with the Telegraph. But for that accidental meeting, very probably he might never have been connected with it.

He consented to go to Peoria, and was made Chairman of the meeting, and in the organization of the Company was elected a Director. All of the Directors of the Company were as ignorant of the business as JUDGE CATON. They appointed a Superintendent, who knew something of it, but not very much. In fact, it was a subject of which the science was very little understood, and the art was in its infancy. His eminently practical mind soon appreciated the fact that of these much had yet to be discovered and invented, and that a system for the conduct of the business had to be originated.

He was soon completely fascinated with the science and the art, and determined to become practically familiar with them. He accordingly procured such books, treating upon the subject of electricity and galvanism, as were attainable and applied himself to their study, and as soon as he could procure the necessary facilities, instituted a series of experiments which greatly enlarged his knowledge in this department of science, and the results and information thus obtained have been of the greatest service to him since.

He also applied himself diligently to learn the art of Telegraphing, and soon found himself able to send and receive messages. At that time all operators used Registers, and an operator who could read by sound was a rare expert; but even these considered the liability to mistakes too great to risk dispensing with the register.

The Company organized at Peoria was called *The Illinois and Mississippi Telegraph Company*. The lines were badly constructed, and the material used was very poor. They never paid expenses, and soon began to go down from their inherent weakness and from neglect.

At the meeting of the Board of Directors, at Alton, in 1852, everything was found to be on the verge of ruin. There was not a dollar in the treasury, and very few of

the offices were paying expenses, and half the lines were not working at all. Debts of the Company, to the amount of seventeen thousand dollars, had already been reported, with the probability of twice as much more not reported; and so low was its credit, that not a druggist in the country would trust the Company for a pound of acid.

In view of this combination of misfortunes and difficulties, it was the opinion of every Director, except JUDGE CATON, that the enterprise must be abandoned as a total failure, and that the creditors must make what they could of the poles, wires and instruments, as it never could be made to pay.

JUDGE CATON'S confidence in the ultimate success of the enterprise had not, however, succumbed to the misfortunes which had accumulated upon it, which he realized, in great part, arose from inexperience, and consequent mistakes and errors in the construction and working and management of the lines. He accordingly prepared a paper, in which he submitted a plan that he was confident would extricate the Company from its embarrassments, and prevent the necessity of an abandonment of the line and the enterprise. He proposed that an amendment of the charter of the Company should be obtained, authorizing the Board of Directors to levy an assessment upon the stock, of five dollars per share, and by a proceeding in Chancery to sell the defaulting or non-paying shares of stock.

Upon consideration, the Directors agreed to adopt the proposed plan, upon condition that JUDGE CATON would undertake to execute it. This he finally and reluctantly consented to do, and was elected to the Presidency of the Company, with plenary powers, and the plan was successfully executed.

The charter was amended in June, 1852, and an assessment of two dollars and fifty cents was levied upon each share. Of this assessment but a small portion was voluntarily paid, but still sufficient to enable him to get the most important lines in working order.

Under the new and energetic management established upon the lines the strictest discipline was rigidly enforced; repairers were kept constantly going over the lines; confidence in their reliability revived, and the business increased.

It was essential to the success of JUDGE CATON'S plans for the rescue of the lines that the credit of the Company, pecuniarily, should be restored.

To effect this he made orders for needed supplies by Telegraph, saying nothing about the pay, but was careful to remit the money upon the same day the order was sent. For a while the goods were not sent until the money had been received; but after a time the patronage of the Company was sought, and all orders were promptly filled without waiting for the receipt of the money. Still the Judge was careful that remittances should be promptly made, and to do this he had to tax his private means, till, to raise the money, he had sold nearly everything that

he owned that was saleable, and had borrowed of every friend that could lend him money.

He was often advised to abandon the concern, with the assurance that unless he did so he would ruin not only himself, but his friends. He, however, in the darkest and most discouraging time, had an abiding faith that there would ultimately be an outcome from the enterprise, and that unyielding perseverance would at length be rewarded with success.

Under a decree in Chancery a very large majority of the stock was sold for the non-payment of the assessment; a small number of shares to individuals for the amount of the assessment, but most of it to the Company, which latter was cancelled and extinguished.

He might have bid in a large amount of this stock in payment of the advances he had made the Company, but bought only a few shares for which he paid the cash; so that he was, in fact, though carrying the whole enterprise upon his shoulders, but a small stockholder.

Thus far all that had been done for the lines was but temporary. The old hard wood poles were tumbling down, and the cost of repairs constantly increasing, while the efficiency of the lines was as steadily decreasing. JUDGE CATON resolved to rebuild the lines with cedar poles, when he was sure they would pay expenses and more. Until this was done, they could not be made to do so.

He accordingly visited in person the cedar lands on Green Bay, Wisconsin, exploring the streams and coast in a bark canoe, with a Chippewa Indian for a captain and a boy for his crew. He made contracts for the delivery of poles in Chicago, and organized a company with a sail boat, implements and provisions to cut poles on the south side of the bay. He then returned and made contracts with the railroads in the vicinity of the old lines to remove them on to the roads, stipulating with them for the best price he could get, to assist in accomplishing the work. Still he was obliged to make large advances before he could get up the lines and realize from the railroads the stipulated payments. The Company claimed no rights upon the roads beyond the routes occupied by its wires.

JUDGE CATON purchased the right to use the Telegraph patents upon the unoccupied territory in Illinois, Iowa and Minnesota, and made contracts with the Railroad Companies who were then rapidly constructing their roads, especially in Illinois, and built lines on this new territory on his own account. Very soon he had constructed and owned individually much more extensive lines of his own than were those owned by the old Company, and the comparative amount of business proved that they were on better routes, and were unquestionably better lines, being all new and erected upon cedar poles.

CAPTAIN BEEBE, who had paid more attention to the subject than had any of the other Directors, after a careful examination of the books, for which he was exceedingly competent, proposed a consolidation of



JUDGE CATON'S lines with those of the Company. He clearly demonstrated that the interests of the two must soon become so conflicting that he must withdraw from the old Company, in which he had but very little interest, and devote himself to the care of his own lines in opposition to those of the Company's, the result of which must be ruinous to it.

A committee was appointed to treat with him on the subject, the result of which was a consolidation on equal terms, the Company paying to JUDGE CATON in stock the same amount per mile which the stock of the old Company bore to the length of its lines. It was also provided that this arrangement should include any lines which he might build in the future, which should be deemed by the Company of sufficient importance to stock in.

Of course these arrangements secured to JUDGE CATON a large majority of the stock, and rendered him liable to suspicions of unfair dealing with the Company in his own interest. His protection against such unfair imputations, aside from his high personal character for honesty and integrity, could only be found in the election of a Board of Directors, in whose integrity and capacity the public would have implicit confidence. He also, in all his dealings with the Company, acted with the utmost frankness and liberality towards it, in matters of doubt giving to it the benefit thereof; and inviting the closest personal scrutiny of every stockholder into its affairs.

(Concluded next week.)

**SUCCESS OF THE BROOKS INSULATOR IN FRANCE.**—The following, which is a translation, in substance, from an article in the Paris *La Semaine Financière* of January 25th, will show that an invention of one of our own citizens, designed to perfect the Insulation of Electric Telegraph lines, has been declared superior to all its competitors by a French Commission, which had before it insulators from nearly every State in Europe:

"*Electric Telegraphing.*—M. DE. VOUGY, the Director General of Telegraphs, who is anxiously engaged in improving our Telegraphic material, some time ago named a commission, specially charged with examining the various kinds of superior insulators, with the view of the adaptation of the best of these to the French Telegraphs. This commission, furnished with instruments of great delicacy, for the purpose of measuring the amount of waste (or leakage of electricity) from these insulators, has established the great superiority of the insulators of MR. DAVID BROOKS, of Philadelphia, over all other competitors, and has ordered a considerable quantity of them, in order to make an extensive trial of them throughout our Telegraphic lines."

The Brooks Insulator is composed of an iron hook, intended to hold the telegraph wire. This hook is cemented in a glass vase, of elongated form, contracted at the neck. The glass itself is cemented in a hollow-cast cylinder, and all parts of the apparatus, which are susceptible of absorbing paraffine, are saturated with it. The glass vase has also very decided qualities of repelling moisture, and contributes to render the insulator perfect.

Mr. Brooks, who is constantly occupied with the electric telegraph, and whose Insulator is well known in America, only arrived at the present form of it that we are now describing, after many experiments. It is to the employment of paraffine, now known as the first of insulating bodies, that Mr. Brooks owes the success that he has obtained.

The French Government has sent to Mr. Brooks a beautiful and sensitively delicate differential galvanometer (made by Ruhmkorff), of 40,000 involutions, to test the insulators he is making for the French telegraph, and specimens of all the insulators from every part of Europe offered in competition before the French Commission.—*Phila. Ledger.*

[Written for *The Telegrapher.*]

#### Electric Influence.

TO THE EDITOR OF THE TELEGRAPHER.

UNDERLYING all the curious jumble of ideas, grave, gay and ludicrous, which an operator is called upon to transmit and collect, there exists, between operators, a subtle, never-ceasing influence, binding together, or repelling minds and hearts—such an influence as controls the blind in choosing friends from among chance acquaintances. It is true we miss the kind voice, or the merry laugh, that warms the heart, but the spirit of these remain. The electric influence, which unites or repels us all, goes out along the wire, performing its delicate mission as effectually as in the immediate presence of those we love or hate. Differences are settled and friendships formed, friends fall out and are reconciled, and, occasionally, nearer and dearer relations are brought about and sustained by this all-pervading influence. The likes and dislikes thus excited are sometimes contradicted on a personal acquaintance, but this only proves what a creature of circumstance man is—how apt to be influenced by appearances merely, neither going nor caring to go beneath the surface for hidden gems in heart or mind, only discovered and appropriated by the favored few. A striking illustration of these remarks occurred, not long since, on a circuit where both accomplished ladies and appreciative gentlemen are employed, and where, of course, the influence I have alluded to is often forcibly exhibited. I "tell the story as 'twas told to me." A very promising knight of the key, young, good looking, and withal very much admired, and unusually successful with the fair sex, conceived a more than ordinary liking for a highly accomplished and exceedingly pretty young lady operator, employed upon the same circuit with himself. I say more than ordinary liking, for it impelled him to visit the lady under circumstances that would have discouraged one less brave, or less confident of success. Notwithstanding a blinding snow-storm, that came on before the first five miles were passed, and that the day was cold and raw, he pressed on, fully determined to reach his destination, twenty-five miles further, that evening, or perish in the attempt. How many times his courage nearly failed him on the way, or how many times he wished that a railroad might be built along the route, does not appear. The prospect ahead must have kept his heart warm, which would keep him from freezing. It is to be hoped that the hearty welcome accorded to the adventurous youth, on his arrival, more than repaid him for all the hardships he had undergone to bring about the meeting. But difficulties still continued to thicken around, while the shades of night grew darker and darker without; within, the silence grew more and more disheartening, and when, to crown all, the stern father proceeded, in a dignified manner, to wind up the old clock, and then to cover up the fire, dying slowly on the hearth, no wonder the poor boy's heart failed him. He did what the bravest of us all would have done, arose gracefully from his seat, prepared himself for the storm without, and leaving the storm within to do its worst, bade a sad adieu to his lady, and left. That the course of true love never did run quite so smoothly as might be desired, is further proved, in this case, by the fact that the lady numbers among her ardent admirers an estimable young man who is, unfortunately, very jealous, and who seldom neglects an occasion to torment his friend on the unfavorable result of his visit.

N. W. O.

#### Spirituos Electric.

The finest idea of a thunder-storm extant was when Wiggins came home tight. Now, Wiggins is a teacher, and had been to a temperance meeting and drank too much lemonade, or something. He came into the room among his wife and daughters, and just then he tumbled over the cradle and fell whop on the floor. After a while he rose, and said:—"Wife, are you hurt?" "No." "Girls, are you hurt?" "No." "Terrible clap, wasn't 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.

TO THE EDITOR OF THE TELEGRAPHER.

Certain interested parties have circulated a report that the leading Telegraph Company of this country has issued a general order prohibiting its operators from dotting the i's and crossing the t's, when receiving messages, thereby effecting a saving of \$14.85 during the month of February, in the item of ink alone. This is utterly untrue—at least as regards the i's. The same system of reckless extravagance in this respect prevails as heretofore. The executive officers should give the matter immediate attention.

PHRANQ.

#### HEAVY TELEGRAPHING.

CHICAGO, Feb'y 29.

The Impeachment complications have caused a very large amount of labor to the telegraph operators of the country. The Associated Press report operators in the Western Union Chicago office, Messrs. KENT, MASON and ANDERSON, have had a full share of this work, frequently receiving reports five or six hours without cessation, and without relief. The report copy furnished by the Chicago office is noted for the correctness, clearness, etc., which characterizes it.

CHICAGO.

#### MISCELLANEA.

##### Progress of Electrical Science in America.

At a scientific *soirée* recently held at the house of Hon. PETER PARKER, in Washington, Prof. PAGE exhibited one of his small electro-static coils, lighting up the Geissler vacuum tubes, by the motive force of one of the small thermo-electric batteries of MOSES G. FARMER, of Salem, Mass. The illumination was continued through the entire evening; and the merit and elegance of the experiment for the parlor cannot be surpassed. By a single jet of gas the electric power is furnished with perfect constancy without the annoyance of noxious gases and corrosive acids. The members of the Scientific Club and many members of the American Academy of Sciences were present.—*American Artisan.*

##### Rather Fishy.

A California paper records a singular fact connected with the cholera epidemic of 1850-51, which is of much interest to the sciences of medicine and electricity. A large horse-shoe magnet of great power—such as is used in Sonora and California for cleaning gold dust—hung in the counting-room of one of the leading merchants in Sonora. At the breaking out of the epidemic, the magnet lost its influence, and the usual steel bar fell to the floor, and during all the time of the cholera and fever the magnet's power was completely neutralized. But no sooner had the long-looked-for Gulf storm cleared the atmosphere, and the destroyer left, that the steel bar clung with its wonted tenacity to the magnet as before.

**A TELEGRAPHIC BLACK SHEEP.**—The night operator of the Western Union Telegraph Company, at Elyria, a young man, seventeen years of age, and JESSE WEBB, baggage-master, have been arrested for robbing the mail. The operator made a full confession of his guilt, and declared that MR. WEBB was entirely innocent of any knowledge of his criminal transactions. From his statements and other sources, it has been ascertained that seventeen mail bags have been cut open, but of the number of letters abstracted, the amount of money taken, no estimate loss came to our knowledge. The guilty young man went from this city to Elyria, to fill the position of night operator, about four months since, and has always had the confidence and respect of all with whom he had associated.

**MORE RAPID TELEGRAPHING.**—In the Davenport, Io., *Gazette*, of the 24th, a special from St. Louis regarding the Radical State Convention, the names of Gov. FLETCHER and Col. VAN HORN appear as "Hon. FLETCHER and CALVIN LORN."



## THE TELEGRAPH.

## Important Telegraph Law.

WASHINGTON, March 3d.

IN the House of Representatives, MR. FARNSWORTH, of Illinois, introduced a bill, of which the following synopsis is given, which was appropriately referred:

The first section confers jurisdiction upon the District and Circuit Courts of the United States in all suits or proceedings brought by or against any incorporated Telegraph Company.

The second enacts that if any person shall wilfully cut, break, displace, molest, injure or destroy any pole, wire or cable, or other appliances and property owned by any Telegraph Company, or shall wilfully destroy or impair the insulation of the wires, or interrupt the transmission of the electric current through the same, shall be subject to a heavy fine and imprisonment.

The 3d, 4th and 5th sections provide for the manner of instituting and carrying on suits in courts under this bill.

The sixth section provides for the punishment by a fine of \$1,000 and imprisonment for one year of any agent, operator or employé of any such Telegraph Company, or any other person, who shall knowingly or wilfully send by Telegraph any false or forged message purporting to be from such Telegraph office, or shall wilfully deliver or consent to be delivered any such message purporting to have been received by Telegraph; and also any person who may conspire to furnish any operator or employé any message, knowing the same to be false or forged, with the intent to deceive, injure or defraud any individual partnership or corporation and the public.

The seventh section enacts that any officer, agent, operator, clerk or employé of any Telegraph Company, who divulges to any other party than the party from whom the same was received or to whom the same is addressed, any message received or sent over any Telegraph lines, or who alters a message in any way, shall be fined \$1,000, or imprisoned not to exceed one year.

The eighth section provides for the punishment of any operator who steals news off the wires, or speculates upon information acquired in sending messages.

The bill consists of fifteen sections, most of which are devoted to the protection of the public against frauds and injustice by the Telegraph Companies, their agents and operators.

## Further Telegraphic Communication Between Europe and America.

The *Brazil and River Platte Mail* says:—"A concession has been granted by the Portuguese Government to MR. EDWALD MEDLICOTT, engineer, of Lisbon, and MR. THOS. RUMBALL, C. E., of London, for the establishment of a Submarine Telegraph between Falmouth and Oporto, from Oporto to the Azores, and thence to some point of the American coast. We understand the line will be constructed upon ALLEN'S patent principle, and that the total cost will not exceed £500,000. The line will be laid in three sections, and upon the completion of each it will be opened to the public, so that money will come in the shape of revenue at an early stage of the progress of the work. There can be no question the enterprise will prove highly remunerative, as, independently of through messages, a large intermediate business will be carried on, communications between this country and Portugal being very numerous; but the most important section will be undoubtedly that connecting the Continent with the Azores, at which point all outward and homeward bound ships, trading with the Brazils, the River Platte, the Pacific, and other parts of South America, will be enabled to call for orders, or to communicate with the owners in England or elsewhere. By this means a great boon will be conferred upon the commercial world, and intercourse with the two hemispheres be facilitated and perfected in a manner not effected by the Atlantic cable now in operation."

[By Atlantic Cable.]

PARIS, March 1st, 1868.

A contract has been closed between the *National Telegraph Company* and *The Société Cable Transatlantique*, of France.

The above item of Telegraph information is rather indefinite, as the nationality of the National Telegraph Company is not stated. As the National Telegraph Company, whose head-quarters are in this city, have not a mile of Telegraph in operation, or as far as we are informed, under contract even, it seems hardly probable that it can be the National Telegraph Company referred to.—[ED. TELEGRAPHER.]

## First Dividend on the Russian Extension.

THE bark *Palmetto* (of San Francisco), from Victoria, Vancouver's Island, Sept. 27th, with Telegraph wire to the Western Union Telegraph Company, has arrived here. She brings the unused material sent out for building the Russian Extension Telegraph, the Western Union Company furnishing transportation to the material saved, but not for the employés, who considered themselves fortunate in being carried even to San Francisco at the expense of the Company.

LOWER PRICES AND INCREASED PROFITS.—The Atlantic Cable was landed July 27, 1866, and opened to the public the next day at a tariff of one hundred dollars in gold for a message of twenty words. On the 1st day of November, 1867, the tariff was reduced to one half, or fifty dollars for a message, and one hundred dollars, if in code or cipher. On the 1st of December, 1867, the tariff was reduced to twenty-five dollars for a message of ten words, whether in plain English or in code or cipher, and five words for address, date and signature free; and for the press one half the above rates for political or general news, in plain English. Yet at these greatly reduced rates the numbers of messages has so much increased that the amount of cash received daily is far greater than ever before.

INDIANAPOLIS, Feb'y 24.

The City Council to-night authorized the construction of a fire-alarm telegraph—the same as used in Cleveland—at a cost of \$5,500.

TELEGRAPHIC EXTENSION.—There will be telegraphic communication between Denver and Sauta Fe by the first of May or June. Our new territories are getting "the modern improvements" rapidly.

A BILL was introduced in the Wisconsin Legislature on the 20th inst. to tax telegraph companies one dollar per mile, instead of fifty cents, as heretofore.

COMPARATIVE.—A hundred and fifty letters are sent through the mails in England to one telegraphic dispatch over the wires.

## PERSONAL.

MR. FREDERICK FAIRCHILD, who has been for eleven years connected with the American and Western Union Office in New Haven, has again taken the position of night operator in that office—the situation which he filled during the war.

MR. GEO. D. WILLES, formerly Cashier of the Atlantic Bank at Portland, Me., has assumed the position of Cashier of the Franklin Telegraph Company in New York, Mr. Case retaining his position in charge of the Receiving Department.

CHANGES in W. U. Office, Philadelphia: JNO. WINTROP, operator, resigned; to take effect March 1st; going into business at Reading, Pa.

C. CLAY YEAKLE, operator, to take effect March 15th; going into other business.

DR. N. GREEN is a delegate from Kentucky to the National Democratic Convention, which is to be held in New York.

C. W. NORTHRUP has resigned his position in the Rhinebeck, N. Y., office.

JNO. FOTTRELL, of Philadelphia Office, relieves JNO. A. WRIGHT of management W. U. Office, Trenton.

W. E. TINNEY, of "C. P." Office, Philadelphia, transferred to Washington. H. R. BROWNE, of Main Office, replaces him.

W. H. CARSON, Receiving Clerk, resigns; to take effect March 1st; going into other business.

JAMES CARLEY, Receiving Clerk, in place of Mr. CARSON.

MR. THEO. F. LITTELL, Manager, Summit, N. J., Office W. U. Line, has resigned to engage in other business.

MR. J. V. HURLEY, formerly of Farmingdale, N. J., has been appointed Manager of the Western Union Office at Summit, N. J.

## MARRIED.

WILSON—ROGERS.—On the 19th of Feb'y, at Franklin, Tennessee, by the Rev. M. L. ANDREWS, Mr. ELLIS IRWIN WILSON, of Indianapolis (W. U. Teleg.), to Miss S. A. ROGERS, of Franklin, Tenn.

BENJAMIN—NAISBY.—Jan. 23d, by Rev. Dr. BOMBERGER, at the bride's home, A. J. BENJAMIN, of W. U. Tel. Office, Salisbury, Md., to Miss ALLENA NAISBY, of Philadelphia.

## DIED.

KEABLE.—At Toronto, Canada, February 16th, HARRY J. KEABLE, formerly Night Report Operator in Western Union Offices at Cincinnati, and Louisville, Ky.

RALEIGH.—At Wilmington, Ohio, February 27th, A. W. RALEIGH, formerly engaged in the Western Union Office at Cincinnati, but more recently at Buffalo, N. Y.

ROBBINS.—At Providence, R. I., March 3d, WILLIAM H. ROBBINS, formerly manager of the Insulated Telegraph Office in that city, aged 27 years.

## OBITUARY.

It is the melancholy duty of the Journalist to record, from time to time, the decease of one and another of his friends and associates, who have preceeded him in the solution of the great mysteries which lie beyond the confines of mortality. It is with feelings of peculiar sadness that we announce this week the decease, after a brief but painful illness, of Mr. FERDINAND VAN ARSDALE BARBER, who died about two o'clock P. M., on Monday, March 2d, at his residence, at Stapleton, Staten Island, in the thirty-eighth year of his age.

Although comparatively a young man, Mr. BARBER was one of the oldest telegraphers in the country, and was at one time the manager of the Troy Telegraph Office, upon the old Bain line, and was also engaged in the business at Albany and New York.

At the time of his death, and for many years previously, he was engaged as an assistant in the New York Office of the Associated Press. In all his engagements and employments Mr. BARBER was faithful and efficient, and won the esteem and kindly regards of both his employers and associates. He displayed peculiar aptitude and ability for that department of the newspaper business in which he was employed at the time of his decease, and his loss will be severely felt and sincerely mourned by all who knew or were associated with him.

Of a kind and generous heart, he ever sympathized with misfortune and suffering, and was always ready to relieve it to the extent of his ability.

He was unmarried, but leaves a mother and several brothers and sisters to lament his early decease.

Every Telegrapher almost in this vicinity knew and appreciated him and will be pained to know that FRED'S circuit of life is "broken" and "grounded," never more to be restored in this world.





SATURDAY, MARCH 7, 1868.

## PROGRESS OF THE TELEGRAPH.

THE coming season bids fair to be one of unusual activity in the construction and extension of Telegraph lines in this country. During the winter, contracts have been made for the construction of important sections of line in various parts of the country, poles are being got out, and all needed preparations perfected for a vigorous prosecution of the work.

As soon as the weather will permit, which it is expected will be within the next three or four weeks, the Atlantic and Pacific Company's lines will be extended to Chicago, Milwaukee, Detroit and Cincinnati, and these connections completed as rapidly as possible. The increase of business on the lines of this Company via Albany and Buffalo to Cleveland, has been so great that additional wires are at once to be placed on the poles between this city and those points to accommodate it and provide in advance for the future rapid accumulation of business on its lines. Contracts have been made by this Company for connections with other new lines, notably that of the Dominion Telegraph Company, which proposes during the coming season to erect lines throughout the British Provinces, which cannot fail to add materially to its business and require extensive additions to its facilities.

In connection with the Franklin line, the Eastern and Northern wires of the International Company and the Northern Telegraph Company are to be extended, thus bringing that whole section within reach of the system of competing lines which is being so rapidly extended throughout the country. Also a new line south from Washington, via Richmond and Petersburg, is to be built in connection with the Franklin line at Washington, which will bring into the system a very valuable Telegraphic Territory now exclusively controlled by the Western Union Company. The Southwestern Telegraph Company will also extend its lines from Lexington and Louisville, Kentucky, via the Mississippi Valley to New Orleans, thus affording another valuable connection and furnishing much needed Telegraph facilities and competition in that direction.

We have not been informed what the Pacific and Atlantic Company propose to do during the coming season further than the completion of its connection West via Philadelphia and Pittsburg.

Other companies are being organized, and new lines proposed in various directions, which bid fair during the present year to furnish competition in the Telegraph business over a wide extent of Territory.

Ultimately, without doubt most of these lines will be consolidated under one management, and the Telegraph business of the country be divided between the new Company thus formed and the Western Union, thus affording desirable competition and bringing tolls down to a reasonable figure.

The public are determined that this business shall not be a monopoly with any one company, and experience has proved that it is not to the interest either of the public or the Telegraphers themselves that it should be.

The effort of the Western Union Company by consolidation, and the buying up of competing lines to insure

to itself a monopoly of the business, has failed of anything more than temporary success, and that Company is now so loaded down with stock and obligations that any further prosecution of its tactics in that direction is impossible. The competing lines now being built will doubtless be maintained, and we do not think there is in the future any danger of stockholders and employees finding themselves sold out, as has too often occurred heretofore.

With proper competition there is no danger of the Government assuming the control of the Telegraph, as has been advocated by some parties. With an annual deficit of from five millions to ten millions of dollars in the Revenues of the Post Office Department, and in the present financial condition of the Government, there is little prospect, except under the spur of actual necessity, to relieve the country from the evils of monopoly, of the assumption of this additional burden.

Several new cable lines to connect the United States with Europe are also projected, and some of them have already obtained valuable concessions from the French and other European Governments, and the natural increase of business from the stimulus of lower charges, and through the effect of a growing habit of transacting business by ocean Telegraph will, there is no doubt, furnish profitable employment for a largely increased number of cable lines.

## SUBTERRANEAN TELEGRAPHY.

IN our account of the exhibition of Subterranean Telegraph Cables at the Paris Exposition, and of the progress of Subterranean lines in Paris, as shown by M. NICHOLL, we failed to mention the progress which has been made in the same direction in this country, and which equals, if it does not exceed, what has been done in France and other European countries.

MR. SAMUEL C. BISHOP, of this city, has been engaged for the last eight or ten years in perfecting Subterranean and Submarine Cables, and during that time has made many valuable inventions and improvements in such cables.

Several years ago MR. BISHOP, at an expense of several thousands of dollars, perfected a machine for putting a lead covering over gutta percha, which worked beautifully, making the most perfect lead covered wires and cables ever manufactured, which were proved to be excellent for underground wires and for crossing shallow streams. Owing to the limited demand for such wires, and from the fact that hitherto only pole wires have met with favor in this country, the machine has not yet proved a pecuniary success; but MR. BISHOP is confident that, eventually, these lead covered wires must be used in order to secure reliability and permanence of Telegraph lines.

MR. BISHOP has also invented and manufactured various descriptions of insulated wires, covered with fibres and bitumen, which have met with very general approbation from practical Telegraphers; as also insulated cordage containing one, three and seven wires; but as yet, for the reason, principally, of the increased expense incurred, in the first instance, in the construction of lines with these improvements, they have never been used to any considerable extent, and he is thus far out of pocket through his enterprise.

MR. BISHOP is confident that the best insulated wire in the world is, and can be made, at the factory of the *Bishop Gutta Percha Manufacturing Company*, and that Americans have no need to go to France or England for any kind of insulated wires or cables that may be needed.

## SMITH'S MANUAL.

MESSRS. L. G. TILLOTSON & Co., have just got out a new and improved edition of SMITH'S MANUAL OF TELEGRAPHY, and are now prepared to supply all orders promptly at their office, No. 26 Dey street.

## RESIGNATION.

IN another column we record the resignation of Mr. JNO. WINTRUP, of his position in the Philadelphia Office, to enter into commercial pursuits on his own account.

His services date from the old "House" days, when he was in the Wilmington, Delaware Office.

In 1861 he was ordered to Washington, where he remained but a short time. Returning to Wilmington he found the "House" instrument laid on the shelf. With only a slight knowledge of the Morse system he went on the U. S. Military Lines, and was stationed at Lewes. From thence he went to Wilmington to work the only wire in direct connection with the Army of the Potomac. When Richmond fell, the repeaters were removed to Superintendent Buell's Office, at Newcastle, where he remained until the end of the war. Since then he has been stationed in Philadelphia. Through all these varied services no man can show a clearer record of duty well and faithfully performed. He carries to his new field of effort the respect of his late comrades, and their best wishes for his future welfare.

## TO OUR FRIENDS.

WE desire to return thanks to our friends for the renewed and increasing interest which they have of late manifested in THE TELEGRAPHER. We have daily the pleasure of adding new names to our subscription list, and have reason to believe that Telegraphers are beginning to appreciate the value and importance of this paper to them.

We trust that every one into whose hands the paper shall come, will take a personal interest in increasing and extending its circulation. The list of subscribers should at least be doubled within the next three months, and if our friends will but continue their efforts they may easily accomplish this, thus securing great improvements which such an addition to our means will enable us to make in the paper, and establishing beyond peradventure the maintenance of an organ and advocate of the interests of the practical Telegraphers of the country.

## "THE TELEGRAPHER" ABROAD.

THE reputation of THE TELEGRAPHER as the only purely independent Telegraph Journal published in the United States, is becoming known among the scientists and practical Telegraphers in Europe, if we may judge by the additions to our list of foreign subscribers which we are weekly receiving, although as yet we have no agencies abroad for securing such subscriptions.

We are making arrangements to establish an agency for THE TELEGRAPHER in London, and perhaps in other European cities, which will enable foreign subscribers to obtain their papers regularly, and without the difficulty at present experienced in forwarding subscriptions.

## A GOOD SHOWING.

THE official statement of the Western Union Telegraph Company, for December, 1867, just published, shows:

Receipts.....	\$576,135 19
Current Expenses.....	379,291 35
<b>Net Profit.....</b>	<b>\$196,843 84</b>

This is an excess of receipts over the estimate in the statement of January of \$16,843.84.

It is also officially stated that the receipts of January and February, so far as known, approximate those of the same months in 1867.

This exhibit proves the correctness of the position we have always held, that reasonable competition, and reasonable reduction of tariffs were not inimical to the real and permanent interests of existing Telegraph Companies. Notwithstanding the active competition and very material reduction of tolls which the Western Union has experienced, its gross receipts exceed the estimates, and pay a handsome profit on the *bona fide* capital invested, and at the same time, we are assured that most of the competing lines are doing well.







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Our friends throughout the country are particularly requested to inform us of any necessary additions or corrections in the above list.

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Applicants for insurance must be connected in some capacity with the Telegraphic business, must be not less than eighteen years of age, in good health, and able to earn a livelihood. Every applicant shall pay an entrance fee of two dollars, one dollar of which shall be reserved for creating a permanent fund, and one dollar towards the amount to be paid the heirs of the first insured person deceased, who will receive as many dollars as there are persons insured.

Whenever a death occurs among those insured, an assessment of one dollar and ten cents will be levied upon all. This dollar goes to the widow, orphans, or heirs of the next insured party deceased, and the ten cents to be applied to the payment of current and necessary expenditures.

Applications must be made to the Actuary, in writing, accompanied by a certificate, signed by not less than two persons in the Telegraphic business, of good character, that they know the applicant is fully qualified under the preceding rules.

A small annual assessment, not to exceed one dollar, may be necessary to cover working expenses after the first year.

This plan of insurance will be conducted under the supervision of the Executive Committee of the N. T. U., and it will be their aim to make it as inexpensive as reliability and security will allow. It is unnecessary to make any extended remarks, or any comparisons of the great advantages this plan affords for the payment of ready money, at the event of death, over Life Insurance Companies.

Parties wishing to insure should write out the following questions with their answers thereto:

- What is your name?
- What is your age?
- Where is your residence?
- What is your occupation?
- Have you any constitutional disease or debility?

Sign the above statement, and forward it to the Actuary, with a certificate signed by two persons connected with the Telegraphic business, that the applicant is well known to them, and that the answers given by him to the above questions are correct?

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which is much RICHER AND FINER than brass, he now presents his work in a style and of a quality that are unsurpassed. His relays were awarded the

**FIRST PREMIUM**

at the late Great Fair of the American Institute, New York, and their superiority is generally acknowledged by operators who use them.

Aside from the advantages apparent upon inspection of these magnets, their acknowledged merits consist in the construction of the helix, which was patented Aug. 15, 1865. This being of naked copper wire, so wound that the convolutions are separated from each other by a regular and uniform space of the 1-800th of an inch, the layers separated by thin paper. In helices of silk insulated wire, the space occupied by the silk is the 1-15th to the 1-300th of an inch; therefore a spool made of a given length and size of naked wire will be smaller and will contain many more convolutions around the core than one of silk insulated wire, and will make a proportionably stronger magnet, while the resistance will be the same.

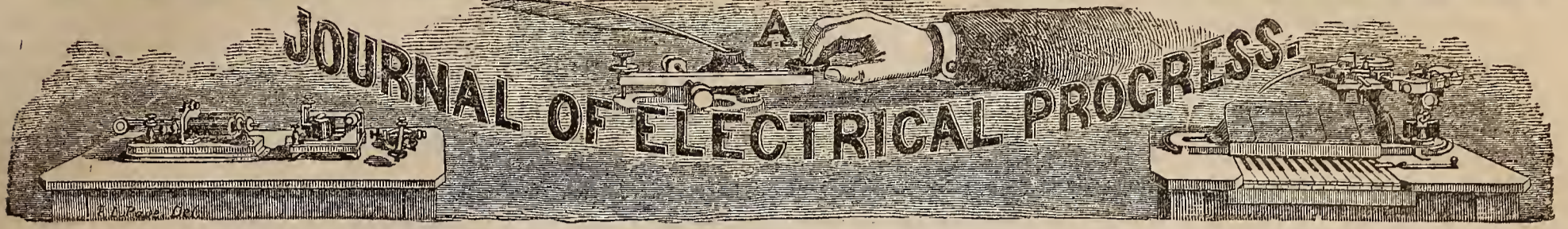
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Relays, with helices in bone rubber cylinders (very fine).....	\$19 50
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All other appliances made to order. Extra spools for replacing such as may be spoiled by lightning, furnished at \$1 25 each. Old spools taken at the price of new wire by the pound. Goods sent to all parts of the continent, with bill C. O. D. Or, to save expense of returning funds by express, remittances may be made in advance by certified check, payable in New York, or by Post-office order, in which case he will make no charge for package. He has ample facilities for furnishing all other kinds of Telegraph Supplies at lowest manufacturers' prices.



# THE TELEGRAPHER.



Vol. IV.—No. 29.

New York, Saturday, March 14, 1868.

Whole No. 87.

## Life of Judge John D. Caton.

[Concluded.]

### THE TELEGRAPH IN THE NORTHWEST—ITS EARLY STRUGGLES AND FINAL SUCCESS.

FOR the first eight or ten years after he assumed the management of the Illinois and Mississippi Company, in addition to his judicial and other duties and engagements, JUDGE CATON personally superintended the details of the lines, appointing and discharging its employes, ordered the supplies, and attended to the disbursements. He also negotiated and drafted all the important contracts with Railroad Companies and other parties. Altogether, these duties certainly involved a very great amount of labor, much more than would be the case now, since everything has been reduced to a system, and precedents are to be found for almost any contingency.

The drafting of the first contracts with the Railroads was no light labor and responsibility, when every provision was new, and every contingency had to be anticipated. Experience suggested improvements in the provisions of these contracts; to the benefit of both parties, as the capacity of the Telegraph became developed in the service of Railroads, and in every case new contracts have had to be made to supersede, in whole or in part, those first entered into.

From the date of the consolidation before mentioned, the lines of the Illinois and Mississippi Company have been profitable to the stockholders; its business and its profits increasing regularly and progressively, until all the lines and property of the Company were leased to the Western Union Company, and delivered to them on the first of July, 1867.

JUDGE CATON says this negotiation for leasing to the Western Union Company was the most arduous and difficult he ever had to conduct in regard to Telegraph matters, and in it he was greatly assisted by JOHN M. DOUGLASS, Esq., who investigated the whole subject carefully, and on whose judgment and discretion he very much relied. With the consummation of this contract, JUDGE CATON retired from active participation in Telegraph matters; but whether he will be content to remain a spectator of future Telegraphic struggles and successes, time alone can determine.

In addition to the Telegraph duties heretofore stated, JUDGE CATON was actively engaged in connection with the North American Telegraph Association, and in important negotiations with other Telegraph Companies, all of which involved frequent and long journeys, during the most difficult and laborious part of his management of the Illinois and Mississippi Company. In addition to all these, up to the time of the resignation of his judicial office, he did his full share of the work upon the Bench of the Supreme Court—a labor as severe as that which has ever been imposed upon any Court in this country. To appreciate the amount of labor involved, it must be

considered that three Judges constitute the Court of final resort for a million and a half or two millions of people, and that the business of the Court was always kept up promptly. These Judges are required, by law, to write out an opinion upon each case decided by them, such as they were willing should be subjected to the criticism of a learned profession, and which was to be cited as a precedent in after times, and before the tribunals of other States. In no solitary instance was JUDGE CATON ever known to neglect his judicial duties to attend to other business, no matter how pressing it might be.

In addition to the engagements and labors before enumerated, he also took an active personal interest in a Starch Factory—the Ottawa Water Works—the Telegraph Instrument Factory—Copper Mines, and vessels on the Lake; and, besides all these, a large farm demanded and received a portion of his time and attention. The Ottawa Water Works were constructed entirely under his supervision, and for it he did all the engineering—of itself no insignificant task.

His reading during all this time has been varied and extensive, seldom a day passing, during the last thirty years, unless when travelling long distances, but that he found opportunity to devote some portion of it to literature, or to the arts and sciences.

To those who have known the amount of business and labor performed by JUDGE CATON, it has been a matter of remark and surprise that he should manage to accomplish so much, and yet never appear to be in a hurry, and with leisure to participate in the social intercourse of life.

The solution of this problem is very plain and simple. He has disciplined his mind, from boyhood, to think of one thing at a time—that is, to concentrate his whole mental powers upon one subject without the intrusion of another, and was able to transfer his mental energies from one subject to another frequently and rapidly, and with this capacity a person can think of many dissimilar subjects as thoroughly and exhaustively as if but one subject occupied his attention and thoughts. Although not what might be termed a rapid thinker—and every subject of importance has required earnest and full consideration—yet, when a conclusion was once reached, it was generally final, and subsequent reflection has usually confirmed rather than reversed it. He was also fortunate in possessing a rare faculty for judging of men, rarely mistaking the capacity of an agent to accomplish the purpose for which he was selected. An illustration of the correctness of his judgment is shown in the cases of the two gentlemen employed by JUDGE CATON as Superintendents of the lines of the I. and M. Co.

MR. E. D. SWEET first became connected with the I. and M. Co. in 1849, and has remained with it in all its changes until the lease of its lines to the Western Union Company, when he assumed the Superintendency of the Consolidated lines at Chicago.

MR. J. S. WILSON first became connected with the Company in 1847, and has remained faithful to its fortunes, and is retained as one of the Superintendents of the Consolidated lines.

Very much of JUDGE CATON'S telegraphic success is due to the zeal and ability displayed by these gentlemen in seconding his plans, and carrying into effect the improvements which were originated and adopted to extricate the Company from the misfortunes which well nigh worked its destruction. JUDGE CATON always fully acknowledged his indebtedness to them, and has always manifested a sincere interest in their welfare and prosperity, which, on their part, is fully reciprocated.

Another element of his success is his patience and perseverance. He was willing to wait long years for final success, when he thought there was good reason to believe that success in the end was certain. Most of the enterprises in which he has been engaged, at first were apparently failures; but, as in the case of the Telegraph, he could see, beyond this, future success, and has persevered until, after long and patient labor and waiting, success has finally crowned his efforts. Indeed, stability of purpose is an indispensable element of character to insure success. Without it, genius, talent and industry are more likely to fail than succeed.

Although JUDGE CATON has resigned his Judgeship and retired from the active management of the Telegraph, he does not propose to entirely withdraw from business pursuits. To a mind and body which for a long series of years have been so actively employed, continual activity is indispensable to health and happiness, nor does he believe that any one, who believes he has capacity for usefulness, has a right to withdraw himself entirely from useful pursuits, however much his pecuniary circumstances might warrant his so doing.

JUDGE CATON still retains an active interest in the various enterprises heretofore referred to, and is also taking an active part in the erection of glass works at Ottawa, which, like other enterprises in which he has been engaged, bids fair also to be successful.

He has always maintained a liberal hospitality, especially enjoying the society of his friends, towards whom he has ever manifested the warmest and most enduring attachment. He is proverbially liberal and charitable toward his fellow-men, especially toward those who are in misfortune and suffering. His charities are exercised in an unostentatious way, but are not for that any the less creditable or effective. He has ever lived an upright and honorable life, prizing a reputation for honesty and integrity above all else.

Not forgetting his own early struggles and trials, he has always extended to the young and enterprising encouragement and assistance, and has taken pleasure in so doing.

In closing this brief and imperfect sketch of an active, useful and spotless life, we can only express the hope that JUDGE CATON may be spared many years to enjoy the pecuniary results of his labors, and that his declining years may crown with new usefulness and happiness an existence which, it may be truly said, has not been in vain.



## 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.

CINCINNATI, O., March 1, 1868.

TO THE EDITOR OF THE TELEGRAPHER.

At a meeting called together by the Telegraph Operators of this city, on Sunday morning, March 1st, 1868, to take action on the death of their brother operators, HARRY J. KEABLE and A. W. RALEIGH, the following was transacted:

On motion of Mr. C. M. KNOX, Mr. JNO. C. MATTOON was chosen Chairman; and on motion of Mr. E. C. ARMSTRONG, Mr. C. L. SNYDER as Secretary.

The Chairman appointed the following committees to draft resolutions.

Messrs. S. P. PEABODY, M. B. GRAHAM and C. M. KNOX, on the death of Mr. KEABLE. Messrs. M. C. BRISTOL, W. T. KING and G. K. SMITH, on the death of Mr. RALEIGH.

The following resolutions were presented by the respective committees, which were read and unanimously adopted:

Whereas, It has pleased the Almighty, in His Divine Providence, to remove from our midst our brother operator, HARRY J. KEABLE.

Resolved, That while we humbly bow to the Divine decree, we can but deeply mourn the loss to his associates, of a genial companion and a warm hearted friend, and, to his employers, of an operator of much more than ordinary ability.

Resolved, That we hereby extend to the relatives and many friends of our deceased brother, our earnest sympathy, in this, their deep affliction.

Resolved, That a copy of this preamble and resolutions be forwarded to the family of the deceased; to the papers of his native place, and to the *Journal of The Telegraph* and THE TELEGRAPHER of New York city, for publication.

S. P. PEABODY, }  
M. B. GRAHAM, } Committee.  
C. M. KNOX, }

Whereas, It has pleased the Almighty to take from our midst, our brother operator and esteemed friend, A. W. RALEIGH, and while we bow with humble submission to the Supreme Will,

Resolved, In his decease we lose an endeared associate, a credit to the fraternity, and an ornament to society.

Resolved, That we cannot too highly commend his religious and upright character, whereby he endeavored to fit himself for that "House not made with hands, eternal in the heavens."

Resolved, That we tender to his bereaved relatives and friends our sincere sympathy in their great loss, and that we send them a copy of these resolutions in token thereof; and lastly,

Resolved, That we furnish a copy of these resolutions to the Cincinnati papers, THE TELEGRAPHER and the *Journal of the Telegraph*, for publication.

M. C. BRISTOL, }  
W. T. KING, } Committee.  
GEO. K. SMITH, }

On motion of Mr. GRAHAM, the Secretary was instructed to request that the Hamilton and Wilmington (Ohio) papers please copy the action of the meeting in regard to Mr. RALEIGH.

Understanding that the body of Mr. RALEIGH would pass through the city on Monday morning, to the final resting place, at Hamilton, Ohio, on motion of Mr. ARMSTRONG, the Chairman appointed a Committee of four (Messrs. MATTOON, HARTMAN, KING and ARMSTRONG) to escort the body from the Little Miami to the Cincinnati, Hamilton and Dayton Railroad Depot.

After some minor transactions, the meeting adjourned.  
C. L. SNYDER, Secretary.

## Oliver Hits Back.

CHICAGO, March 5th.

TO THE EDITOR OF THE TELEGRAPHER.

Several years ago, one of the operators in the Milwaukee office, in receiving a message in which the word *Oneida* occurred, got it *one idea*. We suppose this is where "Perpetrator" got the *idea* from in the communication in THE TELEGRAPHER of the 29th ult. Who, in receiving a message in which the word *orion* occurred, copied it *or I on?* Who, in sending copied messages, sent *facile judex fobo en conomy*, &c., for the words *facile index folio*, &c.? Echo answers *whew*.

OLIVER.

ROCK SPRING, KANSAS, March 1st.

TO THE EDITOR OF THE TELEGRAPHER.

Your recent articles in reference to the duty of operators joining the N. T. U., induce me to narrate my experience in endeavoring to connect myself with that institution; and, as I understand it has been similar to that of many others, you will see that it is not entirely our fault that the Union does not embrace more of the practical Telegraphers of the country.

I have been for some time desirous of connecting myself with the Union, which I consider a praiseworthy institution; but, being a young operator, and unacquainted with any of the members, it was some time before I could learn to whom to apply. About four months since, I wrote to the manager of Kansas City office on the subject, but received no reply. About two months ago, after two applications to the manager of the Lawrence office, he said he would propose my name at the next meeting. Since then I have heard nothing about it, and so conclude that they have all the members they want.

If this is the encouragement operators desirous of joining the Union get from the officers of the Union, it must, indeed, be no cause of surprise that its members do not increase more rapidly.

J. E. M.

## Interesting Eastern Telegraph News.

TO THE EDITOR OF THE TELEGRAPHER.

I like your last editorial *very much* indeed. It ought to do a heap of good, and I trust it will. Seems very strange to me Telegraphers should be so lukewarm in the good cause. Strange they can't see where their true interest lies. "In union is strength," of course, and every intelligent man in the business surely must see it, if he would reflect a very little upon the matter; and to see is to believe, and to believe is to realize the importance of putting the shoulder to the wheel; and to realize the importance of putting the shoulder to the wheel, is to *put* the shoulder to the wheel, that is, to *join* the Union, and *work* for it *actively*.

There has been a change in the Superintendency of the "International Telegraph Company" lately. CHAS. H. SAWYER, Esq., terminated his connection with that Company, as Superintendent, on the 29th ult., and A. D. BROWN, Esq., of this city, has been appointed Superintendent in his place.

I know nothing of the reasons for this change, but merely give you the facts as I have received them.

Mr. SAWYER was one of the original members of the Maine District N. T. U.—is still a member, "in good standing"—is an accomplished Telegrapher, and I sincerely trust he will remain in the business.

Candidates for membership in this District are still coming forward. Have now four or five to present at next meeting.

W. P. M.

## THE TELEGRAPH.

EXTENSIVE USE OF THE TELEGRAPH.—During the three days of the Impeachment excitement here, one of the Telegraph Companies at Washington sent over the wires 371,647 words of newspaper press and commercial matter. The largest number of words sent to any one newspaper on a single night was sent to the *Tribune* on the night of the 23d of February.

MISSISSIPPI VALLEY NATIONAL TELEGRAPH COMPANY.—A correspondent at Prairie du Chien, Wisconsin, writes us that the Mississippi Valley National Telegraph Company are getting along finely. Their general agent, MR. JOHN COLLET, states that they were delayed on account of the failure of the wire contractors to fill their contract in time. They expect to have their lines working between Prairie du Chien, Wis., and St. Paul, Minn., by the 1st of July.

The following is from the Dubuque (Iowa) *Times* in reference to this Company: "The poles are now being set at the rate of a mile per day, and extend from Minneapolis, Minn., to within a few miles of Lansing. The wire is now at Minneapolis and La Crosse, and would probably have been strung the whole distance had the weather permitted. We understand, however, that this work has been commenced, and will be pushed forward with energy. Enough poles and wires have been contracted for by the Company to complete the line to St. Louis, and the Company hope to have it in working order by the 1st of July next."

A NEW LINE IN TEXAS.—The Government is about to build a line from San Antonio to El Paso, Texas, a distance of 800 miles, connecting all of the frontier posts on the route. It is also stated, through reliable source, that the whole line from the Rio Grande to Red River will be connected by Telegraph, with efficient cavalry on the frontier to ensure protection for both lines.

TELEGRAPH ENTERPRISES IN MEXICO.—A Mexican capitalist named BUSTAMENTA has a grant for the immediate construction of a line from Matamoras to San Luis Potosi, Mexico. Steps have also been taken for the connection of this country with Mexico, by a line from San Antonio, Texas, to Matamoras.

BADLY MIXED UP.—Forty-three crosses and nine breaks were found within the city limits of Chicago, on Monday the 2d; result terrible wind and snow storm previous night.

CABLE INTERRUPTION.—An iceberg, it is reported, has grounded on the sub-marine cable between Cape Tormentine and Cape Traverse. The Prince Edward Island newspapers are thus deprived of their telegraphic dispatches from all parts of the world.

SPECIAL from Madison, Wis., dated March 4th, says: In the Senate last night, Assembly bills were concurred in incorporating the Mississippi Valley Telegraph Company.

[By Atlantic Cable.]

LONDON, March 7—Evening.

MR. G. W. HUNT, M. P., who resigned his seat when he went into the Cabinet, has been re-elected from Northamptonshire. He will soon bring a bill before Parliament for the purchase by the Government of all the Telegraphs in the kingdom.

LONDON, March 10.

A satisfactory arrangement has been effected between the Anglo-American and the Atlantic Telegraph Companies, which it is believed will remove all the differences between them which have heretofore hampered the management of the Atlantic Cable affairs. The details of the arrangement have not transpired.



PERSONAL.

J. M. FORSHER, of Hayes City, Kansas Office, has resigned his position, and is going to the gold regions.

J. M. L. CRAIG takes KING's place as day operator.

MR. MCSWEENEY takes a position in the same office as night operator.

J. H. VESTAL, of Junction City, has returned from Kentucky, and resumed his duties as train despatcher.

CHICAGO, March 4, 1868.

TO THE EDITOR OF THE TELEGRAPHER:

I can tell my name; but Lord, how it does worry me.  
DORSE BERRY.

MR. C. E. MARKESON, formerly night operator at Prairie du Chien, Wis., has resigned, and taken charge of the office at Lime Springs, Iowa.

MART. SMITH leaves the W. U. Co.'s Gold Board Office, on the 6th, to engage with the Franklin Company in this city.

W. B. CLUM, so well known among Eastern Telegraphers, will take charge of the Franklin Company's (C. W.) Capitol Office, Washington, D. C.

R. W. SPRAGUE has resigned his position with the W. U. Co. in Boston, and enters the employ of the Franklin Company in this city.

MESSRS. WADDELL and GRIFFIN have resigned from the employ of the Franklin Telegraph Company.

J. T. MCCONNELL has taken a place in the Peoria, Ill., Office, as night operator.

J. T. STEVENSON has resumed his position in the Chicago Office.

MISCELLANEA.

CHICAGO, March 5th.

SHOCKING.—ROUSSEAU, one of our repairers, was out to-day fixing the lines, and while up on a pole, his clothes being wet from the rain that was prevailing, he received a shock which made him let go his hold, and he slid down some distance before he regained it, and in the descent ruptured his garments considerably.

OPERATOR.

AN Irishman, evidently a native of Germany, offered the following message for transmission from a town in Eastern Maine:

"Michael murphy, New York.

"Vy town you send te coots? Sent fisites unt shaltz.  
"HANS KRAUT."

This was intended to mean: "Why don't you send the goods? Send visites and shawls."

THE Vermont Spiritualists are about to start a paper at Montpelier, to be supplied with "communications" telegraphed from the seven spheres.

It would appear from a letter received from Key West, written by an electrician of the Cuba cable, that the Gulf currents have become deranged by the recent convulsions of nature.

ELECTRIC BLASTING.—The powder blasts in the west shaft of the Hoosac tunnel were recently fired, for the first time, with an electric battery at the mouth, as an experiment preparatory to firing glycerine blasts in that manner.

CONUNDRUM.—Why is a Plug operator like the letter "B?" Answer—Because he is always in "trouble."

CONUNDRUM FROM OUT WEST.—Why was the late *Telegraphic Journal* like a premature birth? Because it was a perfect *a-borst-ion*.

What Really Goes by Telegraph.

An elderly lady in Vermont, a farmer's wife, called out to the foreman who was superintending the setting of the poles and the stretching of the wires across her husband's farm, to ask as follows: "Say, Sir, do the letters go *inside* or *outside* of them wires?" "Inside, ma'am," replied the workman. "I knowed they must go inside," she said, "for I watched the wires so close that I was sure they did not go outside."

A great many persons are puzzled to know *what it is* that goes along the wire in making a telegraphic communication, and *how it goes*. What is really transmitted, at least so the electricians suppose, is simply a series of *pulsations*.

When a person is shaking a carpet spread upon the grass, he sends a series of undulations across it, from one side to the other, at every rise and fall of the edge which he holds in his hand. If there were another person at the opposite edge of the carpet, and the two were to agree that *one* wave transmitted in this way should mean Yes, and *two* waves No, a telegraphic communication would be established between them, very analogous, in its mode of operation, to that of the electric wire—as the philosophers of the present day understand it.

Undulations of this kind could be transmitted through a carpet for a few feet only, but through a rope lying on the ground they could be sent much farther. By means of a wire stretched between two distant points, the pulsation or vibrations excited by a blow struck upon it, and impelled by the elasticity of the metal—which pulsations are only *undulations* of a very intense and rapid character—might be transmitted to a vastly greater distance, and at an almost infinitely higher speed. The distance and the speed, however, attainable in this way, are as nothing compared with those realized by the supposed pulsations of electricity which a metallic wire conveys. These last run from one point to another, along an insulated wire, at a rate which makes transmission practically instantaneous for any distance yet attempted by man.

Thus, what is really transmitted along the telegraphic wire is a series of *groups* of electric pulsations—for the individual pulsations succeed each other with a rapidity infinitely too great to be separately recognized—the several groups forming what might be called so many electric *shocks*, since they would produce shocks if they passed through the animal system. Instead of this, however, they are employed at the end of the line in imparting a series of motions to an iron bar through a *magnetic effect* which they produce, and the various combinations of these motions represent the letters of the alphabet; and thus the words of the message are spelled.

It is universally taken for granted by the philosophers of the present day that the phenomena of heat, light, and electricity are produced through the medium of some species of *vibration* or *pulsation*, which is of extreme minuteness in respect to dimension, but of great intensity in force. In the case of light, for example, they suppose that these pulsations are transmitted through a very subtle ether which fills all space. There are but two ways, they reason, in which we can conceive of a force being transmitted through space from one point to another; one by a *progressive motion* of material particles emitted by the body from which the force emanates and impinging upon the one acted upon, and the other by an *undulatory motion* transmitted through an elastic medium filling the space between them; and as the former has been shown to be impossible, the latter it is concluded must stand as the real explanation.

This seems very conclusive, it is true; and yet after all, the philosophers do not appear to differ very greatly from the good lady in Vermont in the character of their logic. She could conceive of but two ways in which telegraphic communications could be conveyed, namely, by letters sent either within or without the wires. She satisfied

herself that it was not the one, and of course, it must certainly be the other. In the same way the philosophers can conceive of only two possible modes of the transmission of light, namely by progressive and by undulatory movements of intervening matter. They satisfy themselves that it cannot be the one, and infer that, of course, it must be the other. The possibility of their being other modes of transmission of force beyond their experience, and, of course, beyond their power of conception, does not seem to be taken at all into the account by either party.—*Exchange*.

An Actual Fact.

SCENE—AUCTION STORE.

*Auctioneer*.—Now, gentlemen, here is an article, heavily bound with brass, manufactured by Beardsly. It must be a music-box. Let us look! Yes! Lever plate with the handle inside. How much shall I start this *immense* instrument at?

*Bidder*.—Will the thing go?

*Auctioneer*.—Yes. (Turns the handle, and says it is all right.)

*Ancient Greek*.—Fifteen dollars! At which it was knocked down to him.

Imagine his feelings when he is told by an old operator that instead of buying a *music-box*, he has bought a magneto-electric machine.

The Greek was astonished, and when the fact was proved to him, he sold it to the party informing him for a V.

*Morale*.—An old adage of buying a pig in a poke.

SOUND MADE VISIBLE.—At the Royal Institution in London recently, according to the *London Lancet*, Prof. TYNDALL repeated some of the interesting experiments by which he has on previous occasions given ocular proof of the effects of sonorous vibrations. When a jet of gas is burning under an amount of pressure which is but just short of the "flaring" point, it becomes excessively sensitive to a momentary increase of pressure, and will respond in the readiest manner to the slightest acute sound, vibrating actively to the merest "chirrup" of the lips. A still more remarkable demonstration was made with a thin column of smoke, of which the shadow was cast on a screen by means of an electric light; here the sound became so sensitive that the slightest vibration of the air affected it, and two tuning-forks making a discord produced the well known beat which was attended by a marked pulsation of the edges of the shadow. Perhaps the most beautiful ocular demonstration of the effect of sound was produced by throwing the electric light through a minute stream of falling water, the effect being to produce a string of glittering drops of the most beautiful appearance. When musical notes were sounded in the vicinity, these drops altered their arrangement in obedience to the waves of sound, and clearly indicated by their modified appearance the effect produced upon them.

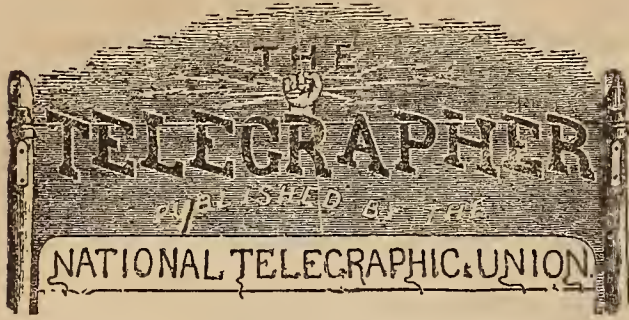
APPLICATION will be made to the Dominion Parliament during the present session, for an act of incorporation for the Telegraph Banking Company of Montreal.

POETICAL EXPLANATION.—The following novel and poetical explanation accompanied an error sheet on being returned to the Check Department by a certain Huntsville office, to whom it had been sent by mistake—it being intended for Huntsville, Texas:

Here I come again to greet you,  
With "Error Sheet" prepared to meet you,  
Look sharply out for Huntsville, Texas,  
That Hoosier cuss doth muchly vex us.

UNITED STATES AND MEXICO TELEGRAPH COMPANY.—We learn that the material for building this line, which will extend from Denver, C. T., to Santa Fe, N. M., and eventually into Mexico, has been purchased, and preparations for building the line will commence at once. The common glass insulator will be used.





SATURDAY, MARCH 14, 1868.

#### SUPINENESS OF OPERATORS.

WE are in receipt of several letters from District Directors and others, complaining of the indifference of the Telegraph Operators to the success of the Union, in their respective localities. In some cases those inert and lifeless members of the profession paralyze and neutralize the efforts of those who are disposed to be earnest and zealous, and who have sense enough to see beyond the present moment, and realize the importance of such an organization as the National Telegraph Union to the Telegraphers of the country. These appeal to us for counsel, encouragement and advice in this dilemma. We must confess that we are rather non-plussed, and hardly know what to say in answer to such appeals. It seems to us to be evidence of such stupidity and utter lack of forethought and comprehension on the part of Telegraphers who refuse or neglect to connect themselves with the organization, that it appears to be almost useless to seek to interest them in this or any other scheme for their benefit. It is a subject of frequent and not complimentary comment on the part of those who are laboring to improve and elevate the condition and prospects of the Telegraphers of the country, that the worst obstacle they have to encounter is the inertness and supineness of the very class whom they are seeking to benefit. It appears to be almost impossible to induce many of them to labor or hope for anything beyond the present hour. Telegraphers *should* be intelligent, active and appreciative. Some of them are so, and these are quick to realize the importance of the Union, and the other plans attempted to be worked out for the benefit of all. It is such as these that maintain the Union, Insurance Bureaus, Co-operation movements, etc. They accomplish much good, and, in fact, keep the profession from subsiding into mere serfs and machines. To their energy and determination is mainly due the exhibition of any *esprit du corps* among the Telegraphers of the country. They deserve to be more generally and generously sustained by their fellow-laborers and associates. Will not the Telegraphers at once awaken to the importance of these things to them, and take hold with energy and determination, and uphold the hands of those who desire that they shall be something more than mere machines, bound to labor for life for a bare subsistence, and, at last, when they can no longer work, be turned over to the poor-house for support, or maintained by subscriptions doled out by those who, in their turn, shall follow in the same course?

MR. CROMWELL F. VARLEY, the distinguished English Telegraphic Engineer and Electrician, who has been spending some months in this country, sailed for England on Wednesday. Mr. VARLEY has been for some time engaged in making tests of the lines of the Western Union Company, and if he has succeeded in opening the eyes of the managers of the Company to the wretched construction and insulation of the majority of their lines, he will have accomplished a good work. We wish Mr. VARLEY a prosperous and pleasant voyage, and hope to see him in America again at some future day.

#### DERELICT UNIONISTS.

It appears that some of the members of the Union do not regard as they should that clause of the Constitution of the N. T. U., which require them, upon changing their residence, to connect themselves with the nearest District to their present location, of course first procuring an honorable discharge from their former District. This ought not to be. Members of the UNION should not fail to carry out the requirements of the Constitution in this respect. It is important, especially in Districts where the Union is comparatively weak. In such Districts every additional member is of value in sustaining the organization, and in encouraging others to connect themselves with it.

Our attention has been specially called to this matter by the District Director of the West Virginia District, who says there are several members of the Baltimore District in his locality who have neglected to perform their duty in this respect. We have also heard similar complaints from other Districts. We, therefore, call attention to the matter, and earnestly hope that all concerned will at once take the necessary steps to correct this state of things.

MR. T. P. SCULLY has resigned his position, as a Printing Operator, in the Western Union Office, at 145 Broadway, and sailed Wednesday, March 11th, for Panama, where he has accepted the position of Chief Clerk in the Steamship Department of the Panama Railroad Company.

Mr. SCULLY is an excellent Telegrapher, and while his retirement from the business is generally regretted, he has the best wishes of all his friends and acquaintances for his health and prosperity in his new position.

#### A TELEGRAPHIC NOVELTY.

MESSRS. J. B. STEARNS and J. G. SMITH, of the Franklin Telegraph Company, have been for some time engaged in perfecting an apparatus for working in both directions over a single wire at the same time. The method employed is the one originally devised in 1854 by FRISCHEN, Inspector of Telegraphs in Hanover, Germany, but has been improved by the addition of a local circuit attachment to the transmitting apparatus. A wire between this city and Boston has been worked in this manner during the past week with the greatest success. The above gentlemen are entitled to much credit for practically introducing this system on the American lines. In many cases it will be found a valuable addition to the facilities of a Telegraph Company having but a limited number of wires.

#### THE EDITOR'S STUMBLE.

THE "Easy Chair" of the Executive Office and the *Journal of the Telegraph* says he has been *stumbling* into MESSRS. CHESTER's workshop for the last twenty years. We should have been less surprised at this if it had been written by a patron of the building opposite, as a stumbling gait is very common there; but we do not REID our friend right if his stumbling arises from a similar cause, and think it must be from some peculiarity in the construction of CHESTER's stairs.

#### WANTED.

OWING to the demand for back numbers from new subscribers desiring to secure all the numbers of the current volume, our supply of numbers 77, 78, 79 and 81 is exhausted. If any of our friends have these numbers, or either of them, and are not desirous of preserving them, they will confer a great favor by forwarding them to this office.

#### BRITISH TELEGRAPHIC FESTIVITIES.

It appears from the following Telegraphic Cable Correspondence, that our British Telegraph friends on Tuesday last indulged in one of their frequent gustatory performances, at which MR. CYRUS W. FIELD assisted. During the progress of the feast the following messages and answers were sent and received:

The following telegrams were received at two o'clock P. M., and the replies forwarded at three o'clock:

PALACE HOTEL, London, March 10—7 P. M.

TO THE PRESIDENT OF THE UNITED STATES:

The guests assembled at the Telegraph Banquet send their assembled greetings to the President of the United States, and trust that the telegraphic union between England and America may never be interrupted, nor their friendship broken.

C. W. FIELD.

PALACE HOTEL, London, March 10—P. M.

W. H. SEWARD, Secretary of State:

The principal gentlemen in England that have been connected with establishing telegraphic communications between this country and America, now assembled around this table, send their kind regards to the Secretary of State, and remember with pleasure the interest he has always taken in communication across the Atlantic.

CYRUS W. FIELD.

WASHINGTON, March 10—3.30 P. M.

TO CYRUS W. FIELD, Esq., Palace Hotel, London:

I congratulate the telegraph builders, that, instead of building a bridge for the tramp of hostile armies across the Atlantic, they have stretched a wire beneath it which effectually exchanges friendly sentiments, sympathy and affections.

WILLIAM. H. SEWARD.

WASHINGTON, March 10—3.30 P. M.

CYRUS W. FIELD, Palace Hotel, London:

Express my congratulations to the Telegraph Festival Assembly. I wish them all possible success, that their wires may be multiplied through many seas, and their stakes extended around the world.

ANDREW JOHNSON.

#### An Ex-Telegraph Operator Gone to the Bad.

HENRY GIBBONS, formerly an operator in the Western Union Office, at the Gold Board, but more recently a clerk in the office of the Merchants' Union Express, at 365 and 367 Broadway, was arrested, Saturday afternoon, for embezzling funds from packages entrusted to the Company for transmission. GIBBONS confessed his guilt, and restored to his employers the amount embezzled as far as is known. He is a native of this city, twenty-six years of age, and resides at 30 Laight street. JUSTICE DOWLING committed him to the Tombs.

INGENIOUS MANNER OF RECEIVING A TELEGRAPHIC MESSAGE.—A train on the Pennington and Rutland (Vt.) Railroad got stuck in a snow bank, near Shaftsbury, and could stir neither way. JOHN HILLS, a Burlington Telegraph operator, cut the telegraph wire, and, by attaching thereto a piece of wire, made a circuit by striking this against the end of the conducting wire, and communicated their condition to Rutland, whence an engine was sent to relieve the train. HILLS received his answers by placing the ends of the wire on either side of his tongue and receiving in his system the shocks produced by the vibrations of the key in the Rutland telegraph operator's hands.

LIGHTNING caught and tamed by Franklin. Taught to read and write, and go on errands, by Morse. Started in the Foreign Trade by Field, Cooper & Co., with Johnny Bull and Brother Jonathan as special partners.











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Telegraph Machinery and Supplies

OF EVERY DESCRIPTION.

CATALOGUE.

Acids—Nitric and Sulphuric, manufactured expressly for Telegraph purposes.  
 Battery Brushes.  
 Blue Vitriol.  
 Cross-Arms.  
 Cables, of any desired size, to order.  
 Chamois Skins.  
 Funnels, Gutta Percha and Glass.  
 Fluid, for Carbon Battery.  
 Galvanometers.  
 Ground Switches.  
 Insulators—Glass, Rubber, Brooks' Patent, or any desired style.  
 Insulator Brackets, Hooks, Spikes and Screws.  
 Keys, of the most approved patterns.  
 Local Battery, complete.  
 Local Battery Jars, Glass or Earthen.  
 Local Battery Zincs.  
 Local Battery Porous Cups.  
 Local Battery Coppers.  
 Magnet Wire, Silk and Cotton covered.

PRICES REDUCED.

BY REFERENCE TO

OUR CATALOGUE

(FURNISHED UPON APPLICATION),

It will be seen we have

Reduced the Prices of our Instruments

AND OTHER GOODS

ABOUT

Ten per Cent.,

WHILE THEIR

SUPERIOR QUALITY WILL BE FULLY MAINTAINED.

We have a large quantity of

GLASS INSULATORS,

BRACKETS

AND

CROSS-ARMS.

On hand, for sale low.

CATALOGUE.

Main Battery, Complete, Grove or Carbon.  
 Main Battery Tumblers.  
 Main Battery Zincs.  
 Main Battery Porous Cups.  
 Main Battery Carbons.  
 Office Furniture.  
 Platinum, in Strips, Sheets, or Wire.  
 Platinum Standards.  
 Registers—a superior instrument.  
 Register Weights and Cords.  
 Register Paper.  
 Relay Magnets.  
 Relay Springs.  
 Repairers' Tools, of all kinds.  
 Sheet Copper and Brass.  
 Sounders, Large and Pony Size.  
 Switch-Boards.  
 Sounders for Main Circuits.  
 Stationery, of any description, to order.  
 Wire, Galvanized and Annealed.  
 Wire for office purposes, Gutta Percha or Cotton Covered.

Agents for Gutta-Percha Covered Wire,

AND CABLES OF ALL SIZES—AMERICAN MANUFACTURE.



## NATIONAL TELEGRAPHIC UNION

## Life Insurance Bureau.

THE NATIONAL TELEGRAPHIC UNION, by authority of its special charter, granted by the State of New York, proposes to insure the lives of all persons connected with the Telegraphic business, under the following rules and regulations:

Applicants for insurance must be connected in some capacity with the Telegraphic business, must be not less than eighteen years of age, in good health, and able to earn a livelihood. Every applicant shall pay an entrance fee of two dollars, one dollar of which shall be reserved for creating a permanent fund, and one dollar towards the amount to be paid the heirs of the first insured person deceased, who will receive as many dollars as there are persons insured.

Whenever a death occurs among those insured, an assessment of one dollar and ten cents will be levied upon all. This dollar goes to the widow, orphans, or heirs of the next insured party deceased, and the ten cents to be applied to the payment of current and necessary expenditures.

Applications must be made to the Actuary, in writing, accompanied by a certificate, signed by not less than two persons in the Telegraphic business, of good character, that they know the applicant is fully qualified under the preceding rules.

A small annual assessment, not to exceed one dollar, may be necessary to cover working expenses after the first year.

This plan of insurance will be conducted under the supervision of the Executive Committee of the N. T. U., and it will be their aim to make it as inexpensive as reliability and security will allow. It is unnecessary to make any extended remarks, or any comparisons of the great advantages this plan affords for the payment of ready money, at the event of death, over Life Insurance Companies.

Parties wishing to insure should write out the following questions with their answers thereto:

What is your name?

What is your age?

Where is your residence?

What is your occupation?

Have you any constitutional disease or debility?

Sign the above statement, and forward it to the Actuary, with a certificate signed by two persons connected with the Telegraphic business, that the applicant is well known to them, and that the answers given by him to the above questions are correct?

Applications may be sent to

J. W. STOVER, Actuary,  
Box 5551, New York.

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## Paraffine Insulator Works,

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PHILADELPHIA.

WILLIAM R. ALLISON, Proprietor.

## L. C. SPRINGER,

MANUFACTURER OF AND DEALER IN

## TELEGRAPH INSTRUMENTS

AND SUPPLIES.

## BRADLEY'S RELAYS,

and other desirable instruments of Eastern manufacture on hand  
and for sale. Repairing done promptly.

No. 162 SOUTH WATER STREET,

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## JAMES J. CLARK,

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## TELEGRAPH INSTRUMENTS,

BATTERIES AND MATERIALS,

## HARRISBURG, Pa.

Having had over twenty years' experience in the business, and  
having made many improvements, I am prepared to furnish

INSTRUMENTS AND MATERIALS

of the most approved construction.

## CHESTER, PARTRICK &amp; CO.,

TELEGRAPHIC AND ELECTRICAL

## ENGINEERS AND CONTRACTORS,

38 South Fifth St., Philadelphia,

Manufacturers and agents for every variety of

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Particular attention given to the construction of Telegraph  
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GLASS-WARE.

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Account Books, Writing Papers, Fancy and Staple Stationery,  
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Drawing Materials and Paper, Mourning Paper and Envelopes,  
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Inventor of the "Pony Sounder," Register and Key,

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Batteries, and all kinds of Telegraphic Supplies, constantly on  
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Switches made to order. All articles used by Telegraphers  
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## DR. L. BRADLEY,

AT NO. 7 EXCHANGE PLACE,

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Keeps constantly on hand and for sale his

## Improved Telegraph Instruments.

Having adopted the use of

## OREIDE METAL,

which is much RICHER AND FINER than brass, he now presents  
his work in a style and of a quality that are unsurpassed.

His relays were awarded the

## FIRST PREMIUM

at the late Great Fair of the American Institute, New York, and  
their superiority is generally acknowledged by operators who  
use them.

Aside from the advantages apparent upon inspection of these  
magnets, their acknowledged merits consist in the construction  
of the helix, which was patented Aug. 15, 1865. This helix of  
naked copper wire, so wound that the convolutions are separated  
from each other by a regular and uniform space of the 1-800th of  
an inch, the layers separated by thin paper. In helices of silk  
insulated wire, the space occupied by the silk is the 1-150th to  
the 1-300th of an inch; therefore a spool made of a given length  
and size of naked wire will be smaller and will contain many  
more convolutions around the core than one of silk insulated  
wire, and will make a proportionally stronger magnet, while the  
resistance will be the same.

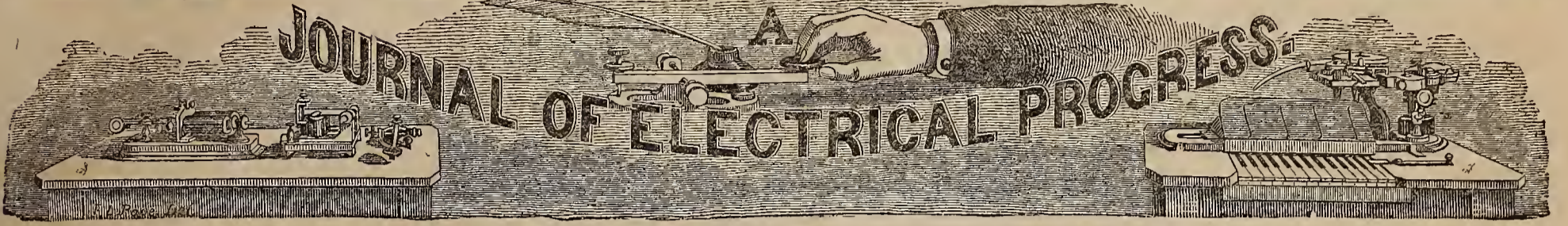
## PRICES.

Relays, with helices in hone rubber cylinders (very fine).....	\$19 50
Small Box Relays.....	16 00
Same in Rosewood.....	17 00
Medium Box Relays.....	17 00
Same in Rosewood.....	18 00
Large Box Relay.....	18 00
Main Sounders, some as the above, with heavy armature levers without local connections, 75 cents less.	
Pocket Relays, with all the adjustments of the above, and good Lever Keys.....	22 00
Excellent Registers.....	40 00
Pony Sounders.....	6 75
Keys.....	4 50 to 6 50

All other appliances made to order. Extra spools for replacing  
such as may be spoiled by lightning, furnished at \$1 25 each.  
Old spools taken at the price of new wire by the pound. Goods  
sent to all parts of the continent, with bill C. O. D. Or, to save  
expense of returning funds by express, remittances may be made  
in advance by certified check, payable in New York, or by Post  
office order, in which case he will make no charge for packages.  
He has ample facilities for furnishing all other kinds of Tele-  
graph Supplies at lowest manufacturers' prices.



# THE TELEGRAPHER.



Vol. IV.—No. 30.

New York, Saturday, March 21, 1868.

Whole No. 88.

[Written for the Telegrapher.]

## THE BUTTON REPEATER.

In the early days of the electric telegraph, when theories so far controlled its construction that iron wires were ignored because of their supposed want of proper conducting capacity, Mr. EZRA CORNELL, now known as one of the heavy "Western Union men," and one of the first philanthropists of this country, arranged the wires of the Ithaca and Auburn Telegraph Company at the city of Auburn, so that when "report" was being sent over the New York, Albany and Buffalo line, the Ithaca and Auburn circuit was forced through the point of contact of the "pen lever" and the insulated sound-post of the N. Y., A. & B. register, simply by withdrawing a metallic wedge from between the sound-post and the metal of the register. This was "Cornell's Repeater;" but, it will be observed, that while the N. Y., A. & B. line could make itself heard on the Ithaca line, the latter could not respond—it supplied the tongue, but not the ear. Subsequently, Mr. CORNELL, in pushing forward his telegraph enterprises, and not having passed the period when great hazards were taken on theories, introduced an insulator consisting of a cast-iron shell and hook, separated from each other and held in their relative positions by brimstone.

A few months' experience on a line from New York City to Fredonia, N. Y., proved that brimstone was not to be relied on as an insulator, and as from day to day the line became more and more difficult to work, Mr. M. L. WOOD, now General Superintendent of the Atlantic and Pacific Telegraph Company, then acting as circuit manager at Ithaca, N. Y., finding that office fast becoming the repeating station for the whole line, turned his attention to the subject of so arranging wires and instruments, that by the simple turning of a button, independent circuits could readily write with each other, and, at will, be again restored to entire independence by a third position of the button.

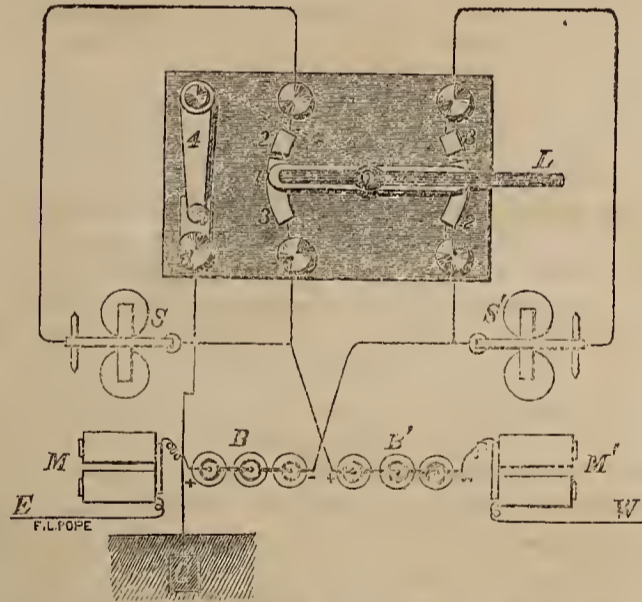
After an hour's study he produced a drawing which, to him, seemed clearly to show the practicability of the undertaking.

Mr. CORNELL, to whom the drawing was submitted, did not believe the desired end could be attained by the means proposed, and being in control of the line, consented finally that Mr. WOOD might take a few hours from office duties to direct a mechanic how to make the machine—provided, that in case of its proving an unsuccessful experiment, he (WOOD) should pay the bill of the mechanic. This was agreed, and on the following night the batteries and wires were arranged, and the "Button Repeater" introduced. The button being properly arranged, and the last connection made, New York was asked to call Fredonia—" - - - - -"; then the western register ceased to respond regularly to the motions of its eastern co-worker—the inventor, with almost breathless interest, turns the button, and - - - -

... comes back in response! "It works!" Mr. CORNELL is convinced, and one dollar and fifty cents, the cost of the first button repeater, is paid by the telegraph company.

Since the button repeater came into extensive use, various inventors have turned their attention to making the action of the instrument automatic. Although some of the devices for this purpose are extremely simple and effective, and have come into extensive use, there are many experienced telegraphers who still prefer the button repeater to any other, in consequence of its simplicity, convenience and entire reliability under all circumstances, when properly attended to.

The arrangement of buttons and connections for this repeater, shown in the annexed diagram, is the one devised by Mr. WOOD, and is at once convenient, simple and effective. The drawing shows the button as manufactured by BRADLEY, and the instruments, batteries and connections are also shown in outline for conveni-



ence of explanation. M and M' are the eastern and western relays, S and S' the eastern and western sounders. The local connections are not shown, but are run as usual. The eastern and western main batteries are shown at B and B', and are placed with opposite poles to the ground, at the repeating station, so that when the line is put "through," the two batteries will coincide.

By means of this arrangement the following result may be obtained:

I. *Two distinct and independent circuits.* The lever L remaining in the position shown in the drawing (marked 1), and the button at 4 closed.

II. *A through circuit.* The lever L remains as before, but the button at 4 is opened, throwing off the ground connection between the two batteries B and B'.

III. *Two distinct circuits arranged for repeating.* The button at 4 is closed. If the lever L be placed in the position indicated by the figures 2, 2, the eastern sounder repeats into the western circuit. If the lever be changed

to 3, 3, the western sounder repeats into the eastern circuit. The operator in charge of a button repeater will find his duty very simple if he governs himself by the following

**RULE.**—When either sounder fails to work coincident with the other, *turn the button instantly.*

In connecting up this apparatus, the arrangement of the poles of the main batteries above specified should be carefully borne in mind. It is also of the utmost importance that these batteries should be perfectly insulated from the ground, as the point at which the circuit is opened and closed is between the battery and the ground. Therefore an escape occurring from the battery to the ground will cause a residual current upon the main line, when the circuit is open at the repeating points of the sounder, and thus interfere with its working.

The repeater button above described is manufactured and sold by DR. L. BRADLEY, of Jersey City, N. J.

## A Literary Curiosity.

It seems strange now to sit down in cool blood and read what was published in the papers of August, 1858, upon the first success of the Atlantic cable. A collection of American journals issued during that eventful month, certainly is a rare literary curiosity. Such a curiosity exists, prepared by the industry of a gentleman who is one of the most careful collectors of the events of his time—thus gathering up and preserving the materials of future history—Mr. JOHN R. BARTLETT, Secretary of State of Rhode Island. This gentleman has kept files of all the papers referring to the Atlantic Telegraph, from which he has compiled a very unique volume. It is in the form of a scrap-book, but on a gigantic scale, being of a size equal to WEBSTER'S large dictionary. It is made up entirely of newspaper cuttings, classified under different heads, and neatly arranged in double columns on nearly four hundred folio pages. The matter thus compressed would make between three and four octavo volumes of the size of PRESCOTT'S Histories, if printed in the style of those works. Everything is included that could be gathered from the European as well as American papers, touching the claims of the inventors and projectors of the Electric Telegraph in general, and of the Atlantic Telegraph in particular. The historical sketches are set off by illustrations taken from pictorial papers. Altogether, it embraces more of the materials of a history of this subject than any volume with which we are acquainted, and well deserves the title prefixed to it by the laborious compiler:

"*The Atlantic Telegraph.*—Its origin and history, with an account of the voyages of the steamers *Niagara* and *Agamemnon* in laying the cable, and of the celebration of the great event in New York, Philadelphia, Brooklyn, Montreal, Dublin, Paris, &c.; together with the Discussions, Sermons, Poetry, and Anecdotes relating thereto; also, a history of the Invention of the Electric Telegraph. Illustrated with Maps, Plans, Views, and Portraits, collected from the newspapers of the Day, and arranged by JOHN RUSSELL BARTLETT, 1858."—FIELD'S *History of the Atlantic 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.

Tom Hood Outdone.

MASSACHUSETTS, March 2, 1868.

TO THE EDITOR OF THE TELEGRAPHER.

There are many successful Telegraph Companies in operation in this portion of the country at the present time, and among them the *International Telegraph Company*, whose lines extend from Boston to Bangor, and are still in progress, is fast becoming one of the UPHAM-most under the management of their new Superintendent, Mr. A. D. BROWN, of Portland, the well known Telegraphic contractor and builder, and with the main office No. 112 State street, Boston, having the advantage of a business CENTER, they cannot help meeting with that success they so justly deserve.

These lines connect with those of the Franklin Company to New York and the West; also with those of the Northern, to the hills of New Hampshire; these, in conjunction, form quite a WEBB of wire; and as all lines require attention, in order that there may be no delays in business, so do the International keep men early and LEIGHT ON, the road, to see that there are no grounds or escapes, crosses or breaks, and to make sure that there is nothing out of GEYER.

The operators having become entirely ALLEN-ated from the old habit of allowing messages to lie upon the table, and in having in use the neat little "Pony Sounder," that rings out like the hammer of a SMITH, which enables them to REED quickly and correctly, crowd message after message upon the wires, which promptness illustrates to the business community that they are thoroughly versed in that NOBLE science, Telegraphy. And now, Mr. Editor, in discharging my *Battery*, I trust I have not cut too broad a *Circuit* or occasioned a *Cross*; but if I have, offended one must SEWELL (sue well), for I shall *Switch* off for the protection of an ar-MORY.

TO THE EDITOR OF THE TELEGRAPHER.

NOTICING, in nearly every issue of your paper, a gleaning of "The Bulls and Goakes committed by Operators," I thought I would give you a bull which was committed on the Erie Road, at S. B., where the wire from H—, Penna., connects.

In the fall of '59 a telegram was sent from a firm in H. to a firm in N. Y.; it was received at S. B., and the operator sent it on to N. Y. as follows: Send me box 18 by 60. Operator at N. Y. says that's not O K; get it repeated, and give me. He did so, and received it correct this time, and sent it so. This time it read: Send me Book for 1860. The operator at S. B. had too much confidence in his being an A No. 1 thribble X class operator, but N. Y. could not see it.

ROTAREPO ROUND THE WORLD.

TO THE EDITOR OF THE TELEGRAPHER:

I must protest against the wholesale slaughter of my article entitled *Electric Influence*, inserted in your issue of March 7th. The omission of the entire part most necessary to give point to the story reveals as it now stands, a most miserable failure which I am not willing to allow, except judgment is passed upon the entire article as you received it. If the article was too long for publication, why not say so, and not print it at all. I deem this explanation—made as public as the mutilated article—to be but justice to mo.

Respectfully,  
N. W. O.

We regret that our friend N. W. O. should have been annoyed by the failure of his article to appear just as it was written. After he has had as much experience with editors and printers as we have, he will become more resigned to such inflictions.

We have not room to republish the article, and cannot return MS. after it has passed through the printer's hands.—ED. TELEGRAPHER.

THE TELEGRAPH.

The National Telegraph Company.

SOME friend in the West has forwarded to us an additional prospectus purporting to have been got out by the NATIONAL TELEGRAPH COMPANY, soliciting subscriptions to the "new range of lines projected for 1868." As that Company have not succeeded as yet in constructing the first mile of the ranges for 1866 and 1867, or any other year, we doubt whether they will find much pecuniary encouragement for the "new range of 1868" among the well-informed.

Telegraphers sufficiently understand these spasmodic attempts at reviving defunct corporations, but the public generally are not so well posted. The only purpose that they can subserve is to cast discredit upon *bona fide* competition, and by their brilliant promises and futile results discourage investments in companies honestly organized and really intended to be built, thus indirectly affecting injuriously the interests of the practical Telegraphers. It is time that defunct corporations cease to encumber the progress of Telegraph extension, and leave the field to living, earnest, determined organizations, who will give something more than extravagant promises, which any intelligent Telegrapher knows can never be realized for even so small an instalment as "one per cent."

Receipts of the Western Union Company.

JANUARY STATEMENT.

Receipts	-	-	-	-	\$539,794 00
Expenses	-	-	-	-	366,446 02
Balance	-	-	-	-	\$173,347 98

THE ATLANTIC TELEGRAPH COMPANY.—The following information was received by steamer *Siberia*, from Liverpool, Feb. 29, via Queenstown, March 1st.

It has since been announced by Cable despatches to the Associated Press that the difficulty has been arranged, and the plan for consolidation of the various interests in the Cable have been consummated.

The result of the poll, demanded at the meeting of the Atlantic Telegraph Company, was a defeat of the Directors' scheme. It seems that proxies, favorable to the Directors' plans, and representing upward of ten thousand votes, had been sent in between the first meeting and the adjourned one, and that they were, therefore, technically and legally inoperative. The striking off of so large a number of votes does not leave three-fourths of the shareholders in favor of the motion, and so far the Board are checkmated. It appears that for the resolution there were 31,051 votes—of which 27,229 were proxies, and 3,822 recorded by shareholders who attended the meeting; whereas the votes against it only amounted to 8,498, of which 136 were proxies.

The votes which were struck off represented £223,420 of stock, and the remaining 20,293 votes represented £426,815 of stock. The stock attached to the votes recorded by the opposition amounts to £170,075, which is a trifle more than a fourth of the whole. The Chairman, after announcing the result of the poll, expressed the determination of the Directors to get possession of their own property.

NEW TELEGRAPH LINE.—A Telegraph line was completed a few days since from St. John's down to Sioux City, Iowa, on the Missouri River. The line runs along the Railroad which has just been completed between those points.

AN EXPLANATION.—We understand that the contract between the *National Telegraph Company* and the *Société Cable Trans-Atlantique*, announced by Cable despatch week before last, referred to a contract with a French Company called the National, and not to the quasi company of that name in this country.

NEW CABLE.—The prospectus has just appeared of the Franco-American Telegraph Company, which proposes to lay a direct cable between New York and France. The capital is one milliou sterling, and the shares are £10 sterling each.

TELEGRAPHIC ENTERPRISE IN MEXICO.—The correspondent of the *New York Tribune*, writing from the city of Mexico, under date of February 17th, communicates the following interesting intelligence relative to the revival and extension of Telegraph enterprises in the Mexican Republic, with the new reign of peace and order under the administration of President JUAREZ.

In Zinapécuaro, subscriptions are being made for the construction of a Telegraph from Michoacan to Guanajuato. Probably within three months there will be communication by Telegraph between San Luis and Tula de Tamaulipas. The Government of Zacatecas has determined to erect a Telegraph thence to San Luis, and has already given \$10,000 for the purpose. Measures are likewise being taken to unite Matamoras with San Luis. When this is done, and another Telegraph established between San Antonio and Brownsville, Mexico will have direct communication with nearly the whole world.

CHICAGO, ILL., March 16th.

TELEGRAPH MEETING IN ILLINOIS.—The route of the St. Louis and Cairo (Ill.) line is to be changed to run *via* Odin and Centralia. They have commenced to put in new poles up this route. The wire between Nashville and Ashley will remain as it is for the present. A line is to be built the coming spring from Chicago to Freeport, Ill., along the Chicago and Northwestern Railway, for the use of the above mentioned Company; also a short wire, of forty miles in length, from Chicago to Turner Junction, for the use of the same Company. The Western Union Company contemplate putting up a second wire from Chicago to Omaha, Nebraska, on the old United States lines poles the coming spring.

EXPERT.

Speed of Transmission by the Morse System.

The following official communication from Mr. ANSON STAGER, General Superintendent, gives a summary of the results of recent trials of the speed of transmission of dispatches by the MORSE system, which will be of interest.

It is accompanied by detailed accounts and certificates, which we have not room to publish.

OFFICE OF THE W. U. TEL. Co., }  
CLEVELAND, O., Feb. 16, 1868. }

Hon. Wm. Orton, President W. U. Tel. Co., N. Y.

DEAR SIR—In compliance with Executive Circular No. 4, the accompanying documents, showing the results of several "Speed Tests" made in this division, are very respectfully submitted.

Doc. C. gives two experiments not embraced in the Table of Results, as follows:

Fifty-nine words were transmitted from Chicago, through a direct circuit of 1,650 miles, to Salt Lake, in two minutes.

One hundred and fifty-four words were transmitted from Chicago to Salt Lake, through two Repeaters, a distance of 1,650 miles, in three minutes and five seconds.

TABLE OF RESULTS.

Designation.	No. of message.	No. words each message.	Total No. of words.	Time in transmission.	Average words per minute.
Doc. A.	40	20	800	30min.	26 2/3
Doc. B.	40	20	800	25 "	32
Doc. C.	60	20	1200	36 1/2 "	33
"	24	20	480	14 "	34 2-7
" Report			965	26 "	37 1-9
" "			2631	60 "	43 5-6
Doc. D.			2530	60 "	42 1-6

Very respectfully,  
ANSON STAGER,  
Genl. Supt. Central Division.



OUT WEST.—We are informed by MR. VAN KLEEK, the contractor for the extension of the A. & P. Telegraph lines, that he is prepared to commence operations as soon as the frost is well out of the ground, and that the lines will be extended to Chicago and Cincinnati, as rapidly as is consistent with the substantial and permanent construction of really first-class lines.

A correspondent writing from HOUSTON, TEXAS, Feb. 29th, says:—"We are having a happy time with the cables in the Bay—both been broken by schooners three times within the last month, and are broken now." He also adds: "THE TELEGRAPHER is taken in every office in Texas, and is prized very highly."

THE W. UNION Co., are buying poles to put up a line a long the U. P. Railroad.

#### The Cuba Telegraph.

Gen. W. F. SMITH, President of the International Ocean Telegraph Company, left New York for England on Wednesday last, March 11, by the Cunard steamer Australasia, in company with our friend, Mr. VARLEY, whose departure had been delayed by a multitude of social engagements.

Gen. SMITH goes to London to procure a second cable to connect with Cuba, the intercourse having so much increased as already to demand additional means of communication. When connection with Jamaica, St. Thomas and Panama are secured, via this young and successful company's lines, it will become one of the most important avenues of communication, and its property increasingly valuable.

Meanwhile, direct wires are being provided from New York to Lake City, in Florida, the connecting point of the line of the Western Union Telegraph Company, so as to provide all possible means for the prompt and satisfactory dispatch of Cuban business, and the correspondence so soon to be opened beyond.—*Journal of the Telegraph.*

#### PERSONAL.

C. W. NORTROP, formerly of the Western Union office, at Rhinebeck, N. Y., has accepted the management of the Atlantic and Pacific Company's Office at that place.

H. W. COWAN, formerly of New York, is now acting as a *brakeman* on the Union Pacific Railroad. H. H. TAYLOR, formerly of North Fork Station, between Denver and Salt Lake, is now night operator at Antelope Station, U. P. R. R. W. H. NICHOLS is chief operator at North Platte Station.

MR. HINMAN has taken charge, temporarily, of the Watertown, Wis., office.

J. T. MCCONNELL was discharged from the Peoria office on the 9th.

MR. B. A. SQUIRES, formerly of Minnesota, and for the past three years an operator in the Western Union General Office, at 145 Broadway, has resigned, to take the Superintendency of working and construction of the Mississippi Valley National Telegraph Company's lines, now building. His head-quarters for the present will be at St. Paul. All former reports of appointments having been made to this position were without foundation.

RUDD, recently of Madison, Wis., has taken a position in the Chicago office.

MR. E. CURRY, Manager of St. Paul, Minn., office, is off on a visit to Coburg, Ontario.

DENNIS KEARNEY has resumed his position in the Milwaukee office.

O. S. WOOD, formerly Superintendent Montreal Telegraph, and now Superintendent Northwestern Telegraph Company, is in this city.

P. J. KIRCHNER, of W. U. Co., 145 Broadway, has been transferred to that Company's Corn Exchange office, *vice* TUCKER, transferred to 145.

MR. JOHN CARDWELL, of the Wilmington (Delaware) Western Union office, takes the place of C. CLAY YEAKLE, in same Company's Philadelphia office, resigned.

#### MISCELLANEA.

IMPROVED TELEGRAPH KEY.—The next number of THE TELEGRAPHER will contain an illustration and description of an improved telegraph key, invented and patented by WILLIAM M. FROMZ, of Bucyrus, Ohio, which is arranged to close the circuit automatically, when the finger of the operator is withdrawn from its button.

SCIENTIFIC INDUSTRY.—The late Prof. FARADAY, kept a record of his experiments. The last one was numbered 16,541.

AN INGENIOUS INVENTION.—One of the operators at the Fire Alarm Telegraph Office, Pittsburgh, has invented a very ingenious improvement to the gong boxes which are placed in the engine houses. The apparatus registers on a slate the number of blows struck by the hammer of the gong. No matter whether the blows on the gong have been heard or not, by glancing at the slate the number of the box sending the alarm may be instantly ascertained. An arrangement of clock-work is placed inside the engine gong box, and this machinery is set in motion by the liberating of the gong hammer, and its movement slides a small slate gradually along, outside of the box. Pressing against the slate is a pencil attached to the end of an arm which is worked up and down by the motion of the hammer. Thus, for every blow of the hammer, a corresponding stroke is made on the slate. In the pauses between the series of blows, the slate still moves on, and the length of the blanks on it tell whether they are between the separated parts of the same number, or between the repetitions of the number. By pushing the slate back the clock-work is wound up, ready for the next alarm.

To ascertain the velocity of cannon and musket balls, some interesting experiments are being conducted in the Springfield (Mass.) Armory. Two newly invented machines are used in these experiments, the "electro-ballistic pendulum," which is the invention of Col. BENTON, the commandant at the Armory, and "SCHULTZ'S chronoscope," a machine invented and constructed in Europe. The former is much the simpler of the two. Targets are placed at measured distances apart, and connected by the electric wires with the machines. In passing from one target to another the ball ruptures the electric current and records its velocity. It is ascertained by these experiments that the ordinary rifle ball of the Springfield musket, with a regulation quantity of powder, passes over one hundred feet from the muzzle of the piece in about the fifteenth part of a second. It thus travels much faster than sound.

GREAT TELEGRAPHIC FEAT.—The capability of the Atlantic Telegraph has recently been very strikingly demonstrated. The great debate in the House of Commons on the Alabama claims, which took place on Friday evening, March 6th, was all telegraphed to the N. Y. Associated Press, over the Atlantic Cable—filling some ten columns of the *New York Tribune*—in addition to the regular business of the line, occupying portions of three days in its transmission. It would have been done in less time, had it not been for an interruption of the land lines on the other side of the Atlantic delaying it.

This demonstration of the capacity of the Cable for heavy work is highly satisfactory, not only to those peculiarly interested, but also to the public, to whom ocean telegraphy has become a necessity.

"C. M. G., a new contributor, sends the following:—One of the operators in Cincinnati Office, perpetrated a queer "bull" a few days since; on receiving a message from HAMILTON, O., ordering a car-load of Spring wheat, he got it car-load of Spring malt, and it was actually bought and ready for shipment, when the error was discovered. This can only be explained on the hypothesis that ye knight had imbibed a "few" of the extract of the last named article.

NEW TELEGRAPHIC INVENTION.—Messrs. CUSHMAN and JORDAN, of New Lisbon, Ohio, have invented a new mode of telegraphing. The Pittsburgh *Commercial* says of it: The alphabet used and mode of communication is as perfect, though not as rapid, as that of the MORSE system—is capable of millions of changes for detective, private and business purposes; and yet is so simple in its operation that any person of ordinary mind can learn to send and receive dispatches in ten minutes time.—*Cleveland Herald.*

#### The Atlantic Company's Magneto-Electric Machine.

VARIATIONS IN ELECTROLYTIC POWERS.—At one of the meetings of the French Academy, M. EDMOND BECQUEREL described certain experiments of M. ROUCHOTTE on the electrolytic powers of the current of the Magneto-Electric Machine of the Atlantic Company. From the experiments it seems that when the current sent by the commutator is always in the same direction, the electrolytic power is that of 144 DANIELL elements with sulphate of copper; but when the current is alternate, as in the production of the electric light, the electro-motive power is nil.—*Vide Popular Science Review.* G. L.

#### A Medal for Cyrus W. Field, from Wisconsin.

To the many honors awarded to Mr. CYRUS W. FIELD is now added that of a gold medal voted by the Legislature of Wisconsin. The making of the medal was entrusted to TIFFANY & CO., of this city, who have sent it to the Governor of Wisconsin. The *Wisconsin State Journal* says the medal is of solid gold, two and a half inches in diameter, with a raised edge and smooth surface. On the obverse side is a fine bas-relief of Mr. FIELD, an excellent likeness, with the inscription:

"TO CYRUS W. FIELD, the original projector of the Atlantic Telegraph."

On the reverse are the State arms, capitolally executed with the motto "Forward," and the date 1867, with the inscription:

"From the State of Wisconsin." "Preseverentia vincit."

The medal is enclosed in a neat rosewood case.

GOVERNMENT SUBSIDY.—The Secretary of the Treasury, on Tuesday, March 17th, sent a reply to the House of Representatives, in response to a resolution of that body, showing that the Treasury Department, under contract, paid since July 11, 1862, to T. T. Eckert and Hiram Sibley, \$226,230, for telegrams to and from the Pacific Coast.

DIDN'T CLAIM DAMAGES.—A Northampton (Mass.) cotton manufacturer sent a telegram to Memphis a few weeks ago, ordering his agent to sell his goods in store there, but owing to some delay it was not received until three days after date. In the meantime the price of the goods advanced, and the owner made \$7,000 in consequence. He has since called upon the telegraph agent and offered a handsome present for "his trouble." The man of lightning was not able to decide, on the instant, whether the offer was a compliment or not, but concluded to accept, and take the matter into consideration.

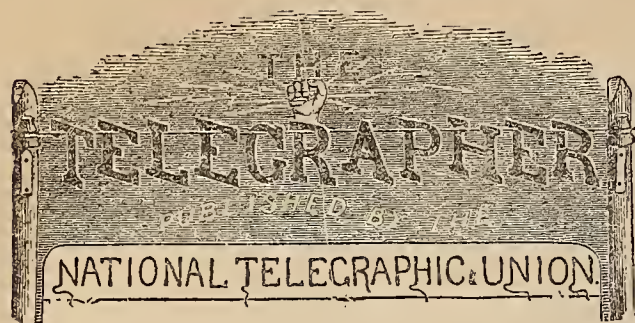
JUVENILE INGENUITY.—Hartford has a new fire-alarm. Some of the wires were broken the other day and came to the ground, when an ingenious urchin discovered that, by placing two ends together, the bell could be made to ring. He did it several times, with a result very distracting to the fire department.

#### TO CORRESPONDENTS.

INQUIRER.—There is no limit established as yet to the number who may become connected with the Insurance Bureau of the N. T. U. Mr. STOVER, the Actuary, will be very happy to receive your application, and that of other Telegraphers in your section.

REPLY.—The Atlantic and Pacific Company have wires in operation to Cleveland, Ohio. C. H. SPEED, Cleveland, District Superintendent. The Pacific and Atlantic Company are working to Cincinnati, Ohio, via Pittsburg. D. McCARGO, General Superintendent, Pittsburg, Pennsylvania.





SATURDAY, MARCH 21, 1868.

#### DEFECTIVE EDUCATION OF TELEGRAPH OPERATORS.

WE have intended for some time to call attention to this subject, which must be admitted to be one of great importance, especially to Telegraph operators themselves, and scarcely less so to their employers and the public whom they serve.

In the earlier years of the Telegraph, operators, as a class, were much more thoroughly educated, both in the science and art of Telegraphy, than of late years has been regarded as essential to holding important positions in the business. A mere acquaintance with, and expertness in manipulating the key and translating and recording the characters in which the larger proportion of Telegraph dispatches are sent, was not regarded as qualifying an operator to assume and hold situations even in the inferior offices of a Telegraph line. It was deemed necessary that, beside this, an operator should understand, at least, the rudimentary principles of electrical science, the making and care of batteries, the solution of difficulties, such as crosses, escapes, and ground connections, and the removal of troubles and temporary repairs of breaks, etc.

Of late years these requirements have largely fallen into disuse, and many of those, even, who are regarded as good operators, acquire and understand nothing more of their business than is comprised in the largely mechanical processes of sending and receiving dispatches. This is all wrong, and is to be regretted, not only as regards their present personal efficiency and advancement, but also in that it is a serious obstacle to that progress and improvement in the science and art, of the greatest importance, not only to the Telegraphers themselves, but to the public, who are interested in as near an approach to perfection in the business as may be reasonably obtained, and to which all engaged in it should, at least, in some degree contribute.

Many of those who hold first-class positions as Telegraph operators if called upon to put up a battery, even, would prove utterly incompetent for the task. As to the other and more difficult requirements of their business, they are equally incompetent.

These acquirements are not difficult of attainment, and, when once mastered, would prove of the greatest value to their possessors. At the present day, operators can have the advantage of excellent text-books, the result of twenty years' experience, which were not obtainable by those who earlier devoted themselves to the profession. They have also the advantage of better built lines, improved instruments and batteries, and the experience of their predecessors to guide them; yet how few avail themselves of these advantages.

We think, therefore, that we shall be sustained by all the older Telegraphers in the opinion that the present education of operators is more superficial, and that the large majority of them are much less qualified to assume and discharge creditably the more important duties involved in the business than was the case formerly.

In even the larger offices there is rarely to be found more than two or three persons competent to take charge of the wires, run connections, make changes and combinations of circuits, and perform other duties essential to

the proper and efficient working of the wires. Whenever anything out of the regular routine occurs, these less competent operators can only report the difficulty, and wait until their better informed associates can make the required alterations, or trace out and remedy the difficulty.

Such partially educated operators are, of course, incompetent for leading and responsible positions, and while they are content to remain in ignorance cannot reasonably expect to realize the advantages and the advancement to which otherwise they might aspire.

To us it is a cause of astonishment, that any person of sufficient intelligence to become a Telegraph operator, should be content to plod along in the dull routine of merely mechanical labor, and in subordinate positions, with, apparently, no desire to master the more important and essential principles which underlie the interesting science and art to which so much time and labor have been devoted.

Aside from the personal and pecuniary interests of every operator in this subject, much delay of business, vexatious errors, and great worry and annoyance would be avoided, were operators more thoroughly and generally educated; and the Telegraph Company which shall establish a certain standard of efficiency easily attainable, but indispensable as a prerequisite to the employment of the operators to whom such important business is to be confided, will have done much towards securing the confidence and patronage of the public, and will, at the same time, have rendered a real service to the Telegraphic profession. Too little attention has hitherto been bestowed upon this subject either by the operators or Telegraph managers, and the consequence has been a constantly increasing proportion of improperly and insufficiently educated Telegraphers.

Every operator should at once determine that, individually, this reproach shall no longer continue. It is most unquestionably for the interest of the Telegraph Companies themselves that this evil should be remedied, and we trust the time is not distant when its importance shall be realized, and such a standard of acquirement be established, as a prerequisite to employment in any important position upon Telegraph lines, as shall speedily and forever do away with the present defective system of Telegraphic education, and insure a much-needed and permanent improvement in this respect.

While all cannot be expected to possess the executive ability requisite to conduct the general business of Telegraph Companies, as Managers or Superintendents, yet any person assuming to hold a position as an operator should be qualified, in an emergency, to assume control of the wires, and, in case of difficulty arising, be able not only to trace out and correct it, but also to give an intelligent explanation of such difficulty if necessary. A mere knowledge of the three "R's" is not sufficient to qualify a person as a first-class, or even as a second or third class operator; and the sooner this truth is realized by Telegraph Managers, as well as operators, the better will it be for all parties, including the patrons of the Telegraph, who are too often obliged to entrust important interests to incompetent hands.

#### THE INSURANCE BUREAU.

WE would again call the attention of the Telegraphic fraternity to the Insurance Bureau established under the auspices of the NATIONAL TELEGRAPHIC UNION. Although it has met with fair success, Telegraphers should more generally avail themselves of its advantages. It is a purely beneficial institution, inexpensive in its administration. There are no salaries connected with it; the services of the Actuary are rendered without compensation, and the only expense incurred being an insignificant amount for printing and postage.

District Directors should bring this matter to the attention of the members and urge upon them the participation in its benefits without delay.

#### CIRCULATE "THE TELEGRAPHER."

WE have been highly gratified by recent efforts of our friends to extend the circulation of this paper. We have received large clubs from Chicago, Utica, Albany, San Francisco, and other places, besides large additions to our subscription list from other sections. Our Eastern friends have not as yet come up to the work with that energy which characterises their Western brethren, but we do not despair of witnessing an extension of the interest to our Yankee and Canadian friends. There is also still an unpleasant apathy existing among our friends in this city, though additions to our local subscription have been considerable.

It is of the highest importance that this paper, the organ and property of Telegraphers, should receive a generous support, and from the developments of the last two months we think our friends are waking up to this fact.

Sir Charles Wheatstone.

THE following is a copy of the letter addressed to Sir Charles Wheatstone, by the President of the Italian Scientific Society of "Forty," announcing that Sir Charles had been appointed a member of that society in the place of the late Professor Faraday, and that a gold medal had been awarded to him. The President, in his letter, says: "I will not here pass in review the various memoirs in physics which you have published in the *Philosophical Transactions*, since all carry the impression of the inventive genius which ever distinguishes all that you have done. I cannot, however, refrain from calling to mind that to you we owe the discovery of the method, as ingenious as it is original, for measuring the velocity of electric currents and the duration of the spark. The applications of the principle of the rotating mirror are so important and so various, that this discovery must be considered as one of those which have most contributed in these latter times to the progress of experimental physics. Not less ingenious was the invention of the stereoscope and of the modes by which binocular vision is effected, which enable us to obtain the perception of relief from the simultaneous observation of two plane images. Also the memoir on the measure of electric currents, and all questions which relate thereto, and to the laws of Ohm, has powerfully contributed to spread among physicists the knowledge of those facts, and the mode of measuring them with an accuracy and simplicity which before we did not possess. All physicists know how many researches have since been undertaken with your 'rheostat,' and with the so-called 'Wheatstone's bridge,' and how usefully these instruments have been applied to the measurement of electric currents, of the resistance of circuits, and of electric motive forces. And here it would be impossible to leave out of view that to you we principally owe the practical invention and the true realization of the electric telegraph. Finally, I would call to mind your recent researches on the augmentation of the force of a magnet, by the reaction which its own induced currents exert upon it. All these great acquisitions, procured by you, to physical science, render you well worthy of this distinction from the Italian Society of Sciences. Preserve yourself in health and activity, and your country and all your admirers and friends are certain to find in the discoveries still to be added while you continue to work, some compensation for that immense and irreparable loss which Natural Philosophy has received by the death of Faraday."

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Revista Telegraphica, Monitor Scientifico e Noticioso. Published monthly at Lisbon, Portugal. A. WELLENKAMP, Director.

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That may be required for use in this country, and on terms as reasonable as any foreign manufacturers.

N. B.—We are prepared to LAY DOWN and WARRANT Submarine Cables.

Apply to

SAMUEL C. BISHOP,

General Agent of the Bishop Gutta-Percha Company,

Office, 113 LIBERTY STREET,

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L. G. TILLOTSON & CO.

Telegraph Machinery and Supplies

OF EVERY DESCRIPTION.

CATALOGUE.

- Acids—Nitric and Sulphuric, manufactured expressly for Telegraph purposes.
- Battery Brushes.
- Blue Vitriol.
- Cross-Arms.
- Cables, of any desired size, to order.
- Chamois Skins.
- Funnels, Gutta Percha and Glass.
- Fluid, for Carbon Battery.
- Galvanometers.
- Ground Switches.
- Insulators—Glass, Rubber, Brooks' Patent, or any desired style.
- Insulator Brackets, Hooks, Spikes and Screws.
- Keys, of the most approved patterns.
- Local Battery, complete.
- Local Battery Jars, Glass or Earthen.
- Local Battery Zincs.
- Local Battery Porous Cups.
- Local Battery Coppers.
- Magnet Wire, Silk and Cotton covered.

PRICES REDUCED.

BY REFERENCE TO

OUR CATALOGUE

(FURNISHED UPON APPLICATION),

It will be seen we have

Reduced the Prices of our Instruments

AND OTHER GOODS

ABOUT

Ten per Cent.,

WHILE THEIR

SUPERIOR QUALITY WILL BE FULLY MAINTAINED.

We have a large quantity of

GLASS INSULATORS,

BRACKETS

AND

CROSS-ARMS.

On hand, for sale low.

CATALOGUE.

- Main Battery, Complete, Grove or Carbon.
- Main Battery Tumblers.
- Main Battery Zincs.
- Main Battery Porous Cups.
- Main Battery Carbons.
- Office Furniture.
- Platinum, in Strips, Sheets, or Wire.
- Platinum Standards.
- Registers—a superior instrument.
- Register Weights and Cords.
- Register Paper.
- Relay Magnets.
- Relay Springs.
- Repairers' Tools, of all kinds.
- Sheet Copper and Brass.
- Sounders, Large and Pony Size.
- Switch-Boards.
- Sounders for Main Circuits.
- Stationery, of any description, to order.
- Wire, Galvanized and Annealed.
- Wire for office purposes, Gutta Percha or Cotton Covered.

Agents for Gutta-Percha Covered Wire,

AND CABLES OF ALL SIZES—AMERICAN MANUFACTURE.



**NATIONAL TELEGRAPHIC UNION**  
**Life Insurance Bureau.**

THE NATIONAL TELEGRAPHIC UNION, by authority of its special charter, granted by the State of New York, proposes to insure the lives of all persons connected with the Telegraphic business, under the following rules and regulations:

Applicants for insurance must be connected in some capacity with the Telegraphic business, must be not less than eighteen years of age, in good health, and able to earn a livelihood. Every applicant shall pay an entrance fee of two dollars, one dollar of which shall be reserved for creating a permanent fund, and one dollar towards the amount to be paid the heirs of the first insured person deceased, who will receive as many dollars as there are persons insured.

Whenever a death occurs among those insured, an assessment of one dollar and ten cents will be levied upon all. This dollar goes to the widow, orphans, or heirs of the next insured party deceased, and the ten cents to be applied to the payment of current and necessary expenditures.

Applications must be made to the Actuary, in writing, accompanied by a certificate, signed by not less than two persons in the Telegraphic business, of good character, that they know the applicant is fully qualified under the preceding rules.

A small annual assessment, not to exceed one dollar, may be necessary to cover working expenses after the first year.

This plan of insurance will be conducted under the supervision of the Executive Committee of the N. T. U., and it will be their aim to make it as inexpensive as reliability and security will allow. It is unnecessary to make any extended remarks, or any comparisons of the great advantages this plan affords for the payment of ready money, at the event of death, over Life Insurance Companies.

Parties wishing to insure should write out the following questions with their answers thereto:

- What is your name?
- What is your age?
- Where is your residence?
- What is your occupation?
- Have you any constitutional disease or debility?
- Sign the above statement, and forward it to the Actuary, with a certificate signed by two persons connected with the Telegraphic business, that the applicant is known to them, and that the answers given by him to the questions are correct?

Applications may be sent to  
J. VER, Actuary,  
Box 5551, New York.

**BROOKS'**

**Paraffine Insulator Works,**  
No. 22 SOUTH TWENTY-FIRST STREET,  
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WILLIAM R. ALLISON, Proprietor.

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MANUFACTURER OF AND DEALER IN

**TELEGRAPH INSTRUMENTS**  
AND SUPPLIES.

**BRADLEY'S RELAYS,**

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(Room No. 7.) CHICAGO, ILL.

**JAMES J. CLARK,**

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**TELEGRAPH INSTRUMENTS,**  
BATTERIES AND MATERIALS,

**HARRISBURG, Pa.**

Having had over twenty years' experience in the business, and having made many improvements, I am prepared to furnish

**INSTRUMENTS AND MATERIALS**

of the most approved construction.

**CHESTER, PARTRICK & CO.,**  
**TELEGRAPHIC AND ELECTRICAL**  
**ENGINEERS AND CONTRACTORS,**  
38 South Fifth St., Philadelphia,

Manufacturers and agents for every variety of

**Telegraphic and Philosophical Instruments.**

A LARGE SUPPLY OF

BATTERIES, WIRE, AND OTHER MATERIALS

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Account Books, Writing Papers, Fancy and Staple Stationery, every kind for Business, Professional, or Private use, in quantities to suit.

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LETTER-WRITER,

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**LEFFERTS BROS. & MERRY,**

Office and Warerooms,

**No. 282 Pearl Street,**  
**NEW YORK,**

Manufacturers of American

**GALVANIZED SHEET IRON.**

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Made Exclusively from the best of  
American Iron.

**PLAIN AND GALVANIZED**

**NAILS, SPIKES, Etc.**

**IRON WORK GALVANIZED**

TO ORDER.

**A. S. CHUBBUCK,**  
**UTICA, N. Y.**

*Inventor of the "Pony Sounder," Register and Key,*

MANUFACTURER AND DEALER IN

ALL KINDS OF

**TELEGRAPHIC INSTRUMENTS.**

Batteries, and all kinds of Telegraphic Supplies, constantly on hand.

Switches made to order. All articles used by Telegraphers furnished on most reasonable terms.

**CHARLES WILLIAMS, Jr.,**

(SUCCESSOR TO HINDS & WILLIAMS,)

109 COURT STREET (MINOT BUILDINGS),

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MANUFACTURER OF

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**Galvanic Batteries of all kinds.**

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**DR. L. BRADLEY,**

AT NO. 7 EXCHANGE PLACE,

Jersey City, N. J.,

Keeps constantly on hand and for sale his

**Improved Telegraph Instruments.**

Having adopted the use of

**OREIDE METAL,**

which is much RICHER AND FINER than brass, he now presents his work in a style and of a quality that are unsurpassed. His relays were awarded the

**FIRST PREMIUM**

at the late Great Fair of the American Institute, New York, and their superiority is generally acknowledged by operators who use them.

Aside from the advantages apparent upon inspection of these magnets, their acknowledged merits consist in the construction of the helix, which was patented Aug. 15, 1865. This being of naked copper wire, so wound that the convolutions are separated from each other by a regular and uniform space of the 1-800th of an inch, the layers separated by thin paper. In helices of silk insulated wire, the space occupied by the silk is the 1-15th to the 1-300th of an inch; therefore a spool made of a given length and size of naked wire will be smaller and will contain many more convolutions around the core than one of silk insulated wire, and will make a proportionably stronger magnet, while the resistance will be the same.

He is also manufacturing the

**IMPROVED BUTTON REPEATER,**

the cheapest, most reliable and simple repeater as yet invented. Price complete, \$6.00.

**PRICES.**

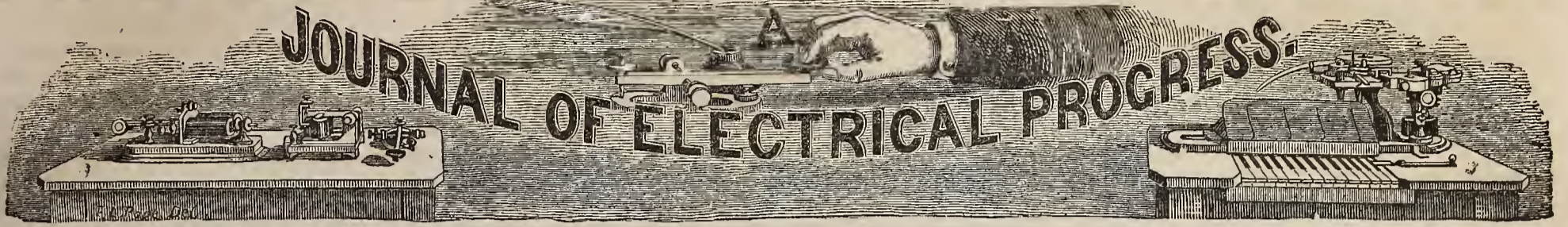
Relays, with helices in bone rubber cylinders (very fine).....	\$19 50
Small Box Relays.....	16 00
Same in Rosewood.....	17 00
Medium Box Relays.....	17 00
Same in Rosewood.....	18 00
Large Box Relay.....	18 00
Main Sounders, some as the above, with heavy armature levers without local connections, 75 cents less.	
Pocket Relays, with all the adjustments of the above, and good Lever Keys.....	22 00
Excellent Registers.....	40 00
Pony Sounders.....	6 75
Keys.....	4 50 to 6 50

All other appliances made to order. Extra spools for replacing such as may be spoiled by lightning, furnished at \$1 25 each. Old spools taken at the price of new wire by the pound. Goods sent to all parts of the continent, with bill C. O. D. Or, to save expense of returning funds by express, remittances may be made in advance by certified check, payable in New York, or by Post office order, in which case he will make no charge for package.

He has ample facilities for furnishing all other kinds of Telegraph Supplies at lowest manufacturers' prices.



# THE TELEGRAPHER.



Vol. IV.—No. 31.

New York, Saturday, March 28, 1868.

Whole No. 89.

## FRANZ'S PATENT SELF-CLOSING TELEGRAPH KEY.

A FREQUENT annoyance in the practical working of railway telegraph lines, arises from the fact that communication is liable to be interrupted, in consequence of the key at some way station being accidentally left open. At the majority of the railway stations in this country, the duties of the operator are merely incidental to his position as ticket-clerk or station agent, and only require his occasional attention. It can hardly be wondered at if, in the unavoidable hurry and confusion of attending to several things at the same time, the operator sometimes neglects to close his key after working at the instrument, and the consequent interruption of the circuit is liable to entail great inconvenience, and, in some instances, positive danger. Another difficulty of this nature sometimes arises in the transmitting key, as usually made at the present day, the brass lever which closes the circuit frequently becoming worn after much use, and failing to complete the connection in reality, while doing so in appearance.

These objections have been obviated in the self-closing telegraph key, invented and patented by WILLIAM M. FRANZ, of Bucyrus, Ohio, the arrangement of which will

of the operator's hand from the knob, the spring F. instantly draws the slide into contact with the anvil, again completing the circuit.

This key has been for some time in practical use, and we are informed that it gives great satisfaction, and has proved itself a reliable self-circuit-closer at all times. It strikes us as being an invention exceedingly well adapted to fulfill the services for which it is designed. Any further information may be obtained by addressing the inventor, WM. M. FRANZ, Bucyrus, Ohio, or H. W. WYNKOOP, Crestline, Ohio.

### The Magnetic Current.

HILLSDALE, Mich., March 10.

TO THE EDITORS OF THE CHICAGO TRIBUNE :

IN your issue of the 7th inst., I find the following statement contained in a communication signed by Mr. KNICKERBOCKER :

"According to electro-chemical science, there must be more metals accumulated at the magnetic poles of the earth than at any other locality. All metals are oxydized, or separated from their equivalent of oxygen, and transmitted by electricity in its active state, as seen in electrotyping and similar chemical experiments. The magnetic needle points to the poles, because of the constant flow of electricity to these localities."

Now it does seem that the gentleman referred to has been scribbling on a subject which he has never investigated. According to the best scientific authority of to-day, the electric currents of the earth do not pass north and south, but east and west. It is found by experiment that the magnetic needle will always take a direction at right angles to the passage of electric currents when placed above, and near enough to be in-

fluenced by them. Hence, the electric currents passing east and west, evidently connected with the movement of rotation of the earth, and supposed by philosophers to be induced by the sun, cause the needle to assume a direction at right angles to their passage, or a northerly and southerly direction. If the electric currents in the earth were to flow north and south, the magnetic needle would take a direction at right angles to the direction of the currents, and point east and west instead of pointing in a direction parallel to the direction of the currents. Authority might be cited in support of this view of the subject; but that is not necessary, as it coincides with nearly all the recognized authorities to be found among scientific men of the present day.

A. C. RIDEOUT.

### A Standard Time for the Whole World.

A CORRESPONDENT, writing to the *Scientific American*, upon the subject of a standard time for the whole world, says:

"The annihilation of distance by the telegraph must have forced upon many minds the necessity of establish-

ing at some point a time-piece which shall govern all the rest of the world, a time distinct from the 'local,' and which shall point to twelve o'clock at the same instant all over this sphere. The hours must be numbered from one to twenty-four, inclusive, in order to distinguish it from local time, (thus doing away entirely with A. M. and P. M. when using standard or universal time); twelve then would mean midnight only at the governing point, while twenty-four would mean noon at that point. For the rest of mankind it would be a certain guide for all official purposes. Railroad time cards would no longer perplex the public, and trains would run on a uniform time everywhere. Every watch would have its two sets of hands, one for the local and one for the universal time.

"A telegram sent from London to San Francisco, bearing the standard time at starting, would show to the recipient thereof exactly how long it took to reach him, how much actual time actually consumed. As it is now, no one can have a near idea without considerable figuring, and then he may be figuring twenty-four hours too early or too late. Every telegraph and railway office should receive its time daily, so that nowhere would the 'times' be a minute 'out of joint.' Jan. 31, 1868, one o'clock, would be Jan. 31, 1868, one o'clock, all over the official world.

"What a fine regulator of local time this would be; we should always have one right by having the other correct, there being always the same difference; so that, should we know one, we would know the other. Suppose, then, that Greenwich be the standard time as well as the calculating point for longitude.

"There is still a better plan than this; but it so entirely supplants so many familiar terms, such as 'noon,' 'morning,' 'evening,' when used in connection with breakfast, dinner and tea, that it would go a little hard at first, though I have no doubt that, at some time, there will be but one time, and at a future day it would be perfectly easy to say 'dinner at 6 o'clock,' which would mean somewhere near our present time."

HEAT GENERATED BY ELECTRIC DISCHARGES.—A paper recently read at the Berlin Academy, by POGGENDORF, contains the following deductions from experiments made by the author :

1. The direct discharges of the machine are hotter at the positive than at the negative pole.
2. The temperature between the poles varies with the form of the electrodes. If the electrodes are spherical, the temperature is within certain limits—directly as the diameter of the sphere.
3. The elevation of the temperature between the electrodes depends on their nature. Under like conditions, the more volatile the metal forming the electrodes, the higher is the temperature produced.

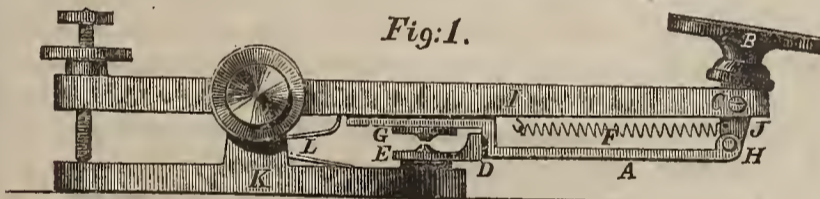


Fig. 1.

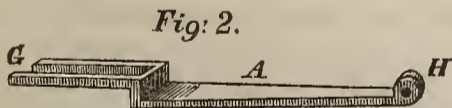


Fig. 2.

be understood by the annexed engraving and description.

Figure 1 represents a side elevation of a telegraphic key of the usual construction, to which this improvement has been applied. A represents a metallic slide of the form shown in perspective in figure 2, being fork-shaped at its extremity G. The opposite end of this slide is joined at H to the short lever J, passing through a slot in the key lever I, in which it is pivoted by means of the screw C. The hard rubber, or ivory, knob B, of the usual form, is attached to the upper end of the lever J, in the manner shown in the illustration. The slide A is provided with a shoulder, which rests against a projection at D, forming a part of the anvil F of the key, closing the circuit at that point. The slide is maintained in its position by the spiral spring F, which also causes the knob B to remain in a slightly inclined position, as shown in the figure. When the finger of the operator is placed upon the knob B, it is brought into an upright position, the slide A at the same time being withdrawn from contact with the anvil at D, thus breaking the circuit in readiness for the transmission of a communication. Upon the withdrawal



## 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 Word of Advice.

BUFFALO March 23d, 1868.

TO THE EDITOR OF THE TELEGRAPHER.

YOUR recent appeals to the operators of the country to take hold of the *National Telegraphic Union*, and make it more generally representative of the great body of the Telegraphers of the United States; and also to labor more earnestly for the success of the Insurance Bureau; and for the enlargement of the subscription list of *their paper*, THE TELEGRAPHER, have afforded much gratification to myself and other Telegraphers in this part of the country. You are on the right track, and I trust you will continue to urge upon the members of the profession the performance of their duty in these respects.

Your editorial article under the caption "In Union is Strength," should convince every intelligent Telegrapher that it is no less his interest than his duty to connect himself without delay, with some District organization of the N. T. U.

I would heartily advise my Telegraphic brethren to heed your counsels, and by their deeds show their appreciation of the truths brought to their attention. If they would but more thoroughly realize the fact that the N. T. U. is *their organization*, THE TELEGRAPHER *their paper*, and the *Insurance Bureau* established under their auspices, solely for their own benefit, I think we should see such an awakening of interest as would ensure a more general participation in their benefits.

The District organizations, with few exceptions, need to be aroused, and actively enter upon the duties confided to them, and I would advise all Telegraphers at once to manifest such a personal interest in them as shall secure an immediate augmentation of membership until they shall comprise the great body of the Telegraphers of the country.

It has pleased me much to learn that the subscription list of OUR PAPER has recently been considerably increased, and that it is now pecuniarily a success. I trust that our friends will not allow the good work to again languish, but that every District Director and every subscriber will devote his personal attention to still further adding to the list until its circulation shall be numbered by thousands, as it should be.

The INSURANCE BUREAU, too, should receive more general attention and support, as certainly no more just, equitable and inexpensive system could be devised for securing to those dependent upon Telegraphers for support, temporary provision, in case of the removal by death of its subscribers.

My letter has already exceeded the limits intended, and I must defer to another opportunity further remarks upon this subject.

FREDRICO.

## The N. T. U. in West Virginia.

NEWBURG, W. Va., March 2d, 1868.

TO THE EDITOR OF THE TELEGRAPHER:

I SEND you herewith names of new subscribers for THE TELEGRAPHER, and hope soon to materially increase the list.

We have now a district of about ten members, and I think, before August, we shall be able to double the number.

The greatest objection, and, in fact, the only one given by operators to joining, is the high rate of dues. I think this might be remedied, and that a reduction of the due

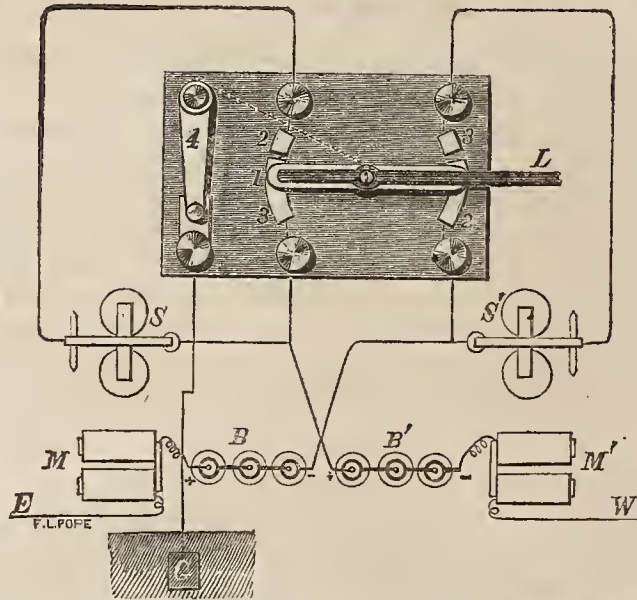
would ultimately prove advantageous to the Union, as it is better to ensure a large membership at half the present rates, than to have the membership limited on account of the expense attendant upon it.

Has the Secret Organization Clause given up? I hope not. J. H. S.

NOTE.—We understand that a majority of the Districts that have acted on the Secret Organization Clause, have voted in its favor.—EDITOR TELEGRAPHER.

## THE TELEGRAPH.

The drawing shows the button as manufactured by BRADLEY, and the instruments, batteries and connections are also shown in outline for convenience of ex-



planation. M and M' are the eastern and western relays, S and S' the eastern and western sounders. The local connections are not shown, but are run as usual. The eastern and western main batteries are shown at B and B', and are placed with *opposite* poles to the ground, at the repeating station, so that when the line is put "through," the two batteries will coincide.

By means of this arrangement the following result may be obtained:

I. *Two distinct and independent circuits.* The lever L remaining in the position shown in the drawing (marked 1), and the button at 4 closed.

II. *A through circuit.* The lever L remains as before, but the button at 4 is *opened*, throwing off the ground connection between the two batteries B and B'.

III. *Two distinct circuits arranged for repeating.* The button at 4 is closed. If the lever L be placed in the position indicated by the figures 2, 2, the eastern sounder repeats into the western circuit. If the lever be changed to 3, 3, the western sounder repeats into the eastern circuit. The operator in charge of a button repeater will find his duty very simple if he governs himself by the following

RULE.—When either sounder fails to work coincident with the other, *turn the button instantly.*

NEW TELEGRAPH COMPANY.—CHICAGO, ILL., March 18. The Great Western Telegraph Co. has been organized in this city, to erect new lines in the Northwestern States, to connect Chicago with the Atlantic and Pacific and Franklin Telegraph Companies' wires for the East. Most of the large business houses are connected with it. Among the Directors are NATHAN MEARS, D. A. GAGE, ELISHA WADSWORTH, F. D. GRAY, N. K. FAIRBANKS, G. M. GRAY, B. F. CULVER, and many others of high standing.

NEW TELEGRAPH OFFICE.—The Northern Telegraph Company has opened an office in Medford, Mass.

EXTENSION OF THE TELEGRAPH.—There will be telegraphic communication between Denver and Santa Fe by the 1st of May or June. Our new Territories are getting "the modern improvements" rapidly.

By Atlantic Cable.  
GREAT BRITAIN.

LONDON, March 24.—An influential meeting was held at the Mansion House yesterday afternoon, which was presided over by the Lord Mayor. A committee was appointed to urge forward telegraphic communication to India, China and Australia, by submarine cables. The English Government will be asked to assist this important enterprise.

VERY PROBABLE.—The agent of the National Telegraph Company, at Chicago, reports that they have money enough subscribed to build 20,000 miles of line. The above item comes to us from Chicago. If telegraph poles were ten cents apiece, and wire five cents a pound, we do not believe the National Company could raise money enough to build a thousand miles of line.

EDITOR.

## Extension of the Cuba Cable.

Advices from Kingston, Jamaica, to the 1st inst., state that Mr. FRANKLIN, agent of the *International Telegraph Company*, has applied to the Legislature for authority to land cables to connect Cuba, Jamaica and Aspinwall; also to put up a land line across Jamaica.

## Government Aid to a Southern Railroad and Telegraph Line.

In the United States House of Representatives, on Thursday March 19, MR. DAWES, of Massachusetts, introduced a bill to aid in the construction of a Railroad and Telegraph line from New Orleans to Mobile.

PUBLIC SPIRIT.—Kincardine raises a bonus of \$250 for the extension of the Montreal Telegraph to their town.

THE President of the Pacific and Atlantic Co. has been in Chicago recently, endeavoring to dispose of stock.

## Tribune Correspondence.

HAVANA, March 4, 1868.

Mr. W. H. HEISS, Superintendent of the Submarine Telegraph, has been here some days engaged in superintending the laying of a line under the ground surface between the Palace and the Chorrera. The latter is some 5½ miles distant from the former. About two miles have been already laid, and in about ten days the whole work will have been finished. The currents of atmospheric electricity are so strong at times here, that the line which courses through the air cannot be worked. During the last Summer, on one occasion, the sending of messages was interrupted some three and a half hours by reason of the cause above stated. In the Spring and Summer it frequently happens that we have thunder storms almost every day, and hence the necessity of guarding against accidents and dangers easily foreseen. It may be further stated that there is an underground line running through a part of Key West to the sea, and toward Punta Rassa; and it is thought that when the Havana part is completed there need be but little apprehension of any sort of interruption of the lightning, as then the whole line will be insulated.

Another question here presents itself. Is there to be no effort to reduce the fares on this line? At present it is a costly privilege to telegraph to New York. Would not the interests of the Company and of the general public be better subserved by lowering the rates?

## Extension Telegraph to Havana.

THE telegraph line connecting with the Cuba cable has been extended from the Cuban Coast to Havana, and telegraphic connection between New York and Havana is now complete.

Complimentary and congratulatory messages have been interchanged between Mayor HOFFMAN, of this city, and Governor-General LERSUNDI, on the occasion.

GOVERNMENT TELEGRAPH.—The *Pall Mall Gazette* has reason to believe that the Chancellor of the Exchequer will, in the course of the next fortnight, introduce a bill for the acquisition of the telegraphs by the Government.



## PERSONAL.

J. W. McCONNIE, of Fort Sedgwick, Colorado, office, has gone to Canada on leave of absence.

J. J. FLANAGAN has charge of the Southern Company's telegraph office at Frankfort, Ky.

Mr. O'BRIEN, formerly of the Louisville office, but more recently at Detroit, has resigned and gone East, preparatory to entering Yale College.

DAVID G. EVANS, for several years Superintendent of Repairs, has received the appointment of Weighmaster for the city of Utica.

F. BELDEN, lately of East Dorset, Vt., has taken charge of the Rhinebeck, N. Y., office, recently vacated by C. W. NORTHRUP.

J. WHYTE, having received the appointment of ticket-agent at the Albany depot of the Rensselaer & Saratoga R. R., has resigned his position as operator in the W. U. Co.'s Albany office, and entered upon the discharge of his new duties.

HEMAN L. WATERBURY, who recently resigned his position as chief operator in the A. & P. Co.'s Albany office, has removed to Saratoga Springs, where he has entered into a partnership with his brother in the jewelry business.

Mr. JOHN E. PALMER, formerly in Western Union office at Smith's Ferry, Pa., has accepted the charge of a new office at East Liverpool, Ohio, for same company.

Mr. W. WILEY, formerly of the Havana, Ohio, office, has taken charge of the office at Smith's Ferry, Pa.

HENRY L. SMITH, formerly of the Cincinnati (Western Union) office, has accepted a position in the St. Louis office of the same company, vice C. E. TURNER, resigned.

MR. J. E. SELDEN has resigned his position as printing operator at W. U. office, 145 Broadway, and accepted a position as operator of the Stock Reporting Telegraph, 18 New Street.

MR. W. W. CAMPBELL, formerly in charge of the Western Union office at Fairmount, W. Va., has taken charge of the Pacific & Atlantic office in same place. In connection with the office he has opened an extensive book and newspaper establishment, to supply a necessity long existing there.

DETROIT, March 16.

The following changes have recently taken place here:

A. M. NICHOLS, train despatcher D. & M. R. R. at Detroit, to agent same company at Grand Rapids, Mich.

MR. E. SMITH, operator Pontiac Depot, to train despatcher D. & M. R. R., Detroit.

A. F. DAVIS, operator Grand Haven, Mich., to D. & M. office at Pontiac.

J. S. McDERMOTT, operator D. & M. R. R., Detroit, to same company's office, Grand Haven, Mich.

ARTHUR PATRIARCHE, W. U. office, Detroit, has gone into business for self at Bay City, Mich.

NEWSPAPER ENTERPRISE.—Texas gets queer news. An extra edition of the *Houston Telegraph*, published just after the impeachment vote, contained special dispatches announcing among other equally startling events of which we have thus far heard nothing, the arrest of General L. Thomas by General Grant, the attempted rescue of him by military force under command of the President, the death of General Thomas, the burning of the War Department, the proclamation of General Grant as military dictator, another by General Sherman calling for 300,000 men to sustain the President, and the resignation of Secretary Seward.

## MISCELLANEA.

## The Noble Red Men of the Forest Electrified.

It is in the popular belief that the North American Indian is gifted with stoicism to that degree that nothing can wring from him an expression of amazement or surprise. Various tests have been applied, in vain, to the poor Indian, with a view to upset both the savage and the white man's theory respecting him. The first time the great Chippewa chief, Hole-in-the-Day, was on board a steamboat, the steam whistle was let loose within a yard of his ear, but he moved not a muscle. Lately a delegation of Indians were brought to Washington by Kit Carson, to have a big talk with their Great Father at the White House. They had never before witnessed the triumphs of civilization on a great scale, and their chaperones at the capital watched with interest the effect produced upon their untutored minds by "the sights" of Washington. They looked at everything attentively, but there were no expressions of wonder from their lips or in their dusky faces. The curiosities of the Patent Office, the bewilderments of the Capitol, even the white squaws among the greenbacks in the Treasury building, elicited no exclamations of surprise. There was a snaky gleam in the eyes of the younger chiefs, as they looked upon the fair creatures who were fingering daintily Uncle Sam's promises to pay; but the noble reds moved quietly away from the fascinating scene. On leaving the Treasury buildings, the Indians were observed to look with some curiosity at the telegraph poles and wires in the streets, and it was thought best to unfold to their benighted minds the mysteries of telegraphing. The party was taken into the office of the Western Union Telegraph Company, on Pennsylvania avenue, up stairs, where the Congressional proceedings and the communications of the special correspondents, etc., are despatched to all parts of the country. They listened with interest to the interpretation of the seeming miracle, but were incredulous as to the reality of the transmission of words through the wires, which were so *silent*. Kit Carson thought it best to give them a convincing proof of the power of the electric current. It would give them a wholesome fear of a telegraph pole on the route to California, he said, and by his request the wires connected with a strong battery were arranged for that purpose. At his suggestion the chiefs joined hands in a circle and took the handles of the opposite poles of the battery, and a succession of light shocks was given. The eyes of the chiefs sparkled with intelligence. "Did Indian feel it?" asked Carson. "Yes—Indian feel 'em talk," grunted one of the chiefs. "Well," said Carson, "these are little words small man send to his brother in New York; but when the Great Father, the President, sends a message, the words are very big;" and he requested the operator, in an aside, to give them a stunner. "Now you'll get his big word—" *Veto!*" and at the instant a shock was given, which was too much for Indian stoicism. The involuntary jerk of the muscles produced by the electric current threw the savages into various grotesque attitudes, and the contortions of their visages added immensely to the effect of their tattooing. The delegation retired from the Telegraph Office with a vast deal of respect for the "white man's talking machine."—*Frank Leslie's Illustrated News*.

ANGLO-AMERICAN TELEGRAPH COMPANY.—Sir RICHARD GLASS has been elected Chairman of the Anglo-American Telegraph Company, in place of Mr. STEWART, deceased.

CORNELL UNIVERSITY.—EZRA CORNELL has purchased for Cornell University, at Ithaca, the entire library of the late Dr. Anthon, consisting of 7,000 volumes of valuable books in science, art, and literature. Arrangements are also made for the purchase of the scientific works of the libraries of the Universities of Paris and London. The library of the University, when increased, as contemplated, will number 30,000 volumes.

WOULDN'T ASSUME THE RISK.—A Dutchman, on being called upon to help pay for a lightning rod for the village church, towards the building of which he had subscribed liberally, exclaimed, "I have helped to build a house for de Lort, and if he chooses to donder on it and knock it down, he must do it at his own risk."

RAILROAD STATION AT PITTSFIELD.—The new union station to be erected at Pittsfield by the Boston and Albany and Housatonic railroads will be 200 feet long, with a tower in the centre. The passenger room will be 75 feet long and 30 feet wide, and the refreshment room and telegraph office will be in the middle of the building.

SENSATION.—The South American opal is affected by the atmosphere of the body and by electricity. It is a fact that it will change the color, growing paler or more brilliant according as the wearer is excited or depressed, and this it is that has given rise to the superstition connected with these beautiful gems.

GOVERNMENT TELEGRAPHING.—The telegraph expenses of the State Department for the past year were \$9,500, the greater part being for cable dispatches, one of which, from Mr. ADAMS, our Minister to England, cost \$840.

WHAT GOES BY TELEGRAPH.—At one of the eastern telegraph offices recently, the following message, written on tinted paper, was handed to the operator for transmission by telegraph: "To ——— Send us two thousand Bill Heads, printed on paper *the quality and color of this*." The writer evidently supposed the dispatch could be transmitted over the wires and the original delivered to his correspondent.

## TO CORRESPONDENTS.

A. G. S.—No complete or reliable chart or map of the telegraph lines in this country has as yet been published. We understood that one was being prepared and to be published, but can't say when. You should subscribe for THE TELEGRAPHER if you desire to keep posted.

SUBSCRIBER.—There is not the slightest danger of subscribers to THE TELEGRAPHER being left in the lurch, as was the case with the subscribers to another pretended telegraph publication, by its somewhat sudden, though not unexpected demise. It is published by the NATIONAL TELEGRAPH UNION and would be continued in any event, even were it not, as it certainly is now, self-supporting.

INSURANCE.—All that is necessary to enable you to avail yourself of the provisions of the INSURANCE BUREAU of the N. T. U., is to send to the Actuary, Mr. J. W. STOVER, No. 11 Broad Street, for the blanks, fill them up according to the directions, and forward them with Two Dollars to that gentleman, who will at once send you a certificate of membership, which, in the event of your decease, will entitle your family to as many dollars as there may be subscribers at the time.

P. VI.—You belong in the Pittsburg, Pa., District, but we understand that District is at present in a state of collapse, there not being sufficient *esprit du corps* or fraternal spirit among the telegraphers in that section to keep any sort of an organization alive. Go ahead and get up a new District, with head-quarters at Wellsville, Ohio, and perhaps by such an exhibition of life and vigor you may shame your Pittsburg brethren into some practical recognition of their duty in the premises.

## MARRIED.

BRADLEY—JOHNSON.—At Waukesha, Wis., March 19th, Mr. J. N. BRADLEY to Miss EMMA L. JOHNSON, both of Chicago.

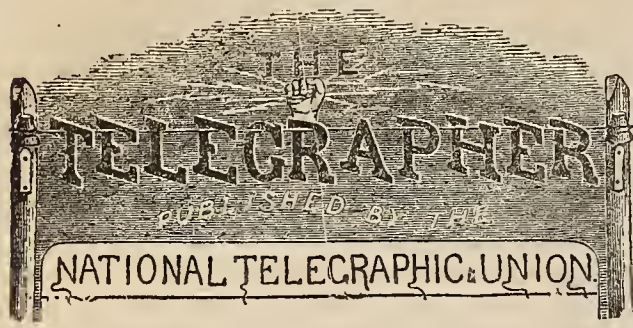
YORK—HODGES.—In Chicago, March 15th, by the Rev. CLINTON LOCKE, CHAS. W. YORK, to Miss LUCRETIA HODGES, both of that city.

HATCH—SANFORD.—On Wednesday evening, March 18, at the residence of the bride's parents, by R. S. STORRS, Jr., D. D., NATH. W. S. HATCH, to MARY R., daughter of EDWARDS S. SANFORD, Esq., all of Brooklyn.

## BORN.

MARCH 19th, to E. M. SHAPE, Milwaukee, a daughter.





SATURDAY, MARCH 28, 1868.

#### TELEGRAPHIC IMPROVEMENTS.

AFTER the consolidation of the principal Telegraph Lines of the country under the Western Union organization, and the consequent monopolizing of the Telegraph business by that Company, there was a temporary suspension of progress in the improvement of the apparatus, appliances and construction of the Telegraph. That Company having its own shops, manufactures its own apparatus, and there was, therefore, while it had the practical monopoly of the business, very little encouragement to the ingenious and scientific mechanics of the country to devote their time and talents to the work of improving and perfecting the Telegraph; and this is not the least of the evils of such a monopoly.

Within the last year an active competition in the Telegraph business has again sprung up. Competing wires are being rapidly extended, and under the stimulus thus imparted, renewed progress is being made, and many valuable improvements and inventions are being brought forward, which promise the most important and favorable results. With active competition in the Telegraph business, arises the necessity for research and experiment, and a reasonable prospect of reward to those who succeed in producing valuable inventions and improvements.

The columns of THE TELEGRAPHER almost weekly record some new discovery or improvement of value and importance, as tending to increase the capacity and reliability of Telegraph lines for the transmission of business, and at the same time reduce the necessary expenses attendant thereon.

The recent demonstration upon the Franklin lines of the practicability of simultaneous use of the same wires for transmission of Telegraphic signals in opposite directions, is a striking illustration of the truth of this position. This invention, although not new, has never heretofore been made of practical use; but, as adapted by the managers of that Company, is demonstrating its great value.

Improvements in keys, magnets, repeaters, etc., are also being made, and we hear, also, of great improvements being perfected in Printing Telegraph Instruments, calculated to make them more simple and effective, and to increase their adaptability for working long circuits reliably, which last is the point in which they have heretofore been most defective.

We rejoice at this renewed activity of inventive genius, and are confident that the field for its display is by no means a limited one. Astonishing as has been the advance made in the art of Telegraphy, we are certain that much remains yet to be accomplished in perfecting it and demonstrating its practical usefulness.

We regret, however, that this spirit of improvement has not as yet extended to the construction of Telegraph lines. The advance made in this most vital and important branch of the business is not commensurate with that in other departments, or with the public interests and requirements. This, the most important of all, appears to receive the least attention. This should not be. Until we can obtain better built, more substantial and more perfectly insulated wires, no improvement or perfection of instruments and batteries will insure a reliable, rapid

and economical development of the capacity of a given number of wires for the transmission of business.

Apparently learning nothing by experience, our Telegraph Constructors and Engineers go on, year after year, putting up the same class of lines, with insulation but little, if any, better than that which has been used for many years past. In exceptional cases more poles are used, but with this exception there is apparent but very little improvement in Telegraph Construction.

We continue to build cheap lines, because they are cheap as regards first cost, and without any adequate regard to their effectiveness or durability. For this the contract system, under which nearly all lines are built, is largely responsible.

That company which shall organize with adequate capital and construct its own lines, not for the benefit of contractors, but with a view to the possession of the best possible and most durable lines, has yet to be developed. There is too much tendency in this country to build hastily and temporarily. We do not pay that attention to solidity and permanence which would ultimately prove the most economical and remunerative, and this is more especially the case with the Telegraph.

Telegraph Companies are not even careful to secure the services of experts, and avail themselves of the experience of those who have devoted years to acquiring a knowledge of their business, but go on, year after year, confiding most important work to inexperienced, incompetent, and frequently to dishonest contractors, thus continually repeating the errors of their predecessors. Efforts heretofore made by experienced Telegraph Engineers and Managers, desirous of securing the construction and establishment of a system of thoroughly and honestly constructed and equipped lines, have thus far met with but slight encouragement from capitalists. They prefer to entrust the construction of their lines to contractors, who are ready to promise them immediate and large returns for their outlay; and as a consequence, the lines turned over to them, within two or three years at the outside, become expensive and burthensome from the excessive expenditures needed to keep them in anything like tolerable working order.

This is the rock on which so many promising Telegraph enterprises have been wrecked, and on which we fear more yet must be wrecked before Telegraph proprietors, taught by costly experience, will apply to this the same judgment and practical common sense which governs them in other lines of business.

The great obstacle to the pecuniary success of the Western Union Company, is the miserable condition of its wires, arising from defective construction and insulation, confessedly entailing upon that Company enormous expense to keep their lines in any tolerable condition for the transmission of its business.

We cannot learn, however, that the present management of that Company are in the least improving on the former policy of the Company in respect to insulation or construction; but rather, we understand, deteriorating, as regards insulation at least. With the immense number of wires which the absorption of so many different lines has placed at their disposal, that Company, in the event of a severe storm, is in little better condition than if it had not more than one-tenth its present facilities.

Until those to whom the management of Telegraph property is entrusted shall realize the importance of proper insulation and construction, and shall determine to secure the best possible results attainable in that direction, instead of pursuing their present penny wise and pound foolish policy, we do not expect to witness that development of the Telegraph business of which it is undoubtedly susceptible.

Rapid and astonishing as has been the progress of the Telegraph in this country and in the world, and general as has its use become, we believe that it has yet but just

begun to realize its ultimate extension and practical usefulness. As important an agent as it has become in all the relations and business of life, it is destined to play a yet more important part therein. If it can be kept out of the hands of the Government, and subject to the active competition of rival Companies, seeking to secure the profits of the business, which, when properly and economically conducted are assured, there can scarcely be said to be any limit to its future possibilities.

#### CHICAGO MERCHANTS INDIGNANT.

GREAT indignation has been excited among the Chicago merchants by the eccentricities (to put it mildly) developed in the management of the Western Union Telegraph wires.

A communication in the *Chicago Tribune* states that one day last week the announcement was made upon 'Change that no public telegraphic report would be received during the session of the Board, owing to the difficulty experienced in working the wires. At the same time, while the Telegraph Company were unable to transmit the Board of Trade Report, owing to the effect of the weather upon their wires, it was noticed there was no delay or interruption in the receipt of the Telegraph Company's private market dispatches, which they receive and sell out to the trade at so much per head. They were received regularly during the entire session of the Board, and, if anything, earlier and oftener than usual. The Chicago papers generally denounce this proceeding on the part of the Western Union Company, and the Board of Trade held an indignation meeting, and adopted a preamble and resolution denouncing the Commercial Bureau of the Western Union Company and the practice of giving preference to its dispatches over others, and declaring that the Board will hail with gratitude any relief from the present mismanagement and monopoly of the Western Union Telegraph Company, and extending a hearty welcome and assurance of support to competing companies.

As the Board comprises two thousand members, including all the principal business men of the city, this action now is important, in view of the fact that competing lines are just about to extend new wires to Chicago.

ACCIDENT.—Readers of THE TELEGRAPHER will be pained to learn that Mr. L. H. SMITH, the former Editor of this paper, but now engaged in the drug business at 134 Court street, has been severely injured by the explosion of a quantity of alcohol which he was using in some chemical operation. Mr. SMITH was badly burned about the face and hands, and is at present under treatment at his residence for his injuries. We are pleased to learn, however, that although his injuries are severe and painful, they are not likely to prove dangerous, or permanently disable him.

THE BUTTON REPEATER.—Owing to the imperfect printing of the cut of the Improved Button Repeater manufactured by Dr. L. Bradley, we republish it in this week's issue.

SLIGHTLY SARCASTICAL.—In a recent financial article the *Evening Telegram* says: It is suggested as a means of putting their property in a paying condition, that the Western Union Telegraph Company will seek authority for issuing additional stock, selling the new shares for such price as they will bring in cash, the proceeds to be applied to the reconstruction of the lines. At the same time the company would have a good excuse for abandoning many thousand miles of ill-built line, the repairs on which now press so heavily upon its revenue.







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the cheapest, most reliable and simple repeater as yet invented.

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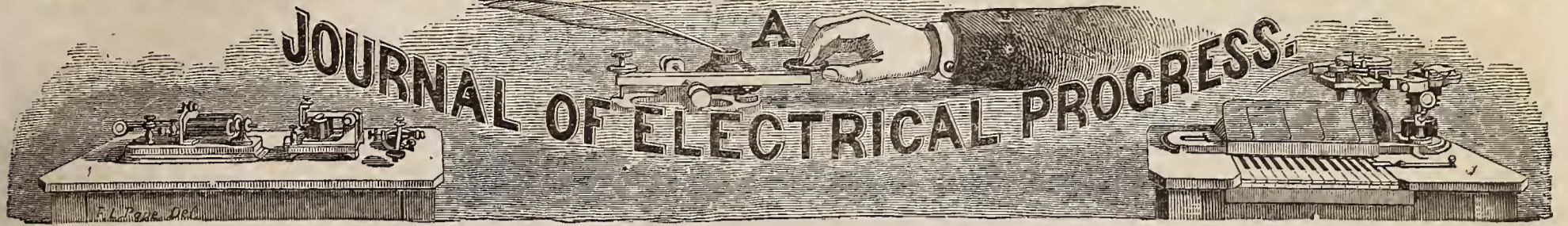
Button Repeaters.....	\$ 6 00
Relays, with helices in bone rubber cylinders (very fine).....	19 50
Small Box Relays.....	16 00
Same in Rosewood.....	17 00
Medium Box Relays.....	17 00
Same in Rosewood.....	18 00
Large Box Relay.....	18 00
Main Sounders, some as the above, with heavy armature levers without local connections, 75 cents less.	
Pocket Relays, with all the adjustments of the above, and good Lever Keys.....	22 00
Excellent Registers.....	40 00
Pony Sounders.....	6 75
Keys.....	4 50 to 6 50

All other appliances made to order. Extra spools for replacing such as may be spoiled by lightning, furnished at \$1 25 each. Old spools taken at the price of new wire by the pound. Goods sent to all parts of the continent, with bill C. O. D. Or, to save expense of returning funds by express, remittances may be made in advance by certified check, payable in New York, or by Post office order, in which case he will make no charge for package.

He has ample facilities for furnishing all other kinds of Telegraph Supplies at lowest manufacturers' prices.



# THE TELEGRAPHER.



Vol. IV.—No. 32.

New York, Saturday, April 4, 1868.

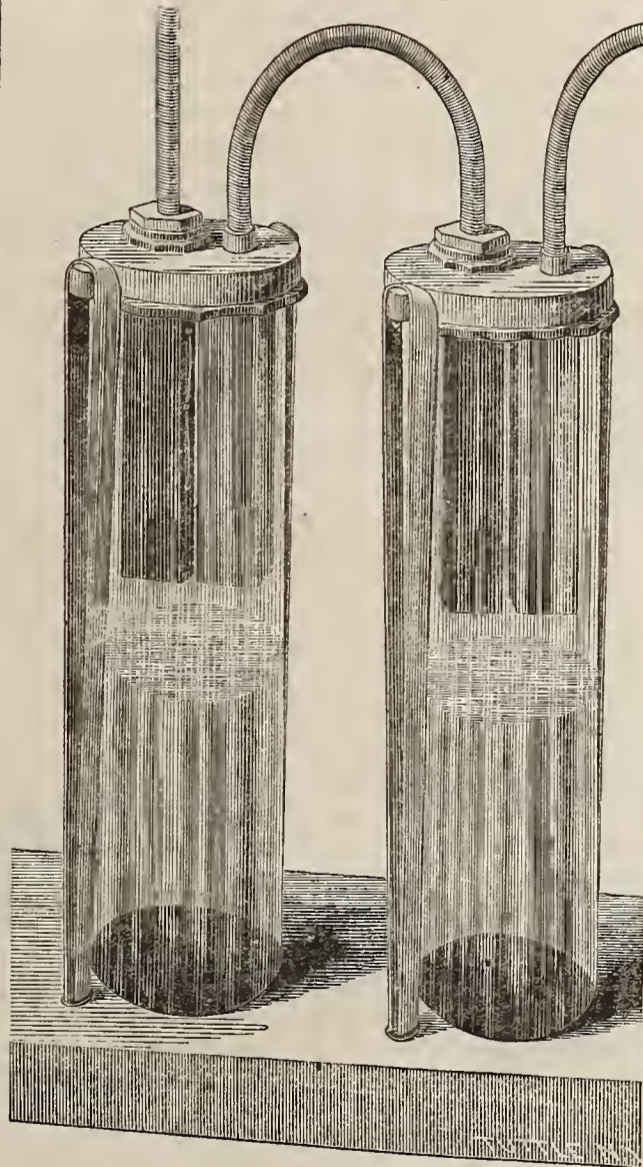
Whole No. 90.

## THE AIR-TIGHT BATTERY.

THE Galvanic Battery serves many important purposes, which no other instrument properly supplies. But the use of acids, with the destruction of material that they occasion, the space occupied, the expense and trouble attending their care, have prevented many from using any combination for producing dynamical currents of great intensity. In electro-medical researches and practice, however, it seems to have become more and more recognized that the Galvanic Battery will produce effects that induction currents will not. In the battery exhibited in the accompanying engraving, a very successful method of obtaining dynamical currents of extreme intensity has been discovered, and the experiments made in the process of working it up may prove interesting to those outside the medical profession, for whom it was especially designed. A battery fitted to meet the requirements of physicians must give currents of sufficient quantity, capable of very high intensity, but adjustable at pleasure; it must be brought into action speedily; it must remain out of action indefinitely, without loss of power; it must be portable, and not too expensive. These excellent qualities will also make it useful for any electrical researches and tests, where sufficient resistance is used to prevent the too rapid destruction of the battery elements, and one of the first practical uses to which the combination has been applied has been to test the value of telegraphic insulation. A brief description will show how the results enumerated above can be obtained.

A glass tube, about the size of the engraving, is provided with a zinc cap or cover, and a soft rubber plate is interposed between this zinc cover and the edge of the glass, forming an air-tight packing. Projecting downward from this cover are two plates, one zinc, the other carbon—this latter plate carefully insulated from the zinc cover. Projecting upward from these plates are small metallic pins, and elastic spiral springs fitting over these pins form connections from cell to cell. Elastic bands, or in some instances metallic bolts, bind the zinc cover firmly down on the top of the glass. The glass cells are partially filled with water and a salt which excites powerful electrical action, in combination with the two plates, but which in this action does not generate a gas. It is evident that this battery remains inactive, until by inverting it, the fluid is thrown over and immerses the plates. A small pellet of cotton being thrust between the two plates will retain enough moisture to excite them moderately after the immersing fluid has been withdrawn. We consider the plates, fully immersed, as giving off the highest possible power of the battery. After immersion, we may draw currents immediately; or after a few minutes, a few hours, or even a few days. Comparing the quantity results with the effects of different sized well-known battery combinations, we produce a range of effects for quantity, from one to two hundred and fifty. The intensity effects of course vary with the number of cells employed. Making use

of the body as a resisting medium, and forming connection with it, by pressing the hands on large moistened plates of metal, and indicating the currents upon a fine wire galvanometer, we find that the same force that without the interposition of the body would instantly drive the needle to  $90^\circ$ , would, after passing the body, scarcely move it. Increasing the intensity power until we deflect the needle to  $27^\circ$ , we compare the resistance of the body with the resistance of telegraph wire, and we find it equals about 550 miles. We now make use of the battery at its lowest quantity power, and at its



highest, and also at intermediate conditions, and find that, though the range of force in the battery is from 1 to 250, yet the indications on the galvanometer are only from  $27^\circ$  degrees to  $47^\circ$ . The inference is unavoidable, that, though we employ great intensity, a very minute quantity power can be exerted through the body or its equivalent, a line of telegraph, with its resisting magnets. It is another direct inference from these experiments that a telegraph line can be worked with a battery one thousand times smaller than those usually employed, although, of course, enough chemicals for

continuous action could not be afforded in so minute a generator.

Practically, the little battery shown in the engraving, is mounted in series of twenty-five, on wooden strips, and these strips are combined so as to produce any required number. The strips are secured to a base-board, and the entire battery may be inverted with one motion. All batteries using elements which do not generate gas are sluggish, unless means are taken to agitate the fluid in contact with the plates. It is evident that the dash of the fluid against the plates effects this agitation most completely. Upon restoring the battery, sufficient fresh fluid is retained in the pellet of cotton to keep up the battery action for many hours. A battery of one hundred and fifty cells rather exceeds in intensity the power of one hundred of Grove. The construction of all the parts is such, that a single member of the series can be taken out without disturbing the others, and a battery of one hundred cells can be entirely renewed in two hours; but as it may be put away out of use for an indefinite time, and then brought again into action by a single motion, and for the purposes to which it is adapted, the currents resulting from the moistened cotton are more than sufficient; it is not expected that it will be necessary to renew for a very long time.

These Batteries are manufactured and sold by C. T. & J. N. CHESTER, 104 Centre street.

[Written for the Telegrapher.]

## THE EARTH CIRCUIT.

ONE of the most interesting, and at the same time, most useful discoveries ever made in connection with the practical working of the electric telegraph, was that of making use of the earth as a return path for electrical currents.

Prof. STEINHEIL, of Munich, Bavaria, was the first to employ the earth to act the part of a conductor for magneto-electric currents, in a telegraphic circuit. His experiments were made in 1837.

COOKE and WHEATSTONE, of England, found by experiments made during the year 1841, that the earth not only might be employed as a return circuit, for electric currents from a voltaic battery, but that the resistance of the earth was so small that the same battery would work to a much greater distance, when the circuit was half composed of earth, than when composed entirely of wire.

Prof. JOSEPH HENRY, then residing at Princeton, N. J., had also previously made the same discovery.

This fact excited much interest and attention among men of science, and elaborate investigations have since been made in order to determine the manner in which this singular result is effected.

By many who have given attention to the subject, the earth is considered to be a vast reservoir or drain, in which the positive electricity on one side, and the negative on the other, are absorbed and lost. The most lucid exposition of this theory, is that given by GAVARRET, in his *Télégraphie Electrique*, as follows:



"When disconnected, the poles of a battery have equal and opposite tensions. When insulated conductors are placed in contact with them, they themselves become the poles of the battery, which furnishes a current sufficient to charge them, but not of sufficient duration to move the needle of a galvanometer.

"If these conductors are enlarged, the time occupied in charging them will increase proportionally, until a limit will be reached, at which the flow of electricity into them will last long enough to affect the galvanometer;\* and when the conductors become infinitely long and infinitely large, the time occupied in charging them also becomes infinite. In other words the current will pass precisely as if the poles were connected."

"Thus, when the extremities of a circuit are connected to the earth, which is an infinitely large conductor, their respective tensions are diffused in all directions, without producing any appreciable tension in the earth itself, so that the current will continue to flow."

It would seem, however, more natural to regard the earth, as a simple conductor, its great volume compensating for its inferior conductivity. It is objected by the advocates of the first mentioned theory, that if we consider the earth merely as a conductor, we are obliged to admit that electric currents may cross each other in all directions at every instant without affecting each other; and that when the positive and negative poles of several batteries are plunged at the same time in the ground at great distances from each other, that the positive electricity of each pole, in order to become neutralized, seeks for the negative electricity of the pole belonging to the same battery, even though this pole might be much more distant than the negative of another battery. (*Prescott*, p. 68.)

It is a matter of common observation among telegraphers, that a number of distinct circuits may pass over a single wire in different directions without the slightest interference. Take, for instance, the arrangement of the local batteries, in a large office like New York: A wire runs from one pole of each local in the battery room to its corresponding sounder in the operating room, and thence to a common return wire, to which the remaining poles of all the batteries are likewise connected. Now, it makes no difference whether the positive or negative pole of any of these batteries is connected to the common return wire, or whether the locals are all of the same size or the same kind. The action of each is precisely the same as if no other wire or battery were connected with any part of its circuit. The return wire acts the same part in the system of local wires as the earth does in the system of main wires. As the return wire is not of necessity any larger than the other separate wires, it is obvious that it cannot act as a reservoir or absorbent of electricity, but merely as a simple conductor.

The following interesting experiments made by Signor MATTEUCCI, an Italian electrician, in 1844, would seem to prove conclusively that the return current is actually propagated through the earth in the same manner as through any other conductor.

"The circuit of a pile of ten Bunsen's elements, was established by plunging the two poles in two wells 160 metres apart, a galvanometer being in the circuit to insure the passage of the current. In this interval were two other wells, almost within a straight line of the two extreme wells. The distance between these two wells was 30 metres; they were distant from the two extreme wells, one 80 metres, the other 50. The extremities of a good long wire galvanometer were plunged in the two intermediate wells; the current was then passed in the long circuit, when a deviation of 35° or 40° was instantly obtained. On reversing the direction of the current in

\* This may be observed upon making the connection between the battery and a very long and well insulated line, disconnected at its farther extremity. The relay will close for an instant, and resume its former position.

the long circuit, that of the *derived* circuit was also inverted." This is precisely what ought to be the case if we admit that the electric current is transmitted in the ordinary manner, whilst it cannot be conceived under the other hypothesis.

In another experiment by MATTEUCCI, he caused the current from a single Bunsen's element to circulate through a copper wire 9,281 feet long, and also the same distance through the earth; and found that the diminution which occurred in the intensity of the current was such, that the resistance of the earth must not only be regarded as nothing, but that the resistance of the copper wire forming part of the mixed circuit must be considered less than that presented by the same wire when it enters *alone* into the circuit. This singular fact had also been observed during the previous experiments of COOKE and WHEATSTONE.

In making an earth connection at the terminal station of a telegraph line, it is a matter of great importance that the plate should be of sufficient size, to compensate for the low specific conductivity of the earth.

The law governing the distribution of electricity is that a current will divide between two or more paths open to it, in an inverse ratio to their several resistances.

Hence, when a number of different circuits are connected to the same earth-plate, it becomes a question of comparative resistances, whether a current sent on one wire will diffuse itself in the earth, or divide between the earth and the other wires.

The importance, therefore, of making the plate large, and burying it in a moist place, is obvious. On very short lines especially, the perfection of the earth connections is a matter requiring particular attention.

A gas or water pipe, when its connections are perfect, is preferable to any other arrangement for a ground plate, because of its great surface. The connection of the wire to the pipe should be carefully soldered, and wherever possible the gas and water pipes should *both* be made use of, or, as sometimes happens, the removal of a gas meter or a section of water pipe, may throw a number of lines into confusion for some time before the cause is discovered.

F. L. P.

New York, *March 30, 1867.*

#### MISCELLANEA.

WHEN the stock-books for the first telegraph line, to run from New York to Washington, were opened in Wall street, after two weeks of industrious solicitation, by the writer of this paragraph, he had the humiliating intelligence to write to Mr. MORSE, at Washington, that, by perseverance, he had been able to sell but \$300 of the stock. People called him a "visionary fool." Now the lines in this country represent a capital of \$60,000,000, to which, before the year closes, \$10,000,000 will no doubt be added. The patents have come to an end, the people are wide-awake for competing lines.—*Telegraph Record.*

ALBANY FIRE ALARM TELEGRAPH.—The construction of the Fire Alarm Telegraph, for the city of Albany, is progressing with considerable rapidity, and it is expected that it will be finished and in operation by May 1st.

RIVER CABLE.—The W. U. Co. are about to lay a cable of three conductors across the Mississippi River, from Dunleith, Ill., to Dubuque, Iowa, for the use of the Illinois C. R. R. and commercial business.

NEW OFFICE.—The W. U. Telegraph Co. are about to put in a loop from Cortland, Ill., to Sycamore, a distance of five miles, for the convenience of the citizens of the latter place.

NEW MAGAZINE.—It is rumored that a new monthly magazine, devoted exclusively to electrical subjects, will shortly make its appearance in Boston. Who its proprietors are is not known at present, but they intend to make it a first-class review on all subjects pertaining to telegraphy and electrical matters generally.

#### PERSONAL.

Mr. JNO. C. WAGNER, has resigned the management of the B. & B. Telegraph office, at Somerville, N. J., and retires from the business for the present to engage in the publication of the *Shippensburg News*, at Shippensburg, Pa.

SAMUEL J. WHYTE instead of J. WHYTE, as printed in our last number, has received the appointment of Ticket Agent at the Albany depot of the Rensselaer and Saratoga Railroad.

J. M. BATES, of Erie, Pa., on March 1st, took charge of the Erie and Pittsburg Railroad Telegraph Line, in place of D. H. FITCH, of Linesville, Pa.

WILBERT IRWIN, Renovo, Pa., succeeded J. B. YOUNG of that place, as Chief Operator of the Philadelphia and Erie R. R. line, at same time.

W. M. WOODRUFF, Meadville, Pa., is Chief Operator of the Atlantic and Great Western Railway, and has held that position for some time past.

EARL J. RUDD, recently of Madison, Wis., has accepted a position in the W. U. office, Chicago.

E. F. LYMAN, an operator on Chicago and Northwestern railway lines, has obtained a patent on an improved clothes rack, and disposed of a half interest for three thousand dollars.

A. L. WHIPPLE, has entered upon the discharge of his duties as Superintendent of the Fire Alarm Telegraph in the city of Albany.

W. A. GRAVES, for some time past Mr. WHIPPLE's assistant in the N. Y. C. R. R. Telegraph office, Albany, has assumed charge of that office, and is assisted by M. G. BARTLEY, late night operator at the Bridge.

J. F. COLLINS is temporarily serving in the position made vacant by Mr. BARTLEY.

W. J. CULL, employed during the past winter in the construction of city lines in New York, has accepted a position with the Albany Fire Alarm, and is now engaged in its construction, at present in progress.

W. B. CLOW has resigned his position in Springfield, Ill., office, and goes to Cheyenne City, Dacotah.

MR. GAGE, recently of the Ohio & G. E. Railway, has taken a place in the Chicago office.

J. C. DORCHESTER has resigned the management of the Racine, Wisconsin office, and has accepted a position in Chicago office.

JOHN C. MATTOON has been appointed Chief Operator of P. & A. Company's office, Cincinnati.

R. B. PEARSON, late of Brownsville, Pa., and W. A. STEVELY, late of Chicago, have accepted positions in the P. & A. Company's office at Cincinnati.

HENRY L. SMITH, late of Cincinnati, has accepted a situation in the W. U. office, St. Louis.

T. A. EDISON, formerly of the W. U. Co.'s office, has accepted a position, and is now with the same Company's office, Boston, Mass.

O. J. WADDELL, late of the Franklin Co.'s office, New York, is now in the W. U. Co.'s office, Boston, Mass.

E. J. DAVIN, late night clerk in the W. U. office, Boston, takes a position as operator on eastern side, same office, April 1st.

S. L. GRIFFIN has resigned his position at the "Old State House" office of the W. U. Co., Boston, and is succeeded by Mr. JOHN H. MILLIKEN, of Portland, Me.

MURDER.—Mr. L. G. BURNSIDE, proprietor of the American House, at Marion, Ohio, was shot, and it is probable fatally wounded, on Monday morning, by G. HUNT, the night telegraph operator for the Bellefontaine Railroad.



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.

Education of Operators.

OTTAWA, Ills., March 24th, 1868.

TO THE EDITOR OF THE TELEGRAPHER.

FOR one, I thank you for your editorial on "Defective Education of Telegraph Operators." I have long held such sentiments myself, and deplored the great lack of appreciation on the part of Telegraph Companies towards a skilful and practical operator. While I agree with you on all main points, can it be said to be the "fault" or the "misfortune" of the operator, in most cases?

Let me give you the experience of one in brief: Some time ago, he visited the great Telegraphic centre of the West—Chicago—for the purpose of obtaining a few works on electricity, magnetism, etc., with a view of assisting himself in the study of this science. He first sought some of his Telegraphic brothers in that city, to ask their advice in the selection of books, but found that they were, if possible, more ignorant than himself. They could not even say where a work on electrical science could be obtained. He knew of a few valuable works himself, however, and determined to make a desperate effort to obtain them, if possible. He visited the largest store first, and inquired first for "DAVIS' Manual of Magnetism,"—they never heard of it; "The Electric Telegraph," by Dr. LARDNER—ditto; "Manual of Electricity," by Prof. NOAD—unknown; and even "COMSTOCK'S Philosophy" was unattainable. The same results followed at every store visited. He returned home with but one work, which he had once studied in days past—PRESCOTT'S. Ascertained through a Western book store that Dr. LARDNER'S work on the Electric Telegraph could be obtained at the moderate sum of \$8—one-half the size of PRESCOTT'S.

Now, Mr. Editor, appreciating myself the importance of the education of practical operators, is it not possible that the difficulty with the majority lies just here: they are not all placed where they can practically study electrical science to that degree they could desire, and cannot theoretically, for the reasons herein assigned. Scientific works are either very scarce in the West, or our booksellers place but little value on such works. For one, I would be thankful for information as to where standard works could be obtained. Would it not be advantageous to all—yourself not excepted—to have the principles of electricity and the operations of the electric telegraph dealt with a little more through the columns of THE TELEGRAPHER? Place a column at the disposal of those who are competent to contribute matter under this head, and your paper will become more popular, more widely circulated, and better appreciated by "uneducated though aspiring operators."

F. T.

[The suggestions of F. T. are very sensible. We have made arrangements with an able and experienced practical and scientific gentleman to prepare for THE TELEGRAPHER a series of articles upon the Science of Electricity and Telegraphy. These will be not only interesting, but valuable to Telegraph operators and others interested in electrical science. We will also publish with pleasure anything on the subject which may contain original or valuable information, suggestions or experience.—

EDITOR TELEGRAPHER.]

Compound Wire for Telegraph Lines.

TO THE EDITOR OF THE TELEGRAPHER:

It appears by a pamphlet recently issued by the American Compound Wire Company, that Messrs. FARMER and MILLIKEN, of Boston, have abandoned the plan upon which they secured a patent for depositing a covering of copper upon steel wire, and propose instead, to cover steel wire for telegraph lines with a ribbon of copper wound around them spirally.

This is not entirely a new idea, though the machinery for doing the work may be of a new description.

More than a year ago, Mr. DE MORAT, of Philadelphia, secured a patent for constructing a cable, the core of which was a steel wire wound around with a thin copper ribbon. He also covered the gutta percha used to insulate the conductors, in a similar manner.

We have been told that Mr. CROMWELL F. VARLEY has given an opinion that a steel or iron wire covered with copper will not work well; but we have great confidence in the views of Mr. FARMER on the subject, and we hope that one of the compound wires will soon be thoroughly tested.

For obvious reasons the Western Union cannot afford to put up such a wire. For if it should prove all that is claimed for it, that Company would be compelled to adopt it in place of its old and badly insulated wires, and this would involve a larger expenditure than they will be ready to incur before the Russian extension declares a dividend.

WILLIAM.

THE TELEGRAPH.

GREAT INCREASE OF TELEGRAPH BUSINESS WEST—LAKE PORTS.—Chicago is the great telegraph centre of the West.—Forty-seven lines reach us. The daily receipts of the business originating here are not far from \$1500. The answers to the telegrams originating here, paid in other localities, it is fair to estimate at the same sum, which gives a daily business of \$3000, about \$1,000,000 a year! A respectable sum, considering the business is almost in its infancy. There are houses in this city that telegraph as high as \$5,000 a year. In Milwaukee, it cost one house in 1867 over \$6,000. That house has subscribed liberally, as well as many others, to the opposition line now going forward to completion.

Here are a few data of the progress of receipts in nineteen years. They average an increase of 100 per cent. for each year.

	Receipts, Dec. 1848.	Receipts, Dec. 1867.
Chicago .....	\$406	\$45,090
Detroit .....	286	4,119
Toledo .....	164	2,248
Cleveland .....	451	4,348
Buffalo .....	330	5,932

Telegraph Record.

Franco-American Telegraph Company.

This company proposes to lay a direct cable between New York and France. It was registered in London last January, with a capital of one million pounds sterling; and it is claimed that one-third of this amount is already subscribed in England, and a second one-third "contracted for" in France, while the last one-third is now offered to American capitalists, "in order to make this an international enterprise."

We should of course be glad to see one or more additional cables between this country and Europe; and we do not care to interfere with any truly international enterprise to that end; but in a case like the present, it is interesting to inquire who makes the cable, and gets the contract for laying it; and how much of the capital so eagerly subscribed and contracted for in England and France, is to go back into the pockets of subscribers and contractors in the form of payments on account.—*Journal of Mining.*

HEAVY CABLE TELEGRAPHING.—An English paper states that the Atlantic cable was employed ten hours in transmitting to New York the debate in Parliament, on the Alabama claims, on the night of the 6th.

By Atlantic Cable.

LONDON, April 1st.

In the House of Commons this evening Mr. Ward Hunt, Chancellor of the Exchequer, asked leave to bring in a bill for the purchase, by the government, of all the lines of telegraph in the kingdom. He explained that the bill provided for the appointment of arbiters, who shall decide as to what prices are to be paid to the several telegraph companies for their property and interests in the lines.

CHRISTIAN MEMBER OF THE TURKISH GOVERNMENT.—The Director-General of the Post Office and Telegraphs of the Ottoman Empire, AGATHON EFFENDI, has also been recently appointed Minister of the public roads of the Empire. He is by birth an American, and is the first Christian that has ever received a ministerial appointment under the Turkish Government.—*Journal des Telegraphes, Paris.*

A FRIEND at Chicago, sends us the following: The Chief Operator at Clinton held the line open the other day two hours, because there was an atmosphere electric storm on the line. He was afraid it would burn the cut-outs.

NEW PATENTS

Recently issued from the U. S. Patent Office.

75,743.—ELECTRIC COMMUTATORS.—Leroy B. Firman, Chicago, Ill. March 24, 1868.

I claim a commutating-wheel, composed of two plates, circular or annular, one of a conducting and one of a non-conducting material, L D, when alternate sections of the two plates of their peripheries are moved in contact with the point *d*, and when the points of alteration are chamfered off and kept from contact with each other, in the manner and for the purpose specified and described.

75,775.—SIGNALLING APPARATUS.—Samuel S. Laws, New York, N. Y. March 24, 1868.

I claim, 1. A series of wheels thus alternately moved and held in check, in combination with contrivances for giving either an advance or a retrograde movement, according to circumstances, substantially in the manner and for the purpose above set forth.

2. In a reporting and signalling apparatus, the series of discs and wheels, as above shown in combination with the coils O O', the armatures R R', and the levers L L', constructed, arranged, and operating substantially as above set forth.

3. In a reporting and signalling apparatus, intended specially to report the rise and fall of gold, stocks, &c., the use of discs operated substantially as above shown, and so arranged as to present integers representing tens, hundreds, &c., as well as fractions varying by eighths, when the whole are so disposed, either in rows or in any other pre-arranged order, as to communicate at a glance the changes in the stock market, substantially in the manner above described.

75,815.—INSULATOR FOR TELEGRAPH.—Cromwell Fleetwood Varley, New York, N. Y. March 24, 1868.

I claim, 1. The method, substantially as described, of preventing the metallic pins of insulators for telegraphic wires from rusting, and the vulcanite covering from being defective and being injured, by coating the said metal pins with zinc, and then with tin or an alloy of tin, preparatory to and in combination with the outer covering of vulcanite, as set forth.

2. As an improvement on the well-known mode of securing the metallic pins, covered with vulcanite, with the insulating cups, by means of cement, and as a means of excluding moisture and preventing the evil effects therefrom, filling the pores and interstices with paraffine wax, applied substantially as herein described.

3. Covering pieces of wire with vulcanite, for insertion at the points of support, substantially as described.

75,889.—TELEGRAPH INSULATOR.—J. L. Finn, Elyria, Ohio. March 24, 1868.

I claim, 1. The combination and arrangement of the bell-shaped shell A, forked shank C, the adjustable torted conductor D, and conducting-wire K, substantially as described for the purpose specified.

2. Securing the shank *a* to the bearer X, by means of the tangential pins T, passing through a groove in the side of the said shank, substantially as described for the purpose specified.

TO CORRESPONDENTS.

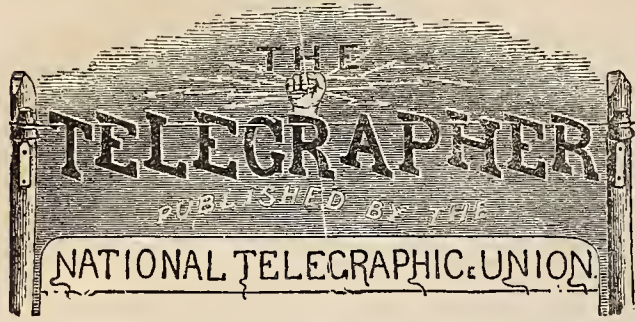
HORATIO.—Your interesting letter unavoidably crowded out this week. Will appear in our next issue.

Z.—It is only necessary that two operators, or others employed in Telegraph business, should endorse your application for membership in the Insurance Bureau. You certainly can get this endorsement. Mr. J. W. SROVER, the Actuary, will furnish you blanks and all necessary information upon application.

MARRIED.

LYMAN—SIMMONS.—February 20th, by the REV. J. T. MASON, E. F. LYMAN, of Sterling, Ill., to MISS NANNA A. SIMMONS, of Franklin Grove.





SATURDAY, APRIL 4, 1868.

### MR. FARNSWORTH'S TELEGRAPH ACT.

WE have received a copy of the act introduced by MR. FARNSWORTH, of Illinois, in the House of Representatives, March 8th, 1868. It is supplementary to an act concerning Telegraphs, passed July 24th, 1866. A larger part of the Bill comprises provisions for the protection of the public and Telegraph companies, which are eminently just and proper; but there are some sections which should be amended or stricken out altogether.

Section first provides that all suits brought against any Telegraph Company, which shall at the time of the passage of this act, have signified its acceptance of the act of July 24, 1866, may be removed from State Courts to the District or Circuit Courts of the United States. Now, we believe that the State Courts are too frequently disposed to be partial to a citizen as against a foreign corporation; and excessive damages have frequently been levied on Telegraph Companies for the failure to perform a service, for which an exceedingly small sum has been charged. From recent decisions in the United States Courts, we are led to believe that such Companies as come within the provisions of this act will no longer be held for anything more than they promise to perform, viz: the exercise of due diligence and good faith. But we think that the benefits of this act should be extended to *all* Companies, and not exclusively to those who had accepted the act of July, 1866, previous to the date of Mr. FARNSWORTH'S bill.

This limitation of proposed benefits is suggestive that some one telegraph company, with great interests at stake, and, possibly, numerous suits on hand, had the framing of this bill, and we are strengthened in this view, by the provisions found in section fifth, which we give entire:

Sec. 5. *And be it further enacted*, That if any person shall place any wire or other telegraphic appliance, or shall direct, procure, or cause the same to be placed, or shall connive at the placing thereof, upon any pier, abutment, pole, or other erection or structure, belonging to, or leased or used by any such telegraph company as is mentioned in the first section hereof, such person shall be deemed guilty of a misdemeanor, and shall, upon conviction thereof, be fined five hundred dollars and imprisoned for one month; and in case such wire or other telegraphic appliance shall have been placed upon more than one of the erections or structures aforesaid, then the party offending shall, upon conviction, be fined five hundred dollars for the first offence, and one hundred dollars for each succeeding offence, and shall be imprisoned until the same shall be paid; and it shall be lawful for a conviction to be had for any number of such offences under one indictment. In case the offence or offences described in this section shall be done or committed by the procurement, direction or connivance of any corporation, or person acting as the officer, servant, or agent of any corporation, such corporation, and the officer, servant, or agent aforesaid, shall be liable jointly and severally in a civil action, at the suit of the telegraph company against whom the offence shall have been committed, for a sum equal to the amount which shall have been incurred by the person actually committing, or directing, or procuring the commission of the offence, and special bail shall be required, and upon final judgment for the plaintiff, execution shall ensue in like manner, as is provided by the third section hereof; and such suit may be maintained irrespective of any prosecution for such offence or offences."

By this it appears that certain Telegraph Companies are to be forever secured in an exclusive possession of privileges which may have been granted to them for only a limited time; further than this, it makes possession *more* than nine points of law, since, under this section, wherever a telegraph company may be using the property of others, even without the permission of the owners thereof, such company cannot be compelled to abandon

its use, nor can the owners of said property permit any person or company to place wires or other telegraphic appliances thereon without becoming liable to heavy fine and imprisonment.

For instance, the Western Union Telegraph Company, some time since filed their acceptance of the act of July 24th, 1866. They may, without anything more than a verbal or conditional permit, have placed their wires on the telegraph poles of certain railroad companies.

Now should this bill of MR. FARNSWORTH'S pass, we must confess we cannot see either how such railroad companies could remove the wires of the Western Union Company, or how they could even grant a permit to any other telegraph Company to use their poles; and from information in our possession, we believe that one of the real objects of this bill is to prevent a rival telegraph company from placing its wires upon the poles belonging to the Pennsylvania Railroad, and to which the wires of the Western Union Company are already attached.

It is not the duty of Congress to enact discriminating laws affecting corporations engaged in the same business, and MR. FARNSWORTH'S bill should be reconstructed and made more general in its character.

There is one additional provision which the public generally, and business men in particular, absolutely require. It is well understood that whenever competition in telegraphing exists, the rates are comparatively low, and the business well done, while to such points as are controlled by a monopoly the tolls are exceedingly high, and the business badly done. We can see no good reason why parties wishing to telegraph to St. Louis, or San Francisco, should not receive the benefit of the low tariffs to Cleveland or Cincinnati, where the opposition lines now terminate. That they do not, is owing to the fact that the monopoly company will not receive dispatches from rival companies without charging full tariffs on every word and figure contained in the date of such dispatches, which words and figures, together with addresses and signatures, have always been considered exempt from charge by all telegraph companies. Opposition companies cannot, therefore, charge for them, and so long as the monopoly can evade State laws, and exact such charges on business transferred to their lines, the public will not get the benefit of reduced rates to points beyond the reach of existing competition. Let MR. FARNSWORTH'S bill be so amended as to compel all telegraph companies to receive dispatches for and from each other, without charge for either dates, addresses or signature.

There are other suggestions we would like to make in regard to this bill, but we cannot afford the space in this issue. We would, however, respectfully recommend to the managers of all telegraph companies, that they examine this bill carefully, and exert their influence in the right direction.

### Inducements to Work for the Telegrapher.

MANY of the friends of the N. T. U. and THE TELEGRAPHER have labored zealously and effectively to increase and extend its circulation, without pay or expectation of reward. To those who have thus aided to establish the paper upon its present firm and substantial basis, too much praise cannot be awarded.

The paper now, however, has got into a pecuniary condition where it can afford some remuneration to those who labor for it.

We have, therefore, with this view, and for the purpose of still further increasing and extending the circulation of THE TELEGRAPHER, made an arrangement with Mr. D. VAN NOSTRAND, Publisher and Importer of Scientific Books, No. 192 Broadway, whose advertisement will be found in our advertising columns, by which we are enabled to offer the following very liberal inducements to operators and others disposed to aid us in our enterprise.

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It is understood that the last premium is to be in addition to any others that may be received.

### The Telegraph Record.

We have received the first number of a new publication entitled the TELEGRAPH RECORD, a monthly paper published at Chicago, Ill., as an official organ of the new opposition company, the GREAT WESTERN TELEGRAPH COMPANY, whose headquarters are in that city. It is very handsomely got up, and contains valuable and interesting matter, especially for parties interested in the Telegraph at the West. It advocates competition and opposes monopoly in the Telegraph business of the country.

We heartily welcome its co-operation in this important matter, and trust that the success of the Company may be such as to ensure its organ long life and prosperity.

The necessity for this publication is the more urgent from the fact that the Press of the West and Northwest is practically muzzled on the subject of Telegraph competition, by its contracts with the Western Union Company.

### The Right Spirit.

The Secretary of the Great Western Telegraph Company informs us that the management of that Company have decided to order a copy of THE TELEGRAPHER for each of its offices as fast as its lines are extended. This is the right way to maintain an independent Telegraph Journal, pledged to the interests of no single company or monopoly, but conducted in the general interests of the practical telegraphers and the public, which imperatively demands and will have competition.

### You Do and You Don't!

One of our friends in the West, who is very active and successful in obtaining subscribers to THE TELEGRAPHER, writes us that recently he has lost two subscribers, one because "THE TELEGRAPHER pitched into the Western Union," and the other for the reason that "it don't pitch into the Western Union." Comment is unnecessary. We can spare them.



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Manufacturers of American

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Made Exclusively from the best of  
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Inventor of the "Pony Sounder," Register and Key,

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Switches made to order. All articles used by Telegraphers furnished on most reasonable terms.

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Keeps constantly on hand and for sale his

## Improved Telegraph Instruments.

Having adopted the use of

**OREIDE METAL,**

which is much RICHER AND FINER than brass, he now presents his work in a style and of a quality that are unsurpassed. His relays were awarded the

FIRST PREMIUM

at the late Great Fair of the American Institute, New York, and their superiority is generally acknowledged by operators who use them.

Aside from the advantages apparent upon inspection of these magnets, their acknowledged merits consist in the construction of the helix, which was patented Aug. 15, 1865. This being of naked copper wire, so wound that the convolutions are separated from each other by a regular and uniform space of the 1-800th of an inch, the layers separated by thin paper. In helices of silk insulated wire, the space occupied by the silk is the 1-150th to the 1-300th of an inch; therefore a spool made of a given length and size of naked wire will be smaller and will contain many more convolutions around the core than one of silk insulated wire, and will make a proportionably stronger magnet, while the resistance will be the same.

He is also manufacturing the

**IMPROVED BUTTON REPEATER,**

the cheapest, most reliable and simple repeater as yet invented.

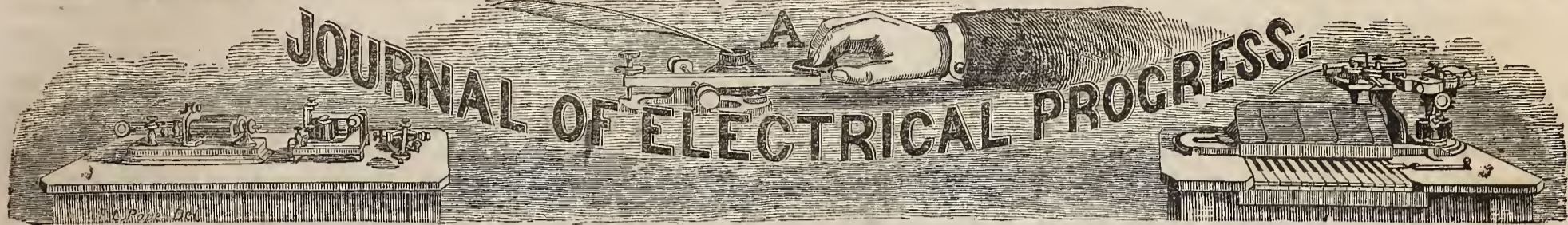
PRICES.

Button Repeaters.....	\$ 6 00
Relays, with helices in bone rubber cylinders (very fine).....	19 50
Small Box Relays.....	16 00
Same in Rosewood.....	17 00
Medium Box Relays.....	17 00
Same in Rosewood.....	18 00
Large Box Relay.....	18 00
Main Sounders, some as the above, with heavy armature levers without local connections, 75 cents less.	
Pocket Relays, with all the adjustments of the above, and good Lever Keys.....	22 00
Excellent Registers.....	40 00
Pony Sounders.....	6 75
Keys.....	4 50 to 6 50

All other appliances made to order. Extra spools for replacing such as may be spoiled by lightning, furnished at \$1 25 each. Old spools taken at the price of new wire by the pound. Goods sent to all parts of the continent, with bill C. O. D. Or, to save expense of returning funds by express, remittances may be made in advance by certified check, payable in New York, or by Post office order, in which case he will make no charge for package. He has ample facilities for furnishing all other kinds of Telegraph Supplies at lowest manufacturers' prices.



# THE TELEGRAPHER.



Vol. IV.—No. 33.

New York, Saturday, April 11, 1868.

Whole No. 91.

[Written for the Telegrapher.]

## EDISON'S DOUBLE TRANSMITTER.

By means of this ingenious arrangement, two communications may be transmitted in opposite directions at the same time on a single wire. This result is accomplished by the use of rheostats, and the neutralization of the effect of the current from the transmitting station, upon the receiving instrument at the same station.

In the diagram two stations are represented, with the necessary connections for working in this manner.  $MN$  and  $M'N'$  are fine wire helices of the usual construction, placed opposite to each other.  $K$  and  $K'$  are the transmitting keys, arranged to close two circuits at the same time, as shown in the diagram.  $R R'$  and  $X X'$  are adjustable rheostats or resistances.  $S$  and  $S'$  are retracting springs, whose tension is adjusted according to the strength of the main-line current.

The arrangement of the wires may be readily seen by reference to the diagram. The rheostats  $R R'$ , when both in circuit, should offer such a resistance that the main-line current will not be of sufficient strength to overcome the tension of the springs and work the instruments. The resistance at  $X$  is made equal to that of the main line  $L$ , added to that of the helix  $N'$  and the resistance  $R'$ . Similarly  $X'$  is made equal to  $L \times N \times R$ .

By inspection of the diagram, it will be seen that when the instruments are at rest there will be a constant current over the line, passing through battery  $B$ , rheostat  $R$ , helix  $N$ , line  $L$ , helix  $N'$ , rheostat  $R'$  and battery  $B'$ ; but, as above stated, owing to the resistance of the rheostats  $R R'$ , it will be insufficient to affect the instruments.

Now, if the key at  $K$  be closed, the rheostat at  $R$  is cut out, and the current on the main line is increased to, say 50, passing through the helix  $N$ . At the same time, a current of equal strength passes through the other helix  $M$  and the rheostat  $X$ ; the resistance of this circuit being equal to that *via*  $L$  and  $R'$ , therefore the effect upon the armature of the relay  $M N$  at the transmitting station will be null.

Suppose the tension of the springs  $s$  and  $s'$  to equal 20, the armature of the relay  $M' N'$  will be drawn towards  $N'$  with a force of 50, less the tension (20) of the spring  $s'$ , there being no current through  $M'$ .

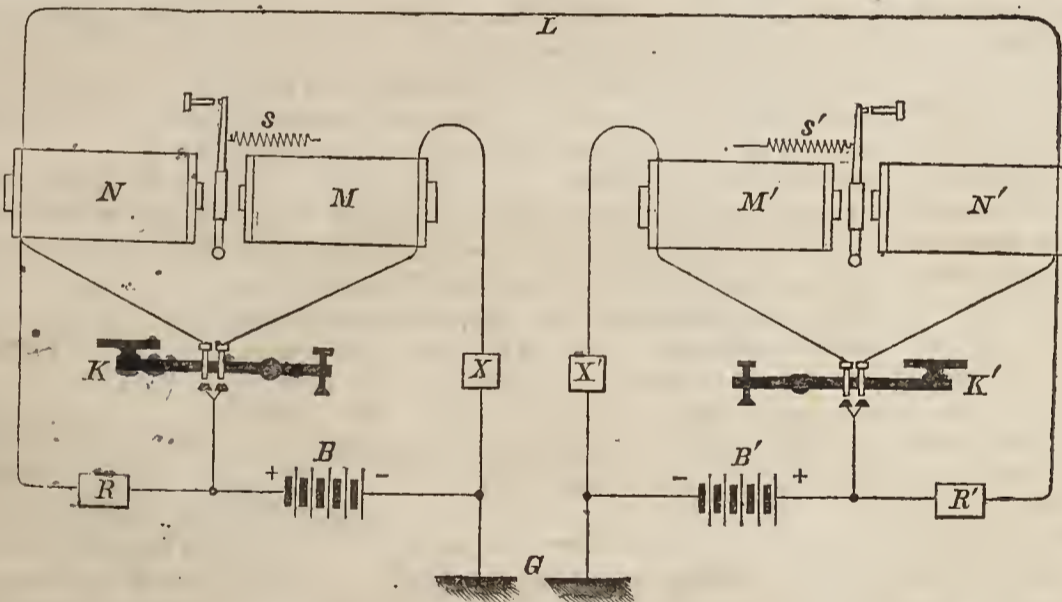
If now the key at  $K'$  be closed, the main-line current is increased to 100 by the cutting out of the second rheostat  $R'$ ; but the effect of the additional current of 50 is neutralized at  $M' N'$ , as in the former case. The current through  $N$  will now be 100, while that through

$M$  remains at 50; therefore the armature will be attracted towards  $N$  with a force of 30 (100 less the attraction of  $M$ , which is 50, and the tension of the spring  $s$ , which is 20), and will remain attracted as long as the key at  $K'$  remains closed.

If the key  $K$  be now opened, the current in the helix  $N$  is reduced to 50, and that in  $M$  to nothing, and the difference being the same as before, the relay remains closed. But the current at  $N'$  also being reduced to 50, while that in  $M'$  remains at 50, as before, the two attractions neutralize each other, and the spring  $s'$  draws back the armature.

Thus, it will be seen that the writing from the key  $K$  will only affect the relay  $M' N'$ , and *vice versa*.

Local circuits can be attached to the keys for convenience in writing, or a key and sounder may be placed in a local circuit, and the lever of the sounder made use of to work the main circuit instead of the key, as shown in the diagram.



A repeater may also be arranged to work on this system, if required.

The inventor of this arrangement is Mr. THOMAS A. EDISON, of the Western Union Telegraph Office, Boston, Mass.

[Written for the Telegrapher.]

## Waifs.

DID you ever see Mrs. PARTINGTON? I have. I saw her this morning. She was going to Boston, and came into the office, at the depot, with the veritable umbrella and "ridicule" so well known to every one. "Isaac" was with her, and the old lady was very nervous in regard to trains. She had been left at her last stopping-place, and was loquacious on the subject, and told me she "would not have been retained had the people at the depot been more polite," and explained to me how the vender of tickets had "exposed upon her imminence," in

answer to all her questions, and the only satisfaction she could get from anybody was from a "young man at a window who was stitching paper collars;" and she exhibited to me several yards that he had given her to make up for Isaac, with a quiet exultation decidedly refreshing, especially as "Ike" himself favored me with an expressive grimace in the rear of her elbow. Dear old lady! had she known the "exposition" of the young scape-grace she had so praised, I wonder would she have replaced that yard or two of train reports within that venerable "ridicule" with the same amount of complacency, or would she have laughed inwardly, as I did?

Telegraphers, though, are liable to "expose on themselves," also. I have an instance or two in my mind now that I will jot down here while I think of it. City office operator receives from main office a message to "JACOB BIERBOWER," which the messenger endeavors to find as "J. A. COBB, beer-brewer." It was "impass," as the Madame in "Yusef" would express it. This reminds me of another, on the same operator. You will

please understand that this gentleman especially prided himself upon not being a brakesman. To be sure, as a breakist, he had a good reputation; but as a conductor of errors he was a decided success. City office sent him an office message, for "Gba Abram Lec-dick your msg to-day," which he received in his usual style, but in a few minutes called up the operator, and with a polite insinuation that he was *non compos*, demanded a repetition. His request complied with, he said "o—h!" only oh, no more. His copy was thusly: "gba A. B. Ram to Dick—" "Dick, whew!" But this gent, with the rest of us, have the consolation of knowing that the No. 1's have made mistakes too. Here is one on a worthy manager,

now first-class in every sense of the word, both as an operator and a gentleman, that has caused me a few tears. In a message concluding "it will take us some time to get hold of the ropes," from a new office to the Superintendent, he sent it into the sanctum, much to that officer's mystification, and wound up with the information that "it would take some time to get hog off the ropes." It is needless to say it was "repeated." This was about as ludicrous as the following: A gentleman connected with the stockyards telegraphed his partner: "If drover's pass is good, have me another ready. Home to-night;" and it was translated by the receiver into, "Dr. OVER'S hash, &c." To my thinking it was very "good."

O. P. ERATOR.

TELEGRAPHING IN GREAT BRITAIN.—In 1867, nearly 5,000,000 telegrams passed through the various telegraph stations in Great Britain.



## 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.*

## Experience of an Operator on the Pacific Line.

TO THE EDITOR OF THE TELEGRAPHER.

I HAVE seen but little correspondence in your paper, from the mountains of the West, and propose giving you a few scraps of personal experience of Telegraphers on the overland line. I could have wished the task had fallen into abler hands; but as no one else seems inclined to represent us, I write. The first line to California was constructed a number of years ago, farther north than the one now in use, and over the old stage route, *via* Fort Laramie and South Pass. After being in successful use several years, the mail and express route was transferred to the present road, *via* Denver, crossing the mountains at Bridger's Pass. This transfer was made on account of Indian troubles in the north, and it soon became evident that the telegraph line must also be transferred. In the summer and fall of '66, the line now in use was put up on the new route of the Overland Express Company. The old line was not, however, entirely abandoned until the summer of the following year, when the Indians destroyed so much of it, it was thought useless to rebuild it. After the removal of the stage line from the Laramie road, operators at many of the offices were left entirely alone, living a hermit's life, thirty or forty miles from the next office on either side. For company they had their horse and the inevitable cat and dog. It is, however, of the line in use at present that this letter has to speak.

The new line proper extends from Denver to Salt Lake, a distance of 596 miles; there are twelve way offices, averaging fifty miles in distance from each other. There is, however, much irregularity in their relative distances apart, many being but thirty and some eighty miles, according to the nature of the country passed over. The way offices are established at the home stations of the Stage Company, *i. e.*, eating stations.

In the fall of '66, the writer opened an office at what was then the western terminus of the line, it not being completed to Salt Lake at that time. A description of one of these offices will answer for nearly all: The home stations consist of merely two buildings, the house and barn, the latter often superior in architectural pretensions to the house. Both are constructed of rough stones laid as found. They are only eight feet high, and are roofed with mud, altogether presenting rather a "squatty," insignificant appearance. In one corner of the room used as sleeping apartments for stage men, and general waiting room, was the telegraph instrument; my first care was to provide a bunk for sleeping purposes. As there were no saw-mills within a radius of 250 miles, this was a problem of no little difficulty, until the arrival of a large box of telegraph supplies. This was quickly converted into lumber and a bed of sufficient capacity constructed. Operators were furnished a full set of repairing tools, and the Stage Company were supposed to supply a good house for their use. My horse was a mule, a sort of general-utility animal, and of the meanest, most deceitful disposition imaginable. She was called Lucy, some malignant genius adding Holiday to her name, out of a supposed resemblance to Ben Holliday, who at that time owned the Stage line. Twice, while out on the line repairing, Lucy, watching her opportunity, broke away from the pole to which I had tied her and departed, leaving me on the top of another pole, gazing on the fast disappearing mule, with the comforting knowledge that I must walk home. When the following spring I saw the mule driven off by a band of thieving Indians, I bore her loss with considerable resignation, knowing that the Sioux would avenge my wrongs.

The general aspect of the country through which our line passed is dismal in the extreme. The sublime scenery among the mountains of Colorado is entirely lost in Dakotah. Here vegetation is confined entirely to grease-wood and sage-brush, two species of shrub peculiar to this vast waste. The weary eye is relieved by no forest trees, no pleasant streams nor fair landscape. Nothing to be seen but bleak mountains, and intervening dead levels. The animal population is composed of gaunt wolves, while the birds of the air are ravens; over all rests the deep, blank silence of entire desolation, dreary and unrelieved, varied nightly by the howling of wolves. Under these not particularly cheering auspices was my first winter in the West passed; still, on the whole it was enjoyed. The entire novelty of the surroundings was something. We were a community to ourselves, entirely oblivious to the doings of the outside world. The distressing questions of politics were forgotten. The feasibility of converting the inhabitants of Timbuctoo was discussed no longer. I determined to have a sleigh-ride, and after the most praiseworthy perseverance, rigged up a contrivance, which I imagine resembled a cross between a battered Irish jaunting-car and a coal-seuttle. One bright moonlight evening we started out, drawn by the before mentioned mule and an antiquated bone pile of a horse. All went well until just as the moon was disappearing, when I discovered we were out of the road. There were no landmarks to point out the track except the telegraph poles, and not a face was to be seen. Our illy-matched quadrupeds did not confirm the reputation for sagacity which some horses have gained in similar positions. They knew no more about the road home than I, and there was nothing to do but to make the best of it for a night out among the canons. By this time the omnipresent wolves began to gather in anticipation of a feast, expressing their satisfaction with the situation by mournful yelps of joy. I kept watch and ward that weary night around the impromptu couch of my fair companion, whose rest was somewhat disturbed by the varmints surrounding us, evidently of the opinion that it was about time for the entertainment to commence. Luckily no prowling bear discovered us, and by daylight we found the road and house, where the sleigh was consigned to the flames.

The opening of spring of '67 was very severe in the mountains; during March the snow accumulated to a great depth, and made travelling of any kind difficult. A never-failing cause of complaint was the irregularity of our mails; letters were long delayed and some haven't come yet. Provisions were getting short, too. We began to imagine ourselves much like Dr. Kane's Arctic explorers, with visions of the scurvy in the distance. With May came fine weather and Indians.

HORATIO.

## Self-closing Telegraph Keys.

TO THE EDITOR OF THE TELEGRAPHER.

In THE TELEGRAPHER of March 28th, you gave an engraving and description of "FRANZ'S Self-closing Key." There are but few operators that do not, in transmitting, raise their fingers entirely from the knob, or sufficiently to throw the knob back in its position as held by the spring, and who would wish to send with the knob loose and playing back and forth. Another thing, when the spring which throws back the knob gets weak by frequent use—as all springs are liable to—and refusing to close the circuit, a new one must be substituted, but must act like the other; but few of the inferior class of operators could replace it with one of the same strength. Now where arises the benefit except where the transmission is very slow? Operators who pay so little attention to telegraphing as to leave the circuit open carelessly, to attend to something else, had better leave it altogether.

J. H.

MAYSVILLE, KY.

TO THE EDITOR OF THE TELEGRAPHER.

In the last TELEGRAPHER, March 21st, I see a "very small Bull," from the "Queen City;" from any other office of size, even a *way side*, it might have been considered "some Bull." If this don't beat it, I will give some more, and it is authentic. When I received it and told him it was wrong, he became *furios*, saying he received the message himself from Paris and repeated it back, and he *knew* it was O. K. Here it is: "Fr. Paris, Ky., (Repeated at Cincinnati.) To Gise Middy D. Gis Duke fill down & Co." After some trouble I had it repeated, and it came: "Mrs. Emily D., Mrs. Duke will, &c., &c."

How much of the above is chargeable to the *imitation* of extremely rapid telegraphing, that is of late so much puffed, you can judge for yourself. Cheap rapidity *vs.* Correctness.

PLUG OF 19.

## The Government Subsidy to the Pacific Telegraph.

WASHINGTON, D. C., April 6.

TO THE EDITOR OF THE TELEGRAPHER:

In a recent visit to the Capitol, I came across the accompanying document, of which brief mention was made in the House of Representatives a few days since. Thinking that it might interest the readers of THE TELEGRAPHER, I took the trouble to copy it for you.

There are one or two points in this letter that have especially attracted my attention, and to which I desire to call the attention of your readers.

The statement that "business done between points on the Pacific line" is not checked at all, certainly shows a carelessness in the matter of keeping accounts not generally regarded as characteristic of the Western Union Company, under either its former or present management.

The idea that out of \$63,000 worth of business transmitted, the originals of only \$30,000 can be found; and further, the abandonment of a claim for \$80,000, merely because proper Departmental vouchers cannot be produced, is decidedly interesting, and must be especially so to the stockholders of the Western Union Company, whose dividends for the past year aggregate only 2 per cent.

Knowing that your columns are always crowded, I will not pursue the subject further, but refer the document itself to the consideration of yourself and your readers.

B. M.

EXECUTIVE OFFICE,  
WESTERN UNION TELEGRAPH COMPANY,  
145 BROADWAY,  
New York, March 26, 1868.

HON. J. S. HARTLEY, Assist. Sec. Treasury,  
Washington, D. C.

SIR,—Since writing the communication which I had the honor to address to you under date of the 4th inst., relating to the contract now held by this Company between the Treasury Department and Hiram Libby, I have caused investigation to be made with the view to ascertaining as far as practicable the amount of service which has been rendered under said contract. These investigations have been prosecuted far enough to show that it will be exceedingly difficult to arrive at accurate results, in view of the fact that business done between points on the Pacific Line is not checked at all, while that which is done between points on the line and those beyond, or between points, both outside of the line, is checked, with that portion of the tariff accruing on said line omitted.

It appears that an investigation was begun some time in 1866, with the view to collect data on which to base an application to your Department to certify to Congress as provided for by the contract, the excess above the sum stipulated therein to be paid for the service rendered on the Pacific Line.



The difficulty in procuring what departmental regulations would require as proper vouchers for such a claim, produced a suspension of the work, which was not resumed until recently by my direction.

I have found upon our files a report made by the Superintendent of the Pacific Division for the year 1865, a copy of which is herewith enclosed. It shows that the Free Government business sent by offices on the Pacific Line between Brownsville and Salt Lake, both inclusive, during that year was \$63,125.26. The original messages representing over \$36,000 of this amount were returned with this report, and are now in this office. For the balance we have no other vouchers than the records of the several offices in which the business originated. As my former communication on this subject has been, I learn, transmitted to the Committee of the House on Appropriations, I respectfully request that this may be permitted to take the same course. My object is not to lay the foundation of a claim for further payment in respect to past services, but to show that I was fully justified in making the statement that the advantages of the contract were largely on the side of the Government. For, if the business sent from only a portion of the offices on the line amounted to the sum set forth in the enclosed report, the additional business sent from the offices on the Western Division, including San Francisco, added to the return business received at points on the line from places beyond, would, it is reasonable to presume, amount to as much more; so that, for the year 1865, the service rendered would appear to be fully three times the sum paid as compensation therefor.

I am, very respectfully,  
(Signed) WM. ORTON, Pres't.

The following is a copy of the report referred to:

OMAHA, Dec. 1, 1866.

ANSON STAGER, Esq.,  
Genl. Supt. Central Division.

DEAR SIR,—I send you herewith an account of Government subsidy business of this District, for the year 1865.

Amount of telegraphing done free for Government, during the year 1865, as reported to this office:

January.....	\$1,656.14
February.....	2,752.84
March.....	3,068.36
April.....	3,160.30
May.....	3,092.80
June.....	2,182.55
July.....	8,532.42
August.....	7,630.71
September.....	6,750.94
October.....	8,927.11
November.....	4,807.00
December.....	10,514.09
Total.....	\$63,125.20

This report does not include messages from Chicago and the East generally, which will amount to several thousand dollars, nor does it include messages sent by the California offices or offices west of Salt Lake City.

(Signed) E. CREIGHTON,  
Dist. Supt.

**BANK ROBBERS DEFEATED BY THE TELEGRAPH.**—PORT JERVIS, N. Y., APRIL 3.—A gang of burglars effected an entrance into the First National Bank at this place, last night, but notice was instantly sent of the fact, through the medium of an ingenious Telegraphic arrangement between the bank and the residence of the president. An alarm was unfortunately given, also, to the burglars, who escaped without obtaining any booty.

WM. M. BARR, of the Pittsburgh office, got up a map of the various telegraph lines of the United States about fifteen years ago.

PERSONAL.

Mr. M. A. McCoy has resigned his position in the New Orleans office, to return to his old post at Pittsburgh.

Since the resignation of Mr. G. L. C. DAVIS, last December, Mr. D. FLANERY, Superintendent of the 12th Southern District, has temporarily resumed the duties of manager of the New Orleans office, no manager having as yet been provided for that office.

Q. A. STEPHENSON, of Rouseville, Pa., oil regions, has taken position, Peoria, Ill., office, on night report.

OSCAR JENNINGS has been appointed manager Racine, Wis., office.

W. H. KELSEY is in the W. U. office at Cheyenne, Dakota.

J. W. STRANCHON has resigned position of manager of Kane, Pa., office on the Western Division of the P. & E. R. R. Telegraph, and accepted appointment as relieving operator on the W. & F. R. R. Telegraph Line.

J. P. CALLAHAN, of Pittsburgh, has taken place at Wood River, U. P. R. R.—Mr. DRAKE, of Detroit, at Omaha W. U. office.—KIT DOUGHERTY, of Cheyenne City, takes the office at Sweet Water Mines. The office formerly in Cozzen's Hotel at Omaha, Neb., has been removed into the International Hotel, formerly known as the Hernden House. L. M. TREVOR, operator in charge.

Mr. E. R. HOWE, better known as "Dixie," has gone from the Henderson, Ky., office to the New Orleans office of the W. U. Line, where he takes position *vice* Mr. McCoy, resigned.

Mr. W. F. BASSETT, formerly of Memphis, Tenn., replaces Mr. HOWE in the Henderson, Ky., office.

THE TELEGRAPH.

Official Statement—Western Union Telegraph Company.

FEBRUARY, 1868.

Gross Receipts	- - - -	\$600,183.32
Expenses,	- - - -	345,855.52
Net Profit,	- - - -	\$254,327.80

**SPEED OF TRANSMISSION BY MORSE INSTRUMENTS.**—T. T. ECKERT, General Superintendent Eastern Division of the Western Union Telegraph, reports the following results of trials of speed on the Morse Instrument on his division, made in compliance with Executive Circular No. 4:

No. of Messages.	Words in each Message.	Total No. of Words.	Time Occupied.	Average Words per Minute.
First Trial	Report.	2224	60min.	37 1-15
Second " 94	20	1880	60 "	31 1-3
Third " Report.		2514	60 "	41 9-10
Fourth " "		1352	30 "	45 1-15
Fifth " "		2540	60 "	42 1-3

The length of circuits over which these trials were made, varied from 91 to 1400 miles. The largest circuit was from Washington, D. C., to Plaister Cove, C. B., over which 94 messages, comprising 1880 words were sent, occupying one hour in Washington, being an average of 31½ words per minute. The largest average of words made was 45½ words per minute—Press report, sent from New York to Philadelphia, over a circuit of 91 miles.

**TELEGRAPH EXTENSION.**—The new Telegraph line from Jamaica to Babylon, L. I., built by the Western Union Company, has been completed, and is in operation.

**NEW TELEGRAPH ENTERPRISE.**—J. E. SKIDMORE, of San Mateo, has been granted a franchise to construct a telegraph line from San Mateo to Pescadero.

THE W. U. Co. have opened an office in the Tremont House, Chicago, and appointed S. RYDER operator.

**NEW TELEGRAPH LINES IN INDIA.**—By the steamship *City of Antwerp*, which arrived at this port on Monday, April 7th, we learn that a meeting had been held in London to improve telegraphic communication with India. A submarine line is proposed from England to Alexandria, thence across the Isthmus of Suez to Bombay, by which means all the present complications, arising from the different nationalities whose countries are traversed by the lines, would be avoided, and the practical safety, as well as the complete intelligibility of telegraphic communication with India, would be ensured. It was observed that intelligence from the seat of war in Abyssinia would, in such cases, reach England in six hours. The last despatch received was twenty days overdue. A committee of leading merchants was appointed to hold communications with the House of Commons upon the subject.

THE CHICAGO GREAT WESTERN TELEGRAPH COMPANY was recently organized at Chicago, for a network of lines leading to all points of the North and Southwest. It will connect East with the Atlantic and Pacific Company at Chicago, and to New Orleans with the Southern line, now being rapidly constructed by the Mississippi Valley Telegraph Company, and the new lines now being put in operation from Louisville and St. Louis to New Orleans. The following are its officers: David A. Page, President; J. Snow, Secretary, and Isaac G. Lombard, Treasurer—all Chicago men. The Board of Directors is composed of the following gentlemen: Elisha S. Wadsworth, Nathan Mears, Samuel Hale, C. B. Farwell, V. A. Turpin, David A. Gage, John C. Haines, J. Lombard, D. F. Gray, B. F. Culver, F. B. Gardner, David Kreigh, N. K. Fairbank, J. Snow, Geo. M. Gray, M. D. Gilman, Robert McChesney, Francis T. Sherman, Joseph M. Dake, C. H. Beckwith, A. F. Dwight, James P. Fogg, all of Chicago; L. P. Sanger Joliet, Ill.; E. W. Hudson, Detroit, Mich.—*Chicago Times*.

**VILLAGE FIRE ALARM TELEGRAPH.**—Col. J. W. ROBINSON is circulating a petition among our business men for the establishment of a Village Fire Alarm Telegraph in this city, and has already obtained the signatures of between fifty and sixty of the largest business firms to it. It will be presented to the City Government next Saturday. The Northern Telegraph Company, through its Superintendent, Col. ROBINSON, has very generously offered to erect the wire upon its poles, without any extra expense to the city. It will reach the whole city, from ABBOTT, DOWNING & Co.'s shops to Fisherville, and, if erected, will undoubtedly save property enough in a short time to cover all the expense of the entire apparatus.—*Concord (N. H.) Daily Monitor*.

**NEW CABLE ACROSS THE MISSISSIPPI.**—DUNLEITH, Ill., April 1.—The new telegraph cable was laid to-day in thirty minutes, from shore to shore, from Dunleith to Dubuque, Iowa, by L. A. LOUIS, Superintendent. The river, where it crosses, is 1,757 feet across. It contains three working wires, but one was found to be imperfect after it was down.

NEW PATENTS

Recently issued from the U. S. Patent Office.

76,157, ante-dated March 23, 1868.—TELEGRAPHIC INDICATOR.—Edward A. Callahan, Brooklyn, N. Y.

I claim, 1. The transmitting instrument, formed of a disc, in combination with the arm and undulating edge of the metallic ring, the parts being connected and operating as and for the purposes set forth.

2. The escapement and arm, constructed as specified, in combination with the armature, magnet clock-work and dial, as and for the purposes specified.

DIED.

COL. E. D. BRIGHAM, President of the Boston Metropolitan (Horse) Railroad, died in Charleston, S. C., April 6th, while on a visit to that city.

Col. BRIGHAM was for several years President of the old N. Y. and Boston Home Telegraph Line, and during the late war was in the military service of the United States.





SATURDAY, APRIL 11, 1868.

## RESULTS OF MONOPOLY.

THIS paper has ever consistently opposed a monopoly in the telegraph business in the hands of any company. This has been done, not especially in antagonism to any particular company, but on general principles, and in what we believe to be the true interests of the practical telegraphers and of the public. We do not believe that a monopoly of the business can prove anything but detrimental to the interests of that large class who are dependent upon it for support, and certainly all experience has shown that it is inimical to the interests of the public. The business never has been, and in the nature of things never will be, so well or cheaply done by a monopoly, as when subject to active and intelligent competition. When such competition exists, the competing companies, in their desire to secure the business, will exert themselves to discharge satisfactorily their duties at the lowest remunerative tolls, and will extend facilities which, under other circumstances, they would never think of doing. The experience of the patrons of the telegraph during the active competition which existed for a time between the United States, on the one hand, and the American and Western Union Companies, on the other, fully demonstrated this fact, and the results of the present limited and rapidly-extending competition over a portion of the country have still further demonstrated it. As one result of this competition, the tolls over these sections have been reduced fully one-half, and the business done over all the lines is rapidly increasing in amount.

In New Jersey, the Western Union Company have a practical monopoly of the business. The result is, that the old and excessive rates are still exacted from the people there. The people and Press of New Jersey are loud in their complaints of this state of affairs; but until competition is inaugurated and encouraged there, there is no probability of any relief being obtained.

The following extract from an article in a recent number of a New Jersey paper, shows the extent to which the citizens of that state are victimized:

"Let us see what the figures say. The first column shows the rates of charges from Philadelphia to other cities before opposition lines entered that city; the second column exhibits the rates of charges now, since opposition lines have been established, and the third shows the rates of charges from Trenton to the places named:

From Philadelphia to	Philadelphia	Trenton	Hoboken
From Philadelphia to Pittsburg (ten words).....	\$0 75	\$0 30	\$0 95
Columbus, Ohio.....	1 85	1 65	2 15
Boston.....	1 00	40	95
Baltimore.....	40	25	55
Cincinnati.....	1 75	85	1 80
Louisville.....	1 90	1 00	1 90
Harrisburg.....	40	30	65
Albany and Troy.....	75	65	80
Portland.....	1 30	60	1 25
Bangor.....	1 30	60	1 55
New York.....	40	25	30

The company charge from this city to Hoboken for a dispatch of ten words fifty-five cents, while the rate from Trenton to New York is thirty cents, and that, too, in face of the fact that the line passes through Hoboken before reaching New York. This is the advantage, Jersey men, you are getting for the chartered privileges your legislators have conferred upon this monopoly. We call upon the members of the Legislature representing this city, New Brunswick, Elizabeth, Newark, Jersey City, Hoboken and Camden, to allow—yca, compel—by legislative enactment, these competing lines crossing our state to establish offices in each of these cities as a matter of public necessity."

Our New Jersey friends have been prone to encourage monopolies, and therefore do not receive as much sympathy for their sufferings as they otherwise would. We cite this as the most available and striking illustration at hand of the correctness of our position.

Again, it is a well known fact, that under the administration of a monopoly the business is not as well or satisfactorily done as when subjected to competition. Improvements in telegraphing are ignored, especially if likely to involve the expenditure of money, and it is in accordance with natural proclivities that existing means shall be deemed sufficient, so long as it is known that in any event all the business must necessarily be transmitted over the wires of the monopoly.

For these reasons, and many others equally cogent, which we have not space to set forth, we rejoice that the monopoly in telegraphing, that for a year or two after the consolidation of the United States and American Companies into the Western Union, practically existed, is in process of termination, and that there is every prospect that within the next year or two the Telegraphers, the public and the press of the country will be relieved from this incubus. New lines are being rapidly extended and constructed, and the capitalists of the country respond to the demand for additional telegraphic facilities with a determination (undismayed by previous unfavorable pecuniary results, attributable mainly to bad management and dishonesty) that all necessary means shall be furnished to build up and maintain active and vigorous competition.

The people of this country never will submit to the monopolizing of this important interest by any company, and they should not do so.

We shall, in a future number, give a reliable statement of pecuniary results of the present competition as it affects the parties more directly in interest, and shall demonstrate that reasonable and intelligent competition is not necessarily pecuniarily disastrous to those engaged in it.

## New Telegraph Cordage.

MR. S. C. BISHOP has recently produced, and is now manufacturing at the extensive works of the Bishop Gutta Percha Company, a superior article of insulated line wire, which he calls IRON POLE LINE CORDAGE, which is durable, and the wire itself perfectly insulated by a covering of flax, soaked in an insulating compound, prepared only by Mr. BISHOP, and which has already stood severe and protracted tests without failing in any point. The use of this cordage, it is claimed, will obviate all the delays, interruptions and annoyances experienced from rain-storms or a humid condition of the atmosphere, and make the Telegraph what it ought to be, perfectly reliable in all kinds of weather.

Mr. BISHOP has, also, a new article of covered copper wire for outside connections of offices, etc., and for short local lines, which is regarded as a great improvement on that wire generally used. Both of these improvements have been submitted to the most practical tests possible, and have, in every instance, been found reliable.

Some of our telegraphic inventors of the present day, before going to the expense and trouble of patenting what they think are new discoveries, would do well to call on Mr. BISHOP, at his store, No. 113 Liberty street, and examine his stock of patents, inventions, etc., accumulated for many years past, and they will often be surprised to find that what they consider original inventions and ideas of their own, have been long since thought of, tested and abandoned, either from worthlessness, impracticability, or because some better method of attaining the same end has been found.

## To New York Members N. T. U.

WE would call the attention of the members of the New York District of the N. T. U. to the notice of an adjourned meeting to be held on Wednesday evening next, at the Occidental Hotel, Broadway. It is particularly desired that there shall be as full an attendance of members as possible, as it is expected important business may come up for consideration.

## Misunderstood.

It is evident that the editor of the Western Union organ has not read understandingly our article on the "Imperfect Education of Telegraphers." We did not assert that operators, as a class, are unintelligent. The object of our article was to call attention to the imperfect education of telegraphers in their profession. That sufficient pains is not taken by telegraphers to suitably educate themselves for their duties, and that sufficient encouragement is not extended by telegraph companies to their employes to acquire such information, does not argue that, as a class, they are generally unintelligent, in the proper meaning of the term. On the contrary, we believe that operators, as a class, are intelligent; and upon this fact we base the hope and expectation that calling attention to their short-comings will lead to an improvement, and increased desire and effort to obtain suitable professional education to enable them to discharge their important duties creditably and intelligently.

## Telegraphic and Newspaper Enterprise.

ANOTHER striking illustration of the promptness, value and importance of the cable connection with Great Britain, occurred last week.

On Friday evening, April 3d, a great debate and most important division took place in the English House of Commons, relative to the dis-establishment of the Irish Church. This division was the more important as practically involving the fate of the recently formed Disraeli Cabinet. The division took place at twenty minutes past two A.M., after an exciting debate, and the House adjourned at twenty minutes past three A.M., London time. At a quarter past three o'clock A.M., New York time, a very full sketch of the debate and proceedings had been received, manifolded, and sent to the New York papers, and telegraphed to the Associated Press all over the country.

## Acknowledgment.

AMONG the many friends of THE TELEGRAPHER, who have manifested their faith by their work, none have been more constant and attentive than Mr. JOHN LENHART, of Chicago, to whom we are pleased to have an opportunity to extend this acknowledgment on behalf of the N. T. U., THE TELEGRAPHER and its EDITOR.

## New Copper Covered Steel Wire.

ARRANGEMENTS have been made between the ATLANTIC and PACIFIC TELEGRAPH CO. and the AMERICAN COMPOUND TELEGRAPH WIRE CO. of Boston, by which about two hundred miles of Farmer's Copper Covered Steel Line Wire is to be put up and practically tested by the former company, between Sandusky and Cincinnati, Ohio. If, on trial, this wire proves to possess the superiority over common iron line wire that is claimed for it by its patentees, telegraph companies will, undoubtedly, find it for their advantage to use it in reconstruction and in the extension of their lines.

## "The Telegrapher" Complete.

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## GLAD TO SEE HIM.

Our old friend, JAMES PATRICK, favored us with a short visit this week. His telegraphic friends will rejoice with us to hear that he is prospering, and that the firm of CHESTER, PATRICK & Co. are daily increasing and extending their business, and that their prospects for the future are first-rate. Although withdrawn from practical connection with an operator's duties, he retains a lively interest in the W. T. U. and THE TELEGRAPHER.

## NOTICE.

THERE will be a special meeting of the N. Y. District N. T. U. at the Occidental Hotel, Broadway, on Wednesday evening next April 15th. Members are particularly requested to be present. (Per order), M. K. TOMPSON, Secretary.



VALUABLE PREMIUMS

To be given to Agents!

In order to afford inducements to Telegraph Operators and others to make special efforts to extend and increase the circulation of THE TELEGRAPHER, we have concluded to offer the following

HANDSOME AND VALUABLE PREMIUMS

to those who may exert themselves for that purpose. This offer will hold good until the end of the present volume, which closes with No. 110.

To establish a claim to either of the premiums, the subscriptions must be from parties whose names are not now upon our books, and must be at the regular rate of Two Dollars per year. Two six-months' subscriptions will count as one in calculating for a premium.

We have already had occasion to open accounts with several Telegraphers who have sent in names of new subscribers since we announced our list of premiums last week, and hope to distribute hundreds of dollars' worth of valuable works on Telegraphy and Electrical Science in return for accessions to our subscription list.

The subscription price of two dollars per year must, in all cases, be remitted with the names of the subscribers by parties desiring to avail themselves of our offer.

For five subscribers, new, we will give to the party forwarding the names and money, "Highton's History of the Electric Telegraph," or "Bond's Handbook of the Telegraph," or "Ferguson's Electricity."

For eight subscribers, "Dr. Lardner's Electric Telegraph," or "Prescott's History, Theory and Practice of the Electric Telegraph," or "Turnbull's Electro-Magnetic Telegraph," or any other books on the list of equal value.

For twelve subscribers, "Shaffner's Telegraph Manual," or "Culley's Handbook of Practical Telegraphy," or "Sabine's Electric Telegraph," or "Noad's Student's Text-Book of Electricity." Or, instead of these, any other book or books on the list, of equal value.

We have, also, a few copies of Vol. 3 of THE TELEGRAPHER, very handsomely bound, which, if preferred, we will give instead of the books above named in this class.

For twenty subscribers we will give "Noad's Manual of Electricity," or any other books of equal value on the list, as may be preferred.

To the person who shall, before the expiration of the present volume, obtain the largest number of subscribers, not less than fifty, we will present a splendid copy of "A TREATISE ON ELECTRICITY," by A. DE LA RIVE, in three volumes, 8vo., the lowest price of which is \$36.50.

Persons who desire to avail themselves of the above offer, are requested to notify us of the fact, and they will be credited with the subscriptions forwarded, until they decide which of the above premiums they desire to receive.

It is understood that the last premium is to be in addition to any others that may be received.

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CULLEY, R. S.—A Handbook of Practical Telegraphy. Published with the sanction of the Chairman and Directors of the Electric and International Telegraph Company, and adopted by the Department of Telegraphs for India. Second Edition, revised and enlarged. 300 pp., Illustrated. London, 1867. 5 25
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 Local Battery Zincs.  
 Local Battery Porous Cups.  
 Local Battery Coppers.  
 Magnet Wire, Silk and Cotton covered.

PRICES REDUCED.

BY REFERENCE TO  
**OUR CATALOGUE**  
 (FURNISHED UPON APPLICATION),  
 It will be seen we have  
 Reduced the Prices of our Instruments  
 AND OTHER GOODS  
 ABOUT  
**Ten per Cent.,**  
 WHILE THEIR  
 SUPERIOR QUALITY WILL BE FULLY MAINTAINED.  
 We have a large quantity of  
 GLASS INSULATORS,  
 BRACKETS  
 AND  
**CROSS-ARMS.**  
 On hand, for sale low.

CATALOGUE.

Main Battery, Complete, Grove or Carbon.  
 Main Battery Tumblers.  
 Main Battery Zincs.  
 Main Battery Porous Cups.  
 Main Battery Carbons.  
 Office Furniture.  
 Platinum, in Strips, Sheets, or Wire.  
 Platinum Standards.  
 Registers—a superior instrument.  
 Register Weights and Cords.  
 Register Paper.  
 Relay Magnets.  
 Relay Springs.  
 Repairers' Tools, of all kinds.  
 Sheet Copper and Brass.  
 Sounders, Large and Pony Size.  
 Switch-Boards.  
 Sounders for Main Circuits.  
 Stationery, of any description, to order.  
 Wire, Galvanized and Annealed.  
 Wire for office purposes, Gutta Percha or Cotton Covered.

Agents for Gutta-Percha Covered Wire,

AND CABLES OF ALL SIZES—AMERICAN MANUFACTURE.



NATIONAL TELEGRAPHIC UNION

Life Insurance Bureau.

THE NATIONAL TELEGRAPHIC UNION, by authority of its special charter, granted by the State of New York, proposes to insure the lives of all persons connected with the Telegraphic business, under the following rules and regulations:

Applicants for insurance must be connected in some capacity with the Telegraphic business, must be not less than eighteen years of age, in good health, and able to earn a livelihood. Every applicant shall pay an entrance fee of two dollars, one dollar of which shall be reserved for creating a permanent fund, and one dollar towards the amount to be paid the heirs of the first insured person deceased, who will receive as many dollars as there are persons insured.

Whenever a death occurs among those insured, an assessment of one dollar and ten cents will be levied upon all. This dollar goes to the widow, orphans, or heirs of the next insured party deceased, and the ten cents to be applied to the payment of current and necessary expenditures.

Applications must be made to the Actuary, in writing, accompanied by a certificate, signed by not less than two persons in the Telegraphic business, of good character, that they know the applicant is fully qualified under the preceding rules.

A small annual assessment, not to exceed one dollar, may be necessary to cover working expenses after the first year.

This plan of insurance will be conducted under the supervision of the Executive Committee of the N. T. U., and it will be their aim to make it as inexpensive as reliability and security will allow. It is unnecessary to make any extended remarks, or any comparisons of the great advantages this plan affords for the payment of ready money, at the event of death, over Life Insurance Companies.

Parties wishing to insure should write out the following questions with their answers thereto:

- What is your name?
What is your age?
Where is your residence?
What is your occupation?
Have you any constitutional disease or debility?

Sign the above statement, and forward it to the Actuary, with a certificate signed by two persons connected with the Telegraphic business, that the applicant is well known to them, and that the answers given by him to the above questions are correct?

Applications may be sent to J. W. STOVER, Actuary, Box 5551, New York.

BROOKS'

Paraffine Insulator Works,

No. 22 SOUTH TWENTY-FIRST STREET, PHILADELPHIA.

WILLIAM R. ALLISON, Proprietor.

L. C. SPRINGER,

MANUFACTURER OF AND DEALER IN

TELEGRAPH INSTRUMENTS

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TELEGRAPH INSTRUMENTS,

BATTERIES AND MATERIALS,

HARRISBURG, Pa.

Having had over twenty years' experience in the business, and having made many improvements, I am prepared to furnish

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of the most approved construction.

CHESTER, PARTRICK & CO.,

TELEGRAPHIC AND ELECTRICAL

ENGINEERS AND CONTRACTORS,

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Manufacturers and agents for every variety of

Telegraphic and Philosophical Instruments.

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BATTERIES, WIRE, AND OTHER MATERIALS

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NEW YORK,

Manufacturers of American

GALVANIZED SHEET IRON.

TELEGRAPH WIRE

Made Exclusively from the best of American Iron.

PLAIN AND GALVANIZED

NAILS, SPIKES, Etc.

IRON WORK GALVANIZED

TO ORDER.

A. S. CHUBBUCK,

UTICA, N. Y.

Inventor of the "Pony Sounder," Register and Key,

MANUFACTURER AND DEALER IN

ALL KINDS OF

TELEGRAPHIC INSTRUMENTS.

Batteries, and all kinds of Telegraphic Supplies, constantly on hand.

Switches made to order. All articles used by Telegraphers furnished on most reasonable terms.

CHARLES WILLIAMS, Jr.

(SUCCESSOR TO HINDS & WILLIAMS,)

109 COURT STREET (MINOT BUILDINGS),

Boston, Mass.,

MANUFACTURER OF

TELEGRAPH INSTRUMENTS

AND

Galvanic Batteries of all kinds.

Wholesale and Retail Dealer in Telegraph Supplies, etc.

DR. L. BRADLEY,

AT NO. 7 EXCHANGE PLACE,

Jersey City, N. J.,

Keeps constantly on hand and for sale his

Improved Telegraph Instruments.

Having adopted the use of

OREIDE METAL,

which is much RICHER AND FINER than brass, he now presents his work in a style and of a quality that are unsurpassed. His relays were awarded the

FIRST PREMIUM

at the late Great Fair of the American Institute, New York, and their superiority is generally acknowledged by operators who use them.

Aside from the advantages apparent upon inspection of these magnets, their acknowledged merits consist in the construction of the helix, which was patented Aug. 15, 1865. This being of naked copper wire, so wound that the convolutions are separated from each other by a regular and uniform space of the 1-300th of an inch, the layers separated by thin paper. In helices of silk insulated wire, the space occupied by the silk is the 1-150th to the 1-300th of an inch; therefore a spool made of a given length and size of naked wire will be smaller and will contain many more convolutions around the core than one of silk insulated wire, and will make a proportionably stronger magnet, while the resistance will be the same.

He is also manufacturing the IMPROVED BUTTON REPEATER, the cheapest, most reliable and simple repeater as yet invented.

PRICES.

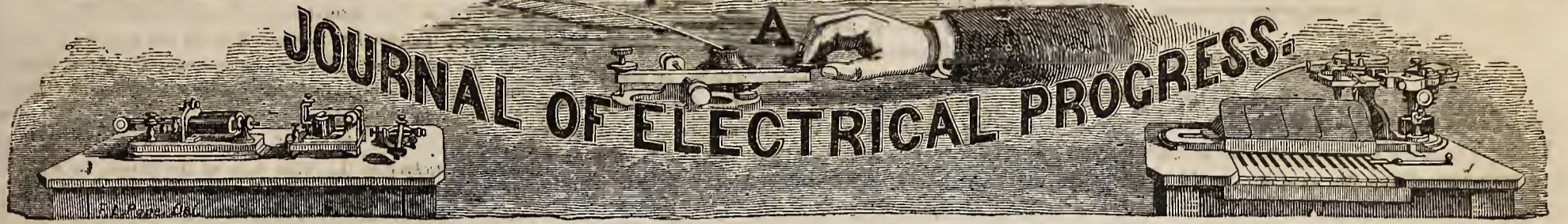
Table with 2 columns: Item and Price. Includes Button Repeaters, Relays, Small Box Relays, Medium Box Relays, Large Box Relay, Main Sounders, Pocket Relays, Excellent Registers, Pony Sounders, Keys.

All other appliances made to order. Extra spools for replacing such as may be spoiled by lightning, furnished at \$1 25 each. Old spools taken at the price of new wire by the pound. Goods sent to all parts of the continent, with bill C. O. D. Or, to save expense of returning funds by express, remittances may be made in advance by certified check, payable in New York, or by Post office order, in which case he will make no charge for package.

He has ample facilities for furnishing all other kinds of Telegraph Supplies at lowest manufacturers' prices.



# THE TELEGRAPHER.



Vol. IV.—No. 34.

New York, Saturday, April 18, 1868.

Whole No. 92.

[From the American Artisan.]

## SETTING TYPE BY ELECTRICITY.

MESSRS. EDITORS:—Among the many wonderful evidences of the ingenuity of mankind is the machine for setting and distributing type. This is now so perfected that I have before me a book containing 24,993 ems of solid matter, or 34,223 ems of leaded matter—the whole of which was both set and distributed in six hours and thirty-nine minutes, by this machine. This is truly wonderful; but I want to say that the wonder need not stop here. By means of one of these machines located in the large newspaper offices in the principal cities, and connected by telegraph with the Capitol, the reporter or operator can set the type himself, the machine standing in New York or New Orleans and he being in the Capitol! Or, instead of setting the type, he may produce a matrix—by operating a series of arms or levers having type attached and made to strike upon a suitably prepared and moveable plastic surface, from which a stereotype plate may be cast ready for the press, in a few minutes from the time the speech is delivered, or the action had, whatever it may be. Speeches would still have to be reported by short-hand, simply because no one could either write them out or set them up as fast as delivered. The composer having the short-hand notes before him, could then set the type from them upon the machine at a distance, or, if required, the short-hand notes could be translated, as is now done for the telegraph operator, and then set up by telegraph. In the latter case the same labor of the operator that now sends the message would put it in type ready for the press, thus dispensing with the time and labor now required to write out the message and set up the type. This seems to be the next great step in the electrical progress of the age; and there is nothing to prevent its being done at once. It is simply a question of time and money—that's all.

W. C. DODGE.

WASHINGTON, D. C., March 27, 1868.

[The above idea is a practicable one, although not first originated by Mr. DODGE. A telegrapher of our acquaintance in this city has been for five years engaged in perfecting an instrument for accomplishing this result, which is now in process of construction, and bids fair to be a complete success. The requisite amount of money is forthcoming and the end of the time required is probably not far distant.]

ED. TELEGRAPHER.]

SULPHURIC ACID SECRETED BY A SHELL.—The scientific journals have recently contained notices of the discovery that a certain Mediterranean shell, a species of the *Dolium*, secretes a fluid from its salivary glands containing more than three per cent. of sulphuric acid, and which effervesces with carbonates, and reddens litmus paper. The precise function of this secretion is at present unknown.

## Wheatstone's Automatic Telegraph.

THIS instrument is now being worked with much success by the Electric Telegraph Company, and the rate of speed attained by its means is perfectly marvellous. The messages are punched out upon strips of paper, and are sent with a rapidity far exceeding the manipulative skill of the most experienced operator.

The punching system was introduced by BAIN in 1848, but it was never practically employed, owing principally to the coarse nature of telegraphs in those days, both in the construction of apparatus and the erection of lines. Sir CHARLES WHEATSTONE has, however, reduced the construction of telegraph apparatus to a condition of beauty and finish only exceeded by the delicate workmanship of the chronometer or watch maker, and our numerous telegraph engineers, CLARK, WARLEY, CULLEY, &c., have so far improved the construction of our English telegraphs, that there is little left to be desired, either in efficiency or durability. The automatic instrument works with a speed and regularity between London and Newcastle, that a few years ago would have been absolutely impossible. Neither rain nor wind, fog nor snow, offer obstacles to this delicate apparatus; but night and day, through sunshine and storm, it does its work with a regularity and efficiency that is highly creditable to its gifted inventor, and to the maintainers of our telegraphic communication.

A great improvement has recently been effected by Mr. CULLEY, the indefatigable and zealous engineer of the Electric Telegraph Company, in the preparation of the punched paper ribbon. In the ordinary way the punches are struck by pieces of vulcanite held in the hand; but Mr. CULLEY has placed above each punch a small cylinder containing a piston, acted upon either by vacuum or compressed air. The use of the pneumatic apparatus throughout the great building of the Telegraph Company, in Telegraph street, enables their plan to be adopted with great ease. The valves are worked by finger keys, as light in their touch as those of a piano-forte, and the softer sex who operate these instruments in Telegraph street have their labor rendered as gentle as their natures. —*London Engineering.*

ELECTRIC TEST FOR OILS.—Several years ago M. ROUSSEAU, of France, discovered that olive oil, the feeblest conductor of electricity, when mixed with one-hundredth of its volume of oil of poppies, increased the number of vibrations of a magnetic needle in a given time, when the same was made to form parts of an electric current. Mr. WARNER, an English experimenter, has enlarged the field thus opened, and shows that difference or resistance will show the purity of oils. He gives a table of resistance of volatile and fixed oils, and as turpentine and alcohol are the principal adulterants of volatile oils, and as the former has an immense resistance, and that of the latter is enormously lower than any of them, the variation in the deflector, compared with that given in the tables, will detect and show the extent of adulteration. —*Journal of Mining.*

## Telegraph Competition.

A NUMBER of business men, believing that the rates fixed by the telegraph company which monopolizes the greater part of the telegraph business between the East and West, were much larger than was necessary to give a reasonable profit, organized the Atlantic and Pacific Telegraph Company, whose lines are now in operation from New York to Cleveland, and will be ready for business at Chicago in a few weeks. Here they will connect with another new line—the Great Western Telegraph Company—lately organized by a number of capitalists here, who are extending their wires to all the prominent points of the Northwest and Southwest. These companies propose to carry messages at a reduction of from thirty to fifty per cent. from the rates commonly charged. The stock of these companies is offered in shares of small amounts, and is likely to be pretty generally distributed among the people.

The Western Union Telegraph Company operates some ninety thousand miles of lines, and has become a vastly wealthy corporation, its total capital now reaching over \$40,000,000, and its \$100 shares being worth \$266.66.

The telegraph business of this city is conducted by forty-seven different wires, converging from all points of the compass. In December, 1848, the telegraph business transacted here amounted to \$406; during the coming month it will probably exceed \$80,000, and for the entire year it will be not less than \$1,000,000. The business and profits of the line being so great, it is reasonable to suppose that other companies can also find abundant patronage.—*Chicago Correspondent N. Y. Evening Post.*

INDUCTION COIL EXPERIMENTS.—The Paris correspondent of the *London Chemical News* describes some interesting electrical experiments made by M. RONDEL, of Brive. If while the current of a pile passes through the primary wire of a coil, one of the extremities of the secondary wire is brought near one of the extremities of the iron core, sparks can be drawn of remarkable intensity and brilliancy; if, at the same time, the other end of the secondary wire is put in communication with one of the poles of the pile, a great increase takes place in the brilliancy of the spark. Then, on touching with the hand the iron core, and placing the free end of the wire in contact with the skin, a redness takes place, and a smart stinging sensation is felt. This last experiment was made upon a coil, the core of which, completely isolated in a glass vessel, was eight millimetres in diameter. M. RONDEL made the same experiment with another bobbin, the soft iron core of which was 12 centimetres long, 6 wide and 8 thick. The sparks were produced with detonations. A single Bunsen element, of small size, was sufficient to produce these phenomena. When two recipients are charged with mercury and water, and fragments of iodine are added, no effect is perceived; but if a small piece of zinc is allowed to fall into the mercury, the fragments of iodine are instantly set in motion, and are rapidly dissolved. This solution, poured off clear, serves for many uses. M. RONDEL has employed it, concentrated, for the supplying of a pile mounted in a closed flask, also for the preparation of a fine red iodide of mercury.



## 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 American Compound Wire.

BOSTON, April 6, 1868.

TO THE EDITOR OF THE TELEGRAPHER.

IN response to the article signed "WILLIAM," contained in your issue of the 4th inst., we would respectfully beg leave to correct some of the impressions therein expressed. The plan of covering a steel wire with copper by chemical deposit, is but one of several which the Compound Wire Company have in view, and upon which experiments have been for years, and are still being made. This plan has by no means been abandoned, although most of the wire that is being made and sold at present by the Company is combined by another process, in order to more fully test the merits of the combination by the different processes contemplated, as the patents referred to cover one as well as the other.

"WILLIAM" refers to Messrs. FARMER and MILLIKEN having secured Letters Patent on the *depositing* process for the compound wire. As far as relates to that plan exclusively, this is a mistake. The improvement in Telegraph Lines is the substitution of a new element in combination, in the place of an old one, and the most important of the Letters Patent were granted to those gentlemen several years ago. In relation to the opinion of Mr. C. F. FARLEY, he has, after an examination of the wire and mechanism used in the manufacture, made no allusion whatever to the idea intimated, and when asked for his opinion, gave only, as detractors, certain accidents, which would be entirely foreign to the question pending, and which would have no weight whatever with electricians or Telegraph Companies using wire.

CHESTER SNOW, Pres. Amer. C. T. W. Co.

## The Workings of the "System."

TO THE EDITOR OF THE TELEGRAPHER.

NEW YORK, April, 1868.

HAVE you the least idea what a trial the paper you design only for a blessing becomes to some of your readers? Every Saturday morning THE TELEGRAPHER appears so invitingly in its neat wrapper, and we are eager to learn whatever it may contain of amusement or instruction to ourselves or our neighbors who have been wont to borrow it. But, alas! it must lie on our desk all day, or be hidden from sight, as too tantalizing. The inexorable Rule says, "No reading allowed during business hours." "Why don't we take it out at lunch hour, and read it while waiting for our coffee?" You forget, Mr. Editor, that we belong to the sex that are supposed not to need anything to eat from 7 A. M. to 6 P. M., except, perhaps, to nibble a cracker or a bit of fruit. Thus, in the occasional intervals of business, we idle away many precious moments. When we reach home at night, if we are not too utterly weary to sit up, there are calls to be made and received—unless we would utterly ignore our friends—and, in many cases, inadequate salaries to be eked out with the needle; all of which leaves us but little time for profit or enjoyable reading. Indeed, if it were not for Sunday sermons and occasional scraps of newspaper information sent over the wires by compassionate operators, whose literary proclivities have not yet been suppressed by the authorities, we should be in great danger of a mental collapse.

The "benignant" "Easy Chair" in the bosom of the "Executive Department" professes to edit the *Journal of the Telegraph* partially for the benefit of the employees in his Company. (This is my impression, and I can't refer

to the copy of the *Journal* in my desk for obvious reasons.) Permit me to ask the "Benignant" what possible good it can do us if the Company render it impossible for us to read it.

As I write to you now, dear TELEGRAPHER, and often as I sit idly musing, my thoughts wander sadly to the graves of departed privileges, buried, one by one, since the good old days when reading, writing or studying in idle moments or dull hours was not a deadly sin—when Uncle Sam's mails were free to operators as well as other persons—when a friend's bright smile or kindly word might cheer us for a moment, and leave us restful memory for many a weary hour—when a "D. H." message was not grudged, nor wound in folds of red tape innumerable—when we had holidays and vacations, and railroad passes and express privileges, and salaries graded according to proficiency, and not deducted for illness caused by overwork. Now we are told that the lamented AMERICAN Company, which took such kindly and considerate care of its employees, "did business in a very loose way, without order or system."

Now, really, Mr. Editor, if *order and system* has sent telegraph stock from 120 down to 33, and dividends from 15 per cent down to *nothing*, don't you think that a somewhat smaller dose of *order and system* might be prescribed with safety? Won't you please suggest a slight diminution thereof to the "venerable nurse" of the W. U.?

MINTA.

St. LOUIS, Mo., April 10th.

TO THE EDITOR OF THE TELEGRAPHER.

I AM happy to state that the rumor afloat in the East, stating that two operators, named MACDONALD and LORISH, employed on the line of the M. P. R. R., Eastern Division, were killed, is untrue. I am informed by the Superintendent's Office at Wyandotte that they are still living. The Indians have not troubled that road, as far as heard from; but it is generally believed they will experience some difficulties this summer. It would be well, however, for those operators who are stationed in such dangerous localities to insure their lives in case they should become victims of the redskins. By so doing, those having a family dependent on them for support, would have something with which to help them along, at least for a while. If no families, the mother, or other dependent, would be benefitted. The amount is small, and the Bureau should have the hearty support of every operator.

BOONE.

## Editorial Nursing.

PENNSYLVANIA, April 7th.

TO THE EDITOR OF THE TELEGRAPHER.

I AM so full of "tickle" this morning, that I fear the consequences will be serious if I don't boil over to somebody that can see the *fun*—like you.

A sister telegraphist made me a present the other day of the *Telegraph Journal* for April 1st. I took it up this morning, and nearly exploded over the editor's kindly apology to his correspondents: "If we are *nurse*, our friends must sometimes allow us to change the children's clothes!"

I've thought for some time the second childhood of the Executive Department of the Western Union Company was becoming fearfully apparent; but really I wasn't quite prepared for this public announcement of a (wet?) nurse and—and—well! I daresn't say the rest, lest I shock you worse than I did my room-mate when I suggested certain delicate details in regard to changing the children's clothes!

Am I "orful"? If so, I hope you will forgive me, and play "I didn't," as the children say. May be it's no laughing matter; but really I can't see the harm of laughing, especially when anything comes across one so very comically; and a solitary laugh, or with some one that can't see the point, is at the best only half a laugh. Good-bye. Success to editorial nursing!

ANN ELIZA.

## Chief Operator vs. Chicago.

CLINTON, Iowa.

TO THE EDITOR OF THE TELEGRAPHER.

ALLOW me to assure "our mutual friend at Dj., Chicago office," who is so interested in electric storms and Clinton cut-outs, that the fever caused him by our opening a circuit we have charge of, would have rendered null and void any electric storm, even on a wire as susceptible as "No 2, California."

By the way, we have not yet unscrewed our relays, to remedy *sticking* at the other end of the circuit, notwithstanding the sage suggestion to that effect volunteered by "Dj." We never allow one of our lines to remain down four days because unable to locate a break. We do not consider *lien* and *lieu* synonyms, *a la* "Dj.;" and, upon the whole, incline to the belief that we can manage our cut-outs and electric storms without the advice or assistance of "our mutual friend."

CHIEF OPERATOR.

## A Successful Ex-Telegrapher.

ALBANY, April 10th.

TO THE EDITOR OF THE TELEGRAPHER.

WILLIAM F. COCHRANE has sold out his well-known grocery business to Wm. H. HAMILTON & Co. Mr. H. is well and favorably known to the customers of the establishment, and, with his associates, will maintain its high reputation.—*Albany Express*.

Mr. HAMILTON will be remembered as the gentleman who had charge of the W. U. Telegraph Office in the Delevan House, Albany, for some time. He recently entered Mr. COCHRANE'S employ as a clerk, and now, in connection with a young friend, assumes charge of the business, one of the finest in the city. We wish him abundant success.

R.

## TO CORRESPONDENTS.

A. B. G.—(London, Canada).—Will publish diagram if you will pay for the cut. Will cost you eight dollars, and will forward cut to you after publication, if desired.

R. V.—FRED. C. GAY is in Western Union Office, No. 145 Broadway.

J. H. WORCESTER.—The vibrations of suspended telegraph wires, caused by the wind, often follow them for long distances, which accounts for the humming sound which is sometimes heard when the air is still in that particular place.—Local battery zincs are best cleaned with a stiff brush, similar to a scrubbing brush. It is not necessary that they should be cleaned bright. All that is required is to remove the accumulation of black oxide. Return the clear part of the liquid in the porous cup after cleaning, and fill up with water.—The best practice for a sound operator, while learning, is in copying telegraphic writing, which is a little faster than he can read perfectly. Nothing, however, comes amiss in the way of practice.—The pay of sound operators varies from fifty to one hundred dollars per month, according to ability.

## Information Wanted.

THE present address of FRANK S. VAN VALKENBERG, originally from Lockport, N. Y., but more recently from St. Louis, Mo., and Fort Sedgwick, Colorado, is very much desired.

EMPLOYMENT FOR WOMEN.—The Baden Government, which has for some time past employed women in the telegraphic service, has now made them ticket sellers at the railway stations, and an official notice states that a similar measure will shortly be adopted in several of the post office establishments.



## THE TELEGRAPH.

**RAILROAD TELEGRAPHS.**—The Western Union Railroad owns a telegraph along the whole length of its road which now extends from Racine, Wisconsin, on Lake Michigan, to Port Byron, on the Mississippi River, and will this spring be extended to Rock Island and Davenport, Iowa. It traverses a populous portion of Wisconsin and Illinois, and has twenty-five telegraph offices on its line open for public business, under the superintendence of Mr. E. O. WAIT, whose head-quarters are at Racine.

The wires of the Mississippi Valley Telegraph Company were run into their La Crosse, Wisconsin office, about two weeks since.

**ADDITIONAL FACILITIES.**—The Bankers' and Brokers' Telegraph Company last week completed a new wire between Philadelphia and Baltimore, which will add greatly to their facilities for doing business to points beyond the former city.

**TELEGRAPH IN THE OIL REGIONS.**—The railroad line running from Corry to Boyd Farm, and Boyd Farm to Irvineton, on the P. & E. R. R. has not yet been connected, but will be soon. H. DWYER is superintendent telegraph, Corry to Irvineton.

**RAILROAD TELEGRAPH.**—The Portland and Rochester Railroad will shortly have a telegraph wire put up along its line. The posts are ready for it, from Morrel's Corner to Cumberland Mills.

**THE UNITED STATES AND MEXICO TELEGRAPH COMPANY.**—We find the following in a financial article of the *Evening Telegram*, of this city.

The United States and Mexico Telegraph Company was organized in this city in December last. The officers of the Company are as follows: President, Henry M. Porter; Vice-President, William N. Byers; Treasurer, Henry S. Moffat, Jr.; Secretary and Superintendent, B. F. Woodward; Attorney, S. H. Elbert. The Board of Directors consist of the following gentlemen: H. M. Porter, W. N. Byers, D. H. Moffat, Jr., B. F. Woodward and F. Z. Solomon, of Denver; L. B. Maxwell, of Cimarron; H. M. Moore, of Fort Union, and E. Spiegelberg, of Santa Fe. The capital stock of the Company is \$1,000,000. The intention of the Company is to construct a line from Denver via Colorado, Puebla, Trinidad and Fort Union to Santa Fe. Whether it will be extended further is not yet determined, and will depend on future developments. The cost of the line between here and Santa Fe will be between \$100,000 and \$110,000. Work is to begin at once. The poles are nearly all cut and distributed on the route, and the wire and other material are now at the termini of the two Pacific railways. Active operations will begin this week, and will be prosecuted as fast as the weather will permit. It is expected that the line will be completed and in working order by the first day of June next.

**NEW TELEGRAPH LINE TO DUBUQUE.**—The Atlantic and Pacific Telegraph Company, head-quarters in New York city, have completed their telegraph line to Cleveland, Ohio, and it is now in operation. It will be finished to Chicago in June the present year, and by August to Dubuque, and from this city it will locate several routes over the State. The effect will be, as with all other branches of competition, to greatly reduce tariffs, and give quicker and more direct communication. This company have lines and connections already in operation through thirteen of the Eastern States, and south as far as Washington. It is in opposition to the Western Union Company, at greatly reduced rates. We can cheerfully extend the hand of welcome to any line that will put up one that will not get out of order with every light dew that falls. We are exceedingly annoyed, every time there is a slight moisture in the atmosphere, over the non-appearance of our regular dispatches. This has occurred twice recently, and the prospect is that a repetition will occur quite often during the wet spring months.—*Dubuque Times*.

## PERSONAL.

MR. FRANK BURTON has taken charge of the La Crosse, Wisconsin, office of the Northwestern Telegraph Company, relieving Mr. CHARLES CONVERSE, who has gone to Burlington, Vermont, to resume his collegiate studies.

WM. JENNINGS transferred April 1, from Burlington, Wisconsin, to Thomson, Illinois, as agent and operator Western Union Railroad, vice G. W. FITCH relieved.

MR. C. K. SKINNER, student, has been appointed operator at Burlington, Wisconsin, vice JENNINGS transferred.

MR. C. MCMASTER, assistant operator at Darien, has been transferred to Lanark, Illinois, vice TRACEY resigned.

JOHN L. CRAIG, formerly of Renovo and Kane, Pa., but more recently of Natuna, Pa., is now working in Ellsworth, Kansas, Union Pacific Railroad office.

T. A. EDISON, whose appointment to Western Union Company's Boston Office, was noticed week before last was from same company's Cincinnati office.

R. A. GAGER, from Cortland, N. Y., is at present employed as night operator at the Bridge depot, Albany.

J. H. TOPLIFFE, of Syracuse, takes the place in Albany office vacated by Mr. JONES.

THOMAS CLARK, of Poughkeepsie, has left the service of the W. U. Company, and gone to Albion, N. Y., to assume charge of the A. & P. office in that place, in connection with the M. U. Express Agency.

JOHN OWEN, of Albany, has gone to Poughkeepsie, to serve temporarily in Mr. CLARK's place.

JOHN F. COLLINS takes Mr. OWEN's position in the Albany office.

STEVE C. SHELDON has resigned his position as book-keeper in the W. U. Company's Albany office, to accept one with the Buffalo, Cleveland & Chicago Line of Propellers, in the City of Buffalo.

His successor is JAMES HIGGINS, for some time past connected with the Press of Albany.

JOHN L. JONES has resigned his position as operator in the Albany office of the W. U. Company, to accept the managership of the A. & P. Troy office, made vacant by the resignation of JOHN WINNE, on account of failing health.

## MISCELLANEA.

## A Landlord Retaliated Upon.

A gentleman well known to our merchants as a New York drummer, named FRANK W——, stopped for supper at the little town of Salem, Ohio, on the Pittsburg, Fort Wayne, and Chicago Railroad, a few weeks ago. He was hungry, and fifteen minutes was all the time allowed for refreshments. At least seven of the fifteen minutes had elapsed before FRANK could catch the eye of the waiter, when he was furnished with a cup of coffee and a plate of beans. The beans were but half devoured when the landlord came along and demanded a dollar. FRANK protested, but the landlord was obstinate, and "all aboard!" being heard, our drummer friend was compelled to shell out. Shortly afterward, being in Cincinnati, he inquired at the telegraph office if he could send a dollar dispatch to Salem to be paid at its destination. The clerk told him he could, when the following was sent, C. O. D.:

"CINCINNATI, Dec. 10, 1867.

"To E. M. Stone, Salem, Ohio.

"I still think the price of your beans too high.

"FRANK W——."

History does not record what Stone did or said on receipt of this dispatch, for which he had paid his dollar. But his feelings may be imagined.

SHARP.—French telegraph operators are to wear uniforms and carry swords, the latter probably for the purpose of cutting up dispatches.—*Boston Post*.

**PENMANSHIP.**—A rapid penman can write thirty words in a minute. To do this, he must draw his quill through the space of one rod—16½ feet. In forty minutes his pen travels a furlong, and in five and one-third hours one mile. We make, on an average, sixteen curves or turns of the pen in writing one word. Writing thirty words in a minute, we must make 480 strokes; in an hour, 28,800; and in a day of only five hours, 144,000; in a year of 300 days, 43,200,000. The man who makes one million strokes with a pen in a month has done nothing at all remarkable. Many men make 4,000,000. Here we have in the aggregate a mark 300 miles long, to be traced on paper by each writer in a year. In making each letter of the ordinary alphabet, we must make three to seven strokes of the pen—on an average, three and a half to four.

**HUNGARIAN TELEGRAPHS.**—A school for instruction in the art of telegraphing has just been formed at Pesth. The rapid extension of the telegraph system in Hungary renders this necessary, as the demand is much greater than the supply.

**LUMINOUS VISIBILITY OF THE ELECTRIC SPARK.**—Mr. FELIX LUCAS concludes, from very original theoretic considerations, that the luminous distance at which the electric spark is visible is greater than that of a permanent light, the apparent intensity of which would equal 250,000 times that of the spark. The light actually employed to illuminate our new light-houses, gives a brilliancy equal to 125 carcel lamps. An electric spark possessing the illuminating power of the 200th part only of a carcel burner, is superior as to its power of projecting light. Hence we can conceive the immense effect of a warning light composed of intermittent flashes of the electric spark proceeding from a strong Leyden jar battery. Mr. LUCAS states that, in an experiment made in a laboratory, two apparatuses were established, one voltaic equal to 125 carcel lamps, and another spark battery equivalent to only the 1-200th part of a carcel wick. The photometer (such as is employed in the light-house administration) showed a marked superiority in favor of the spark.—*Popular Science Review*, 1868.

**CORRECTION.**—In the description of EDISON's Double Transmitter, published in our last issue, a slight typographical error occurred which requires correction. Instead of "X" is made equal to L × N × R," it should read—L + N + R. The drawing and description of Mr. EDISON's instrument was forwarded to us nearly three months since, but was unfortunately mislaid, which prevented it from appearing in our columns at an earlier date.

**APOCRYPHAL.**—In the darkest days of the Atlantic telegraph enterprise, a friend of CYRUS FIELD's bought ten thousand dollars of stock for a ten dollar bill. Mr. Field magnanimously offered to take the stock at a considerable advance. "Well, but what do you advise me to do, Mr. Field?" "Take your stock home," was the reply; "lock it up in your safe, and never look at it, nor think of it till you come to me for your dividends on it." And that man is now receiving on his investment of ten dollars, eight hundred dollars per annum in gold.

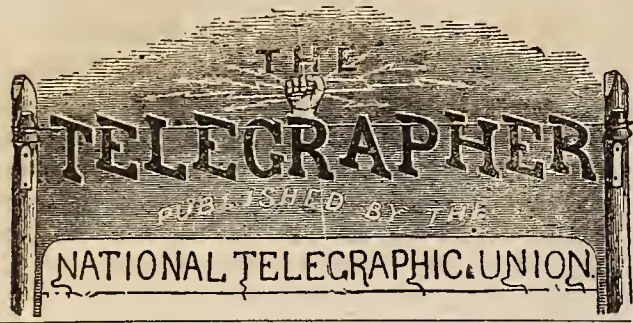
**SCIENTIFIC HONORS.**—The Academy of Sciences of Paris has elected Sir RODERICK MURCHISON as Foreign Associate, in place of the late Mr. FARADAY.

**MUNIFICENT.**—Mr. CONRAD POPPENHUSEN, proprietor of the extensive India-rubber works in College Point, L. I., has made the celebration of his fifty-first birthday the occasion of a princely gift to that town of \$100,000 in cash, and a vast area of property for religious, educational and social purposes. He has refrained from giving any directions about the disposal of this great amount of property, leaving this to a board of trustees, to be elected by the citizens of College Point.

## BORN.

March 29, a daughter to M. J. CROAK, Cashier Western Union Boston office.





SATURDAY, APRIL 18, 1868.

#### MR. FARNSWORTH'S TELEGRAPH ACT.

OUR article in a recent number of THE TELEGRAPHER has, we are pleased to know, called attention to the provisions of the new Telegraph law introduced in the United States House of Representatives by Mr. FARNSWORTH of Ohio. There is little danger of its now becoming a law without close scrutiny and such amendments as shall make it more fair and impartial than as at first proposed. We are informed by a Washington correspondent that it is still in committee, and has not yet been reported and passed the House as we erroneously supposed when the former article was written.

The section which was quoted in our previous editorial is so manifestly unfair and in the interest of one corporation, that it is difficult to understand how Mr. FARNSWORTH could ever have been induced to propose it. He might have done so innocently, however, and without a proper understanding or appreciation of its effect. At any rate, we are disposed to give him the benefit of the doubt, and trust that now that his attention has been called to the matter, he will be as ready as any one to correct the error into which he has fallen.

We have been furnished with a copy of certain amendments which are to be presented whenever the bill is reported from the Committee on Post Offices and Post Roads, which will greatly improve it and render it beneficial instead of destructive to the general telegraphic interests of the country.

It is proposed to insert the following proviso at the end of Section Fifth.

*Provided:* This section shall not be so construed as to enable any company which has already or may hereafter file its acceptance of the law to which this is an amendment, from using any public or railroad bridge, pier or structure, which may be used in common without hindrance to the Company which may at the time be using the same.

Also the following proviso to Section Fourteenth.

*And provided further:* That all companies which have already or may hereafter signify their acceptance of the powers and privileges conferred by the Act of July 24, 1866, of which this is a supplement, shall be equally benefited by the provisions of this section.

It is also proposed to add the following important section.

SECTION 16.—*And be it further enacted:* That every Telegraph Company such as is described in the first section hereof, shall receive messages from any other Telegraph Company, association or individual engaged in the business of transmitting messages by telegraph from one State or Territory to any other State or Territory, or from one place in any State or Territory to any other place in said State or Territory, at all points where the said Telegraph Company may have an office for sending or receiving Telegraph messages for the public, and shall transmit the same to their destination, at the same rates and upon the same terms and conditions as are exacted from the citizens of the cities, towns or villages where said Telegraph office may be located; and it shall not be lawful for any such Telegraph Company as is described in the first section of this act, to discriminate against any other Telegraph Company, association or individual, by making a charge either for address, signature, date, or for any other reason other than would be made upon said messages if originally placed in the office of said Company or its connecting lines at the place from which said messages were sent in the first instance.

And if any Superintendent, Office Manager, Agent, Servant, or other employé of any such Telegraph Company, shall knowingly and wilfully violate this section, such person shall be deemed guilty of a misdemeanor, and shall, upon conviction, be fined not

less than fifty dollars, nor exceeding five hundred dollars for each offence, or be imprisoned not less than one month or more than three months, or both at the discretion of the court before which such person may be tried. And if the Superintendent, Office Manager, Servant, Agent, or other employé of any such before described company, shall refuse to receive and send such messages as aforesaid, or shall wilfully delay the transmission of any such message, upon which the usual tolls have been lawfully tendered, by reason of any by-law, executive order, regulation or instruction from the President, Directors, Managers or other officers of any such before described company, then the said Telegraph Company shall be liable in the full amount of the damage or injury actually sustained, either directly or indirectly, in consequence of such refusal, delay or neglect to transmit such messages as aforesaid, to be recovered at the suit of the Telegraph Company, association, or individual so offering such message, or the party for whom said message was transmitted, with the full and lawful costs of such suit; and upon verdict being rendered in favor of the plaintiff in any suit arising under the provisions of this section, such judgment shall be a lien upon all the property, fixtures, credits and franchises of such companies, and if remaining due and unpaid, execution shall issue and the property fixtures, credits and franchises of such company, or so much thereof as shall be necessary to satisfy and discharge such judgment, with all lawful and necessary costs and expenses, may be attached by any officer legally authorized and empowered to serve such execution, and after two weeks' notice in any newspaper published in the State or Territory where such judgment may be rendered, shall be sold at public auction to the highest responsible bidder, and the proceeds of such sale applied to satisfy and discharge such execution.

Any action or suit arising under the provisions of this act may be brought in any court of the United States or of the State or Territory in which such cause of action or suit may arise, of competent jurisdiction.

With these amendments we are disposed to regard this act as just and desirable, and hope that it will become a law. Instead of building up a monopoly in the telegraph business of the country, as it would do in the form in which it was originally introduced, it will correct some evils and abuses against which the laws now provide no remedy, and take from existing companies the power which they now claim of discriminating in their charges against competing lines.

We hope that the friends of competition and reform in the telegraph business, and we believe there are many such in both Houses of Congress, will look into this matter, and now that the opportunity is afforded, secure the passage of such a law as shall insure just and equitable treatment of Telegraph Companies towards each other, and such as the interests of the public demand.

#### New Subscriptions.

WE would again call attention to the list of Telegraphic and Scientific works offered as premiums for lists of new subscribers. We have already had occasion to respond to applications for the promised works, accompanied by the requisite names and money, and hope to be called upon frequently to respond in the same manner. Our proposition effects two very desirable objects—adding to the circulation of THE TELEGRAPHER, and furnishing valuable professional and scientific works to those to whom they will be of interest and importance. We are greatly obliged to the numerous friends who have interested themselves in extending our circulation, and see no reason to doubt that with a continuance of these favors and exertions the present volume will close with nearly if not quite double the number of subscribers which greeted its commencement.

#### The Insurance Bureau.

WE are requested by the Actuary of the Insurance Bureau of the N. T. U., Mr. J. W. STOVER, to say that if persons who have forwarded or may forward him subscriptions, fail to receive the proper certificate of membership, he will, when notified thereof, promptly mail duplicates. Upon receipt of the proper documents and the sum of two dollars, certificates are invariably forwarded to the parties by mail immediately.

#### Mons. Tonson Come Again.

In the New York State Assembly on Friday, April 10, among the bills reported from Committees, was one authorizing WILLIAM ORTON and others to lay a Telegraph Cable between New York and France.

It seems to us that we have been hearing of this or similar bills in the New York Legislature, for the last two or three years. Is it possible that the matter is intended to be held *in terrorem* over the Atlantic Cable Company, the unfriendly relations between which and the Western Union is well known to those familiar with telegraph matters, and appears to be chronic?

#### Telegraphing by Touch.

A correspondent of the *Scientific American*, a telegraph operator, proposes to have the blind taught to read telegraphic signals by touch and sound, and those who are deaf as well as blind by touch alone. The suggestion is a good one and the plan is feasible but not novel, as it has been often done and is constantly done by expert operators. The correspondent proposes an apparatus for the purposes which is not explained, but which it is stated is simple and cheap, and might be applied to a variety of uses.

#### NOTICE.

MESSRS. HUTMAN & ERPELDING, Model-Makers and Telegraph Instrument Repairers, of Chicago, Ill., having failed to respond to our communications requesting them to remit twenty-three dollars, the amount due THE TELEGRAPHER from them for advertising, our letters, perhaps, failed to reach them, and we take this method to request that they will, without delay, remit the amount necessary to discharge their indebtedness, and relieve themselves from any imputation of a design to defraud the paper of its just dues.

TELEGRAPHING.—The total length of telegraphic lines in the world is 178,086 miles. In 1866, there were in Germany 28,347 miles of telegraph; in Russia, 22,992; in France, 18,694; in Great Britain and Ireland, 16,297; in Turkey, 8,665; in Italy, 8,216; in Sweden, 3,507; in Belgium, 1,089; in Switzerland, 2,160; in Canada, 5,050, and in the United States, 52,957. The two Atlantic cables measure 4,369 English, or 3,755 nautical miles. The total length of the other submarine cables is nearly 6,000 miles. Mr. Gladstone, during his recent tour, delivered addresses at Southport and Orneskirk, containing 16,882 words. The report of the speeches reached Liverpool by train at 11.25 P.M. The transmission to London by telegraph began at 11.30 P.M., and was completed at 1.40—that is to say, in little more than two hours. The last slips were delivered at the office of the daily papers before 2.30.

Has the following ever appeared in print? If not, I think it entitled to a place with a "Poetical Explanation." I believe it originated in Huntsville, Texas:

"Again I'm in a dreadful fix,  
You over-check one thirty six,  
In vain I strive, in vain I try,  
Still will the errors multiply;  
I trust some time before I die,  
My figures all to justify;  
To cancel all imputed errors,  
And hail with joy the "King of Terrors.""

C. H. S.

A WEALTHY TELEGRAPHER.—The income return of HIRAM SIBLEY, Esq., formerly President of the Western Union Telegraph Company, is over \$100,000. Mr. S. is reported to have made some \$2,000,000, within a few years in the telegraph business. He resides at Rochester, N. Y., where the head-quarters of the Western Union were up to last year.—*Telegraph Record*.







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 Platinum, in Strips, Sheets, or Wire.  
 Platinum Standards.  
 Registers—a superior instrument.  
 Register Weights and Cords.  
 Register Paper.  
 Relay Magnets.  
 Relay Springs.  
 Repairers' Tools, of all kinds.  
 Sheet Copper and Brass.  
 Sounders, Large and Pony Size.  
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 Stationery, of any description, to order.  
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Whenever a death occurs among those insured, an assessment of one dollar and ten cents will be levied upon all. This dollar goes to the widow, orphans, or heirs of the next insured party deceased, and the ten cents to be applied to the payment of current and necessary expenditures.

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Have you any constitutional disease or debility?

Sign the above statement, and forward it to the Actuary, with a certificate signed by two persons connected with the Telegraphic business, that the applicant is well known to them, and that the answers given by him to the above questions are correct?

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at the late Great Fair of the American Institute, New York, and their superiority is generally acknowledged by operators who use them.

Aside from the advantages apparent upon inspection of these magnets, their acknowledged merits consist in the construction of the helix, which was patented Aug. 15, 1865. This being of naked copper wire, so wound that the convolutions are separated from each other by a regular and uniform space of the 1-800th of an inch, the layers separated by thin paper. In helices of silk insulated wire, the space occupied by the silk is the 1-150th to the 1-300th of an inch; therefore a spool made of a given length and size of naked wire will be smaller and will contain many more convolutions around the core than one of silk insulated wire, and will make a proportionably stronger magnet, while the resistance will be the same.

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PRICES.

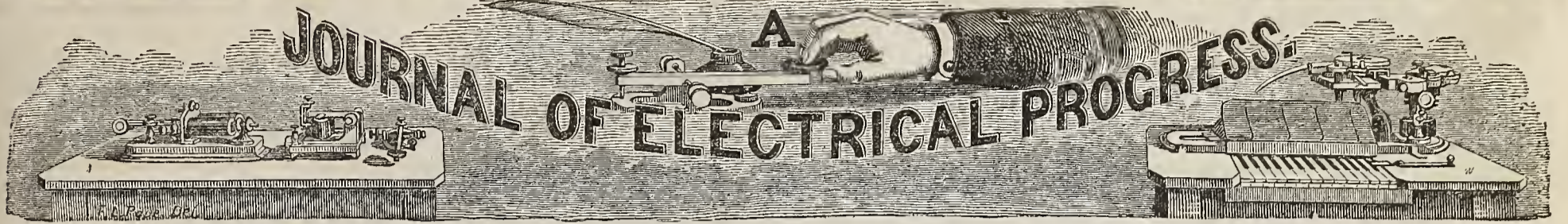
Table with 2 columns: Item Name and Price. Includes Button Repeaters, Relays with helices in bone rubber cylinders, Small Box Relays, Same in Rosewood, Medium Box Relays, Same in Rosewood, Large Box Relay, Main Sounders, Pocket Relays, Excellent Registers, Pony Sounders, Keys.

All other appliances made to order. Extra spools for replacing such as may be spoiled by lightning, furnished at \$1 25 each. Old spools taken at the price of new wire by the pound. Goods sent to all parts of the continent, with bill C. O. D. Or, to save expense of returning funds by express, remittances may be made in advance by certified check, payable in New York, or by Post office order, in which case he will make no charge for package.

He has ample facilities for furnishing all other kinds of Telegraph Supplies at lowest manufacturers' prices.



# THE TELEGRAPHER.



Vol. IV.—No. 35.

New York, Saturday, April 25, 1868.

Whole No. 93.

## Improvements in Automatic Telegraphy.

SINCE the 11th September, 1867, the directors of the telegraph lines have made use, in the service between Paris and Lyons, of a new system of rapid transmission, invented by MM. CHAUDASSAIGNES and LAMBRIGOT, telegraph clerks. This telegraph acts automatically, transmitting the dispatches between the two towns at the rate of 120 or 180 dispatches per hour by a single conducting wire, a velocity three times as great as that obtained by other systems, and capable of being augmented proportionately to the diameter of the wire. The transmissions are made by a band of metallic paper on which the signals composing the dispatch are traced in insulating ink. The re-production is obtained on a band of unsized paper, the centre portion of which is impregnated with a chemical liquor necessary for the formation of the characters existing on the metallic band. In order to obtain regularity of execution in the different operations, such as the composition, transmission, and reception, they pass through several hands, according to the requirements.

One instrument in communication with the line is composed of—1. A clock-work movement. 2. A double roller, which sets at work either the metallic or the chemically prepared paper. 3. A ringing apparatus for calling the attention of the correspondent. 4. A "Morse" manipulator of ordinary construction, for the exchange of the conventional signs necessary for setting in movement or stopping the rollers. The clock-work movement is set at work by a weight, easily wound up by means of a pedal; it serves to maintain the rollers in movement. Near the roller round which the metallic band passes, is a point which represents the extremity of a conducting wire. The roller communicates with the electric pile. When the band is drawn into movement by the rotation of the roller, the point is placed sometimes on one of the metallic parts of the band, and sometimes on the written parts of the dispatch where the insulating ink is, so that the conducting wire marks the message by the alternate passage, and breaking of the current. Near the roller, on which is coiled the unsized paper, is placed a cup filled with a solution of nitrate of ammonia and ferrocyanide of potassium. In the middle of this cup is a small roller, which dips into the liquid in its lower portion, and the upper portion of which rises a little higher than the edges of the basin and supports the band of unsized paper, which, drawn by the rotation of the two rollers, turns the small dipping roller, and becomes impregnated with the solution.

A point of iron representing, like that of the metallic band, the extremity of the conducting wire, leans, slightly inclined, resting by its own weight upon the damp paper which is in communication with the earth. The voltaic current decomposes the wet portion, and leaves a colored deposit, which represents the signals of the dispatch. The working of this apparatus is entirely mechanical. The transmission and the reception of the dispatches take place automatically; one clerk superintends the machine.

In order to compose the dispatches into conventional signals on the metallic band, another instrument, called the compositor, is employed, similar to that of the Morse, the signals of which are employed. The band of metallic paper unrolling itself is raised by a lever so as to touch a thick roller covered with a resinous preparation in fusion, which cools suddenly as soon as it is applied to the metallic band. One clerk can prepare alone thirty-five to forty dispatches per hour; the telegraphic staff acquainted with the Morse apparatus can, without any study, compose dispatches. For the service between Paris and Lyons three compositors suffice completely for the transmissions. The dispatches reproduced on a band of chemically prepared paper are handed over to other clerks, who translate them for the printed dispatches distributed to the public.

The result is that two composing clerks, two translating clerks, and a superintendent of the machines of reception and transmission, do as much work by aid of a single conducting wire, as six clerks with three wires by the ordinary telegraphic system. A composing apparatus furnished with electro-magnets has been established on a line from London to Paris. When the employé in London wishes to transmit a telegram to Paris for the Lyons line, the only line in which this rapid service is installed, he manipulates as for the ordinary transmissions of the Morse apparatus; the letters or conventional signs are printed on a metallic band, and a few seconds afterwards are transmitted to the chemically prepared paper. Thus we have before us a great improvement in modern telegraphy. Up to the 11th September last, the service of the Lyons line was carried on by aid of two or three Hughes apparatuses; each apparatus occupies two clerks and three batteries. By the new system, five clerks do all the service with one line only. The new system works admirably, and without a single hitch, and we can affirm that the invention of MM. CHAUDASSAIGNES and LAMBRIGOT is destined to render great service to Telegraphy. The economy of installation, and the saving effected in the number of clerks, the maintenance, wear and tear, etc, is marvellous.—*Chemical News.*

## An Eloquent Tribute to the Electric Telegraph.

OF all the marvellous achievements of modern science, the Electric Telegraph is transcendently the greatest, and most servicable to mankind. It is a perpetual miracle, which no familiarity can render commonplace. This character it deserves, from the nature of the agent employed, and the end subserved. For what is the end to be accomplished, but the most spiritual ever possible? Not the modification or transportation of matter, but the transmission of thought. To effect this, an agent is employed, so subtle in its nature, that it may more properly be called a spiritual than a material force. The mighty power of electricity, sleeping latent in all forms of matter, in the earth, the air, the water; permeating every part

and particle of the universe, carrying creation in its arms, it is yet invisible, and too subtle to be analyzed. Of the natural effects of electricity, the most palpable examples occur in atmospheric manifestations; but its artificial generation and application are the mightiest scientific triumphs of our epoch. It was but little more than a hundred years ago that FRANKLIN'S immature experiments demonstrated the absolute identity of lightning and electricity. Since then various mechanical contrivances have been devised for liberating this subtle, but potent power, from its dark windings in the prison-house of material forms, the result of which is, that the electric fluid may be produced and employed in any desired quantity, and with any required intensity. Thus the same terrific agent which rushes with blinding and crushing force in the lightning, has been brought under the perfect control of man, and is employed at his will as an agent of his necessities. With dissolving energy it effects the most subtle chemical analysis; it converts the sunbeam into the limner's pencil, employs its Titanic force in blasting rocks, dissolves gold and silver, and employs them in the gilding and plating of other metals; it turns policeman, sounding its whistle and alarm bell; and lastly, applies its marvellous energy to the transmission of thought from continent to continent, with such rapidity as to forestall the flight of Time, and inaugurate new realizations of human powers and possibilities.

[For the Telegrapher.]

## Electro-Aquarium Poison Detector.

"THE man who poisons a spring in the meadow from which flows the stream whose water is drunk by the dwellers upon the shore, is a villain so extraordinary, and his guilt so black, that even the ferocity of war refuses to acknowledge him, and forbids his practices."—*Harper's Monthly.*

In a plan submitted by me to the late lamented President LINCOLN, I proposed so to adapt the aquarium that the same could be made a means for the instantaneous detection of poisons, which may have been introduced by any diabolical persons into the water reservoirs or cisterns of public or private mansions, by so arranging a pivoted wire guard or screen on the surface of the water in which the fish is confined, the aquarium being so connected by tubes with the reservoir or cistern, that the same has a continuous inlet, as also an outlet, thereby keeping at all times the water to the same level in the aquarium.

It will be evident to any person understanding the arrangement, that if strychnine or other deadly poisons be introduced into the reservoir or cistern, that the same will instantly find its way into the aquarium, and as quickly poison the fish, whose well-known buoyancy after death will assume the office of a relay, brought about by the upward pressure of their floating power operating against the properly arranged pivoted horizontal wire screen, and thereby completing an electric circuit, causing a bell or gong to sound an instantaneous alarm, giving timely notice to all concerned. GEO. LITTLE.



## 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.

## Telegraphing in the Far West.

SECOR, Ill., April 15th.

TO THE EDITOR OF THE TELEGRAPHER.

IN the last number of THE TELEGRAPHER, I noticed a letter from HORATIO, and, from the description, think the spot he describes is intimately known to me. *Bitter Creek!* I know it well, and LUCY is no stranger to me!

I relieved HORATIO at Laclede, Dakota Territory, in the Spring of '67, and as a natural sequence I inherited the said LUCY; but then she never played the tricks on me that she did on poor HORATIO. He being from the East, and not accustomed to that kind of "critter," and I from the Far West, and knowing mules and mule kind pretty well, I had the advantage of him. She never left me to walk home.

If HORATIO had staid at Laclede during the summer, he would have had a sorry time of it with LUCY among the Indians.

The head of *Bitter Creek*, where I was stationed, is some fifty miles west of the Rocky Mountains. The Creek rises in the middle of a large desert, and runs through a desert for one hundred and fifteen miles; is the same size at its mouth as at its head, and its waters, very bad in the first place, are made worse by the hundreds of dead cattle and horses lining its banks from head to mouth.

In June, the Indians commenced "raiding" on the line of the Stage road. The first intimation we at the head of the Creek had of them was finding our "ranche" surrounded by about two hundred Sioux. They made their appearance about three o'clock, P. M. Our armament consisted of three old U. S. muskets, one of which had no lock, another no tube, and no ammunition for the third. It may be imagined what condition we were in for fighting! I had a Derringer, which was in good order, that being the only gun we could depend on.

Our effective force consisted of five men and two women—a formidable force for a war.

I sat at my instrument, reporting the movements of the enemy to Salt Lake "C" office. The Indians did not attack us that P. M., but amused themselves burning poles; and my principal and oft-repeated report to "C" was, "There goes another pole." The line finally opened, and that stopped my report West. I worked East for half an hour longer, when that circuit also opened. As "Injuns" were too thick for me just then, I did not go out on the line until after dark. Starting just after dark, I rode immediately under the line for about nine miles, when I found the break. They had cut down four poles, and carried off about one mile of the wire. It took me two days to get that break fixed up, as I was without assistance.

This is only a specimen of our experience all summer. I had to fight my way in after repairing the line no less than seven times during that summer.

It is a very exciting experience, and can not be compared with life in the East—that is, east of the Missouri River.

I could write for weeks on these things, and could give you many interesting items connected with Telegraphing in the Far West. If you think I can interest the readers of THE TELEGRAPHER, I shall be pleased to contribute occasionally to its columns.

H. E. R.

NOTE.—We hope to hear frequently from "H. E. R.," and have no doubt his experience and adventures on the Pacific line will greatly interest our readers. When you write, however, recollect that it will save much trouble if you will write only on one side of the paper.

EDITOR TELEGRAPHER.

WATERTOWN, N. Y., April 16.

TO THE EDITOR OF THE TELEGRAPHER.

I ENCLOSE the heading of a blank used at a festival at Cape Vincent by a Telegraph Company organized for the occasion, which we consider a "take off" on the Telegraph Companies who assume no risks, according to the heading of their blanks, which, as everybody knows, amounts to nothing when brought to a test.

R. E. T.

## HONG-KONG, TIBBITTS POINT AND GANANOQUE TELEGRAPH LINES.

To Europe, Asia, Africa, Southern Confederacy, Millen's Bay, and America.

CAPITAL, \$1,000,000,000,000,000,000,000.

In order to guard against and correct as much as possible some of the (many) errors arising from atmospheric and other causes, such as the depreciation of the currency, intoxication of the operators, extreme heat, &c., the following rules were adopted and suggestions recommended at a meeting of the directors, viz.:

This Company declines being responsible for Messages that it does not send, or for business that it does not transact.

Every important message should be repeated constantly until it "comes out right." For repeating messages the price will be doubled up in each instance, and the repetitions continued until the sender is entirely and perfectly satisfied.

It will be presumed that each patron of this Company has paid a Government tax for license, been vaccinated, and that his exposure to the elements and open air is known to his maternal guardian.

The Company does not start with the sole and specific object of making blunders, but should one (more being un-supposable) occur, it will not be liable for damages, unless the claim is presented in (good) writing, within nine hundred and ninety-nine days after the mistake occurs; nor will the Company hold itself responsible for interruptions by storms, dog-fights or earthquakes, in the working of its wires; nor for the non-reception of unsent messages. In fact, it being a free country, it (the Company) has serious doubts whether it will hold itself responsible at all! But, while it will endeavor to act in good faith toward the public, it hereby takes occasion to remark that it will not accept old postage stamps, counterfeit shin-plasters, or pewter cents in payment for its telegrams; nor will it receive messages from infants, no matter how precocious they may be, who are under three weeks old. With these exceptions, no conditions are imposed upon the public, who are respectfully invited to walk up, pay their money and hand in their orders.

B. A. TERRY, Pres't.

M. AGNET, Sec.

## Union Pacific Railroad.

SIDNEY, April 14.

TO THE EDITOR OF THE TELEGRAPHER.

IN a late number of your paper you stated that H. W. COWAN was acting as brakeman on the Union Pacific Railroad. I take pleasure in informing you that H. W. COWAN is in the United States Government Telegraph Office, at Camp Carling, near Fort Russell. He also fills the place of one of the clerks who resigned from the Quartermaster's Department.

VIDOCQ.

ST. LOUIS, Mo., April 14.

TO THE EDITOR OF THE TELEGRAPHER.

Gen. ANSON STAGER, General Superintendent; J. J. S. WILSON and W. B. HIBBARD, District Superintendents, are now in this city on business pertaining to the Company. A general thunder, lightning and rain storm prevailed all night of the 13th here and West, and still raining.

BOONE.

## A Word for Female Operators.

NEW YORK, April 17th.

TO THE EDITOR OF THE TELEGRAPHER.

I WOULD ask space in the columns of our paper, THE TELEGRAPHER, to say a few words in regard to the opposition that exists on the part of many operators to the employment of ladies as Telegraph Operators. The argument most generally urged against it is that "they (the female operators) are ruining the business." Now, sir, I cannot see it in that light.

To my mind, there can be no question but that the ladies are, morally, at least, the better part of the fraternity. They are free from those habits which, in too many cases, impair the usefulness and reliability of their male co-laborers. They are generally on hand at the hour, and their deportment in the office, and the propriety of their language over the line, should shame some of those who, on account of sex, claim superiority over them. And besides all these claims to respect and position, many of them, as operators, are fully entitled to rank as "first-class" in every respect.

If these statements, which are all susceptible of proof, are correct, why should it be desired to displace them, or exclude them from the business? Can we blame Telegraph Companies for employing ladies as operators?

I, for one, as an operator, cannot see why we should object to having women among us. In my opinion, there should be a larger proportion of ladies employed in the business; and, instead of being shut up in offices by themselves, it would have a salutary effect to associate them in their business more intimately with the gentlemen, for all operators should be gentlemen or ladies.

I am in favor of giving the ladies the same chance as we have, and if equally competent and efficient, the same salaries.

JOSHUA.

NOTE.—Owing to its length, and the crowded state of our columns, we are obliged to divide your communication. The rest will appear next week.—ED. TELEGRAPHER.

## The Induction Relay.

TO THE EDITOR OF THE TELEGRAPHER.

IN the *Journal of the Telegraph* for April 15th, an "Induction Relay" is described, which is claimed to be self-adjusting. Some years ago, I experimented with an arrangement similar to this, using an Induction Coil; the primary coil being of fine, instead of large wire, as is generally used, was connected with the line, and the secondary coil with a Siemen's "polarized relay."

It worked well where there was no escape; but when placed on a line where the escape was considerable, the increase and decrease in the strength of the magnetism in the iron bar of the induction coil, caused by the variability of the escape current, constantly induced currents of different polarities in the wire passing through the polarized relay.

To make my meaning clearer, suppose that the escape current be represented by 15, and the current from the distant battery by 5, then the magnetism in the iron core of the induction coil would be equal to 20. Now, by taking off the battery at the distant end, it is decreased to 15, and this decrease in the strength of the magnetism induces a current through the helix of the polarized relay of sufficient strength to work the armature.

Now, while the battery from the distant end is off, suppose that the escape increased to 20, this increase would induce a current of different polarity in the helix of the polarized relay from that induced by decreasing the strength of the magnetism, and this increase of the escape current would act precisely in the same manner as if the magnetism was increased by putting on the distant battery.

T. A. E.

CHEAP TELEGRAPHING.—In Belgium and Switzerland telegrams can be sent anywhere for a dime.—Exchange.



**THE TELEGRAPH.**

**Increase in the Telegraph Business.**

WE understand that the returns of business done over the Western Union lines for March, show a considerable increase over February, notwithstanding the reduction in tolls caused by competition at a number of important points.

The Atlantic and Pacific, the Franklin and other Companies also report increased business and receipts; and on the whole, the Telegraph business of the country is in a most satisfactory condition.

**Increase of Telegraph Facilities.**

WE are authoritatively informed that the Atlantic and Pacific Telegraph Company have ordered the material for an additional wire between this city and Buffalo, which is urgently required by the rapidly increasing business of that Company, and that it is expected to have it completed and in use by the first of July next.

The work of extending the wires of this Company west from Cleveland has also commenced, and will be pushed forward vigorously.

**Chicago Fire Alarm Telegraph.**

Mr. E. B. CHANDLER, Superintendent of the Fire Alarm Telegraph of Chicago, reports that during the last year there have been put up about 20 miles of wire and 84 new boxes, at an expense of \$5,200. Two of these, to fill vacancies occasioned by the removal of police stations, were specially estimated for and the remaining 82, together with the necessary wires, pipes, &c., were paid from the \$5,000 appropriated last June; 17 were placed on the West division, 10 on the South division. These boxes are a decided improvement over the old style, and thus far have given entire satisfaction. We have now in operation 146 boxes. This number is still too small, and ought to be increased to 200. There have also been purchased and put in operation seven new engine-house gongs, of improved construction.

The police telegraph instruments have done good service throughout the year, and in many instances have proved invaluable to the police department.

The expenses of the Telegraph Department for the year were—

Salaries.....	\$10,013.85
Extension of lines and new boxes.....	5,200.00
Other expenses.....	3,080.66
<hr/>	
Total.....	18,294.51
Amount appropriated.....	18,770.00
<hr/>	
Excess.....	475.49

The number of alarms during the several months of the year were as follows: April, 24; May, 22; June, 34; July, 37; August, 47; September, 45; October, 45; November, 40; December, 34; January, 58; February, 50; March, 45; Total, 480.

**Internal Revenue (Telegraph) Case.**

IN the United States District Court for the Southern District of New York, on Tuesday, May 21st, Judge BLATCHFORD rendered his decision in the case of The United States vs. The United States Telegraph Company. The case had been heard several weeks ago, and was in substance this: That the Internal Revenue claimed \$542 from the Company as additional tax in the importation of telegraph cable. A duty of 35 per cent. had been paid on the cable when received in New York in 1865, and the claim in the present instance was for an additional duty, to which it was alleged the cable was liable upon account of the peculiar manufacture and material of which it was composed. The judge gave his decision that there must be a judgment for the defendants.

**The Great Western Telegraph Company.**

WE learn from Chicago that the Stock of the GREAT WESTERN TELEGRAPH COMPANY, whose organization and plan of operations we have already published, is meeting with great success in disposing of its stock, and that it is already an assured success. It will connect at Chicago with the ATLANTIC AND PACIFIC TELEGRAPH COMPANY, and thus with the rapidly extending system of competing lines throughout the country.

**Cable Telegraphs.**

THE most successful telegraphic enterprises of late years have been the cable lines. The Atlantic Cable is a splendidly paying institution, and we are pleased to learn that the Cuba Cable is also proving valuable to its stockholders as well as to the public. It works well, and business upon it has been good from the start, and is constantly increasing. To provide adequate facilities for its increased business, and as security against any possible temporary interruption, the President of the International Company, Gen. W. F. SMITH, is now in Europe making arrangements for a second deep-sea cable, to be laid near the location of the present one.

Mr. H. W. HEISS is the General Superintendent, and is assisted by Mr. W. W. SADLER, both of whom are well and favorably known to the telegraphic fraternity in this section of the country, and much of the success of the enterprise is due to the ability which they have displayed in the management of the cable and its connecting land lines.

**MISCELLANEA.**

**Where Did it Come From?**

AT Appleton, Wisconsin, a week ago, at a little past midnight, while snow was falling fast, three bright flashes were seen at a few minutes' interval, all within fifteen minutes. The flashes were like lightning, and were followed by heavy concussions, that made the windows rattle and houses jar throughout the city. Next morning there was found in the snow a dark substance, visible for miles around. This, on dissolving the snow, was found to be a fine reddish sand. Those who melted snow for washing or culinary purposes, found this sand in such quantities as made the water unfit for use. The phenomenon has not been explained.

**New Application of Electricity.**

AN ingenious philanthropist, shocked beyond measure at the present mode of "turning off" criminals, suggests an easier and more rapid system. He advocates the use of electricity. A violent shock from an electrical battery being administered the culprit, he is instantaneously placed beyond the reach of suffering. There is something in this suggestion, and the time may come when the hangman's noose will give place to the Leyden jars of the electrician. For the present, "gallows birds" must put up with the "old process;" and perhaps it makes no great difference to an outside party how they step off the stage, so long as justice is satisfied.

**The Prosecution of William Roche, Telegraph Operator.**

IN the Court of General Sessions, before Recorder HACKETT, the case of The People vs. William Roche, an operator of the Franklin Telegraph Company, indicted for divulging to one John Sammond, a broker in Wall street, a telegraphic message from Washington City, addressed to Fisk, Belden & Co., was called up to-day on the demurrer filed by counsel for defendant. Mr. Winter, of counsel, was heard in support thereof, and Assistant-Attorney Bedford, for the people, joined in the demurrer. After the argument, the Court gave judgment against the defendant, with liberty for him to plead over. He thereupon pleaded not guilty.

**Robbery of a Telegrapher.**

On the morning of the 18th instant, the house of Mr. WILLIAM HUNTER, No. 95 Fort Greeno Place, Brooklyn, was feloniously entered, and robbed of \$3,700 in Western Union Telegraph Company's Coupon Bonds, and money and jewelry of the value of \$430, in addition. The property was taken from a safe in the front basement, which had been opened by false keys.

Mr. HUNTER is the General Superintendent of Supplies of the Western Union Telegraph Company, and we regret to hear of his misfortune, and hope that he may yet succeed in recovering his property.

**NEW BRANCH OF TELEGRAPH.**—On Saturday evening last, workmen were engaged in running telegraph wires from police head-quarters to the room of the Sergeant-at-Arms, in the Senate chamber, where a telegraph instrument will be erected and ready for use at any time that it may become necessary to operate it. Should it be required, the police can be summoned to the Capitol on short notice.—*Washington Republican.*

**YOUTHFUL GENIUS.**—A watchful mother of Rondout, on looking for a missing key, found it in the possession of her son, who was bound on a kite-flying expedition. "Why, my son, what are you going to do with that key?" "Tie it to my kite-string." "What for?" "Why, didn't old Ben Franklin tie a key to his kite-string, and catch lightning?" The mother intimated that however it might be about the lightning, he might expect to catch thunder when his father came home.

**PERSONAL.**

W. H. MILLER, Superintendent of the St. Louis and Chicago Railroad and commercial wires, has resigned, on account of ill-health, and has bought a farm at Cobden, Illinois. Mr. MILLER'S connection with the I. and M. Telegraph Company dates back fifteen years, and he has held the position of Superintendent for seven years. Ability, energy and zeal have been the prominent features of his whole career.

Mr. DENNIS F. BROWN has resigned his position as operator in the Providence, R. I., office of the Franklin line, and has taken charge of the office of the same Company at Bethel, Conn.

F. S. VAN VALKENBURGH can be found at the Western Union Telegraph Office, Buffalo, New York.

CHAS. BLOOMFIELD has taken a position in the "Fd" office, C. & N. W. R. R., Chicago.

SAM LEVIS, who has been a repair-man for the Telegraph Companies at Chicago since 1854, and previous to that in New York, and well known throughout the country, having first become connected with the telegraph in 1844, has become insane.

Mr. S. L. GRIFFIN, recently from the Western Union Boston office, has accepted a position in the same Company's office, No. 145 Broadway.

Among the badly wounded at the Port Jervis disaster on the Erie Railroad, was Mr. JAMES R. HEENAN, agent of the Western Union Commercial News Department, at Cincinnati, Ohio.

**A LIBERAL CHRISTIAN.**—The pleasantest "personal" is that which records the good deed of a good woman. Such a woman as Mrs. Hiram Sidley, of Rochester, N. Y., who has given \$18,000 to the Episcopal Church of North Adams, Mass.—*Correspondence Chicago Tribune.*

**MARRIED.**

MCGENTY—HOPKINS.—In Milton, Wisconsin, April 18th, 1868, by the Rev. W. C. WHITFORD, Mr. WILLIAM T. MCGENTY, Telegraph operator at Whitewater, Wisconsin, to Miss LUCINDA A. HOPKINS, of the same place.





SATURDAY, APRIL 25, 1868.

## THE NATIONAL TELEGRAPHIC UNION.

WE fear that the members of the UNION do not appreciate as they should the importance of attending District Meetings. We hear of several important districts which are almost in a state of collapse from the inability of securing the attendance of a quorum at the regular District Meetings. This is all wrong. It is not sufficient that members should maintain their standing in the UNION by the payment of their dues. Something more is necessary to sustain it in a state of efficiency and usefulness.

We fear that the telegraphers do not realize the necessity of the UNION to their interests as they should. Even admitting all the deficiencies and imperfections which are charged upon it, the fact still remains that it is the only organization of the telegraphers in this country, and that, should it cease to exist, there would remain no means of combined action on the part of operators, whatever might be the necessity therefor.

We are not disposed to claim that the UNION is by any means perfect, or that it accomplishes as much as it should do. On the contrary, we are aware that it might, in many respects, be improved, and have already pointed out some of the improvements which are desirable. The way to make it what it should be, however, is not by permitting the matter to go by default, and by failure to attend the meetings to allow it to die of inanition. On the contrary, those who are loud in fault-finding with the present management, should manifest a lively personal interest in making such improvements as shall be found desirable and important. At the coming Annual Convention we desire to see a delegation which shall satisfactorily represent the telegraphers of the country, and who will take hold of the matter with an intelligent earnestness which cannot fail of producing the best results. We know that the present officers of the UNION will gladly give way to others who may be selected by the Convention to fill their places, and will give to their successors a cordial support in carrying out any reasonable policy which may be decided upon. As for ourselves, we are ready to surrender THE TELEGRAPHER to any party who may be properly designated for the purpose, and whose management of the organ will be more acceptable to the members of the UNION.

We think that one difficulty attending the UNION is that it is somewhat intangible, and that having no general head-quarters, it does not present any centre of operations and information, to which application may be made in cases of necessity, and that its present organization does not afford the opportunity for prompt decision and action in matters properly coming before its management. Its officers being scattered all over the country, there is not that chance of consultation and official action that there should be. At each Annual Convention an Executive Committee is elected, to whom the interests of the association are entrusted for the ensuing year. The members of this committee are so widely scattered that a meeting is impossible, and communication between its members in regard to UNION business can only be had by mail or telegraph. We consider that this is a mistaken policy. A majority of the committee should be so situated territorially as to enable them to meet at least quarterly, to consider and act upon matters connected

with the organization and the welfare of its members. The committee should have an active supervision of the organ of the UNION, and to it should be referred questions relative to its general conduct, and the policy which it should advocate. As the committee is at present constituted, this is impossible.

An editor is selected, and he is left to conduct the paper as shall seem to him best; and, if he choose to do so, he can commit the UNION to a policy foreign to the wishes of a majority of its members, and inadvisable to be pursued. He is forced to rely upon his own judgment, and is without the benefit of the counsel and advice to which he is fairly entitled, and without which, with the best intentions, he is liable to contravene the policy which would be most acceptable and beneficial to those whom he represents.

In our opinion, there should be in this city a central office of the UNION, from which THE TELEGRAPHER should be issued, and at which the principal business of the association should be transacted. It should be the place to which members of the UNION could apply for information and assistance, to which they are entitled, and afford to resident and visiting members a place of meeting whenever circumstances should require it.

We would continue the present system of holding the Annual Conventions in different sections of the country, as it has advantages which we have not space to set forth in this article; but the necessity of providing some rallying centre, as it were, has become very apparent, if the NATIONAL TELEGRAPHIC UNION is to continue to exist, as we trust it may, at least until some better organization of the telegraphers is found to take its place.

Such a head-quarters as we have briefly indicated, could be established at a comparatively small additional expense in connection with the publication of THE TELEGRAPHER, and we believe its beneficial influence upon the welfare and perpetuity of the UNION would render the money so spent a most beneficial investment.

We would very much like to hear from the members of the UNION on this and kindred subjects, and shall be pleased to print the views, *pro.* or *con.*, of those who feel an interest in the matter. We desire to call the attention of the profession to these subjects of vital interest to them, and to the perpetuity and efficiency of the UNION, and secure a full and free discussion thereof, in order to guide the Annual Convention in its action.

## Outrageous.

WE find, in the advertising columns of the *New York Sun*, an advertisement for "Ten young men to learn telegraphing. Splendid inducements for positions when taught. Apply, etc." No name is appended to this precious advertisement, and we do not wonder that the individual, whoever he may be, who proposes to obtain money under such a pretence from persons ignorant of the baselessness of his assertion of "Splendid inducements" should dislike to render himself unnecessarily notorious.

The fact is, that even competent operators, who have already learned the business, find great difficulty in obtaining remunerative situations, and these college-learned plugs cannot earn their salt at it. There are no "splendid inducements" to learn the telegraph business. If there were, we should not hear constantly of good and efficient operators seeking other means of earning a subsistence. There are now more operators than situations; and, even if there were a demand for telegraphic talent, it is impossible for persons to become good practical operators in any of these so-called Telegraph Colleges.

Under proper instructors, we do not doubt but that some preliminaries of electrical science may be taught which might be of use to operators in their study, on a telegraph line, of practical telegraphy; but we assert and believe that the experience of those who have thrown away

their money on these swindling professors will bear out the assertion, that no Telegraph College has yet turned out a good practical operator. We do not know or care who this last deluder is, but hope that no one will be humbugged into wasting his money in an attempt thus to learn telegraphy, or made to believe that "splendid inducements for positions" can honestly be promised them in case they shall be induced to invest their money in so foolish a manner.

## Government Telegraphs.

In the United States House of Representatives, on Tuesday, MR. INGERSOLL, of Illinois, introduced a resolution instructing the Post Office Committee to inquire into the expediency of securing to the General Government the exclusive control of all Telegraph Lines in the United States, which was agreed to.

We have been looking for the usual introduction of this resolution for some months, and had pretty much come to the conclusion that our Congressional friends were so much occupied with reconstruction and impeachment that they would miss the opportunity for this session of talking over this pregnant subject of debate.

Doubtless in the opinion of many members of Congress there is much to be said on both sides relative to this matter; but in view of the execrable manner in which, in this country at least, business properly of a private character is transacted by the Government, there seems to us to be but one side of it, and that decidedly not favorable to the realization of the theoretical ideas on which the proposition is based.

In the present condition of the Treasury there is little danger of any action being taken, which will involve so large, immediate and prospective expenditure, on what, in Governmental hands, must inevitably prove a losing business. Should there be hereafter any further developments in that direction, we shall have something more to say on the subject.

If the Committee on Post Offices and Post Roads desire to investigate this Telegraph question, we can promise them full employment for the remainder of the Session.

## Brooks' Paraffine Insulator.

WE would call the attention of Telegraph and Railway Companies to the advertisement of the BROOKS' Paraffine Insulator, which appears in another column. The form in which it is now manufactured by Mr. W. R. ALLISON, as represented in the cut accompanying the advertisement, is a great improvement on the original style, which, however, were not surpassed by the most perfect of other insulators. A large number of the latest pattern have been supplied to the French Government, which, after a thorough test, have been pronounced greatly superior, both in strength and insulating qualities, to any other extant. Many of the most important railroad lines in the United States use the BROOKS' Insulator exclusively. Taking everything into consideration, it is not only the best, but the cheapest insulator manufactured.

## Admission of Lady Telegraphers to the Union.

At the last meeting of the New York District of the N. T. U., a resolution was introduced favoring the admission of lady operators as members of the UNION. The resolution was laid over until the next meeting for discussion, and it is hoped that on that occasion there will be a full attendance of the members, and that the question will receive a fair and candid discussion.

## Request.

The demand for back numbers of the TELEGRAPHER has been so unexpectedly large, that we are again obliged to trespass on the kindness of our friends. If any patron of the TELEGRAPHER has one or more copies of Nos. 86 and 90 which they can spare, they will confer a great favor upon us if they will send them to this office, as our supply of them is exhausted.







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 Stationery, of any description, to order.  
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THE NATIONAL TELEGRAPHIC UNION, by authority of its special charter, granted by the State of New York, proposes to insure the lives of all persons connected with the Telegraphic business, under the following rules and regulations:

Applicants for insurance must be connected in some capacity with the Telegraphic business, must be not less than eighteen years of age, in good health, and able to earn a livelihood. Every applicant shall pay an entrance fee of two dollars, one dollar of which shall be reserved for creating a permanent fund, and one dollar towards the amount to be paid the heirs of the first insured person deceased, who will receive as many dollars as there are persons insured.

Whenever a death occurs among those insured, an assessment of one dollar and ten cents will be levied upon all. This dollar goes to the widow, orphans, or heirs of the next insured party deceased, and the ten cents to be applied to the payment of current and necessary expenditures.

Applications must be made to the Actuary, in writing, accompanied by a certificate, signed by not less than two persons in the Telegraphic business, of good character, that they know the applicant is fully qualified under the preceding rules.

A small annual assessment, not to exceed one dollar, may be necessary to cover working expenses after the first year.

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Parties wishing to insure should write out the following questions with their answers thereto:

- What is your name?
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Sign the above statement, and forward it to the Actuary, with a certificate signed by two persons connected with the Telegraphic business, that the applicant is well known to them, and that the answers given by him to the above questions are correct?

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at the late Great Fair of the American Institute, New York, and their superiority is generally acknowledged by operators who use them.

Aside from the advantages apparent upon inspection of these magnets, their acknowledged merits consist in the construction of the helix, which was patented Aug. 15, 1865. This being of naked copper wire, so wound that the convolutions are separated from each other by a regular and uniform space of the 1-300th of an inch, the layers separated by thin paper. In helices of silk insulated wire, the space occupied by the silk is the 1-150th to the 1-300th of an inch; therefore a spool made of a given length and size of naked wire will be smaller and will contain many more convolutions around the core than one of silk insulated wire, and will make a proportionably stronger magnet, while the resistance will be the same.

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the cheapest, most reliable and simple repeater as yet invented.

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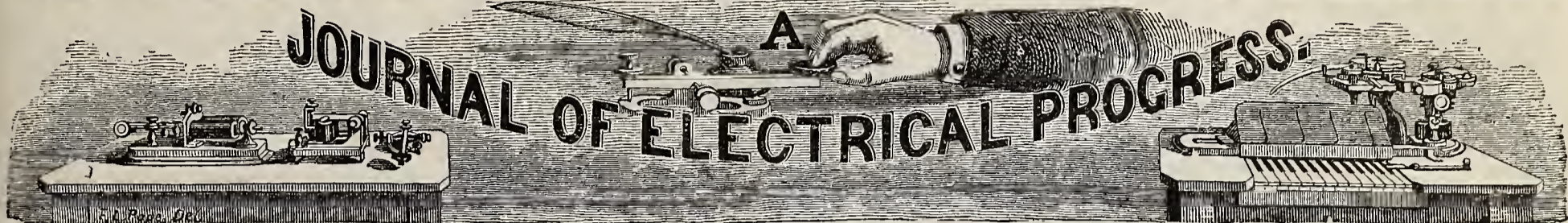
Button Repeaters.....	\$ 6 00
Relays, with helices in bone rubber cylinders (very fine).....	19 50
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# THE TELEGRAPHER.



Vol. IV.—No. 36.

New York, Saturday, May 2, 1868.

Whole No. 94.

[For the Telegrapher.]

## THE DOUBLE TRANSMISSION SYSTEM OF TELEGRAPHING.

BY F. L. POPE.

A SYSTEM of telegraphing which should admit of the transmission of communications in opposite directions over a single wire, at the same time, was for many years considered by electricians a problem whose solution was impossible. Taking into consideration the arrangement of batteries and circuits ordinarily employed in the working of the electric telegraph, it would seem that two equal and opposite currents, sent simultaneously from opposite ends of the same wire, would neutralize each other, and that the effect upon the relays of the receiving apparatus would be null.

In the early part of the Summer of 1853, however, Dr. GINTL, an Austrian telegraph Director, of Vienna, invented an arrangement actually accomplishing this seemingly paradoxical result, and which was put in operation on the line between Prague and Vienna in July of the same year.

Practical inconveniences in the working of the apparatus soon led to the abandonment of GINTL'S plan; but other and superior methods were subsequently devised, some of which are being successfully operated at the present time.

The great interest which has recently been excited in telegraphic circles, in consequence of the introduction of the double transmission system in this country, and the practical advantages arising from its use by telegraph companies whose facilities are somewhat limited, has led to the preparation of the present article.

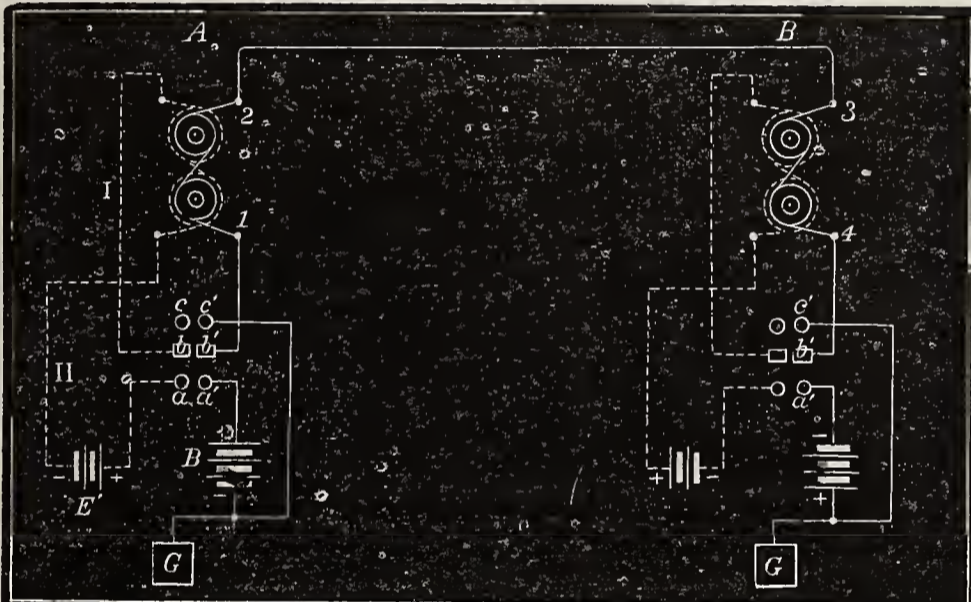
Dr. GINTL was the first to actually accomplish this result, and for this reason a brief description of his apparatus will not prove uninteresting, before proceeding to the explanation of the systems now in use.

Two conditions are necessary in an arrangement of this kind. The relay at each station must always remain in the circuit of the main line, but must, at the same time, be unaffected by the current transmitted from the key at its own station. In the plan of Dr. GINTL these conditions are met by the use of a relay whose coils are wound with two separate wires, which are connected up in such a manner that the current of the main battery circulates through one wire, and that of a local or equating battery through the other, but in an opposite direction. The strength of the equating battery is so adjusted that its magnetic effect upon the cores of the relay is exactly equal to that of the main line current, but necessarily opposite to it. A double key is employed, which closes these two circuits at the same instant, thus sending a current over the line, but producing no action upon the relay, as its magnetic effect upon the cores is neutralized

by the influence of the current simultaneously sent from the equating battery.

The double key, *a, b, c,* and *a', b', c'*, fig. 1, consists of two separate levers, insulated from each other, but connected together by an insulating cross-piece, and having in front a knob common to both. The two levers are arranged with front contacts *a a'*, and rear contacts *c c'*.

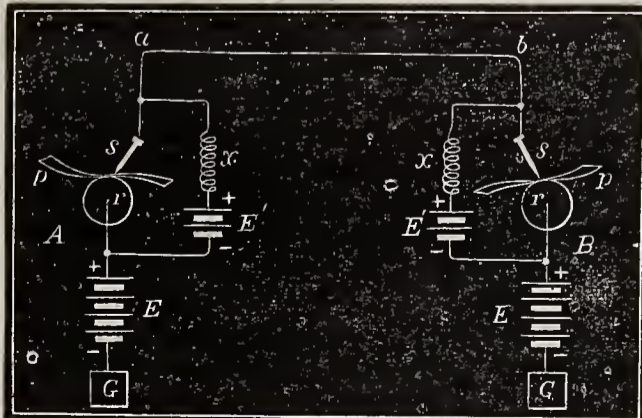
No. 1.



The equating battery, *E'*, is connected through one wire of the relay coils, and the front and middle connections, *a* and *b*, of the left side of the key. The front contact *a* of the right side of the key is connected to one pole of the main battery, *B*, the other pole being to the ground. The back contact, *c'*, is connected direct to the ground, while the middle connection or key lever, *b'*, is connected through the second wire of the relay to the line *A, B*.

If the operator at station *A* presses down his key, the current of the main battery, *B*, passes through the key lever, *a' b'*, and the wire, 1, 2, of the relay, and over the

No. 2.



line to *B*, where it passes from 3 through the relay to 4 and key *b' c'*, and thence through the earth to the battery at station *A*.

At the same instant the current of the equating battery passes through *a b, I*, and the second wire of the relay coils and returns through *II*, to the battery.

If now the key at station *B* be also depressed, the main battery at that station is also thrown into circuit, which doubles the strength of the main line current. This is neutralized in the relay at *B* by the action of the equating battery, but the current through the relay at *A*, being now double the strength of that of its equating battery the armature is attracted as long as the key at *B* remains closed. The relay at *B* will also be affected as long as the key at *A* remains closed, whether the key at *B* is closed or not, because the effect of *B*'s current on his own relay is neutralized by the equating battery.

Therefore, if both stations work their apparatus at the same time, the signals will be properly given by their respective relays.

There is, however, one position in which the signals transmitted from one station are not perfectly received by the other. This will obviously be the case when, during the manipulation of the key-lever, it changes from the front contacts *a a'* to the back contacts *c c'*, or *vice versa*. The main circuit will be interrupted for an instant, at *b*, and the signal which should be given by the relay of the same station is somewhat affected.

A much more serious evil, however, arises from the great difficulty in maintaining an equilibrium between the current from the main battery and that from the equating battery for any length of time. The circuit of the latter being so short, and the resistance encountered by it being so small, in comparison with that of the main line, it soon becomes weakened, while the other remains nearly constant. Unless great care is taken to maintain the equality of the two currents, the transmitting operator will frequently receive his own writing back again.

In consequence of these difficulties the plan was soon abandoned, as above stated, but Dr. GINTL subsequently adopted the electro-chemical telegraph for this work, in the place of Morse instruments, by means of which he obtained much better results.

DUB, the author of a valuable German electrical treatise, gives the following description of GINTL'S electro-chemical double transmitter.

In fig. 2, *a b* is the line wire between stations *A* and *B*, which is connected at each end with a metallic style, *s*, resting upon a strip of chemically-prepared paper, *P*, such as is used in BAIN'S instrument. This is supported underneath by a metallic roller, *r*, in connection with the positive pole of the main battery *E*, the negative pole being to earth. A secondary circuit, including a compensating or equating battery *E'*, and a resistance, *x*, is arranged at each station, as shown in the figure.

The currents from these compensating batteries traverse the prepared paper in a reverse direction to those of the main batteries, and their relative strength is adjusted by



means of the resistance,  $x$ , so as to be just sufficient to prevent the decomposition of the salts in the paper by the action of the main line current. The arrangement of the transmitting keys is not shown in the figures, but is exactly the same in this apparatus as in the one previously described, and shown in fig. 1.

The negative current of the main battery E, at station A, goes to earth, and the positive current through the metallic roller  $r$ , and the prepared paper, and thence over the line  $a b$ , the style  $s$ , through the paper strip P, and the back contact of the key to the earth. In traversing the paper at station A a decomposition of the salts would take place, were it not for the counteracting current from the battery E', which, being of equal strength, passes from E' through  $x$ , the style, paper, &c., preventing any chemical action upon the paper.

Suppose, now, a positive current is sent from the main battery at station B, the two terminal main batteries are then in opposition to each other, and the current upon the main line is neutralized, and the paper at A is marked by the action of the local current from E' as long as the battery of B is in connection with the line. If the key at A be now opened, batteries E and E' are both thrown out of circuit, and the roller,  $r$ , placed in direct connection with the earth, but the current from station B, having now nothing to oppose it, will continue to mark the paper as long as it is permitted to flow.

A single key with five contacts was subsequently employed by GINTL, instead of the single key above described.

Soon after the experiments of GINTL improved systems of double transmission were invented by FRISCHEN and SIEMENS-HALSKE, which will be described in the next number of THE TELEGRAPHER.

(To be continued.)

## 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.

### Telegraph Wire.

PHILADELPHIA, April 22, 1868.

TO THE EDITOR OF THE TELEGRAPHER.

THE communications, in relation to the subject of line wires, which have recently appeared in your columns, induce me to offer a few remarks in the matter, which, I trust, will be considered relevant. In the economy of railroads nothing is at the present time engaging so much attention and so great interest as the life of the rails. Now, the rail is to the railroad what the wire is to the telegraph line, the indispensable part of the system. Both are carriers—carriers of force; the one externally, and the other internally; the forces in the latter being, however, almost infinitely weaker than those at work in the destruction of the former—the wire is of vastly inferior sectional area to the rail. The peculiar forces engaged in destroying the wire negative the relief obtained by the substitution of a mechanically stronger material, and can be counteracted only by chemical means.

A bar of iron exposed to the atmosphere takes from it a part of its oxygen, and becomes rusted. The oxide of iron thus formed, unfortunately possesses properties which differ essentially, both mechanically and electrically, from the iron itself: its tensile strength is zero, and its conductive power is seriously impaired. The film of oxide thus formed acts as a partial protection to the remaining metal, and, were there no disturbing actions, the oxidation of the iron would proceed very slowly indeed—it has been estimated by an eminent American engineer to be, in cast iron, only 1-10 of an inch in a century—in the case of wrought iron, exposing

as does wire, a considerable surface in proportion to its area, destruction proceeds quite rapidly, and I have in mind a piece of line which has now seen five years' service, but ought by all economic means to have been taken down two years since. Zincing iron, which appears to be an effectual protection in the open country, is wholly useless in towns where large quantities of coal are burned, because of the amount of sulphuric and sulphurous acids in the air, formed by the union of the sulphur, vaporized during the combustion, from pyrites and other sulphurets mixed with the coal with the oxygen of the air. These acids form, with the insoluble oxide of zinc, a remarkable soluble salt, the protosulphate, which at ordinary temperatures will dissolve in as little as 0.61 parts of water. Accordingly, it is rapidly washed from the surface, leaving the iron to oxidize and form an extremely soluble salt with the acids. Unless, now, we bury our city lines under the ground (which is very desirable), we must have other protection than zincing. Discarding organic substances, such as the gums, hemp &c., for obvious reasons, we find no better substances than the metals. Copper, although it forms with  $SO_3$  a very soluble salt, does not oxidize readily, and for this reason would make an admirable protection. As I understand it, this is one of the claims of the American Compound Telegraph Wire Company, for their iron-copper and steel-copper wire. The proposition to electro-copper the wire, announced by Mr. SNOW in your last issue, was unexpected to me. There is no known process, I believe, to deposit copper on iron from acid solutions, except that of M. ONDRY, which is inapplicable to telegraph wire; and from alkaline solutions the expense *might* be an obstacle. Moreover, as the design is to rely upon the copper as the conductor, the steel or iron merely giving tensile strength, a considerable amount—depth—of copper would be necessary.

The A. C. T. W. Co. will find it a very profitable thing if they succeed in cheaply depositing copper on iron by galvanic agency. Speaking without actual experience, I should say that a copper envelope, as described in the claim of Messrs. FARMER & MILLIKEN, would be an extremely difficult thing to keep tight to its core, as an absolute envelope.

Tinning the wire would not be much of an improvement, but I suggest that a coating of lead would be. Lead, although not difficult of oxidation, forms an insoluble oxide, and a remarkably insoluble sulphate—which latter, according to FRESSENIUS, is at  $51.8^\circ$  Fahrenheit soluble only in 22.816 parts of water, and 36.504 parts of dilute  $SO_3$ . The lead, however, would not combine with the sulphuric acid in the air, as it is entirely too dilute. Lead is used to line the chambers in which the acid is made, and afterwards it is evaporated in leaden vessels until its density reaches 1.75, hence it would appear peculiarly valuable in lengthening the "life" of telegraph wires. I do not offer this as entirely original, an alloy of tin and lead, for the protection of exposed surfaces of iron having been made the subject of a patent by Mr. NICHOLAS CALLAN, in England, in 1853; but I do claim that it is time something effectual was being done to keep our line wires of their original section for at least a respectable period after stringing. Lead could not readily be applied by electro-deposit, as so few of its salts are soluble, and the one usually employed, the acetate, deposits in a crystalline, rather than a regular state, as we see in the "lead tree." I do not think there would be any difficulty in securing a covering of lead, applied in the same manner as zinc and tin now are, but if so, it would be easy to secure a perfect envelope by rolling and drawing with the wire, on the principle that lead pipe is now lined with tin. If your patience is not wholly exhausted, Mr. Editor, I would like to refer briefly to several advantages, other than those mentioned, of lead over copper as an enveloping cover.

In the first place, it being much more ductile, it would the more readily embrace the steel or iron core, and thus furnish a more perfect protection; and, in the second place, it is less electro-negative to iron than copper, and will hence form a much less attractive galvanic couple with the core, in case of a defect in the envelope admitting water. Again, because of the remarkable insoluble character of its oxide and sulphate, the action will speedily stop, while with copper it would be continued until the destruction of both. This is an important point; with the powerful currents of electricity on the line aiding the weaker action of the two metals, short circuited by the escape down the first pole, I should have little hesitation in asserting that an iron-copper wire would last a less time than a wire of ungalvanized iron. I may, however, be mistaken, and I shall be glad to hear that experiments on a scale sufficiently large to settle the matter are under way.

Very respectfully,  
S.

ALBANY, N. Y., April 27.

TO THE EDITOR OF THE TELEGRAPHER.

YOUR letter came to hand this morning. Should have acknowledged receipt of the book before, but was waiting to get a few more names to send at same time. I herewith enclose you a few additional names of subscribers. Please start their papers as soon as received.

SHAFFNER'S MANUAL was received all right. Am highly pleased with it.

PITTSBURGH, April 23.

TO THE EDITOR OF THE TELEGRAPHER.

YOUR favor of the 20th inst. received yesterday, as was also NOAD'S *Manual of Electricity* for which please accept my sincere thanks.

Having enjoyed possession of DE LA RIVAS' works for some time, I had scarcely thought of competing for the copy you propose to give away; but your letter, and a desire born of it, to make some fitting present to a brother who manifests much interest in electrical and telegraphic matters, have urged me to renew my efforts during the limited time I may have from duty. You will hear from me again in a day or two. Meanwhile, I am

G. A. H.

CHICAGO, April 23.

TO THE EDITOR OF THE TELEGRAPHER.

L. A. LEWIS, of Centralia, Ill., has invented a self-closing key, which far surpasses the one illustrated in a recent number of THE TELEGRAPHER. Any key can be changed to a self-closing at an expense of not over fifty cents. It was tried in the Chicago office a few days since, and worked satisfactorily. Mr. LEWIS has applied for a patent.

### The Catlin Claims.

IN the *Davenport (Iowa) Daily Gazette* of April 22, the following despatch is published, headed in large letters:

"THE CATLIN CLAIMS.

"WASHINGTON, April 21.

"Fifty-four cases, relating to the captured and abandoned Catlin claims, have been decided by the Court, &c." It should be "Cotton claims." INAS.

### TO CORRESPONDENTS.

Verses of "Shookum" and of "Relay" received, and will appear as soon as we can find room for them.

Several communications, intended for publication this week, and which are in type, are unavoidably crowded out.

BACK NUMBERS WANTED.—We want a few copies of numbers 4 and 16 of Volume I, to complete sets, and will pay fifty cents each for them, or allow that sum in current subscriptions to THE TELEGRAPHER. We also want a few copies of numbers 46, 47 and 48, of Volume 3, for which we will pay twenty-five cents each, either cash or current subscriptions to TELEGRAPHER. The number 16, of Volume I, must be complete, with title-page and index.



## THE TELEGRAPH.

## The Mississippi Valley National Telegraph Company.

WE have received the prospectus of this Company, which has been organized for the purpose of establishing telegraphic communication, in the most direct manner possible, between all points, of any importance, on the Mississippi River, from St. Paul to New Orleans.

The headquarters of the company are at St. Louis, its office being at No. 213 North Third Street. Its officers are J. M. MASON, *President*; J. D. CHAMPLINE, *Vice-President*; E. S. ROUSE, *Treasurer*; J. L. REED, *Secretary*; B. A. SQUIRES, *General Superintendent*.

The capital stock of the company is one million of dollars, but the projectors say they expect it will only be necessary to call in fifty or sixty per cent. of the par of the stock.

The company have already commenced the construction of the line, which will prove an important section in the general system of competing lines, now so rapidly coming into existence all over the country.

CHICAGO, April—

The old United States wire between Boone and Council Bluffs, Iowa, is being transferred from its present position to the Chicago and N. W. R. R. poles.

Mr. ROSSEAU, who assisted in building the Pacific Lines, will have charge of the job, and left Chicago for Omaha on the 15th ult. for that purpose.

The G. W. Telegraph Company are having great success in raising stock, and the lines will certainly be built.

J.

**CABLE DESTROYED BY LIGHTNING.**—The telegraphic cable across the Ohio River, five miles above Louisville, was so badly melted by the lightning, a few days ago, as to utterly destroy it. A new cable will have to be laid down at a cost of about \$5,000.

**TELEGRAPH FROM THE CITY OF MEXICO TO NEW ORLEANS.**—A telegraphic line is proposed between the city of Mexico and New Orleans. The work has been taken in hand chiefly by General Escobedo. A submarine cable between Vera Cruz and Cuba is urged by the Mexican press.

**CORRECTION.**—In synopsis of the report of Mr. E. B. CHANDLER, Superintendent of Fire Alarm and Police Telegraph, Chicago, Ill., it was incorrectly stated that *eighty-two* new boxes had been put up during the last year. It should have read *thirty-two* new boxes.

**THE HISPANO-AMERICAN TELEGRAPH COMPANY.**—In the New Jersey Legislature, in the House, on Thursday, April 2d, the bill incorporating the HISPANO-AMERICAN TELEGRAPH COMPANY received a second reading. It asserts that a corporation was organized under the general laws of the State of New York, based upon a concession granted by the Government of Peru to their agent, NARIANO AROSEMANA CHESADA; and whereas the general law of the State of New York, to authorize the formation of companies for various purposes, has not sufficient scope, and does not admit of sufficient freedom for corporate action for the purpose of laying and working a submarine telegraph out of the limits of the United States; now, therefore,

Be it enacted by the Senate and General Assembly of the State of New Jersey, that the Hispano-American Intercommunication Company, organized under the general law of the State of New York, for the purpose of laying and maintaining, working and enjoying a submarine telegraph on the western coast of South America, shall have the right to change the title of their company to that of the Hispano-American Telegraph Company, and to reorganize under the provisions of this act. The capital stock of the Company is to be two and a half millions of dollars. The corporation shall be located in Jersey City.

The Kansas city *Journal* learns that COL. A. ANDERSON, General Superintendent of the Union Pacific Railway, Mr. WEBSTER, General Ticket Agent, and Mr. R. B. GAMMEL, Superintendent of the Telegraph line and Private Secretary of the Superintendent, are about to remove their offices from Wyandotte to Lawrence, making the latter place the permanent headquarters of the entire line of road.

## PERSONAL.

[ADVERTISEMENT.]

VIDE last issue "EX." Com. orders action reported immediately, *all chps.*

"—" Sec. THE DELTA Chp.

Box 241 Alt.

The office at Brookfield, Mass., on the Franklin line, has been closed, and the operator, WM. F. DONOVAN, has opened an office on the same line, at Palmer, Mass.

Mr. H. L. MARTYN, formerly in the Troy office of the American Company, has taken charge of the office of the City Line, in the Ashland House, Harlem.

C. C. WRIGHT, agent and operator Oil Creek and Alleghany River Railway, has resigned his position and gone into the drug business—firm of KINGEN & Co., Mill Village, Pa.

J. W. GILDS, who, some time since, resigned his position as extra agent and operator in the O. C. & A. R. R. Line, after a short vacation at home, has accepted a position in the P. & E. R. R. Line, at Renovo, Pa.

E. J. DAVIN, formerly night clerk W. U. Co.'s Boston office, has accepted position as operator, same office.

P. J. McMAHON has been appointed assistant-operator W. U. Company's office, old State House, Boston.

An office has been opened in St. James Hotel, Boston, by W. U. Co. CHARLES WOOD, formerly of Now Bedford, takes charge.

B. G. WINTER, Manager of W. U. Co.'s office, Old State House, Boston, has been temporarily relieved, on account of ill health, by JOHN MILLIKEN, of Portland.

Mr. J. M. SPENCER, for several years an operator in Cincinnati, but who, the past year, has been attending college, has returned to Cincinnati, and accepted a situation in the W. U. office.

Mr. D. E. SHEEHAN, late assistant train dispatcher and night operator of the C. H. & D. R. R., Cincinnati, has accepted a position at Oxford, O., as railroad agent and operator.

Mr. W. F. BRADEN, late of Oxford, Ohio, has succeeded Mr. WM. H. HUNSAKER as operator at Hamilton, O. Mr. HUNSAKER takes the place vacated by Mr. SHEEHAN in C. H. & D. R. R. office, Cincinnati.

Miss F. S. TURNER has resigned the management of the Franklin Company's office, at No. 139 Pearl street, this city, and will take a vacation for a few weeks. The office is to be removed to No. 86 Beaver street.

**FIRE ALARM TELEGRAPH.**—The New Fire Alarm Telegraph at Indianapolis, Indiana, went into operation, April 29.

W. P. BARTH, Telegraph Operator, Gallatin, Tenn., was shot and fatally wounded at that place, on Friday, the 24th inst., by Capt. Phillips, Registration Commissioner. BARTH is said to have been intoxicated at the time.

Mr. C. BALDWIN, recently in the W. U. Office, Chicago, has gone in with R. G. DUN & Co., the Mercantile Agents, at Chicago.

W. R. PLUM, formerly in the New Haven, Conn., Office, is practising law at Chicago.

KIT DOUGHERTY has gone to Virginia City, Nevada, as an operator for the W. U. Co.

MR. RANNEY, of the Superintendent's Office, U. P. R. R., at Omaha, has gone East on a visit.

J. P. CALLAHAN, of Pittsburg, is in Superintendent's Office, U. P. R. R., Omaha.

## BORN.

On Tuesday, April 14, a daughter to D. C. ROBERTS, of Western Union Co., Boston.

On Tuesday, April 14, a daughter to J. A. SHEEMAN, of W. U. Co., Boston.

## List of Patents recently issued from the U. S. Patent Office.

76,358.—ELECTRIC TELEGRAPH.—Cromwell Fleetwood Varley, New York City, April 7, 1868.

I claim—1st. Making insulators for telegraph wires of two or more insulating caps, exclusive of the cement which unites them, each cap being a complete insulator in itself, so that if one of the caps be defective the other or others shall arrest the electric current, as set forth.

2d. The use of a non-conducting pin inside an insulating cap, such pin being constructed of iron or steel covered with hard rubber, or being formed of stoneware or porcelain, substantially as described.

3d. Glazing the lower part of porcelain or stoneware or earthenware caps, and leaving the upper part unglazed, substantially as and for the purposes set forth.

4th. Making the lower edge of the insulator cap externally sharp, but internally rounded, so that drops of rain, when blown outward, shall fall off, and when blown inward shall not break off, but run, by capillary attraction, up the rounded surface out of the wiud, substantially as set forth.

5th. Making porcelain or stoneware or earthenware caps with two or more projecting ears, in combination with and arranged above and below the groove for the wire, so that when the insulator is inclined to the wire the latter can be inserted, but when at right angles to it the latter cannot be gotten out, as set forth.

76,521.—ELECTRO-MAGNETIC LOG.—W. I. Reid, Brooklyn, N. Y., April 7, 1868.

I claim the log, provided with a break for closing and breaking the electric circuit, substantially as described, in combination with the registering instrument connected therewith by an electric conductor, the said registering instrument being provided with an escapement operated by an electro-magnet, and with the means described, or equivalent means for registering, all substantially as specified and for the purpose set forth.

76,654.—INDUCTION COIL APPARATUS AND CIRCUIT-BREAKER.—Charles Grafton Page, Washington, D. C., April 14, 1868.

I claim—1. An induction coil apparatus, consisting of a primary and secondary circuit, when said secondary circuit is many times—that is to say, two, three, or more times the length of the primary circuit, having the connections so arranged that shocks, sparks, and electrostatic results may be obtained from the secondary circuit alone, or from the combined primary and secondary circuits, or from the primary alone, or from portions of either circuit, substantially as set forth.

2. The combination of an automatic circuit-breaker, with either a primary coil alone or a primary and secondary coil combined, substantially as set forth.

3. The combination of a mechanical circuit-breaker, with a primary and secondary coil combined, substantially as set forth.

4. The combination of both a mechanical and automatic circuit-breaker with a primary and secondary coil combined, substantially as set forth.

5. The combination of a primary and secondary coil, enclosing an electro-magnet with an automatic circuit-breaker, substantially as set forth.

6. The combination of a primary and secondary coil, enclosing a compound or divided electro-magnet with an adjustable automatic circuit breaker, substantially as set forth.

7. The combination of a primary and secondary coil, enclosing a compound electro-magnet with an attached hammer circuit-breaker, substantially as set forth.

8. The spark-arresting circuit-breaker, whether used with a primary coil alone or a primary and secondary combined, substantially as set forth.

9. The spark-arresting circuit-breaker, whether used with a coil or coils, enclosing an electro-magnet, substantially as set forth.

10. The spark-arresting circuit-breaker whether attached to or independent of the primary or primary and secondary coils, substantially as set forth.

11. The adjustment of the retractile force of an automatic circuit-breaker, substantially as set forth.

12. In combination with such adjustment, adjusting the distance of the hammer or the armature from the pole or poles of the electro-magnet which actuates them, as set forth.

13. Adjusting or regulating the length of vibration of the circuit-breaking bar, by means of a set-screw, or any mechanical equivalent for substantially the same purpose, substantially as herein set forth.

14. The employment of one electro-magnetic instrument to open and close the circuit of another electro-magnetic instrument, using either one battery for both, or separate batteries for each, substantially as set forth.

15. The employment of separate and independent batteries to operate an electro-magnetic circuit-breaker, and the circuit which is broken by it, substantially as set forth.

76,748.—TELEGRAPH-APPARATUS.—Elisha Gray, Cleveland, Ohio, April 14, 1868.

I claim—1. Operating a relay by to-and-fro currents of magneto-electricity, momentarily induced by a disturbance of the main or line-current, in the manner substantially as described.

2. In combination with the receiving-magnet or magnets, the electro-magnetic armature, in which a secondary current is induced on the disturbance of the line-current, substantially as described.

3. In combination with the induction-apparatus, constructed as described, the polarized relay, placed in a short circuit, and operated by induced currents, in the manner and for the purpose as set forth.

4. The arrangement of the magnets B C and B' C', in combination with the magnets D' D', used in the manner and for the purposes substantially as described.

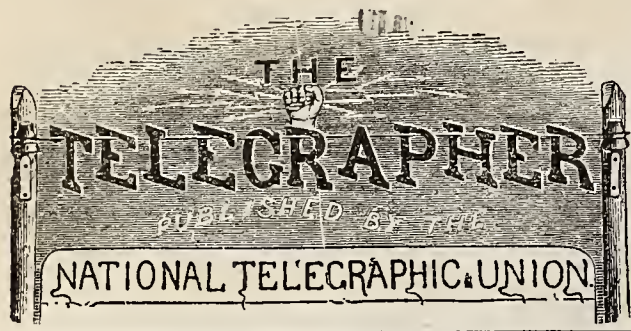
## MARRIED.

RAND—RICE.—At residence of bride's father, Fitchburg, Mass., April 2d, D. E. RAND, of W. U. Co., Boston, to Miss M. JENNIE RICE, formerly operator at Fitchburg.

BRADLEY—REED.—On the 6th April, Dr. L. BRADLEY, to Mrs. JANE A. REED, both of Jersey City.

SHELLEY—COVENTRY.—At the First Unitarian Church, Troy, N. Y., April 29th, 1868, by Rev. Dr. BALDWIN, Mr. HENRY V. SHELLEY, of Albany, to Miss JULIA A. COVENTRY, of Troy.





SATURDAY, MAY 2, 1868.

### EFFECTS OF TELEGRAPHIC COMPETITION.

IN a previous article we expressed the intention of stating the actual results of the present competition, as affecting the receipts of the Western Union Company, at points where such competition exists. We cannot, of course, give detailed figures, as the Western Union management cannot be expected to furnish them, and they are not otherwise attainable. Our information on the subject is, however, reliable, and although our statements must necessarily be general, unless they can be controverted they are conclusive on the subject.

It has been persistently asserted and maintained, by the management of the Western Union Company, that competition in the business of telegraphing in this country, while it reduced the receipts of existing companies, could only result in greater loss to the stockholders of the competing lines. They have, since the collapse of the late United States Company, pointed to its failure as a complete confirmation of their assertion. It has also been persistently claimed by the Western Union Management, that any material reduction in the charges for transmission of despatches from the rates to which they were advanced during the war, must also result disastrously to the pecuniary interests of the Company.

Both of these positions we believe to be untenable and not sustained by the facts. Believing, as we do, and as we have constantly urged, that competition in the telegraph business is essential to the interests, alike, of the practical telegraphers and the public, as the only recognized and authorized representative and organ of the former, we have, to the best of our abilities, advocated and sustained every project which we have thought honestly intended to establish and maintain reasonable competition. This we shall continue to do until we are satisfied that our premises are incorrect. We do this, however, in no spirit of hostility to the Western Union or any other telegraph company. We desire that all may prosper, and believe that, with proper management, so long as it shall not be suffered to degenerate into a cut-throat game of "beggar-my-neighbor," all may meet with suitable remuneration.

It cannot, with truth, be asserted that the telegraph facilities already provided on the most important routes are in excess of the requirements of the public. In fact, every experienced person knows that such is not the case, but rather the contrary. The telegraphic business of the country is increasing more rapidly than are the facilities provided by the Western Union and competing companies together. It is true that, heretofore, the amount of business has been restricted by the excessive charges maintained by the Western Union and its allies, while practically enjoying a monopoly of the business. The very point which we propose to demonstrate is, that a reasonable reduction of the charges does not and has not reduced the receipts of the Western Union Company at the points where competition exists. Did such reduction thus unfavorably affect receipts, we should undoubtedly be fully supplied with the figures to demonstrate it through the columns of the official organ of that company.

We have very fully, in this paper, during a year past,

exposed the facts in regard to the inception, management, experience, and failure of the United States Company, which is held up by the advocates of telegraph monopoly as an unanswerable argument against the investment of capital in the construction of competing lines. We have shown that, if that company had been wisely and honestly managed, its success was assured. Notwithstanding the loss suffered by the great body of the stockholders, certain parties in the "ring" made fortunes out of their connection with it. We have shown (or rather "Alliance," whose interesting and instructive communications, published in this paper, will be remembered by our readers, has shown) that its lines were, in the main, badly constructed, and at a cost excessively disproportionate to their value, were badly located, and worked at an unnecessary expense. A largo number of offices were opened and maintained at a loss to the company, and it was loaded down with contracts which were burdensome and damaging. Its able and efficient Superintendent, Mr. M. L. WOOD, whose services the Atlantic and Pacific Company has been fortunate in securing, struggled against these adverse influences, and was, as rapidly as possible, under the disadvantageous circumstances which surrounded and hampered him, correcting the abuses and reducing the expenses which were swamping the company when its consolidation into the Western Union terminated his labors and the existence of the company simultaneously. If the management of the United States Company had been unreservedly confided to Mr. WOOD, and the practical and capable telegraphers associated with him, we assert, confidently, and with a full knowledge of all the facts, that the company, instead of a disastrous failure, would have proved a complete success, and would, to-day, have divided the telegraph business of the country, from the Atlantic to the Pacific—the American and Western Union Lines would not have been consolidated, and the renewed investments which are now being made to build up a system of competing lines would have been unnecessary. With the demise of the United States Lines the managers of the Western Union Company thought themselves secure from any serious efforts at competition, at least for some years. How baseless have proved their anticipations the rapidly extending and increasing opposition lines sufficiently demonstrate.

The only remaining argument relied upon to prevent the investment of capital in competing lines has been, that with competition must come a reduction of rates, and with such reduction a falling off in the receipts disastrous to the pecuniary interests of stockholders. Well, competition has come, and to many important points tolls have been reduced from twenty-five to fifty per cent. This state of things has existed for some months, and does the result sustain the predictions? By no means. We might refer to the monthly statements of receipts of the Western Union Company as a sufficient refutation of the argument. The receipts of that company are constantly increasing notwithstanding this reduction. But to make sure of our premises, we have made inquiries in quarters where the facts are known, and find that at the points where the competition is most active and the reduction the greatest, the receipts have actually increased. Besides this, the competing companies are doing all the business that they have facilities for properly transacting, and their business is increasing more rapidly than facilities can be supplied for its transmission.

We believe that it would be good policy for the Western Union Company to at once make a general reduction of tolls over its whole extent of lines, not that this would check the construction of competing lines, for they will be built in any event, but the increase of business, consequent upon such action, would more than compensate for the loss arising from the reduction.

We believe that there is no limit to the increase of the telegraph business, and that rapid and astonishing as has

been this increase in the past, it will be eclipsed by the expansion which it will experience for many years to come. There is a brilliant future for the telegraph, not only in this country but in the world, and from year to year it will be more and more popularized, and become more and more a daily and hourly necessity in the business and social affairs of the people.

The public will not submit to the monopolizing of this mighty agent of civilization. However unfortunate previous investments may have proved, however dishonest and unfaithful originators and contractors may have been in the past, all the needed capital for the construction of new lines is and will be forthcoming, and it is vain for any company or any combination to suppose that such a monopoly can be maintained for any length of time. The sooner they yield to the inevitable, and make up their minds to submit, if not willingly, yet with resignation and without unnecessary and useless resistance to a fair and equitable competition and division of the business, the better it will be for the stockholders, and the greater the benefit to the public.

### Removal.

Messrs. L. G. TILLOTSON & Co. have been compelled, by the requirements of their increasing business, to abandon No. 26 Dey street, where they have been for some years located, and on May day removed to No. 11 Dey street, first floor.

Their new store is a very handsome one, opening directly from the street, and, we should judge, much better adapted to their business than their old quarters. We are pleased to record these evidences of prosperity on the part of those who, like our friend TILLOTSON, have stood by and sustained THE TELEGRAPHER from the first.

The firm has won an enviable reputation by the excellence of its telegraph machinery and materials, and by its promptness and reliability in all business engagements and transactions, and its success has been as marked and complete as its deserts.

We trust that, in their new quarters, TILLOTSON & Co. may experience, as they will assuredly deserve, continued and increasing prosperity.

REGULAR MONTHLY MEETING, NEW YORK DISTRICT.—We would call the attention of the members of the New York District of the N. T. U. to the notice of the regular meeting of this District, next Tuesday. It is particularly desired that every member will be present who is not unavoidably prevented from doing so.

### Who is it?

SOMEBODY, who has sufficient decency yet left to withhold his name, continues to publish advertisements for students in telegraphing, the latest being for seven students and ten young ladies to form a class in telegraphing, with the usual statement of "splendid inducements." Walk up, all you young men and ladies, and pay your money. If it is a permanent investment and no returns, no matter—recollect the splendid inducements! and go in.

We think — Institute is too modest in asking for only seventeen victims. Why not make it a hundred at once?

### NOTICE.

N. Y. DISTRICT N. T. U.—The regular meeting will be held at the Occidental Hotel, Tuesday evening, May 5.

M. K. THOMPSON, Secretary.

### The Atlantic Cable.

Eighty per cent. of the receipts of the Atlantic Cable is from business that originates on the American side.







CHARLES T. & J. N. CHESTER,

104 Centre Street, N. Y.,

Telegraph Engineers,

AND MANUFACTURERS OF

INSTRUMENTS,

BATTERIES,

AND EVERY DESCRIPTION OF

TELEGRAPH SUPPLIES.

Sole Agents for the United States

FOR

BOOKS' PATENT PARAFFINE INSULATOR

AND FOR

BUNNELL'S PATENT REPEATER,

The simplest and most efficient instrument ever devised for the purpose.

They publish an Illustrated Descriptive CATALOGUE of their manufactures, of which a new edition is now preparing, which will contain, among other matters, a description of a New Battery, having the power of 100 Grove cells, yet portable; also, an Enduring Battery, capable of giving a steady current for one year, without renewal.

BALLSTON SPA TELEGRAPH INSTRUMENT MANUFACTORY.

S. F. DAY & CO.,

MANUFACTURERS AND DEALERS IN ALL KINDS OF MAIN-LINE

TELEGRAPH INSTRUMENTS.

We would call the attention of all Telegraphers and Telegraph Companies to the fact that we are manufacturing

THE BEST

Telegraph Instruments in the country.

We are working all instruments with an ENTIRE NEW MAGNET, excluding thereby all use of Local Batteries. Our Main-Line Registers and Sounders have been put to the SEVEREST TESTS, and are pronounced by competent judges

"The Best Now in Use."

We claim to gain more power or effective working force in our Instruments, with ten ounces of wire, than has heretofore been gained by using one pound, as we get rid of the residual magnetism.

We also manufacture a Key with only ten ounces of wire, thereby putting very little resistance in the line, and doing the work well, as if not better, than those that contain one pound of wire and put a great resistance in the line.

HENRY A. MANN. SAMUEL F. DAY.

L. C. SPRINGER,

MANUFACTURER OF AND DEALER IN

TELEGRAPH INSTRUMENTS AND SUPPLIES.

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Parties wishing to insure should write out the following questions with their answers thereto:

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**FIRST PREMIUM**

at the late Great Fair of the American Institute, New York, and their superiority is generally acknowledged by operators who use them.

Aside from the advantages apparent upon inspection of these magnets, their acknowledged merits consist in the construction of the helix, which was patented Aug. 15, 1865. This being of naked copper wire, so wound that the convolutions are separated from each other by a regular and uniform space of the 1-800th of an inch, the layers separated by thin paper. In helices of silk insulated wire, the space occupied by the silk is the 1-150th to the 1-300th of an inch; therefore a spool made of a given length and size of naked wire will be smaller and will contain many more convolutions around the core than one of silk insulated wire, and will make a proportionably stronger magnet, while the resistance will be the same.

He is also manufacturing the

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 the cheapest, most reliable and simple repeater as yet invented.

**PRICES.**

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Relays, with helices in bone rubber cylinders (very fine).....	19 50
Small Box Relays.....	16 00
Same in Rosewood.....	17 00
Medium Box Relays.....	17 00
Same in Rosewood.....	18 00
Large Box Relay.....	18 00
Main Sounders, some as the above, with heavy armature levers without local connections, 75 cents less.	
Pocket Relays, with all the adjustments of the above, and good Lever Keys.....	22 00
Excellent Registers.....	40 00
Pony Sounders.....	6 75
Keys.....	6 50

All other appliances made to order. Extra spools for replacing such as may be spoiled by lightning, furnished at \$1 25 each. Old spools taken at the price of new wire by the pound. Goods sent to all parts of the continent, with bill C. O. D. Or, to save expense of returning funds by express, remittances may be made in advance by certified check, payable in New York, or by Post office order, in which case he will make no charge for package. He has ample facilities for furnishing all other kinds of Telegraph Supplies at lowest manufacturers' prices.



2. Meetings can be held "over the line" until the "Union" is declared a secret organization.

3. The initiatory fee is \$2, and the yearly dues \$6. (This sum will probably be reduced by the next convention.)

4. Lady operators may be admitted by any district, without reference to the general officers.

Let five persons, qualified as above, send their application, with \$2 for each person, enclosed, to the Treasurer, A. L. WHIPPLE, Albany N. Y., and they will receive all the additional information they may need.

### PERSONAL.

Mr. T. P. SCULLY, printing telegraph operator, not finding things exactly to his liking at Panama, has returned, and is again engaged as an operator at 145 Broadway.

Mr. P. H. SNAUGHNESS, one of the chief operators at Western Union office, 145 Broadway, has resigned, and accepted the position of Director of Circuits of the Stock Reporting Telegraph.

MIKE RYAN has taken position with the W. U. Co., Milwaukee, *vice* JERRY O'CONNELL.

Miss L. ATHERTON has taken position with W. U. Co., at Milwaukee.

J. O. MASON, of Chicago office, has gone to Kansas.

CHARLEY YORK has resumed his place in Chicago office.

Mr. CYRUS B. COBB, who has been connected with the telegraph for over thirteen years past, as operator, manager, and for the last four years as cashier of the Chicago office, has resigned, to devote his whole time to other business in which he is engaged.

GEO. K. WALCOTT, formerly of the Western Union Telegraph Office, Hartford, is now the baritone of the choir at Bishop SOUTHGATE'S church, Madison Avenue, New York City. He will make his *debut* on the public musical stage next winter, making RUSSELL'S descriptive songs a specialty.

Mr. J. S. WILLIAMS, report operator, W. U. Co.'s Columbus (Ohio) office, has accepted managership of P. and A. Co.'s office, same place.

Mr. JAMES D. HOGE, for nearly fifteen years manager of W. U., Zanesville (Ohio) office, has left the profession and gone into the soap business. Success attend you, JIMMY. Mr. C. R. LANE, of Columbus, W. U. Co., is his successor.

Mr. CHARLES F. WEBB, recently night operator, Union Depot, Dayton, has accepted a situation in Columbus office.

Mr. J. W. McDONALD has been transferred from W. U. Office, Zanesville, to Columbus, Ohio.

**MINING BY TELEGRAPH.**—A cotemporary, in speaking of a recent telegraph signal for our mines—to be used at any required depth, and to act instantaneously upon touch—gives credit for the invention to Mr. FRANK THAYER, foreman of the Savage mine. This morning we had the pleasure of seeing the new signal, and learned that Mr. J. G. BLOOMER, head telegraph agent in this city, is the real and only inventor, and to him alone does the credit belong, as it should be given. The arrangement is simple enough, and only requires a system of preconcerted signals for the different levels of the mine. At every station is placed a small signal box, with a tiny bell attached, and a loop for the finger to grasp. From these signal boxes—which contain a magnet working like a lever—wires connect with a battery in the engine room and to another box with a larger magnet, which in turn works on a spring connecting with the clapper of a large clear-sounding bell. Say, if the signal at the third station be three bells to hoist, the carman goes to the

shaft, steps to the signal box, inserts his finger in the loop and gives three pulls. The small bell tinkles three times and instantaneously the magnets connect and the large bell at the engineer's elbow must also tap three times, making the signal complete. In every compartment are separate wires, and at every station a signal box. The invention is perfect, and acted in our presence without any fault. It is simple, not expensive, and as sure as lightning. Mr. BLOOMER deserves great credit for his ingenious yet simple discovery of what will prove of practical utility in all our deep mines. The instrument is not yet complete, but will be in a short time, when the public will be invited to examine for themselves.—*Virginia (Nevada) Telegraph.*

### Polar Magnetism.

#### THE REVOLUTION OF THE MAGNETIC POLE.

A PAPER was read before the American Institute, by JOHN A. PARKER, on "Polar Magnetism," which is, at all events, an ingenious and original discussion of a subject which possesses not only scientific but practical interest. The main topic of the paper is the revolution of the magnetic pole around the north pole. The fact of this revolution is certainly established. In 1580 the magnetic pole was situated on a meridian forty-five degrees east of Greenwich. In 1658 it was on the meridian of Greenwich. In 1790 it was seventy degrees west of that point, and is now put, by Mr. PARKER, at one hundred and eighteen degrees west of Greenwich.

Assuming, to account for this regular progress westward, that magnetism is a universal principle, Mr. PARKER accounts for the revolution of the magnetic pole, as caused "by magnetic attraction, to the highest centre or system to which the earth, in her various revolutions, is immediately related." The direction of the needle only indicates the line of attraction, and not an absolute magnetic pole. Mr. PARKER regards polar magnetism as simply the result of a magnetic force, which is rendered active by revolution, and "identifies itself with that force which astronomers call the attraction of gravitation—a force known to exist, but for which no satisfactory cause has ever been assigned."

According to his theory magnetic attraction, or the "attraction of gravitation," in revolving bodies, is the opposite of that centrifugal force created by their revolution, and always equal to it. The magnetic pole revolves around the polar axes of the earth in the same time in which the earth, together with the solar system, performs a complete revolution, relatively to that system around which the sun itself revolves, and this period Mr. PARKER estimates at six hundred and forty years.

Such is the theory of Mr. PARKER, evidently the result of much reflection, and supported and illustrated with great ability. Without diagrams it cannot be readily made clear, but we have given enough to indicate the bearing of his speculations.

### Heat Generated by Magnetism.

M. LOUIS D'HENRY, has devised an experiment whereby a magnet is kept in a state of rapid rotation, with its poles upward, on a vertical axis, below a small copper plate, on which a glass flask is placed. The air contained in the flask will be heated, and its expansion may be made visible by any suitable arrangement, or a copper vessel of water might be substituted for the flask and plate, and by a sufficient rapid rotation the water might, no doubt, be made to boil.—*P. S. Review, April, '68.*

**OCEAN BATTERY.**—The novel battery, termed an "Electric Buoy," is now being experimented upon at Cherbourg. It consists of a zinc plate and a cylinder of carbon attached to a cross-piece of wood, having as an exciting liquid the sea water. The inventor, M. DUCHEMIN, claims for it a great variety of applications.

### Registration of Earth-Currents of Electricity.

THE earth-currents, which are frequently such a source of annoyance to the workers in telegraph offices, have been recently investigated by Professor AIREY, who has devised a combination of the galvanometer and photography, by means of which these currents are registered. Professor AIREY'S paper was read at a recent meeting of the Royal Society.—*P. S. Review, April, '68.*

**DEVOTION TO SCIENCE.**—It was a most honorable incident in the life of Prof. FARADAY, that he refused an annual income of 5,000 pounds sterling if he would devote his chemical knowledge to mere purposes of gain. He chose to remain poor and devote himself to the advancement of science. His discoveries in physics are actually advancing the cause of civilization, but he disdained to enrich himself at the expense of science, in an age when money is little less than omnipotent. FARADAY'S great unselfishness is worthy of all praise, and calls to mind the noble poverty of kindred spirits in the past, such as LUTHER, SPINOZA, COLUMBUS, and of HIM, who while sojourning on earth, had not where to lay his head.

**MAGNETISM OF IRON SHIPS.**—It may not be generally known that iron vessels, built on stocks pointing nearly north and south, become highly magnetic, and are, in fact, mariners' compasses on an immense scale. This effect is due to the vibration of hammering the iron when in this position. A common poker treated in the same way will readily become a magnet. This curious fact was recently illustrated by the British ship of war Northumberland. Having been built with her head pointing north, her compass showed great deviation. By docking her, however, with her bows pointing south for some time, it was found that this defect was greatly reduced, and it may be in time wholly neutralized.

**THE TELEGRAPH WIRE DODGE.**—On Friday, as heretofore reported, two men gained admission to a house in Walnut street, ostensibly to arrange the telegraph wires. They left, taking with them a lady's valuable cloak. The same day a similar operation was attempted at the residence of a gentleman on Washington street, near Pleasant street, which would have proved successful but for the vigilance of a wide-awake servant. A young man called with hammer and other tools to adjust the wires. The servant followed him to the roof, refusing to take his hints to leave him. He found no wires; and after breaking the glass in the skylight left, promising to send his "boss" to repair damages. No "boss" has yet appeared. The object of the baffled intruder can easily be inferred. Housekeepers should make a note of these occurrences as a warning.—*Boston Transcript, April 28.*

**AN ELECTRIC ORGAN.**—An electric organ is being built for Her Majesty's opera, Theatre Royal, Drury Lane. The organ is to be erected at a distance behind the scenery, as usual, but the organist will, for the first time, take his place near the conductor, and in the orchestra. An electric cable of insulated wires will pass beneath the stage, connecting the keys with the instrument.

**AN EXAMPLE.**—There is a lady operator in the Milwaukee office that receives or sends forty or fifty messages, or takes reports with as much ease as any of her professional brethren.

The lightning tolled the fire alarm bell in New Orleans for eight minutes. The Fire Marshal then came and told the bell to be quiet.

### Our Own Correspondent.

WE notice with pleasure that our Broadway cotemporary numbers the *Urbana (Ohio) Union* among its corps of correspondents.

**A NEW WONDER.**—A London musical paper says that by the adaptation of BARKER'S system of electricity to organs, it is possible for a performer in England to play on an instrument situated in America.





SATURDAY MAY, 9, 1868.

#### THE GOVERNMENT AND THE TELEGRAPHS.

We print in another column an article from *London Engineering*, on the proposed assumption by the British Government of the management of all the telegraphs in that country. We would call the especial attention of those who are disposed to favor similar action on the part of our own government to this article. Its statements and arguments in opposition to this scheme are worthy of serious consideration, and, if possible, apply with even more force to this country than to England.

We have consistently opposed this project from the first, and shall continue to do so until some better and more convincing argument in its favor can be adduced.

We regard the proposed government management of the telegraph lines, if it should ever be carried into effect, as one of the most unfortunate events which could occur. In despotic countries, like France, a government supervision of the telegraph must, of course, exist, as a part of the means by which despotism can be maintained; but in a free country, the government has no business to interfere in a matter of such a strictly private and business character as the telegraph, except to make such general statutory regulations as shall secure fairness in the transmission of despatches, and that secrecy and inviolability which should be inseparable from their confidential nature.

In this country, where official appointments are the reward of partizan services, there is scarcely a possibility of keeping the administration of the telegraph outside of party influences and complications. All the more valuable and important positions would necessarily be filled by the partizans of the party in power, and, in the constant political mutations, incompetent and inexperienced persons will inevitably be placed in positions where they will seriously impede the use of the telegraph, and diminish its usefulness to the general public.

There is no business that requires such constant care and watchfulness as that of telegraphing, and this attention it is idle to expect of Government officials, the permanence of whose positions will depend much more upon the continuance of their party in power than in the proper discharge of their duties.

Again, in the hands of partizans, the telegraph will become a powerful engine in party contests, and the opposition, of course, will have no confidence in the sacredness of political despatches, which, during a heated political contest, constitute a very considerable item of the business done.

It is a well known fact, that any business outside of its legitimate governmental functions, is much worse done by the Government than by private parties, dependent upon a proper discharge of their duties for public support and pecuniary reward. It has often been argued, and with much plausibility, that even the post-office business of the country would be more satisfactorily done if left to private competition. With what show of reason, then, can it be urged that Government should forcibly seize the control of the Telegraph?

The arguments of *Engineering* against the proposed action of the English Government, based upon the peculiar character of the business, the necessity of the

constant adoption of improvements as they are made, and the notorious inefficiency of governmental transaction of business, are so well stated, that it is not necessary for us to do more than allude to them.

There is one point, however, which we desire to bring prominently before Congress and the people, and that is, that in the hands of the Government the telegraph would unquestionably be an expensive burden upon the treasury. It is impossible that it should be otherwise. The first outlay, if existing lines are purchased, as they must be to carry out the plans of Mr. WASHBURN, and others who are urging this action, would necessarily be very large, and the Government, with some good wires, would get a great extent of inferior and dilapidated lines, which would prove a total loss of all the money invested in them. If purchased by the Government, and worked under Government supervision, we venture the assertion that half of the wires that would fall into its hands could not be worked at all, and within a year Congress would be called upon to appropriate money to rebuild the entire telegraph system of the country. Besides, it is an indisputable fact, that it costs Government at least two or three times as much to construct anything of a mechanical character as it does private individuals or corporations, and after all, in almost every case, the work is of an inferior quality, and done in a shiftless, slipshod manner, which, in the case of telegraph lines, would make them almost useless. All the evils of which the advocates of Government telegraphs complain, can and will be remedied by an active and intelligent competition in the business. Experience has shown that the people will have this competition, and a set of general competing lines is rapidly being constructed now, and the monopoly of the Western Union Company is already practically at an end.

If the Government will let the telegraph alone, it will be most decidedly for the advantage of the business—the best interests of all engaged in practical telegraphy—and a saving to the National Exchequer of an amount of money which, even in these days of high prices and large figures, will be of great importance.

We do not think that, in the present condition of the treasury and the finances of the country, there is any immediate danger of the realization of any of the schemes for a Government telegraph, but we desire that the matter shall be kept before Congress and the people, until it is fully understood in all its bearings and consequences. We shall do our best, as far as this paper is concerned, to educate the people on this subject, and prevent any action of Congress which shall saddle the treasury with this additional burthen, and impose upon the people a worse and more inefficient telegraph system even than that which now exists, and which, under the spur of competition, is constantly progressing and improving.

#### OUR DOUBLE SHEET.

In order to dispose of a large amount of interesting matter, which the limits of our regular issue would not afford sufficient room for, we this week present the patrons of THE TELEGRAPHER with a double number. We think its contents, generally, will be found of sufficient interest and importance to warrant the additional expense, and it will further serve as a token of our appreciation of the liberal and generous support which the telegraphic fraternity are extending to their organ.

It will be noticed that we give in this number three beautiful wood-cuts, illustrating articles on our first and second page, which, we think, will greatly aid our scientific and professional readers in understanding the inventions and principles so ably discussed and explained in those articles.

The number and excellence of the illustrations presented in these columns have always been one of its most

valuable features, and we shall rather increase than diminish the number presented in future issues of the paper. This involves considerable expense, but as the paper is not published for purposes of profit, increased support and patronage afford us the means of adding to its value and interest to its readers.

If the interest which has for some months past been manifested in the prosperity of THE TELEGRAPHER continues, as we have reason to believe it will, the telegraphers having evidently become convinced of the importance of the paper to them, we hope to be able, within a few weeks at most, to permanently increase the number of its pages weekly, so as to enable us to present much useful, interesting, and valuable matter, which our present restricted limits preclude us from using.

We make our heartfelt acknowledgments to all those who have so generously contributed towards the present satisfactory and prosperous condition of the only Independent Telegraph Journal in the country, and hope that they may never have cause to regret it, and that their interest and support may never diminish.

We would, also, take this opportunity to state to our friends that the circulation of the paper has largely increased since the commencement of the present year, and that we are weekly adding materially to the number of those who take, *pay for*, and read THE TELEGRAPHER.

An examination of our advertising columns will show that enterprising and respectable parties, in different branches of business connected with telegraphing, appreciate the value of this paper as a medium for presenting their claims. It has become a recognized fact that any person desirous of securing telegraphic patronage, to meet with success, must make himself and his business known through the advertising columns of THE TELEGRAPHER.

#### A New Enterprise.

Mr. SAMUEL C. BISHOP, as will be seen by reference to our advertising columns, proposes to inaugurate a new, useful, and much needed enterprise, at No. 113 Liberty street, in this city. He has leased the floors of that building over the store of the BISHOP Gutta Percha Company, of which he is the general agent and manager, and will fit them up for the reception and exhibition of telegraph and electric apparatus. Inventors and manufacturers will here have an opportunity of exhibiting and disposing of their inventions and manufactures, and will be furnished with battery power and everything necessary to show the practical working and value of their productions, thus supplying a want which has long existed. This enterprise is one which cannot fail of success, and is highly creditable to its originator, and another illustration of the foresight and business tact of Mr. BISHOP.

The expense to each exhibitor will be but small, and the institution will become a telegraphic and electrical exchange, whose value to parties interested, either as exhibitors or purchasers, will be very great. It has always been difficult for inventors to demonstrate the utility and value of their inventions, and to be brought in contact with those who have the means and disposition to bring them into practical use. This difficulty Mr. BISHOP proposes to obviate, cheerfully assuming the risk and expense attendant upon the enterprise, confident that its value will be so apparent as to insure ultimate remuneration.

#### Our Advertising Columns.

THE pressure upon our advertising columns has become so great that we have been obliged to curtail some of our long-standing advertisements of a portion of the space which they have heretofore appropriated.

Our friend TILLOTSON'S page advertisement, it will be noticed, which has for so long a time greeted the readers of the TELEGRAPHER, has disappeared, and in its place is substituted a column which certainly has the merit of



freshness and variety, of which prolonged acquaintance had robbed its more colossal predecessor. While we dislike to part with an old familiar friend, yet we can but concur with Mr. TILLOTSON that his former advertisement had served its purpose, and its successor, though less pretentious in appearance, shows an increase of enterprise and an extension of the business of his firm.

In their new quarters, No. 11 Dey street, they will gladly welcome old friends and customers, and greet new ones with such cordiality, and treat them with such liberality and fairness, that as time progresses the latter will be reckoned with the former. Liberality, energy and enterprise, characterize the firm now as in the past, and it gives us sincere pleasure to know that they are meeting with an abundant reward.

#### The Insurance Bureau.

WE would again call the attention of telegraphers to the importance of availing themselves of the advantages to be derived from a participation in the benefits of this inexpensive and effectual means of making temporary provision for those dependent upon them for support, in case of their decease. The plan has been found to work well in the Masonic and other organizations, and with an adequate number of members, while the expense to each individual will be but slight, the assistance thus rendered in the time of affliction will be found most important and effectual.

The actuary, MR. JOSEPH W. STOVER, will be happy to forward the necessary blanks promptly upon application.

District Directors of the N. T. U. should procure and furnish to members the blank applications, and urge upon them the importance of connecting themselves without delay to this beneficent institution.

#### Gone up Town.

AMONG the changes of location consequent upon the annual May day removals, which long custom has so firmly established as one of the institutions of the Metropolis, we have to record an up-town movement of the headquarters of the Atlantic and Pacific Telegraph Company.

In the progress and development of its lines and business, its old quarters, at No. 155 Broadway, could no longer afford the needed accommodations, and a new location was selected at No. 291 Broadway, corner of Reade street.

The company has come down from its third story elevation, and has rented the very handsome basement of the building above mentioned, where the main telegraph office of the company is to be established, and suitable accommodations for the general offices of the company are also obtained. The telegraph office will be opened for business the first of next week, and will prove a great accommodation to many patrons of the line. Here its principal business will be transacted while down town, and the upper part of the city will be supplied with ample facilities, through the numerous branch offices of the company, and of the City Telegraph Line, with which it connects.

The wires have been run across Reade street, and to the office, with the new compound wire patented by Messrs. FARMER & MILLIKEN, and makes a very brilliant and handsome appearance, eliciting the warm approval of those telegraphers who have seen it.

We shall probably be able to announce the management and operative force of the telegraph department in our next paper.

The general offices of the company will be amply and handsomely accommodated in the rear of the operating department, and will prove to be much more conveniently located for the business of the company, and those having business to transact with the various officers, than the former quarters.

Upon the whole, the company is to be congratulated on having secured so favorable and convenient a location, and we trust that it may meet with complete and satisfactory success in its undertaking to supply reliable and permanent competition in the telegraph business of the country.

#### The Government and the Telegraphs.

IN the preamble of the bill introduced by the Chancellor of the Exchequer, it is recited that "Whereas it would be attended with great advantage to the State, as well as to merchants and traders, and to the public generally, if a cheaper, more widely extended, and more expeditious system of telegraphy were established in the United Kingdom, and to that end it is expedient that Her Majesty's Postmaster-General be empowered to work telegraphs in connection with the administration of the Post-Office."

It is of course a self-evident truth that "a cheaper, more widely extended, and more expeditious system of telegraphy" would be of immense advantage to the State, merchants, and the general community; but it will not be so easily conceded that all this is to be attained by simply transferring the administration of telegraphs from the present boards of direction of competing companies to a Government official.

Of course it would be quite possible for the Government to extend the lines and even reduce the price, since they have not to earn a dividend for shareholders; but that a *more expeditious system of telegraphy* shall at the same time be provided, without making the telegraphy a heavy yearly tax on the country, is simply promising great things, which we have not the slightest reason for believing can be brought about by merely placing all our telegraphic lines in the hands of an official of the Post-Office.

A telegraph is not capable of conveying an unlimited number of messages per day, and therefore there is a limit as to the price at which messages could be sent renumeratively on any given circuit, even supposing that the wire was kept in constant work during the twenty-four hours. For such constant use, however, of one wire, throughout the twenty-four hours, we must suppose the messages arriving for transmission in continuous succession, or else *some must wait*. In practice, however, the great mass of messages are given in between business hours, say between ten A. M. and five or six P. M. Sufficient wires must be provided, therefore, so that this mass shall be despatched within those hours, the wires remaining idle, or nearly so, during the rest of the twenty-four, or else messages must be delayed in order to spread them over the twenty-four hours. It is evident that the first method cannot be adopted at the same prices as the second, since it involves three times the number of wires required for the second. In fact, just as we reduce the price of messages, so we must either decrease the profit or increase the average delay. Assuming that the dividend earned by our present companies, therefore, is a fair one, it is evident that to decrease the price we must decrease the average expedition with which messages are despatched, unless we can find some means of actually decreasing the time occupied in sending a message.

Mechanical manipulation, long ago proposed, experimented on, and rather carelessly abandoned, but now perfected by Wheatstone, in his automatic telegraph, is a great step in this direction, and, no doubt, when adopted throughout the principal circuits, will enable a reduction of price to be effected. But this improvement (the benefit of which we shall have whether the Government obtain their bill or not) is entirely a scientific one, and, indeed, as we have shown, the only hope of decreasing the price of telegraphing in England must be by means of scientific improvements such as these.

Now, have we any right to expect that the Government has some great stock of these improvements on hand, ready to be brought into play directly the lines are made over to them, or have we much reason to hope that such improvements hereafter will be more readily accepted by Government officials than by the officers and directors of our present telegraph companies? Does the history of the Admiralty or the War Office give reason to expect that inventors and scientific men will have a freer scope for improving telegraphs when these become a Government monopoly? We think not.

Government departments have not as a rule a character for quick perception of the advantages of any novelty, and we fear that, scientifically, the telegraph will come practically to a stand-still as soon as it passes into the hands of the Government. We shall, perhaps, be lucky indeed if we do not recede; for the grand promises of cheap telegraphs, and with greater expedition also, without any explanation of how this is to be effected, leads us to doubt whether the promoters of the scheme really have any plan in detail, or, indeed, any knowledge of the subject whatever.

We trust at least that a select committee will enable the whole design of the Government to be carefully weighed before the country takes the final step of placing our telegraphic system at the mercy of a Government department.—*Engineering*.

#### Fracture of a Submarine Cable.

The *Times of India*, of the 21st of March, received by the mails just arrived, contains the following with regard to the interruption of the Indo-European telegraph. The following telegram from the Director of the Indo-European telegraph to the Director General of telegraphs in India, has been placed at the disposal of the press:—

"KURRACHEE, March 13.

The cable is totally fractured, apparently twenty miles west of Guadar. Its repairs depend entirely upon the arrival of the steamer *Amber Witch*, now in dock at Bombay. Government has been asked to supply two tugs to keep up communication between Guadar and Mussendom during the interruption; if that request be complied with messages will be conveyed between those points in about fifty hours. The *Amber Witch* has all the appliances for cable work on board, and has only just gone into dock for extensive repairs. The Marine Superintendent may be able to inform you when she can leave for Kurrachee, and the cable will, probably, be repaired in about eight days thereafter. It appears from the Kurrachee papers that the telegraph cable between Guadar and Mussendom has been interrupted since eleven A. M. on the 10th. The prospects of communication being restored are unfortunately more remote than we at first supposed. The *Amber Witch*, without which the repairs to the cable cannot be effected, arrived in Bombay a few days since, and is now in dock, with her boilers and machinery already removed. The repairs to the vessel will take fully two months, by which time it is doubtful if the season will not have too far advanced to allow of the cable being repaired before the monsoon. We find, also, that it would take as long to fit up another steamer for cable purposes as to complete the repairs to the *Amber Witch*. In the mean time the messages are to be conveyed between Guadar and Mussendom by means of two small steamers, the run taking about fifty hours. The breakdown of the line at the present moment is most unfortunate, as may be judged by the following: The announcement on Saturday that messages for Europe could be received as usual so stimulated the traffic that more messages were received on that day than on any previous day since the opening of the Indo-European telegraph."

THE CHAMPION TELEGRAPH KEY.—P. H. BURNS, of the W. U. Telegraph Company, having held the "Champion Telegraph Key" of New England and New York for eighteen months against all contestants, it now becomes his property. It will be remembered that some months ago several closely-contested matches for the possession of this key took place over the Western Union Company's lines, in which extraordinary skill in fast telegraphing was displayed. Out of six of these Mr. BURNS came off victor in five. The champion key, which is made of gold, is to be worn as a breastpin, and is a beautiful piece of workmanship.—*Boston Herald*.



[For the Telegrapher.]

## MY DREAM.

"S. O." to "F. U."—"Please remain on hand,  
The train is late six hours, or more,  
You 'll be wanted for orders, I understand—  
Mr. B—— is here." "O. K."—no more.

'Twas eight already, and "Number 1"  
Was due at nine—I speak by the "card"—  
And 't was rather tough for my mother's son  
To watch and wait, indeed, 't was hard.

But I laid my head on the table, near  
To the sounder's click, and fell asleep;  
I dreamed that I died—that I was not here  
As an operator, night watch to keep.

I saw two doors; each opened wide  
To a room, one light, the other dark;  
The last was peopled with "plugs" who'd died,  
The first by angels who read by—*hark!*

The first was Heaven, a place for those  
Who read by sound; the other was—well  
A place for "plugs," looking past the nose  
At a strip of paper—a dismal cell!

Near at hand was an angel to test my speed,  
And judge which room to award at last,  
Twelve hundred words I must send and read,  
I caught the key and my hand flew fast.

Twelve minutes! 'tis done; and into the place  
Where the sounders were did my angel lead,  
She smiled so sweet when I saw her face  
That her presence was very heaven, indeed!

I was shown a table made of pearl,  
And diamond-laid were my sounder and key,  
On either side was a fair, sweet girl—  
My "messengers"—so they greeted me.

I worked the circuit direct to the sun,  
On lines of light flew the murmurs soft,  
And then when my pleasant task was done,  
My "messengers" came and kissed me off.

"S. O." to "F. U."—"What's the trouble to-night?  
No one can break—you've been writing so fast  
My pencil can't copy; altho' with my might  
I have tried, but in vain; I've got you at last!"

I awoke; my office was cold and drear,  
The train had passed—so the watchman said—  
Here was I, on this mundane sphere,  
At work by the month for clothes and bread.

Fulton, Ill., April 24, 1868.

RELAY.

## MISCELLANEA.

## Robbery in Texas.

D. C. OTIS, telegraph operator and express agent at Hampstead, Texas, absconded during the night of the 18th with the funds belonging to, and in charge of, the Express Company. As yet, only twenty-three hundred dollars are known to be missing, but it is believed that the Express Company will find themselves heavy losers, as it is not probable that OTIS would sacrifice his position, and jeopardize his safety for so inconsiderable an amount. Another man, named PATTERSON, is also believed to have been a confederate of OTIS, as he was seen in his company the afternoon before he left, and on that day purchased in the town a horse, pocket compass, pistol, and map of Texas. It is supposed that OTIS and PATTERSON are trying to get to Mexico.

Mrs. OTIS left a few days previously for Houston, suddenly, and without letting any one know of her intention, and it is believed that she has gone to Baltimore, where she and her husband belong.

Hampstead was further astonished, a few days afterwards, by the discovery that the Postmaster of the town, T. G. PATRICK, had been for some months in the habit of robbing the mails that passed through his office. Fortunately, PATRICK is not a telegrapher, but he was the predecessor of OTIS, as Express Agent at Hampstead, and it now appears that he was discharged from that position, the company being satisfied of his guilty practices, although the proof could not be obtained; so he was quietly discharged, and nothing was said about the matter.

OFFICE OF WESTERN UNION TELEGRAPH COMPANY.—The new rooms of the Western Union Telegraph Company, in Thomas' Block, on Exchange street, are very well planned, and in a desirable location. The main office, over Merchants' Exchange, is a large, commodious room, well fitted up, and has a finish of chestnut and black walnut. There are eight tables in this room, with which are connected sixteen wires—seven to Boston, four to Bangor, three to Halifax and the Provinces, and two to Montreal and the Canadas. Another is soon to be added to Boston. There are seven day and two night operators. Back of the main room is the office of the well-known Superintendent, Mr. J. S. BEDLOW, who has been connected with this company for fifteen years or more. The familiar face of Mr. WILLIAM P. MERRILL, the cashier and treasurer of the Marine Telegraph Company, is also to be seen in the receiving department, where he has been for several years. "MIKE" is still to be found at his nightly post, furnishing news to appear in the columns of the daily papers in the morning. There is one operator in the Merchants' Exchange, which is connected by wire with those of Boston and New York, for the express purpose of reporting gold and markets, the quotations of which are received every fifteen minutes by Mr. WM. K. STARR, a correct and expert operator, and who is instrumental in furnishing our merchants with market reports, ship, and general news. There is still a branch office in Lancaster Hall, back of the Horse Railroad Depot. The whole in this city is under the management of Mr. CHAS. D. LIVERMORE, who is himself a very efficient operator, and is a thorough master of the business.—*Portland, Me., Press.*

C. J. SHEPPERD, formerly Superintendent of the Western Union R. R. Telegraph Line at Racine, Wisconsin, is supposed to have been killed in the Angola R. R. disaster, which occurred near Buffalo some months since. An unrecognized body was found, also a ring with the inscription of C. J. S. Mr. SHEPPERD's trunk was also found. His father resides in California.

NOTHING NEW UNDER THE SUN.—A French scientific antiquarian has published a work in which he attempts to prove that Solomon's temple was furnished with lightning rods. There is a great deal of improbability about this, as the building aforesaid is reputed to have stood a great many years.

CHANCE FOR UNAPPRECIATED GENIUS.—Curious petitions are sometimes sent to the French Chambers. One is mentioned as being now before them in which the memorialist prays the legislature to insert in the new press law a provision that any writer of legal age may have the right to insert, in whole or in part, and without charge, "his own works, in any periodical publication." The passage of such a law would no doubt secure a large emigration of unappreciated would-be literati to France.

AN ELECTRICAL VOTING MACHINE.—In the New York Assembly at Albany, on Friday, May 1st, Mr. WM. S. ANDREWS, by unanimous consent, offered a resolution for the putting up in the Assembly Chamber, ready for use, the invention of JAMES E. BEARDSLEY and others, for the instantaneous taking of yeas and nays in legislative bodies, to be submitted to the next Legislature for approval, which was adopted.

ELECTRIC LIGHT.—In some experiments lately performed by M. LEROUX, relative to the spontaneous reestablishment of the voltaic arc, after an extinction of a short period, he found that for a certain time the current might be interrupted without destroying the arc; this time he estimates at 1-25th of a second. Writing on this subject, M. WARTMANN remarks that he had observed this phenomenon since 1852, and has made use of it in some researches in the Electric Light; he finds that for 1-20th of a second the current can be interrupted.

PUNISTIC.—Our sick contributor sends us the following: In the Cincinnati office there is an operator named HEARTMAN, and in the Chicago office one named GREENE. The other morning the Cincinnati man called up Chicago and said, "Good morning, my *Green shrub*," and the Chicago man replied, "Have you no Heart, man," to salute me thus?—*Kooplah.*

DISGUSTED.—A member of the fraternity at Springfield, Mass., disgusted with the continued "breaking" on the New York and Way East report circuit, one evening put the following question: "Is this a report wire or a milk route?"

EFFECTS OF LIGHTNING.—Lightning recently struck a windmill at Kerlard, France, and killed one of the men, who had his head, in a measure, split open. The electric fluid, after tearing the canvas sails to shreds, darted across to the light-house of Grognoy, 300 yards distant, and shattered the paratonnere.

TO HAVE the great organ in the Boston Music Hall, or that in Mr. BEECHER's church played by the agency of the Atlantic cable, would now-a-days be regarded as no more wonderful than the laying of the cable itself. That was considered an impossibility only a few years ago.—*N. Y. Evening Post.*

CON.—Why is the hind leg of a kicking horse like a member of Congress? Because, when it "raises" it is to "make a motion." The young gentleman who perpetrated this left town on Wednesday on the telegraph wire; when last seen, he was crossing the Rocky Mountains, with his hair streaming behind him like "the frightened capillaries" of a comet.—*Western Exchange.*

FATAL ACCIDENT.—Mr. JAMES JONES, who, for several years past, has had charge of the American and Western Union Telegraph Companies' cables, under the Hudson River, near the foot of West Sixteenth street, on Sunday morning last, while leaning from a third story window of his residence, No. 79 Tenth Avenue, fell to the pavement, receiving injuries which proved fatal within a few hours. He leaves a wife and seven children. He was considered a faithful and trustworthy man.

## Steel from Cleveland Iron.

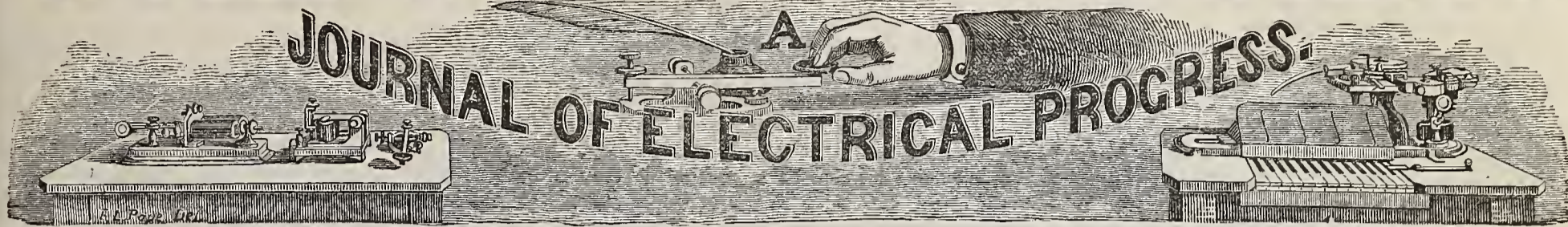
THE iron of the Cleveland district, of which upwards of one million tons are now made yearly, contains a proportion of phosphorus which has always been considered as rendering it wholly unfit for conversion into steel. And, notwithstanding the claims which have been occasionally made by gentlemen in the north-eastern iron trade, in favor of iron over steel, there is no object which the blast furnace masters along the Tees are more truly anxious to attain than the production of cheap and good ingots from Cleveland pigs. Several steel making processes are now on trial in Middlesboro', mostly secret at present, but we expect to be soon able to give all the requisite particulars of the treatment pursued. The so-called HEATON or HARGREAVES process of conversion by nitrate of soda, or nitrate of potash, has been tried, and steel purporting to have been made by it, direct from Cleveland pig, has been exhibited. The best informed men in the trade express grave doubts, however, as to the genuineness of these samples, and their doubts are to some extent justified by the evasive and very unsatisfactory paper lately read by Mr. HARGREAVES himself before the Institute of Cleveland Engineers.—*Engineering.*

SIR WILLIAM THOMSON, Knight, has received a patent from the English Government for improvements in the receiving and recording instruments of electric telegraphs.—*Engineering.*

WALTER EASTBROOK, of Kilburn, patents arrangements for working railway points and signals, which could not be described without reference to drawings.—*Ibid.*



# THE TELEGRAPHER.



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Whole No. 95.

[For the Telegrapher.]

## THE DOUBLE TRANSMISSION SYSTEM OF TELEGRAPHING.

BY F. L. POPE.

(Continued.)

AN improved system of double transmission was invented in the year 1854, by an inspector of telegraphs in Hanover, named FRISCHEN, which dispensed with double keys and equalizing batteries, both sources of considerable trouble in the arrangement of GINTL, and which brought the apparatus for the first time into practical shape. The problem was, also, solved in substantially the same manner, and almost at the same time, by SIEMENS and HALSKE, of Berlin, independently, however, of the discoveries of FRISCHEN.

This arrangement has been for some years in use on the line between Amsterdam and Rotterdam, in Holland, with the most satisfactory results. The principle upon which it is worked between those cities is as follows:\*

A and B, Fig. 1, are the two terminal stations of the line. The main battery E, at station A, is placed with its positive, and the battery E' at station B, with its negative pole to the line, as represented. M and M' are the relays, which are wound through-

out with two similar wires of equal length, as shown in the figure, and whose connections will be hereafter explained. The rheostat or resistance X, must be adjusted so as to exactly equal that of the line A B added to the relay wire 7, 5, at the other station. Similarly X' is also made equal to the line, including the relay wire 3, 1.

If, now, the key K at station A is depressed, the current from the battery E will divide at the point 1, one portion going through the relay coils to 3, over the line A B to 7, and thence through the relay M' to 5, key lever b' and contact c' to the earth at G'; and the other portion in an opposite direction through the relay coils, from 2 to 4, and thence through the resistance X to the negative pole of the battery. These two currents will be equal to each other, the resistance being the same by each of the two routes, as before explained, but as they pass in opposite directions through the two wires surrounding the relay M, they produce no magnetic effect upon it. The relay at B, however, will be affected by the current coming from A through the wires 7, 5, and will give signals corresponding to the movements of the key at that station.

If, now, the key at B be also depressed, the same action takes place; one-half the current passes over the line, combining with the current from A, and the other half

returns to the battery through the other wire of the relay and the rheostat. The relay wires 1, 3, and 7, 5, are now traversed by the double current equal to  $\frac{A}{2} + \frac{B}{2}$ , but the wires 2, 4, and 6, 8, are each traversed only by the current of a single battery, leaving at A the force of  $\frac{A}{2}$ , and at B the force of  $\frac{B}{2}$ . The latter current being in the opposite direction to the former, the relays at both stations are affected by the difference in the forces of these currents, the relay at A by  $(\frac{A}{2} + \frac{B}{2}) - \frac{A}{2}$  and the relay at B by

of the relay M' in the same direction, and its magnetic action, therefore, remains about the same as before.

There is one slight difficulty, however, which arises in this connection. It will be seen that when the current at the receiving station is thus momentarily thrown through both relay wires and the rheostat, it must necessarily cause an unequal division of the current between the two opposite relay wires at the sending station, as the resistance of the long circuit becomes about double that of the short one. On this ground it is not advisable to use too susceptible a relay, as it would be too easily affected by this unequal division of the current.

A relay of peculiar construction is used in working this system in Holland, which is less susceptible to slight differences in the current than those of the ordinary form. The arrangement of this relay is shown in Fig. 2, which represents a plan view of the instrument. M M' are the helices, the iron cores being prolonged at each end, in a direction at right angles to the axis of the coil, as shown at x and y. The core x of the helix M' is stationary, but the core y is moveable within its helix upon the pivot p. From the lower end of this core, also, projects the lever z, which opens and closes the local circuit in the

usual manner. 1, 2 are the main and 3, 4 the local screw connections. When the current passes through the helices the ends of the two cores x and y are strongly attracted towards each other, the wire being so wound that their polarity is opposite. The core x being stationary y moves towards it, closing the local circuit. The screw a regulates the distance within which y is allowed to approach x, and the screw b regulates the retracting spring of the lever z. This relay is the invention of SIEMENS and HALSKE, of Berlin, and is much used in Russia, Denmark and Germany.

Not the least singular feature of the double transmission system, is the fact that the main batteries at the terminal stations may be placed either with the same or opposite poles to the line, without affecting the general result. The manner in which the action takes place with the unlike poles to the line has been already explained. If the similar pole of each battery is applied to the line the action will be as follows:

If the key at A be depressed the current on the line will be  $\frac{A}{2}$  and through the rheostat  $\frac{A}{2}$ , neutralizing each other upon the relay of A, but giving a current of  $\frac{A}{2}$  in the relay at B. Now, if the key at B be also depressed, a current equal to  $\frac{B}{2}$  is thrown through each wire of his relay, but the current  $\frac{A}{2}$  being equal and opposite to  $\frac{B}{2}$  the current of the main line = 0. The current through the second wire of each relay being still unaffected, both relays

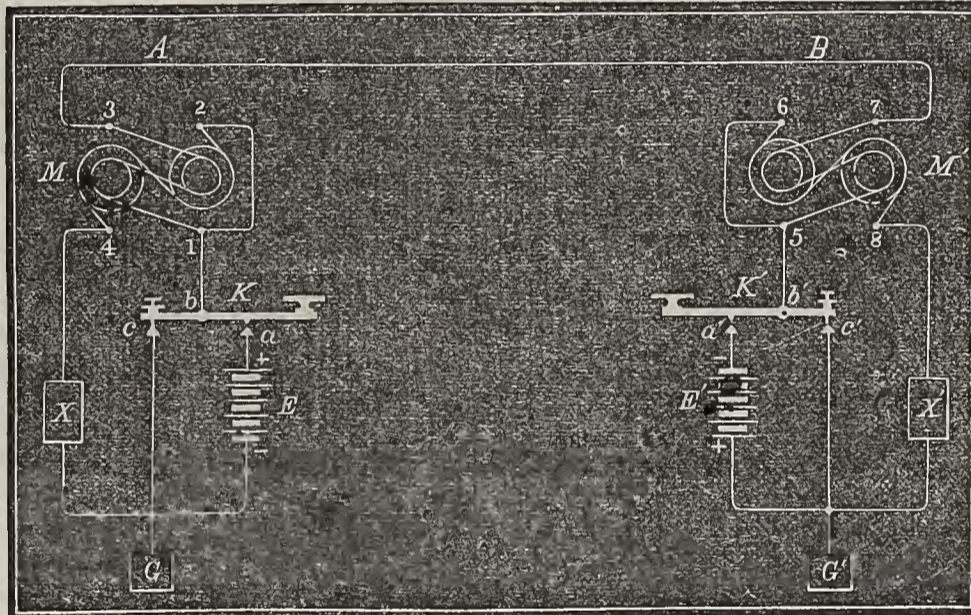


Fig. 1.

$(\frac{A}{2} + \frac{B}{2}) - \frac{B}{2}$ . Thus each station receives its signal through the action of the distant battery only.

A third position occurs where one of the keys, at B for instance, is in the act of changing from the front contact a' to the rear contact c', in which case the current from A is interrupted at b' and passes through the second wire of the relay 6, 8, but this time in the same direction, and thence through the rheostat X' to the ground. The cur-

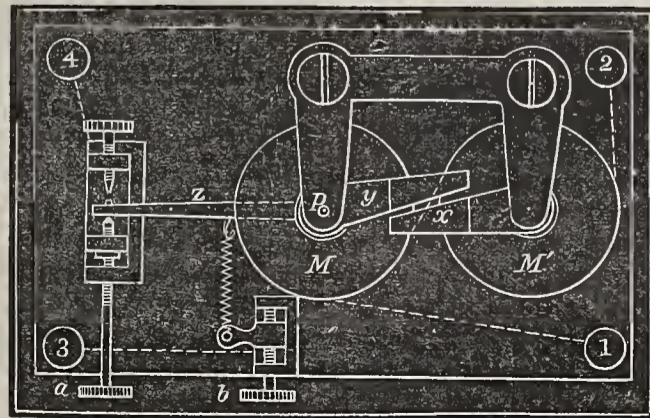


Fig. 2.

rent arriving at B is considerably weakened, in consequence of the additional resistance encountered at X', but this is compensated for by its passing through both wires

\* SCHELLEN'S Elektromagnetischer Telegraph.



will give a signal corresponding to the time the key at the other station is depressed.

In working this system it is of great importance that the rheostat should be adjusted to correspond exactly with the resistance of the line. If the relay works too feebly the counter-current must be weakened by increasing the resistance at X. If the magnetism of the relay is too strong, the resistance should be decreased. In working with similar poles of the battery towards each other this effect will necessarily be reversed.

The system of double transmission, which has recently been put in operation on the lines of the Franklin Telegraph Company, between New York, Boston, Philadelphia and Baltimore, differs somewhat from that just described in the arrangement of the transmitting apparatus, which is operated by the lever of a sounder placed in a local circuit in connection with the key. When the local circuit is closed the downward movement of the sounder lever makes the battery connection upon a flat spring, and the movement thus imparted to the spring breaks the earth contact. The connection for the current is, therefore, always complete, either through the battery or direct, and it is not obliged to pass through the rheostat when the transmitter is changing from the battery to the earth contact, or *vice versa*, as in the European method. The disadvantage in this case, however, is, that the main battery is momentarily thrown on a short circuit at each movement of the transmitter, rendering the introduction of a considerable additional resistance between the two necessary, to prevent the rapid consumption of battery which would otherwise ensue. The introduction of a local circuit for working the transmitter would also seem to be an unnecessary complication, and the operation of the latter less certain than if connected directly with the key. The credit of the practical introduction of this system in America is due to Mr. J. B. STEARNS, President of the Franklin Telegraph Company, who also devised the modifications above described.

The experiment of working a wire in both directions at the same time was also performed about ten years since, by Messrs MILLIKEN and FARMER, between Boston and Portland, and by Prof. HUGHES, between Boston and New York, the printing instrument being made use of in the last mentioned instance. The method of EDISON has been already described in our columns.

This system has heretofore been looked upon in this country merely in the light of a curious experiment, but seems at length to have been adapted to the exigences of every-day service, and will, undoubtedly, prove a valuable addition to the facilities of our overcrowded lines.

#### EDISON'S COMBINATION REPEATER.

In repeating the rapid vibrations of the combination printing instrument from one circuit to another, it is of the utmost importance that there should be the least possible loss of time in the transmission of each signal. The repeaters in general use on the Morse lines have been unable to repeat these vibrations with the accuracy, in respect to time, that is necessary for the successful working of the instrument, owing to the use of repeating sounders and spring points, which occasion a considerable loss of time between the closing of the relay and sounder, respectively.

The annexed diagram represents a repeater on a new principle, which is so arranged as to be free from the objections above mentioned, and which, although especially intended for lines on which the combination printer is used, can be arranged to work on the ordinary closed circuit of the Morse lines with equal facility.

In the diagram A and B represent the two main lines, which, for the sake of convenience in description, may be designated as the eastern and western circuits. These wires are connected through the helices of their respective relays, magnets M and M' to the contact of the armature levers of the opposite relays, as shown at *m* and *m'*. There is, also, an insulated point upon the back of each armature lever, which is connected with the main battery E, the other pole of which is to the ground G. The screw points *n*, *n'* are connected, respectively, with the main line wires A and B before entering the relays.

The magnets M, M' are of peculiar construction. The cores are of magnetized steel instead of soft iron, or they may be made of soft iron and kept constantly polarized by contact with a large permanent magnet. Thus it will be seen that when no current is passing the armature will be strongly attracted towards *m* by the permanent magnetism of the cores. The retracting springs *s* *s'* are adjusted to a tension just sufficient to allow the armature to be drawn forward towards the cores of the magnet when the main circuits are open.

If we suppose the holding force of the permanent magnetism in the relay cores to equal, say 20, and the tension of the spiral springs to be 18, the armatures will be retained in contact with the points *m* *m'* with a force of 2, and both lines will be connected

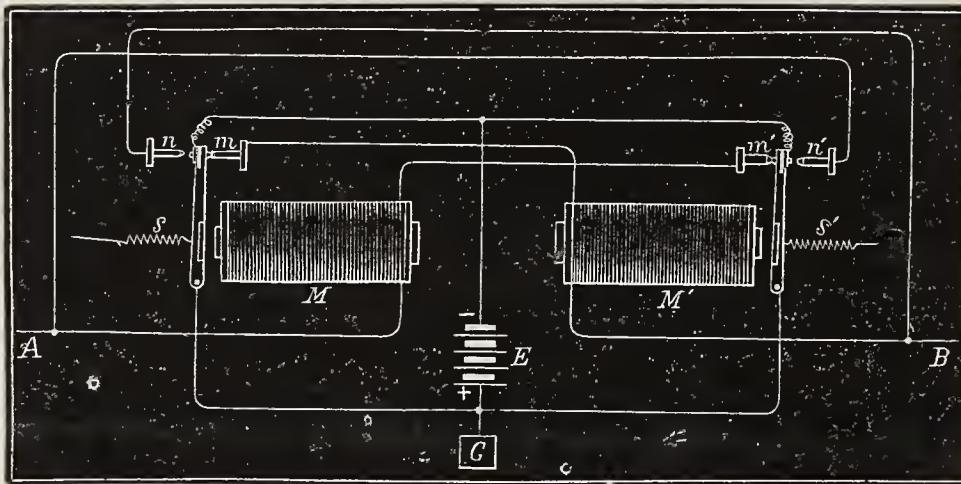


Fig. 3.

through the relays direct to the ground, as shown in the figure.

Now, if a current is sent from the distant station over the line A, leaving a force, say of 5, it will pass through the relay M and the point *m'* direct to the ground at G. The relay being so wound that the magnetism induced by its coils is in opposition to the permanent magnetism existing in the cores, the force of the latter will be reduced from 20 to 15, and the spring having a tension of 18 would draw back the armature lever and close the circuit at *n*, placing the main battery E in connection with the line B, and thus repeating the signal over that circuit. The other magnet being cut out from the main line, and the current sent around it will not be in any manner affected. If a current be sent in the opposite direction over the line B the reverse action takes place.

This repeater, as will be seen, is very simple in its construction and arrangement, and the inventor states that the principle on which the relays is constructed renders them less liable to be thrown out of adjustment than the ordinary kind. It can be adjusted to work with a current so feeble that its action would not be perceptible upon a Morse relay.

Parties desiring further information upon the subject may address the inventor, Mr. F. A. EDISON, at 83 State street, Boston, Mass.

#### A Telegraphic Charade.

My first is a proper numerical;  
Without my second and last a trinity is impossible;  
My whole to ladies fair are offered;  
By telegraphers only can this be answered.

#### Sir William Thomson's Improvements

IN THE  
RECORDING INSTRUMENTS FOR ELECTRIC TELEGRAPHS.

Filed 11th January, 1868.

THIS invention has more especially for its object to produce an instrument capable of recording by permanent marks such electric signals as have, up to the present time, been received by the mirror galvanometer, as described in the specification of a patent on the 20th day of February, 1858 (No. 329). The peculiar merit of that instrument is, that it continuously indicates the variations of strength in the received current, the movement of the spot of light following every variation in that current. The instrument is so arranged as to be used with the system of varying strengths, including the simplest system of long and short signals, of which the *Morse Alphabet* is the *simplest type*. The difficulty in producing such a recorder as this has been due to the *difficulty of obtaining marks from a very light body in rapid motion*, without impeding that motion. The marking needle consists, by preference, of a capillary tube or bristle, dipping at one end into a stationary reservoir of ink; the ink to be spirted from, or drawn from the opposite end by means of a static electric force, maintaining rapid vibrations in the needle or in the paper, in a direction

perpendicular to the plane of the paper, being kept in motion by clock-work; a succession of sparks from a static electrical apparatus is caused to pass between the paper and the needle or tube (*somewhat similar to HARRISSON GRAY DYAR'S AMERICAN TELEGRAPH*), which in this case causes a stream of ink, or a succession of fine dots, to be spirted upon the paper. In connection with the above, by means of a fibre or thread, is a peculiar arrangement of a very light coil of fine wire (to be kept polarized by the distant DANIEL Battery), and held in a state of suspension in a very powerful magnetic field, produced by large permanent magnets, or local electro-

magnets, operated by a local battery, which act with great force on the coil when the current from the DANIEL battery passes through the suspended coil, which has a framework like booms in the rigging of a ship. In order to multiply the power, one or more coils are attached to the marking needle by a connecting fibre or fibres, so as to magnify the motion of the marking end of the needle, as compared with that of the receiving coils. When vibrations of the needle become troublesome, as may be the case when the invention is applied to short submarine cables, or to land lines, these vibrations are to be checked by vanes dipping in liquid, so as to damp the vibrations. The alphabet used by preference is that known as STENHEIL'S.

A CURIOUS WEAPON OF DEFENCE.—The carrying of weapons is forbidden in France to persons in civil life, but an invention has been made which, while conforming with the law, is a partial aid, as a means of defence, against night robbers. It consists of a small horn, inserted into the end of a cane, which contains an electric battery and a small lamp, with two powerful reflectors. The intensity of this light, it is said, temporarily blinds any person at whom it is pointed. The lamp is kindled at will by pressing a small knob at the other end of the stick, which communicates with an electric wire.

Query.—Having the cane handy, would it not be as effective to knock the robber down with it at once?

CONUNDRUM.—Why is our kitchen girl the fastest telegrapher in the world?

Because she cleans out "KETTLES."



## THE TELEGRAPH.

## Monthly Statement.

WESTERN UNION TELEGRAPH COMPANY.

MARCH.

Receipts.....	\$587,962.23
Expenses.....	335,947.65
Net profits.....	\$252,014.58

## COMPARATIVE QUARTERLY STATEMENT.

JANUARY 1 TO APRIL 1.

Receipts.	Expenses.	Net Profits.
1867—\$1,594,644.96	\$952,798.56	\$641,846.40
1868— 1,727,939.55	1,048,249.19	679,690.36
Increase.....		\$37,843.96

It would appear, from the above official statement of the receipts and expenditures of the Western Union Telegraph Company, that the competition which it has thus far experienced has not proved very detrimental.

EDITOR TELEGRAPHER.

(By the Cuba Cable.)

HAVANA, May 4th.

ARRANGEMENTS have been concluded for laying telegraph cables between Cuba and Jamaica, and Jamaica and Aspinwall.

## Government Telegraph Project in Great Britain.

It is probable that the differences which have arisen between the British House of Commons and the DISRAELI Ministry will shorten the existence of the present Parliament, and that the proposed purchase of all the telegraph lines in the kingdom, and their consolidation with the Post-Office Department, will remain in abeyance for at least some months to come.

A NEW ENTERPRISE.—An enterprise similar to one that has, for some time, been in successful operation in New York, is about to be inaugurated here by the Metropolitan Telegraph Company, of Chicago. The company is organized with a capital stock of \$50,000, its object being the transmission of messages from the centre of the city to all its divisions, and to the stock-yards, Hyde Park, Bridgeport, Harlem, Holstein and Evanston. The first line will be in operation in about a week, and the other wires will soon be up. The offices will be located in the principal hotels and at such other points as will accommodate the public generally. Only ten cents will be charged for sending an ordinary message; a price which will bring its advantages within the reach of all, and, at the same time, be sufficiently remunerative to the company. The officers of the company are:

President—N. LUDINGTON.

Vice-President—SAMUEL PORTER.

Treasurer—A. H. GRANGER.

Secretary—E. P. PORTER.

Directors—W. L. SOUTHWICK, NELSON LUDINGTON, W. K. NIXON, J. W. SMITH, E. P. CHANDLER, JOSEPH MEDILL.—Chicago Times, April 29.

CABLE DISASTER.—Four out of the five submarine cables which connect France and Belgium, were ruptured by a recent tempest.

## More Dividends for Russian Extension Stockholders.

VICTORIA, BRITISH COLUMBIA, March 20th.

THE Western Union Telegraph Company's ship, Nightingale, with a cargo of wire and cable, which was sent here for the Russian Extension Line, sailed from this port for New York, yesterday.

The ship Egmont will also sail for New York, with a similar cargo, in a few days.

SKOOKUM.

MORE GOVERNMENT TELEGRAPHS.—It is reported that a movement will be made in the Canadian Parliament, at Ottawa, in favor of the Government purchasing and working the telegraph lines.

## American Atlantic Cable Company.

THE American Atlantic Cable Telegraph Company held a stockholders' meeting yesterday morning, and elected a new board of directors. The new board is Hon. EDWARD HAIGHT, President of the National Bank of the Commonwealth; CHARLES L. FROST, President of the Peoria and Warsaw Railroad; CHAUNCEY VIBBARD, ARLTON F. WILMARTH, Vice-President of the Home Insurance Company; WM. R. GARRISON, GEORGE W. QUINTARD, of the Morgan Iron Works; PAUL N. SPOFEORD, of Spofford, Tilleston & Co.; CHARLES A. SECOR, GEORGE W. BEARDSLEE, and W. S. WORL. The President reported that the concessions from the governments of Great Britain, for the exclusive right to connect at Bermuda, from the government of Portugal, to connect at the Azores and Lisbon, had been received, and that arrangements have been entered into to manufacture the cable and lay it the coming summer. At a meeting of the new board of directors, Mr. HAIGHT was elected President; Mr. FROST, Vice-President; CHAUNCEY VIBBARD, Treasurer, and W. O. STODDARD, Secretary.—Star, May 5.

RAPID TELEGRAPHING.—The highest rate of speed ever attained in telegraphic transmission in this country was made this evening, between Boston and this city. Mr. P. H. BURNS, Champion of New York and New England, stationed at Boston, transmitted twenty-seven hundred and thirty-one words in an hour, which was received by Mr. WALTER PHILLIPS, of this city, without making a "break," and copied in a remarkably legible manner.

LIGHTNING IN CHICAGO OFFICE.—Quite a severe storm occurred at Chicago, Sunday evening, May 3d. The lightning entered the Telegraph Office with a loud report, burning the office wires and several relays.

A TRAVELING TELEGRAPH CABLE.—There is expected shortly in New York a cable, which has been some two years or more traveling about the world. It was originally manufactured in London, to connect Asia and America, by way of Bering's Straits, and shipped to Victoria, but before it could be laid the company broke up. The East India Telegraph Company then proposed to buy it, to be used in China, but the negotiation failing, the cable was ordered to California. Before, however, it could be appropriated, other parties came in and purchased it, to be laid in the Carribean Sea, and connect Cuba, Jamaica and Panama. The cable is in the same vessel in which it was originally shipped from London, in 1865-6.

## 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 Next Annual Convention of the N. T. U.—Interesting Topics for Discussion.

TO THE EDITOR OF THE TELEGRAPHER.

I have waited patiently, but in vain, to see some one commence a discussion of the questions which will be likely to engage the attention of the members of the next Annual Convention of the N. T. U., at Albany, N. Y. But a few months are now given us to do this in; and, in order that every subject may be thoroughly discussed, and definite instructions given to delegates, we should commence now to consider them. Last year, the Convention declined to act upon the Constitutional Amendment making the "Union" a secret organization, because its members had no instructions in regard to this matter. To prevent a similar occurrence this year, let us discuss the questions, arrive at some conclusions, instruct our representatives accordingly, and send them there to do something. THE TELEGRAPHER is our paper, supported by us, and working in our interests, and through its

columns all questions affecting the Union should be promulgated. Almost every operator has his own peculiar views upon Union matters, and if he thinks they are calculated to benefit the cause, it is his duty to make them known.

Radical changes are needed in the present Constitution, and must be made to make it acceptable to the fraternity. We have tried the present one nearly five years, and find it unpopular, and now we should change it. If we want operators to join us we must offer them inducements to do so; it is not their business to join, and make it to suit themselves, but it is our duty to make it suit them—that is, if we want their company.

The dues are too high; the organization is not properly conducted; it needs to be made secret; its influence needs to be felt; in fact, a thorough change needs to be made.

Any and all plans looking in this direction should be proposed and thoroughly discussed. If it is not done, delegates will meet this year with a lot of raw material on hand, ignorant of the way to dispose of it: windy speeches and numerous committees will follow, and the whole will conclude with the farce of a general postponement until next session.

Nothing will be done; no benefit to the Union will ensue, and all that will be accomplished will be the expenditure of a large sum of money to pay the expenses of the Convention, which will only benefit landlords and railroad companies.

If this communication shall have the effect to attract the attention and excite the interest of the members of the Union sufficiently to induce them to discuss these important matters, my object in writing it will have been fully accomplished.

TRUE BLUE.

## Union Matters.

TO THE EDITOR OF THE TELEGRAPHER.

I think favorably of your editorial suggestion that there should be, in New York City, a Central Office of the Union, &c., but how it can be successfully carried on, and whether it would remove the difficulties under which we are now laboring, whether it would create a stronger interest in Union matters, &c., I cannot tell. The subject is worthy, at least, of serious and sober consideration. The officers should certainly be near enough together, at any rate, to consult frequently and act promptly, or else the whole power should be invested in one man.

I think, and have thought for some time, that we should have a Central Office, a headquarters somewhere, and, of course, that somewhere would seem, properly, to be New York City, but how it could be done I have not been able fully to decide in my own mind. We, of course, must be very careful how we increase our expenditures, but, if the TELEGRAPHER is going to prove a success, financially, as I hope it will, that success, alone, will partly solve the problem, perhaps. Certainly that, with the Union in a prosperous condition, would wholly solve the problem, and the Central Office or headquarters could be established just as you suggest, and everything go on swimmingly.

UNION.

GRASS LAKE, MICH., April 29th.

TO THE EDITOR OF THE TELEGRAPHER.

I UNDERSTAND that the Great Western Telegraph Company have opened subscription books at Chicago, and that the stock is being rapidly taken up. They propose soon to offer some of their stock in this State, with a view of extending their wires to Port Huron, Mich., via Detroit. At Detroit they will connect with the New Dominion line, and through the proposed arrangement with the Atlantic and Pacific Company, will have good connections with the telegraph systems of the whole country.

S.



## A Word for Female Operators.

NEW YORK, April 17th.

TO THE EDITOR OF THE TELEGRAPHER.

IN addition to the considerations already adduced, favorable to the continued employment of women in the business of telegraphing, we should recollect that it is under the pressure of necessity that they resort to this mode of obtaining a livelihood. Its attractions are not so great as to induce them to devote their time and labor to the business, if they could do equally well at anything else that is honest and respectable. Would any man—any operator, with a spark of honor and manliness about him, deny them this means of earning their bread?

Women naturally, and through the usages of society, are dependent; and for one, I will always do what I can to prevent their being denied any privileges or opportunities to labor that ought to be allowed them. We must not be selfish.

It is proper, also, that we should, through the columns of our paper, THE TELEGRAPHER, call attention to the treatment which we operators receive at the hands of our employers. One by one the privileges formerly enjoyed have been taken from us, until now, during office hours, we are veritable slaves.

"MINTA'S" article, in a recent number of THE TELEGRAPHER, has well set forth the onerous rules and regulations under which operators, male and female, are restrained and bound down, at least during their hours of employment.

"MINTA'S" letter was very good, and to the point, and I hope we shall hear from her again, and often, through the columns of THE TELEGRAPHER.

JOSHUA.

CINCINNATI, OHIO, April 21.

TO THE EDITOR OF THE TELEGRAPHER.

ONE of the Western cities seems inclined to rejoice over the efficient manner in which its "three report operators" take the night report. We do not claim that an operator deserves especial praise for doing the amount of work for which he is paid, but if those *three* men have accomplished anything miraculous, we certainly think our *one* report man deserving of some mention. JACK CONNOR takes the entire report here (including a lengthy river report, which those "three" report operators do not take) alone every night, and his copy is as noted for correctness as that of any other man, or "three men." He also manages to get along with remarkably few breaks, which is a decided improvement on the "three men," and he doubtless could take it with much greater satisfaction, were it not for the number of times those "three men" feel called upon to have portions of the report repeated every night.

MR. GEO. H. THURSTON, the able president of the P. & A. Co., has been elected to the same office in the Southern Telegraph Company, whose lines extend south from this point to Louisville, and are being built to other portions of the South.

Yours, C.

## Texan and Mexican Telegraphers.

BROWNSVILLE, TEXAS, April —.

TO THE EDITOR OF THE TELEGRAPHER.

I PRESUME but little is known generally in regard to telegraph lines in Texas, and that the existence even of the line connecting this city with Brazos de Santiago is comparatively unknown.

The line was built by Mr. A. W. O'NEAL, its present superintendent, in August, 1865, for the United States Government. Mr. O'NEAL was at that time, and up to September, 1866, Assistant Superintendent of United States military telegraphs.

During the time that it was worked on Government account there were three offices open, viz.: Brownsville, White Rancho, and Brazos de Santiago. The operators were JOHN J. EGAN, formerly of Jackson, Michigan; JAMES A. THORNTON, of Pensacola, Florida; J. LUDWIG, of Indiana; J. F. RUBY, (now publisher of a newspaper in St. Joseph, Mo.), M. H. BASSETT, of Massachusetts, and W. F. FRENCH, of New York. Mr. EGAN still remains on this line.

In September, 1866, an order was received by Mr. O'NEAL to turn the line over to the company owning the right of patent for the territory in which it was located, and it was accordingly turned over to the South-Western Telegraph Company, Mr. O'NEAL still retaining its management.

Subsequently, the line was offered for sale, and in December, 1866, it was purchased by, and transferred to, MESSRS. KENNEDY & KING, and the line is still owned and worked by them. They are the proprietors of the Rio Grande River Steamboat Company, and the telegraph is used more particularly for their own accommodation, but it is open to the public at all times.

We need communication with the outside world, *via* San Antonio, Texas, a distance of three hundred miles, which would give us a connection with the telegraph system of the country. We have some hopes of this being done soon, for our Mexican neighbors seem to have learned the benefits of the telegraph, and have commenced building a line from the City of Mexico, *via* Queretaro, Zacatecas, San Luis Potosi, to Matamoras, opposite this city. The line is already in working condition from the City of Mexico to San Luis Potosi.

A few days ago a schooner arrived off the mouth of the Rio Grande river from Vera Cruz, with a cargo of telegraph material, to commence the construction of the line from Matamoras. When this Mexican line is completed, we are in hopes that some enterprising capitalists and telegraphers will see the advantage of filling the three hundred mile gap, which will put Vera Cruz, the City of Mexico, and interior Mexican cities in telegraphic connection with New York.

RIO GRANDE.

## Tape.

SYRACUSE, May 5.

TO THE EDITOR OF THE TELEGRAPHER.

NOT many days since the W. U. operator, at a pleasant town not 100 miles away, and whose N. Y. business is repeated at this city, sent a message of inquiry to an employee of the Atlantic and Pacific Telegraph Company in N. Y., to learn if a friend of the former, who had left home the evening previous, had arrived at N. Y. The individual addressed being at dinner at the time of delivery of the message at his office, and having a wire at his finger's end, on his return, sent his reply to Syracuse by A. and P. line. Inasmuch as the message, if sent by W. U. line, must be re-written at Syracuse, it has aroused my curiosity to learn why it was that the message was declined at that point, and the sender advised to go to 145 Broadway, N. Y., with his reply, for which an answer blank was put in his hand by W. U. office, N. Y.

The query is the the *color* of the *tape*. Was it red or stone-color?

SALT.

NEENAW, WIS., April 30th, 1868.

TO THE EDITOR OF THE TELEGRAPHER.

Your correspondent, JOSHUA, has the lady operators on the brain; 'fraid he is completely demoralized over the effects of it. He claims, arguments are general that lady operators ruin the business. I must confess I agree with Mr. Argument, and further, I claim they not only ruin the telegraph business, but, by the language of his letter, I have concluded they were ruining him, or had appointed him their protector, through the columns of the TELEGRAPHER.

Why not let them protect and prove their superiority over the opposite sex by self protection, not by *proxy*—especially one of the male gender? Further, I claim the greater the number of lady operators there is the greater the reduction of wages which will invariably follow. As a natural consequence with an incorporated company, as well as with an individual, they will endeavor to have their work performed for as near nothing as possible. We are aware that ladies, as a class, can support themselves on what would place us in a total wreck, and oblige us to go for the fig-leaf to hide our nakedness. 'Fraid JOSHUA has been in bad company. I hope he may be so fortunate as to be called upon to assist one of his lady operators in replacing a broken insulator. Imagine, for a moment, JOSHUA on the ground pulling for life on a rope fastened

to the blocks, in order to bring the line close enough for his lady operator to fasten to the insulator, she being supported by a huge pair of steel spurs on the top of a pole. Would not that be a striking attitude? I think so.

ZUG.

ST. PAUL, MINN., April 24.

TO THE EDITOR OF THE TELEGRAPHER.

IT has been suggested that the readers of the TELEGRAPHER might like to hear something in regard to telegraph matters hereabout. The only telegraph office in this city at present is that of the Northwestern Telegraph Company. EDWARD CURREY, formerly of Coburg, C. E., is manager, with F. B. JILSON and FRED. SHOLES as assistants, the former of Kenosha and the latter of Milwaukee, Wisconsin.

At present four wires centre here, of which the most important is the one down the Mississippi river to La Crosse and thence to Milwaukee. On account of the unfavorable character of the territory through which it runs this wire is about a quarter of the time out of order. The other three wires are as follows: From St. Paul to St. Cloud, Minnesota, 70 miles. This is a splendid line, insulated with BROOKS' insulators, and supported by good cedar poles. Since it was first strung it has not been necessary to change adjustment at any office to work it; through rain and shine it has always worked clean and steady. We brag of it, and consider it, in every respect, a model line. This line does considerable business, it having all of Minneapolis, St. Anthony and St. Cloud's offices, eastern messages. The other two lines are chiefly used for railroad business. One runs from here to McGregor, Iowa, along the Minnesota division of the St. Paul and Milwaukee railway. This wire is frequently connected through to Milwaukee *via* Prairie du Chien, when the river line is out of order. The fourth wire extends to La Sueur, Minn., along the Minnesota Valley road—ultimately this wire will be extended to Sioux City, Iowa.

In this city there are, besides the main office, one at the Levee, and the Minnesota Valley and St. Paul and Milwaukee railway offices.

The Levee office is in charge of O. C. GREENE, who, however, is at present recruiting at Decorah, Iowa, and whose place is filled and duties discharged with dignity, cheerfulness and urbanity, by the renowned EDGAR HUGHES, dubbed "Supt." on account of smallness and youth. "Rd." office is under the charge of GEORGE HARRIS, a graduate from the main office.

It is expected that the Mississippi Valley National Telegraph Company will open an office here soon. Their poles are already set, and wire stringing began at Minneapolis on Thursday last.

I would mention, before closing, that we take "evening report" through a button repeater at Milwaukee. This fact alone may not excite wonder—but did you ever ride in a stage? You can, perhaps, see the force of the comparison when 450 miles of stranded wire is the medium of transmission. We take it as it comes and swerve but little.

J.

## TO CORRESPONDENTS.

JAMES TURNER, operator C. B. & Q. R. R. Office, Coatsburg, Illinois, wants the address of F. H. McDOWELL, an operator on the Union Pacific Railroad, in December last.

1. N. W. O.—Five or more persons engaged in the telegraphic business, and otherwise qualified, may constitute a district of the N. T. U., and determine the location of its headquarters.

Candidates for membership must have attained the age of eighteen years, be of good moral character, and not disabled by any bodily infirmity.







CHARLES T. & J. N. CHESTER,

104 Centre Street, N. Y.,

Telegraph Engineers,

AND MANUFACTURERS OF

INSTRUMENTS,

BATTERIES,

AND EVERY DESCRIPTION OF

TELEGRAPH SUPPLIES.

Sole Agents for the United States

FOR

BROOKS' PATENT PARAFFINE INSULATOR

AND FOR

BUNNELL'S PATENT REPEATER,

The simplest and most efficient instrument ever devised for the purpose.

They publish an Illustrated Descriptive CATALOGUE of their manufactures, of which a new edition is now preparing, which will contain, among other matters, a description of a New Battery, having the power of 100 Grove cells, yet portable; also, an Enduring Battery, capable of giving a steady current for one year, without renewa

W. E. FACER,

General Manufacturing Electrician,

No. 48 SOUTH FOURTH STREET,

PHILADELPHIA,

Keeps constantly on hand and manufactures to order, all kinds of

Telegraphic, Galvanic and Electric Apparatus,

Of the most approved patterns and cheapest possible rates.

ALL WORK WARRANTED.

Galvanometers of extreme delicacy, Physicians' Apparatus, and model work neatly executed.

CHARLES WILLIAMS, Jr.,

(SUCCESSOR TO HINDS & WILLIAMS,)

109 COURT STREET (MINOT BUILDINGS),

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MANUFACTURER OF

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AND

Galvanic Batteries of all kinds.

Wholesale and Retail Dealer in Telegraph Supplies, etc.

Atlantic and Pacific Telegraph Co.

CAPITAL, \$5,000,000.

Lines completed from New York to Cleveland.

[In progress.]

A. F. WILLMARTH, President.....New York.

C. A. HARPER, Secretary..... "

M. L. WOOD, General Superintendent..... "

Franklin Telegraph Company.

CAPITAL, \$1,000,000.

Lines extending from Boston to Washington.

J. B. STEARNS, President.....Boston.

J. W. BROWN, Treasurer..... "

J. G. SMITH, Superintendent.....New York.

Pacific and Atlantic Telegraph Co.

OF THE UNITED STATES.

CAPITAL, \$3,000,000.

Lines completed from Philadelphia to Pittsburg and Cincinnati.

[In progress.]

GEO. H. THURSTON, President.....Pittsburg, Pa.

E. J. ALLEN, Secretary and Treasurer..... "

A. J. BALDWIN, Superintendent.....Philadelphia, Pa.

A. Q. CASSELBERRY, Assistant Superintendent..Pittsburg, Pa.

International Telegraph Co.

CAPITAL, \$300,000.

Lines completed from Boston to Bangor, Me.

[In progress.]

E. K. HARDING, President.....Bath, Me.

HON. WOODBERRY DAVIS, Treasurer.....Portland, Me.

CHAS. H. SAWYER, Superintendent..... "

Northern Telegraph Company.

CAPITAL, \$100,000.

Lines completed from Boston to Bristol, N. H.

[In progress.]

HON. FREDERICK SMYTH, President.....Manchester, N. H.

W. W. STORRS, Treasurer.....Concord, N. H.

J. W. ROBINSON, Superintendent..... "

AMERICAN MANUFACTURES.

THE

BISHOP GUTTA-PERCHA CO.,

THE ONLY AMERICAN MANUFACTURERS

OF

PURE GUTTA-PERCHA

Insulated Telegraph Wire

FOR

SUBMARINE CABLES,

Office Wire, Electric Cordage, and for Mining and Blasting Uses, etc., etc.,

Respectfully inform their American friends and their Customers, the Telegraphic Community of the United States, that they are fully prepared with ample means and materials to furnish all the

SUBMARINE

AND OTHER

TELEGRAPH WIRE,

INSULATED WITH

Pure Gutta-Percha,

That may be required for use in this country, and on terms as reasonable as any foreign manufacturers.

N. B.—We are prepared to LAY DOWN and WARRANT Submarine Cables.

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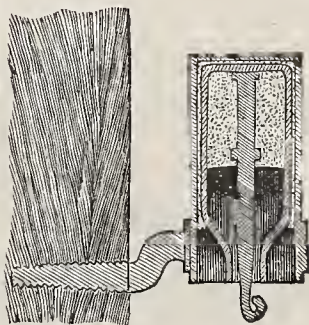
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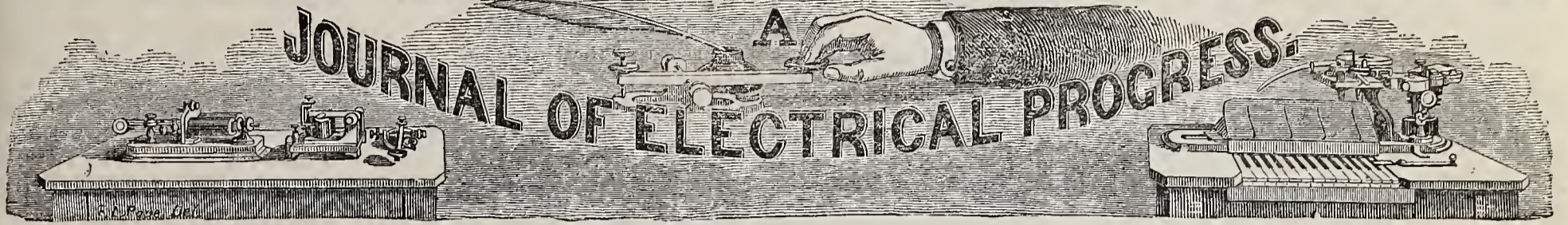
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# THE TELEGRAPHER.



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Whole No. 96.

## THE EMPEROR NAPOLEON THIRD AS AN ELECTRICIAN.

It is certainly not generally known that the present Emperor of the French is the author of a very able essay on the voltaic pile.

It will be found published in the *Comptes Rendus* for 1843, vol. xvi., pp. 1180-1. At the time of publication it had great merit, and even now will be found to possess much interest. We give it here all the more willingly, as the paper in question is not to be found in the Emperor's collected works. The essay came before the Academy of Science in the form of a letter to Arago, dated the 23d of April, 1843, from the fortress of Ham, where he was then imprisoned for his attempt at Boulogne.

The academicians observed in a note that "though Prince NAPOLEON was preceded by M. BECQUEREL in the construction of a pile composed of elements consisting of only one metal, yet they feel they ought to publish the letter," adding that "the clearness of the reasoning and of the results will justify our determination in the eyes of every one."

The Prince's essay is as follows: "The source of galvanic electricity has been attributed by VOLTA to the contact of two dissimilar metals.

DAVY partook of this opinion, but other men of science, and amongst them the illustrious FARADAY, have expressed the opinion that the chemical decomposition of the metals was the only cause of the electricity. Adopting this hypothesis, I have reasoned as follows: As in the pile there is never more than one of the two metals that is oxidized, if the electricity is only due to the chemical action, the second metal ought to play in this connection but a secondary part.

What is this part? It is, I think, that of attracting and conducting the electricity developed by the first in a manner analogous to that going on in the ordinary electric machine. As a fact, in the latter the electricity disengaged by the friction traverses an imperfect conducting medium, which is the air, and is attracted and conducted by a perfect conductor, which is the metal. In the pile the electricity produced by the oxidation of any given metal traverses an imperfect conducting medium, which is the liquid, and is gathered up and transmitted by a perfect conductor, which is the adjacent metal.

This idea appeared so clear and simple to me that I sought the means of proving its exactness by experiment, and I further reasoned as follows: If it be true that one of the two metals employed in the pile only serves as a conductor, it can be placed by metal identical with that being oxidized, provided that it be plunged into a liquid that, while permitting the passage of the electricity, does not attack that metal.

Experiment confirmed my previsions. I constructed two couples, according to the principle of the constant

pile of DANIELS, but with one metal. I immersed a copper cylinder into a liquid consisting of water and nitric acid, the whole being contained in a porous earthenware tube. This tube was surrounded with another copper cylinder, immersed in water acidulated with sulphuric acid, a mixture that does not attack copper. Having formed the communication in the usual way, I decomposed with the pile of two couples some dissolved iodide of potassium, and having placed at the extremities of the piles two copper plates dipping into a solution of the sulphate of the same metal, I gathered at the pile communicating with the copper attached a deposit of copper. I made a second experiment with zinc alone. I poured into a porous tube a mixture of water and sulphuric acid, and I surrounded this tube with another cylinder of zinc, immersed in pure tepid water, with two similar couples. I equally decomposed iodide of potassium, and I obtained, by taking the necessary precautions, a deposit of copper at the pile in connection with the zinc attached, as previously. Finally, I reversed the usual order of the metals, and placed the copper into the centre of a vessel plunging into water and nitric acid, and I surrounded the porous tube with a zinc cylinder immersed in pure water. I thus obtained a rather strong pile. I should have wished to have been able to measure with care the different strengths of the electric currents produced, but it was impossible for me to do this for want of a galvanometer.

My efforts to construct one did not succeed, as the magnetized needles were always deviated by the attraction of the iron bars surrounding my windows. Nevertheless, from the experiments I was able to make, it seems to have demonstrated—

1. That in the pile the cause of the electricity is purely chemical, as two metals are not necessary to produce a current.
2. That the metal which is not oxidized only serves to transmit the electricity.
3. That each metal is positive or negative (anode or cathode) to itself or to others, according to the nature of the liquid into which it may be plunged."—*Mechanic's Magazine*.

## Production of Electric Light.

SEVERAL weeks since Professor TYNDALL announced, at the Royal Institution, that Mr. LADD, the philosophical instrument maker, was going to construct a small gas engine, to be used in connection with his magneto-electrical machine, for the production of the electric light. The want of some means of obtaining the electric light has long been felt by photographers; the cost, maintenance, and poisonous fumes of the GROVES battery prohibit its commercial use for the production of photographic enlargements; hence Mr. WOODBURY, and others who use the electric light in photography, adopt one of WILDE'S, LADD'S, or SIEMENS' magneto-electric machines, driven by steam power. Of

course, the fitting up of a steam engine simply for photographic purposes is a thing rarely done, and those who produce enlargements in moderate quantity usually employ the light of the sun, or the rays of the oxy-hydrogen lime light. For many processes the latter light is not sufficiently rich in chemical rays to answer well, whilst for other processes it is nearly everything that can be desired. When the light of the sun is used for enlarging purposes, the operator is very dependent upon the weather, changes in which often affect his interest most seriously.

A magneto-electric machine, that will give a brilliant electric light when turned by hand, has often been demanded by photographers, but such a powerful current as this can never be obtained, because the law of the conservation of energy forbids that human muscular strength can ever produce in any machine more heat than is generated in the original source of power, the human body. Hence, a little glass cylinder and piston attached to a magneto-electric machine will make it a very valuable instrument, especially if Mr. LADD can make the whole arrangement portable enough for lecturing purposes. Such a machine would give the death-blow to GROVES' battery in a great majority of cases, where a powerful current is needed. There are three kinds of novel magneto-electric machines now in the market. The first of these is the great invention of Mr. WILDE, which attracted so much attention two years ago, in which the induced current from permanent magnets is made to excite a row of electro-magnets, so that the armatures of these secondary magnets give off a powerful current of electricity, which may be at once applied to experimental purposes, or made to excite a third row of electro-magnets, and so on *ad infinitum*.

Messrs. SIEMENS and WHEATSTONE next invented a curious machine, wherein the trace of residual magnetism in a soft iron electro-magnet was made to act upon the armature, and the wires from the armature being carried around this electro-magnet, of course increased the intensity of the magnetism already present there; this in turn increased the power of the current from the armature, so that by constantly turning the handle the quantity of electricity increased, according to the compound interest law, till at last a powerful current was obtained. The third machine is that of Mr. LADD, and was invented by one of his assistants.

By this plan the electro-magnet is fitted with a double armature.

The current from one armature is used to increase the power of the electro-magnet, as in SIEMENS' and WHEATSTONE'S machine, and the current from the second is the one used for experimental or commercial purposes.

At a recent experiment with this machine, when turned by hand, it heated seven inches of platinum wire, .01 inch thick to redness. It also gave flashing sparks of the electric light between carbon points, but did not give continuous illumination, for the reason already mentioned.—*Mechanic's 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.

## Rural Appreciation.

TO THE EDITOR OF THE TELEGRAPHER.

I SEND you a small item, which may amuse some of the readers of THE TELEGRAPHER. It has caused considerable amusement hereabouts, and the young man at this station who "stitches collars on a sewing machine" is, for the time being, decidedly "an object of interest."

A middle-aged lady, from the rural districts, came to the telegraph office window a few days since, for information concerning the departure of a passenger train. At the time I was busy on one instrument taking a message; on another instrument a student was trying to decipher the telegraphical characters on paper. After putting the question to me several times, and not getting the desired information, she became quite indignant, and finally the student left his labors and gave her the information. To some of the passengers she denounced me with much indignation for not being accommodating, but praised the young man that was "stitching paper collars on a sewing machine" exceedingly.

S. P. JULER.

LOUISVILLE, Ky., May 8.

TO THE EDITOR OF THE TELEGRAPHER.

THE Southern Telegraph Company is progressing very slowly. They expect to open an office in Nashville, Tenn., about the 15th of this month. No offices have been opened as yet on that line south of Louisville. The following changes have recently taken place in this office (W. U. Tel. Co.): W. H. MILLER resigned 15th ultimo, and has gone to Macon, Miss.; G. W. NORTON commenced here on the 1st.

SECESH.

## The Northern Telegraph Co.

TO THE EDITOR OF THE TELEGRAPHER.

MR. A. A. STAPLES has resigned his position as operator on the Northern Company's line at Lowell, and accepted a position with the same company at Concord, N. H. The vacancy in Lowell has been filled by Mr. FRANK HANSCOM, of that city. This company, under the management of Col. J. W. ROBINSON, late superintendent of the "White Mountain Line" (American Company), is doing a thriving business. As it is soon to be extended to Montreal, its prospects for the future are very encouraging. It has already paid a semi-annual dividend of three per cent.

W.

## Oh, for a Fig Leaf!

UNDER THE GAS-LIGHT, May 11th.

TO THE EDITOR OF THE TELEGRAPHER.

POOR fellow! Won't some one of the dear ladies (one of the class that, according to ZUG's understanding, "can support themselves on what would place us in a total wreck")—won't she have the charity to take the poor fellow and divide her earnings with him? It would be such a pity that his noble heart should be rejected, after his business prospects shall have become "a total wreck," because of their *cruel* competition. Is there not ONE who will take pity on ZUG? Poor fellow! what horrid spectres haunt his frightened brain. (*Brain*, did I say? *Liver* were, perhaps, a better word.) Oh, ZUG, that fearful creature with the "huge pair of steel spurs on the top of a pole" is but a *fleeting fancy*—she won't hurt you. Poor ZUG! His ma should look to her darling. His pigeon heart never will be able to struggle long in this unequal contest. Pity 'tis that feminine deli-

cacy should not withhold fair hands from an employment where *noble young men* are striving for a livelihood. Pity that poor ZUGS should suffer in this way from those who should cherish them tenderly. JOSHUA, no more; your gallant spirit, tho' meaning well, is sadly in error now. Don't you see the danger? If you know where one may be found, I pray you act the generous part toward your fellow-mortal, and to poor ZUG (addressed "Neenah, Wis.") send a

FIG LEAF.

NEW YORK, May 11, 1868.

TO THE EDITOR OF THE TELEGRAPHER.

PERMIT me through your columns to offer a few "crumbs of consolation" to your correspondent "ZUG." The poor fellow seems in a very disconsolate frame of mind. I'm sorry to see *any* one needlessly unhappy (selfish persons always are), so let me say to him, be *comforted*; lady operators are fast learning what their services are worth, and don't intend always to work for the least that will keep them from starvation. Already some superintendents are offering ladies equal salaries with gentlemen in similar positions, and we intend that an earnest, faithful, yet *womanly* discharge of our duties, shall cause us to be still more appreciated in the future than even now. If broken wires or insulators come within our charge, we think we can attend to their repair as promptly and well as ZUG himself, and that without unsexing ourselves, or depriving him of his masculine prerogative of pole-climbing. We regret that the weakness of his argument necessitates such wild flights of fancy into the regions of impossibility, to bring ridicule upon us, and those who like "JOSHUA" extend fraternal hands, and speak honest, manly words in our behalf. We have no wish to *monopolize* the business. We believe in competition, and a generous rivalry in well doing, but fail to discern any cause for petty jealousies. *Perhaps* if we were poor ZUGS, in mortal terror of losing our situations in favor of some fair rivals, or actually suffering from such an affliction, we should see the matter in a different light. We will bear this in mind, and if his prospects *do* suffer "a total wreck" through our success, will form ourselves into a "Dorcas Society," and endeavor to make him presentable to seek other employment.

And, to all interested in this matter, let me suggest the query: Is it *lady* operators who "ruin the business" by depreciating the salaries, or is it *poor* operators of either sex, who, by virtue of their cheapness, so readily find employment (to the exclusion of the more competent) with companies that "must reduce expenses?" If the latter is the true view of the case, pray let the *poor* operators get the blessings that "ZUGS" now shower upon *ladies*. Unless, indeed, a *male plug* is better than a *good* lady operator.

MINTA.

TO THE EDITOR OF THE TELEGRAPHER.

I HAD thought to keep out of the pale of dispute, and only to allow my pen a peaceful point, but in reading your last number somebody, who signed "ZUG," rather changed my intention into a desire to evince my displeasure that any member of the fraternity should allow himself to so far forget the courtesy due from us to the opposite sex. I do not mean to enter into any argument with him upon the question he puts in the pert, flippant, and irrelevant manner to which I allude, because his remarks contain no room for argument. I have merely a query or two for him to answer. Is it necessary to be an acrobat, or pole-climber, to be an operator? Is it absolutely requisite to be able to make your piano before playing it? Or, is it possible to find piano-makers and pole-climbers who are neither pianists or operators? I do not think the number of repairmen is any less now than before female fingers plied the key. In what manner does Mr. ZUG think the ladies "ruin the business?" He should be more explicit, because it is cowardly to hit a

man in the dark. Why does he think the employment of ladies will decrease, or interfere with the size of his wallet? I had supposed the feminine foot was guiltless of such an elephantine tread. Has he been reading the oriental poem to "ZULIEMA," and does he only remember this line: "Her stately steppings could be heard from afar?" Should he not rather suppose, if ladies were allowed the same footing in the business as their male co-workers, that this advantage would cause them to desire quite as good salaries? "Cheap pay for women's work" is no law of *their* making. It is the law of "female suffrage." Finally, if Mr. ZUG does not like ladies as operators, could he not be at least sufficiently courteous to express his repugnance in a more *gentle, manly*, way? even were he actuated by no other reason than respect for the expressions of his profession, if lacking in deference for the sex which numbers his mother in its ranks. I am not minded to be choleric in this case, but I felt an uncomfortable warmth in thinking that there were such specimens of masculinity living amongst men.

I touch my hat to JOSHUA, Sir Knight, and hope he may soon take the degree of the Grand Commandery.

O. P. ERATOR.

## PERSONAL.

CORRECTION.—Under this head we have noticed the appointment of Messrs. SELDON and SHAUGHNESS to positions on the "Stock Reporting Telegraph." We should have stated that they had transferred their services to the "Gold and Stock Telegraph Company."

C. H. NOGEL, of Elizabeth, N. J., has resigned his position as chief operator of the Central R. R. of New Jersey telegraph line. JAS. L. MINGLE, of Easton, Pa., succeeds NOGEL in the above position.

Miss MATTIE L. SMITH, late of the Western Union Office, at 145 Broadway, New York, has taken charge of the Astor House Office of the Atlantic and Pacific Company.

Miss A. A. SMITH, for some years operator in the Western Union (D. X.) Office, at 134 Pearl Street, has resigned that position, and taken charge of the Franklin Company's Beaver Street Office, vice Miss F. S. Turner, resigned.

Mr. C. KINNEY SMITH, N. Y., an old employee of the W. U. Co., who has filled the positions respectively of chief operator and manager of the old W. U. Office, and latterly chief operator west, and manager of that company's Commercial Exchange Office, in this city, resigned his position on the 1st inst. We are not aware of his future intentions.

Mr. E. R. HOWE has resigned his position in the Western Union Office at New Orleans, and goes to Indianapolis, Indiana.

SAMUEL HOFFMAN, the deaf and dumb operator from Mobile, fills the vacancy in New Orleans office, arising from Mr. HOWE's resignation.

Mr. E. H. BROWN, Manager of the Western Union Office at St. Louis, has gone East on a temporary leave of absence.

Gen. STAGER, General Supt. W. U. Co., arrived at Chicago on the 8th, from a Western trip.

S. BALL, for many years employed as a train despatcher, &c., on the Toledo, Wabash and Western R. R., at Lafayette, Ind., resigned his position May 1st. His successor is Mr. GEO. B. ROACH.

JIM BAY is working as a substitute in the W. U. Office, Cincinnati, O.

ISAAC TELLER, who defeated Prof. MORSE for Congress in 1853, and who won from TOM CORWIN the title of "the man *in re-MORSE*," died in his carriage at Poughkeepsie, last week.



LEGH R. FREEMAN, formerly chief of the Chickasaw Nation, Indian Territory, field operator on the staff of Gen. JOHN H. MORGAN, in the latter part of the campaigns on the borders of Virginia and Kentucky, and generally known throughout the country under the *nom de plume* of "Captain HORATIO VATTLE, Telegraph Scout of the Mountains," is now at Fort Churchill, Nevada.

Upon Western Union Railroad Telegraph Line the following changes have been made since May 1st :

Mr. W. J. WELD, operator at Rockton, has been transferred to Albany, Ill., as agent and operator, *vice* A. W. GUILBERT, resigned.

GEO. BROADGATE, student, appointed operator at Rockton, *vice* WELD, transferred.

W. H. WHITMARSH, freight agent at Durand, appointed agent and operator at Cordova, Ill., *vice* E. B. KENDALL, resigned.

### TELEGRAPH.

#### Pacific and Atlantic Telegraph Company.—Annual Meeting.

THE annual meeting of the stockholders of the Pacific and Atlantic Telegraph Company, of the United States, was held yesterday, May 5th, at the Board of Trade rooms. A. F. MARTHENS was called to the chair, when the President and Treasurer read their reports. From these reports it appears that the Company have at present 1,853 miles of line, 3,244 miles of wire, and have no debt beyond that arising from the current expense of the lines, and that the treasury has in it a handsome sum of money. The reports also show that, although the company have made eleven consecutive quarterly dividends, there is over and above the dividends paid and the expenses, a surplus of earnings nearly equal to the amount of dividends paid. On this showing comment is unnecessary, the more especially when we reflect that this profitable business is connected with a great public benefit, which has been conferred by the management of this corporation on the business community of the whole country over which the wires of the company reach, by the large reduction they have brought about in the cost of telegraphing.

At the conclusion of the reading of the reports, the following resolutions were offered by C. B. M. SMITH, Esq., and seconded by MARK WATSON, Esq., and unanimously adopted:

*Resolved*, That the thanks of the stockholders of the Pacific and Atlantic Telegraph Company, of the United States, be, and they are hereby given to Geo. H. THURSTON, Esq., President of the Corporation, and EDWARD JAY ALLEN, Esq., Secretary and Treasurer, for the very prudent and skillful, efficient and energetic manner in which they have superintended, directed and managed the affairs of the company during the past year.

*Resolved*, That the thanks of the stockholders be, and they are hereby tendered to the Executive Committee, for the able manner in which they have discharged their duties during the past year.

An election of officers for the ensuing year was then gone into, at which was voted a very decided majority of the whole amount of stock issued. The election resulted in the unanimous choice of the following board of officers:

*For President*—GEORGE H. THURSTON, of Pittsburg.

*For Directors*—JOHN W. ELLIS, of Cincinnati; ROBERT J. ANDERSON, EDWARD JAY ALLEN, JAMES L. SHAW, WILLIAM VARNUM, DAVID McCANDLESS, of Pittsburg.—*Pittsburg Evening Chronicle*.

PRIZE TELEGRAPH ESSAYS.—"The Institution of Civil Engineers" of London, England, offer a premium on the best essays on "The present state of Submarine Telegraphy," and "The Transmission of Electrical Signals through Submarine Cables," that may be sent in during the year 1868.

#### San Francisco Fire-Alarm Telegraph.

THE Fire Alarm and Police Telegraph of San Francisco, California, comprises thirty-eight miles of wire, and there are in the circuit seventy signal boxes.

Ten thousand dollars have recently been appropriated for repairs and extensions for the next two years, and an addition of seven miles of wire and twenty-five signal boxes is about to be made.

The operating force consists of a superintendent, three operators and one repairer. The operators and repairer are appointed by the superintendent.

Mr. M. GREENWOOD is the superintendent, and has had charge of the department for the last three years. He is an able and efficient superintendent, and the people of San Francisco are fortunate in having secured his services in that position. The repairer and electrician is STEPHEN D. FIELD, formerly of Stockbridge, Mass., a young man whose ingenuity and telegraphic attainments eminently qualify him for the position.

#### The Atlantic (Cable) Telegraph Company.

THE Atlantic Telegraph Company held an adjourned meeting on the 28th of April, for the purpose of confirming the arrangement made with the Anglo-American Company, but the contract not being quite ready, a further adjournment to the 5th of May took place. It was announced that the Directors had chosen the Hon. R. GRIMSTON and Captain J. G. JOHNSTON to be members of the Board, in place of Mr. PEABODY and Capt. HAMILTON, who retire. The other retiring Directors, including the honorary ones in New York, were re-elected, and three new Directors were elected to represent the interests of large shareholders in Glasgow and other places. The receipts for the month of March were stated at £1,213 per day, against £1,094 per day in March, 1867.

A. AND P. TELEGRAPH COMPANY.—The Atlantic and Pacific Telegraph Company have lately opened the following offices ready for business: Medina, Albion, Lyons, Amsterdam, Fultonville, Little Falls, N. Y. State. The line is being rapidly extended, and expected to be in communication with Detroit, Cincinnati, Chicago, and Milwaukee, by the first of July. It will run in connection with the Mississippi Valley line at St. Louis, for New Orleans and St. Paul, and intermediate points; also, at Omaha, with the Pacific Line to California.—*Exchange*.

METROPOLITAN TELEGRAPH COMPANY, OF CHICAGO.—In the accounts of the organization of the Metropolitan Telegraph Company, of this city, the names of the officers have, heretofore, been incorrectly reported. The correct list is as follows: President, NELSON LUDINGTON; Vice-President, SAMUEL PORTER; Secretary, E. PAYSON PORTER; Treasurer, IRA HOLMES; Directors, R. M. HOUGH, CHAUNCEY T. BOWEN, JOSEPH MEDILL, JOHN C. HAINES, E. PAYSON PORTER, NELSON LUDINGTON, WILSON K. NIXON, A. HARRISON GRANGER, E. A. CHANDLER, and SAMUEL PORTER.

RAILROAD AND TELEGRAPH EXTENSION.—Gen. JOHN C. FREMONT is now in Washington, preparing to advocate before Congress the passage of the bill granting public lands to the Memphis, El Paso and Pacific Railroad Company, of Texas, including a loan of United States bonds to aid in constructing a continuous line of railroad and telegraph from Jefferson, in Texas, to San Diego, in California, by the way of El Paso, with authority to make such railroad connections as reach San Francisco, Guayamas, or Virginia City, to the harbor of Norfolk, Va., or any other point on the Atlantic coast, south of Washington City, under the title of the Southern Trans-Continental Railway.—*Exchange*.

PROPOSED CABLE.—It is proposed to lay a submarine cable between Tyne and the coast of Denmark, and thence to Copenhagen. The distance is about 1,000 miles.

#### The Late Telegraphic Feat.

By the accidental omission of the Providence (Rhode Island) date in our notice of the late unprecedented telegraphic feat, it was made to appear as if the affair took place over the wires between Boston and New York. The following, from the Providence *Journal*, gives the full particulars of this remarkable performance:

"We are indebted to Mr. CROMWELL FLEETWOOD VARLEY, the celebrated English electrician, for showing us to what a wonderful extent rapidity in telegraphic transmission can be carried. Mr. VARLEY's visit to this country, a few months since, was made with the view of causing the American Morse alphabet to be abandoned, and the English Morse alphabet substituted in its place. He claimed that of the two the English alphabet was the better one, and, inasmuch as the use of one alphabet by the whole world must ultimately result, Mr. VARLEY sought to accomplish the adoption of the English alphabet in America, the only country where it is not already in use. When his intention was made known, tests of speed were immediately made to show that worthy gentleman that such an arrangement would prove an extremely poor speculation for America. Before he left this country it was shown him that we could transmit two words by our system while one was transmitted by his; so Mr. VARLEY went home with his object unaccomplished. Up to Wednesday night the greatest speed attained was the transmission of twenty-six hundred and thirty-one words in one hour. This feat was accomplished by Mr. E. M. SHAPE, sender, of Milwaukee, and Mr. E. CURRY, receiver, of St. Paul, Minnesota. Throughout the South and West, in all directions, numerous trials have occurred, and in all cases excellent time has been made, but the time made by SHAPE and CURRY has stood at the head of all the others. Last night, however, the laurels were ruthlessly torn from the brows of these two gentlemen, and New England claims them. Until yesterday no trial in this part of the country had taken place. Mr. P. H. BURNS, of Boston, who, it will be remembered, has held the 'Golden Champion Key' against all contestants until it has become his property, having kept aloof until the trials were over, considering it meet that he should sustain his reputation as the fastest manipulator in America, essayed to do so on Wednesday and was entirely successful. Our young townsman, Mr. WALTER PHILLIPS, of the Western Union Office in this city, was honored by being chosen by Mr. BURNS as the operator to receive the matter, and acquitted himself in a very creditable manner. Twenty-seven hundred and twenty-one words were transmitted and copied, without a break, between nine and ten o'clock, P. M., which is a hundred words better than the time made by Mr. SHAPE. The selection was from a work by Dean SWIFT. Mr. PHILLIPS' manuscript on this occasion was remarkably clear and legible. Surely New England has no cause to be ashamed of her telegraphic representatives."

FATAL ACCIDENT.—A little child of JOHN SCOTT, the Cable watchman of the Franklin Telegraph Company, in this city, was drowned, Monday afternoon, by falling off the dock at the Cable house on the North River.

#### MARRIED.

BARBER—KELLOGG.—At Danton (Thursday), May 7, J. H. BARBER to Miss KELLOGG, both of Barrington, Ill.

#### DIED.

PAGE.—In Washington, D. C., on the 5th inst., in his 57th year, Prof. CHARLES GRAFTON PAGE, M. D., Examiner in the Patent Office.

The eminent scientific attainments and reputation of Prof. PAGE, and especially his eminence as an electrician, render a more extended notice of his demise appropriate in this paper. We shall therefore, in our next week's issue, present an obituary notice which a friend of the late Prof. PAGE, especially qualified for the task, has kindly undertaken to prepare for the readers of THE TELEGRAPHER.





SATURDAY MAY, 16, 1868.

## WORTHY OF CONSIDERATION AND IMITATION.

POST-OFFICE AID ASSOCIATION.—Some two years since this Association was formed. The cause which led to its formation was the decease of one of the employees of the office. His fellow clerks immediately subscribed a sum sufficient to defray his funeral expenses, and, for a time, aid his family. Immediately afterward the Association was formed, whereby all the employees of the office became members, with the understanding that, at the decease of any member, those composing the Association should contribute the sum of \$2 each, for the benefit of the deceased member's family. It is regularly organized, with Executive Committee and Treasurer, and, to the honor of the Post-office Department, every employee is a member. The Postmaster has approved of and encouraged the efforts to form it from the first, and is himself a member. On Monday last, Mr. J. B. HALSTEAD, connected with the Registry Department, died, after a short illness, the members of the Association were notified of his decease, and yesterday the sum of \$1,400 was placed in the hands of the Treasurer of the Association, to be paid to his family.—*City paper.*

We republish the above for the purpose of calling the attention of Telegraphers to this important subject of mutual life insurance once more. For several months an association has been in existence, organized under the auspices of the NATIONAL TELEGRAPHIC UNION, which affords to Telegraphers an opportunity of securing to themselves and their dependents exactly the same beneficial results provided for in this association of the Post-office employees in this city.

We have from week to week called the attention of the readers of THE TELEGRAPHER to this association, in addition to the regular advertisement of the Actuary in our advertising columns.

We cannot understand why so much apathy exists on the part of the profession towards an institution so purely beneficial in its objects and purposes, and organized upon an inexpensive basis. It is a disgraceful fact that thus far the Telegraphers have failed to respond, in any adequate degree, to the efforts which have been made to interest them in this beneficent enterprise. While in other occupations, organizations and professions, large numbers readily connect themselves with similar associations, the Telegraphers seem, to a great extent, to be utterly regardless of the requirements and possible necessities of those dependent upon them.

Why is this? We confess that we are utterly unable to assign any sufficient reason for it. If anybody were deriving exceptional benefits from it in the way of salaries or perquisites, we could understand why those whom it is specially designed to benefit should view the movement with distrust, and hesitate to avail themselves of its advantages. But such is not the case. All the services of those entrusted with the custody and administration of the funds are rendered gratuitously, and there are no expenses except those necessarily incurred for postage and printing. Even the advertisement in this paper is inserted gratuitously; and in our persistent advocacy of the INSURANCE BUREAU we have been actuated only by a desire that the Telegraphers should realize and participate in the undeniable benefits and advantages which it confers upon those who elect to participate therein.

We know that each man realizes the mortality of every other besides himself, and that we are all too apt to consider that to us length of days will be given, and determine that at some indefinite future period we will make those arrangements and preparations necessary to secure the comfort and well-being of those dependent

upon us. We should, instead, realize that while death *must* come to all, sooner or later, each one is liable to be called suddenly from the scene of his labors, and the care of those dependent upon him or her, and that it is our duty, while yet in life and health, to make such provision as is possible against the want and destitution which too often falls upon happy households by the removal of their head and support.

How often have Telegraphers been called upon to contribute for the temporary relief of those suddenly deprived of support, and reduced to destitution by the removal of the husband, father, or brother upon whose labor they were dependent for support. Although, to the honor of the Telegraphic profession, it may be said that, under such circumstances, liberal contributions are always made, yet they come in the shape of *charity*, which, to the sensitive and proud-spirited, is more galling even than want and destitution. And again, at the best, these contributions are only sufficient to relieve, for a few days or weeks at most, the most pressing necessities, and then the recipients are left to struggle as best they may for support.

If the Telegraphers generally will but take hold of this matter, in case of death a handsome amount will be on hand, ready for payment at the time when most needed, sufficient to support the beneficiaries until other and permanent resources can be obtained: and this they receive, not as *charity*, but as a RIGHT which has been paid for, and which there need be no sensitiveness or delicacy about receiving, whether actually required for immediate necessities or not.

There is not a practical Telegrapher in the country who cannot raise the small sum of *two dollars*, which is all that is required to entitle him or her to participate in the provisions and benefits of the INSURANCE BUREAU; and the deaths among Telegraphers are not sufficiently numerous to render additional contributions onerous. We would, therefore, once more earnestly appeal to every Telegrapher into whose hands this paper may come, not only to at once forward his own application to Mr. JOSEPH W. STOVER, the Actuary, but also to bring the matter to the attention, and urge upon every friend and acquaintance, connected in any capacity with the Telegraph business of the country, to do likewise.

The institution is catholic in its nature, so far as the profession is concerned, and it is not necessary, in order to participate in it, that the applicant should be a member of the UNION. It is only required that he or she shall be of good character, and in the enjoyment of ordinary good health, and shall be recommended by two practical Telegraphers in good standing.

Let there be an immediate and thorough awakening from the indifference and apathy at present prevailing on this subject. We would again urge upon District Directors, and other district officers, to bring the matter prominently before the members of the N. T. U., and that they labor so earnestly and effectively that within a reasonable time, at least, every member of the UNION shall be enrolled on the books of the INSURANCE BUREAU.

## Gratifying Response.

WE have been exceedingly gratified at the response which our offer of standard works on Electrical Science and the Telegraph, as premiums for additions to the subscription list of THE TELEGRAPHER, has received. We are almost daily in the receipt of lists of subscribers and the cash therefor, with requests to forward one or more of the valuable books proffered in our advertisement. We are doubly gratified at this, not only as showing a due appreciation of the value and importance of the TELEGRAPHER, as an independent telegraphic newspaper, but also as it shows a very prevalent desire on the part of practical telegraphers to possess standard works upon electrical and

telegraphic science, and by their study to qualify themselves to discharge intelligently the duties of their profession.

One gentleman has already forwarded us forty-four names, receiving in return, NOAD'S Manual, SABINE'S Electric Telegraph, and SHAFFNER'S Telegraphic Manual. Another gentleman has forwarded to us thirty-two new subscribers, and is engaged in increasing his list, and so on down to the lowest premium number of five. While these parties secure to themselves valuable standard professional works, which every telegrapher should own and *study*, they render a most important service to this paper in extending and increasing its circulation and usefulness.

We have been expecting that some of the lady operators would avail themselves of our liberal offer, but as yet we have received no lists from them. We hope they will not fail to take hold in earnest, and work with that energy and determination characteristic of them, and secure a participation in our distribution of books.

There is plenty of room yet for all to work who are desirous of doing so. Our offer holds good until the end of the present volume, and we shall doubtless continue to receive additions to our list, we trust, even more numerous than those already secured. The books are sent promptly upon the reception of each list, either by mail or *express*.

## The Storm.

A VERY violent Northeast storm prevailed in New York, and extended hundreds of miles to the East, West and South, on Wednesday last, almost entirely suspending telegraphic communication. The Western Union Company, with its multitude of wires, had scarcely more than one in any direction which could be worked, and those which were in condition to be used at all, worked very badly. The other Telegraph Companies were similarly affected. The difficulties on the Southern wires were aggravated by severe atmospheric electricity, a thunder-storm prevailing for some hours in the evening at Washington, and in that vicinity. It is some years since this city has come so near entire isolation from the rest of the world by interruption of telegraphic communication.

The storm cleared off Thursday morning, and the wires have again been put in good order and ready for business.

PERSONAL.—The Cheyenne *Leader* has the following under the head of "Personal." A. C. BASSETT, Esq., Superintendent of the Western Union Telegraph Company, Salt Lake City, gave us a call yesterday. Mr. B. has been at Denver on business, and calls here to see the Magic City. He says he thinks Sweet Water will be put in telegraphic communication with the world as soon as it is possible to get teams in there to build the line.

THE TELEGRAPH'S BILL.—The Council of the Liverpool Chamber of Commerce have adopted resolutions recommending that in the Government Telegraph's Bill a uniform rate of 6d. each, instead of 1s., should be adopted for messages not exceeding twenty words.

RATHER MIXED.—An amusing contretemps is told us in connection with the Oxford and Cambridge boat race. Resolved to be independent of the electric telegraph, which in England plays eccentric pranks on such occasions, one of the London papers sent down to the scene two of the best carrier pigeons. On the leg of one was tied a slip of paper bearing the words: "Oxford has won," and on the other a similar slip announcing Cambridge as the victor. Unfortunately, in the bustle of the moment after the race, as the Oxford pigeon was being taken out of the basket, the Cambridge pigeon struggled so hard that it managed to get free—the two birds flying home with incredible speed, but driving their owners frantic with the contradictory intelligence they brought.



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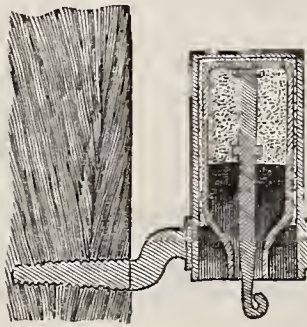
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to those who may exert themselves for that purpose. This offer will hold good until the end of the present volume, which closes with No. 110.

To establish a claim to either of the premiums, the subscriptions must be from parties whose names are not now upon our books, and must be at the regular rate of Two DOLLARS per year. Two six-months' subscriptions will count as one in calculating for a premium.

We have already had occasion to open accounts with several Telegraphers who have sent in names of new subscribers since we announced our list of premiums last week, and hope to distribute hundreds of dollars' worth of valuable works on Telegraphy and Electrical Science in return for accessions to our subscription list.

The subscription price of two dollars per year must, in all cases, be remitted with the names of the subscribers by parties desiring to avail themselves of our offer.

For five subscribers, new, we will give to the party forwarding the names and money, "Highton's History of the Electric Telegraph," and "Bond's Handbook of the Telegraph," or "Ferguson's Electricity."

For eight subscribers, "Dr. Lardner's Electric Telegraph," or "Prescott's History, Theory and Practice of the Electric Telegraph," or "Turnbull's Electro-Magnetic Telegraph," or any other books on the list of equal value.

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We have, also, a few copies of Vol. 3 of THE TELEGRAPHER, very handsomely bound, which, if preferred, we will give instead of the books above named in this class.

For twenty subscribers we will give "Noad's Manual of Electricity," or any other books of equal value on the list, as may be preferred.

To the person who shall, before the expiration of the present volume, obtain the largest number of subscribers, not less than fifty, we will present a splendid copy of "A TREATISE ON ELECTRICITY," by A. DE LA RIVE, in three volumes, 8vo., the lowest price of which is \$36.50.

Persons who desire to avail themselves of the above offer, are requested to notify us of the fact, and they will be credited with the subscriptions forwarded, until they decide which of the above premiums they desire to receive.

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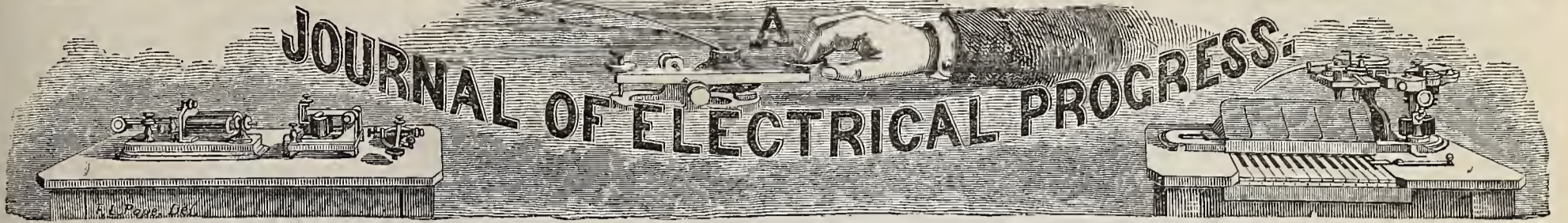
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York, Sept. 15, 1867.



# THE TELEGRAPHER.



Vol. IV.—No. 39.

New York, Saturday, May 23, 1868.

Whole No. 97.

## The Government Telegraph Project.

THE *World*, of this city, published, on May 12th, a long and able article in opposition to the Government assuming control of the telegraph, as proposed in Great Britain and the United States. We regret that our restricted limits preclude us from publishing the article entire, and that we can only find room for extracts. After briefly referring to the mismanagement, corruption and extravagance which characterize governments generally, it proceeds to demonstrate the correctness of the position that the functions of governments should be contracted instead of enlarged, and restricted chiefly or solely to the ordaining and upholding of justice between man and man. The *World* says:

"It is probable, since the people of this country are the source of all political power, and can, whenever they choose, determine its distribution or its abridgement, that they will not commit to their Government such an enormous increase of duties as the control of all the railroads in the United States and all the telegraph lines. Apart from constitutional hindrances, the common sense of the people, and their experience of the superior efficiency of private enterprise, and the superior economy of private management, will spare us from making such a gigantic blunder as either of these projects would be. The business of letter carrying is more likely to be taken from the hands of the Government than the business of passenger and freight carrying, or the transmission of telegrams, to be added to the already vast aggregate of its wretchedly performed duties.

It is not so clear that Great Britain is to be saved from the like blunder. The project there is seriously discussed of giving the control of the railroads, in one form or another, to the State, and the Government has actually introduced in Parliament a bill for the acquisition of the electric telegraphs by the post-office—a bill founded on two reports by a Mr. SCUDAMORE to the present and the late Postmaster-General. Strange to say, journals of as liberal a political philosophy as the *Economist*, edited by that distinguished publicist, WALTER BAGEHOT, author of one of the ablest contemporary books on the English Constitution, oppose this project feebly or not at all. And we have looked through the monthly, weekly, and daily press of Great Britain in vain, to find such an oppugancy to it as was to have been expected from some such quarter, if the principles upheld in their political treatises of the highest class are to have any application in practical affairs.

Yet, if the philosophers are silent, business men of less pretensions are not. And the case against the Government bill for acquiring the telegraph lines is fully stated and maintained by those whose private interests are chiefly affected, yet with arguments such as alone will now avail, founded upon public interests. \* \* \*

The first liberty the opponents of the Government bill take is that of disbelieving the "facts" upon which it pre-

tends to be founded. The said "facts" are concisely these: (1.) Great Britain, as compared with Belgium and Switzerland, is deficient in telegraph facilities. (2.) The tariff is higher. (3.) As a consequence, telegraphic correspondence has not developed there so rapidly as on the Continent. These "facts" are extorted from a comparison of inland telegrams with inland letters, and a comparison of miles of telegraph line and numbers of telegraph offices with territory and population in the three countries.

The reply is, before a comparison between letters and telegrams can be depended on, they must be shown to be of a similar character, which in great part they are not. Again, comparing telegrams with areas and the result is: messages to the square mile in the United Kingdom, 51; in Belgium, 61; in Switzerland, 44. Government management proves nothing here, for Switzerland cancels Belgium. But when we consider that the area of the United Kingdom is 122,000 square miles, whereas Belgium contains only 11,000, and Switzerland only 15,000, the comparison is more to the credit of Great Britain than to the credit of the Continental States. Moreover, the number of messages sent in the United Kingdom is one-fifth of the total number of inhabitants, whereas in Belgium it is only one-seventh and in Switzerland one-fourth. It is plain that density of population is to be taken into account, and aggregate areas as well, for lines are not needed over waste spaces, and the more scattered the population the smaller must be the proportion of miles of wire required.

In the next place, the higher tariff rate of Great Britain proves nothing, for on the inland messages in Belgium and Switzerland the Government tariff of a franc per message showed a dead loss of .2d on each. What was gained in the tariff England would lose in a tax, for she has no "transit" messages to get a profit from—like Belgium and Switzerland—messages passing over her territory from one country to another.

"Facts" number one and two being thus disposed of, "fact" number three, "as a consequence," falls along with them. It is not proved that telegraphic correspondence has been of slower development in England than in Belgium and Switzerland. The truth is that the development of the telegraph system there has been in a somewhat different direction. It has been, as always happens when things are let alone, and Governments refrain from meddling, a development suited exactly to, because called out by, the business necessities, the practical daily wants, the condition and progress of that particular people.

There is no security whatever, if this business were put into the hands of Government officials, that it would be done with honesty, efficiency, economy, or despatch. The telegram is an open letter. It is intrusted confidentially to private hands, and that confidence is rarely betrayed; if betrayed there is redress. Government officials would betray it whenever it were worth the

while of the Government, and there would be no redress. Let the conveyance of news become a Government duty and a Government monopoly, and it is absolutely certain that facts discreditable to an administration would be suppressed, facts valuable to an administration would be stolen, and that the power thus acquired would be used, as the present power of all Governments is used, to perpetuate power, to hinder just reforms, to prolong misrule, and to oppress the people. And when it is considered that the special power here discussed bears the same relation to the social organism that the nervous system bears to the individual organism, the manifold dangers of a surrender of its control become at once apparent."

## The St. John Telegraph Office.

THE St. John Office, being now the "repeating" office on the circuit by which New York is connected with Plaster Cove, in Cape Breton, the terminus of the lines of the Newfoundland Telegraph Company, is kept open by night as well as by day, and is engaged in receiving and transmitting public and private messages all the time. Recently the night messages have greatly increased, owing to the low tariff for long messages. There are now three wires connecting Nova Scotia with the United States—one being assigned to the United States, the Dominion of Canada, and Prince Edward's Island; and the third occupied with local provincial messages. The great reductions which have been made in the cable tariff have caused a proportionate increase in cable business. It will be remembered that the line was opened on the 28th of July, 1866, the tariff then being \$100 in gold for twenty words, including address, date and signature. This tariff was in operation to November, 1866, up to which time the cable messages did not average more than forty per day; a reduction of fifty per cent. then took place, without, however, adding greatly to the number of messages. Longer despatches were sent and the receipts increased. On the 1st December, 1867, the tariff was reduced to \$25 for ten words, five additional words for address, date and signature being permitted to be added without additional charge. This is the tariff which now exists. It caused an increase in the business transacted under the first tariff of two hundred per cent., or three times as many messages as at first, and an increase of cash receipts at 120 per cent. The press are charged half those rates. This reduction of rates to the public and the press causes both cables to be kept almost constantly employed during hours of commercial business, each cable working at a capacity of sixteen words a minute. But for the shortness of the time each day during which business is transacted in the exchanges of Europe and America, much additional business would be offered to the cable. When the telegrams of Canada and the United States and those of New Brunswick are added to the cable business, our readers will readily understand



that "all hands" in the St. John Office are kept "as busy as bees." The cable messages alone which pass through the office amount to two hundred daily. Then the batteries have to be superintended and kept in order, those in use being GROVE'S and the "Carbon Battery." The room in which these batteries are kept may be regarded as the headquarters of the establishment. Here the mysterious liquid fluid—which FARADAY thought he understood when he was a young man, but professed he could not comprehend when he was old—is, to speak in a popular rather than in a scientific manner, generated and applied to the purposes of telegraphy. It requires a man three hours daily to keep the different cells in order. Once a week he coats them with mercury, of which ponderous metal there is a great consumption. Twice a week the acids are removed and the zinc cleaned.

The St. John Office, as we have said, is supplied with repeating instruments, by means of which messages received from Plaster Cove, a distance of 350 miles, are repeated and transmitted to New York, a distance of 750 miles, or *vice versa*. The same messages could be dropped simultaneously at any intermediate stations. Under very favorable atmospheric circumstances this entire circuit of 1,100 miles, the finest working circuit on this continent, may be worked without using the "repeater," but these are the exception, and consequently the repeating instruments are constantly in use for messages, chiefly to and from the cable, passing between New York and intermediate points and Plaster Cove, whence they are sent to Heart's Content for transmission through the cable. The automatic or self-acting repeater is a truly wonderful invention. It would be difficult to explain, as, indeed, by the non-professional man it is difficult to understand, what this instrument is in a mechanical point of view, but what it *does* is intelligible enough. It takes up and transmits anew the messages received from either side of the station, sending them forward to their destination with accelerated power, without any intervention of the operator, save what is required to see that the instruments are properly adjusted. The manual labor which is thus saved represents the sum of the messages received from each end of the line, to say nothing of the stretch on the mind of the operators that is thus prevented.—*St. John Journal*.

#### Indian Attack on a Pacific Railroad Train.

ST. LOUIS, *May 9.*

A BAND of Indians made an attack yesterday afternoon on the Union Pacific Railroad, Kansas Branch, about twenty miles from Coyote. They stopped a freight train, and burned three car loads of freight and construction material, and tore down the telegraph wires. They then moved east toward Coyote, where, it is said, they would be received by a large force of railroad men, well prepared with arms and ammunition, furnished by the government to meet such an emergency. Two companies of cavalry have been ordered from Fort Hayes to pursue the Indians; and other posts along the line have been notified of the condition of affairs.

#### Solution of a Telegraph Charade.

FULTON, ILL., *May 13.*

My first is a proper numerical;

Without my second and last a trinity is impossible;  
My whole to ladies fair are offered.

By telegraphers only can this be answered.

Allow me to "offer" to the author of the above, my  
"73."  
RELAY.

EFFECTS OF ATMOSPHERIC ELECTRICITY.—During a recent severe thunder storm the atmospheric electricity melted and destroyed over a thousand feet of telegraph wire near Chenowa, Illinois.

### 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.*

WEST VIRGINIA DISTRICT, N. T. U.,  
NEWBURG, W. VA., *May 11.*

TO THE EDITOR OF THE TELEGRAPHER.

I SEND you the following for publication, as it may probably meet the eye of the executive committee through the columns of THE TELEGRAPHER.

Some three years ago a gentleman, at present telegraphing on this line, was a member of the Washington District, in good standing, and intended continuing so. He quit the business for a time, and was gone two years peregrinating in the western wilds among "bar and buffers." Before leaving he requested a member of Balto. District to keep his dues paid up in Washington, as he intended coming back soon to resume his duties as an operator. His friend agreed, and made several efforts to keep him square, but could gain no information from Washington on the subject. In course of time the rambler was expelled for non-payment of dues, and when he returned found he was a defunct Union man. When this District was organized he desired to join it, but could not unless he paid up his back dues, amounting to nearly twenty dollars. He didn't feel able to do this, and an effort was made to get the executive committee to release him from his embarrassing situation. I had him and his friend to write certificates, explaining his case, and forwarded them to Mr. Bliss, at Chicago. As several months have elapsed and we have no answer from the committee, I thought it proper to request you to publish the facts and then we *might* get an answer. I should have stated before that the party unjustly expelled wrote to the president, last November, without eliciting a reply.

The executive committee have power to refund the amount owing by delinquents, and I can conceive of no case where their power could be exercised with more justice than in this. The party was willing, aye anxious, to pay his dues while he was away, and owing to somebody's fault the Union is deprived of a worthy and earnest member. I think the executive committee should have attended to this matter before this, if they are, what the constitution says, "to attend to such other matters as the interests of the Union may require."

Fraternally yours,

J. HOPE SUTOR, D. D.,  
West Va. District.

CHICAGO, *May 13.*

TO THE EDITOR OF THE TELEGRAPHER.

WE, or more particularly "three men," were considerably amused at the appearance, in the last issue of your welcome paper, of an article from the pen of a "justice-loving" Cincinnati, who kindly furnishes us with several items of information concerning the management of affairs here, which, while they enlighten us, afford him a fine opportunity of paying a tribute to the wonderful powers of endurance of the gentleman who copies the night report at that point. We were not aware that the mere fact of taking a report efficiently had been made the subject of rejoicing among us, but, human as we are, it would be difficult to say what excesses we might commit had we a phenomenon among us nightly doing the work of "three men," in addition to copying a river report.

It may be attributable to locality, still, we confess to the weakness of reading the article giving an account of the wonderful achievements in Cincinnati unmoved. Our want of ecstasy will be pardoned, perhaps, when it is understood that the same report is copied in Cleveland,

St. Louis and Milwaukie, by one man alone at each point, yet these gentlemen do not consider it a matter of sufficient importance to warrant them in inviting the attention of the profession to it.

For the enlightenment of our Cincinnati friends, we would say that the "three men" not only copy the report from the east, but send a lengthy report west, also work the California wire, and are expected to make themselves generally useful. We stand in awe of the magnitude of that river report, but timidly venture the assertion that it is not more to be dreaded than an hon'r's entertainment with Wells, Fargo & Co.'s ciphers.

In reply to the charge of "breaking," we would say that we copy report entirely by sound, and are not guided by any of the other senses. In point of legibility and correctness of copy, we claim no superiority over other offices, but modestly accept the opinion of those who are most concerned, that it is everything that could be desired. We trust our Cincinnati friends will allow us to quietly enjoy any little flattery that may have been bestowed upon us. We promise to bear our imposed honors blushing.

As an evidence of the interest felt in impeachment here, it is only necessary to say that our check boys have placed their opinions on record. One of them, an anti-Wader, sorrowfully expresses the hope that "the President will not be *disposed*." I may add that it is the same youth that addresses specials to the "*Quincy Wig*" (Whig).  
H.

PROVIDENCE, *May 12th.*

TO THE EDITOR OF THE TELEGRAPHER.

In a recent number of the TELEGRAPHER I observe the following:

DISGUSTED.—A member of the fraternity at Springfield, Mass., disgusted with the continued "breaking" on the New York and Way East report circuit, one evening put the following question: "Is this a report circuit or a milk route?"

There is, evidently, a misapprehension on the part of the writer of the above, in supposing that the operator at Springfield was disgusted. The wire alluded to is, most assuredly, a "milk route," in every sense of the word, and the fact is notorious; but since the operator at Springfield is one of the largest customers, such an inquiry must have emanated from solicitude rather than from disgust—unless, indeed, his disgust was engendered by his own breaking.  
PIP.

#### TO CORRESPONDENTS.

WE are again obliged to ask the indulgence of our correspondents, as we are compelled, from lack of room, to postpone the publication of several communications which were intended for insertion in the present number of THE TELEGRAPHER.

#### The Telegraph and the Gold Market.

THE principal bankers and brokers of this city have recently been furnished with direct telegraphic communication to their several offices, by which they are informed instantaneously of each and every fluctuation of gold as they occur in the New York Board. The wires run direct to their buildings, connecting with the lines of the Bankers and Brokers' Telegraph Company.

The apparatus and instrument used to accomplish this desirable object is one of the most complete and scientific inventions in the history of telegraphy. It is remarkable for its simplicity, and though it has only been in operation since Saturday last, has already won the praise and endorsement of the business public for its accuracy.

The working of the apparatus is principally automatic, and the instruments are so constructed that they convey to the face of the indicator the quotation simultaneously in every banking house where they are placed.—*Phila. Bulletin*.



## PERSONAL.

Mr. IVES has resigned his position as operator in the W. U. Syracuse office, and gone into the furniture business in the town of Cortland, N. Y.

JOHN FOLEY, formerly of the up-town office in Utica, takes the position vacated by Mr. IVES.

Asst. SCHALL, from Mohawk, N. Y., takes charge of the "Ut." Utica office.

C. H. BILLINGS sailed on Saturday, 16th inst., in steamer for Panama, where he has accepted a position as an operator.

AN office has been opened in Sing Sing prison. HENRY H. PIERSON is the operator in charge.

THE New York Legislature having adjourned, the office in the capitol has been discontinued, and the operator, JACK CARROLL, has resumed his old duties as operator and stateroom clerk for the People's Line of steamers, at their office in Albany.

J. H. COCHRANE, late of New York, is filling the position of book-keeper in the W. U. Albany office, recently vacated by JAMES HIGGINS.

W. B. PHILLIPS, of Watertown, N. Y., has been appointed night operator at the Bridge depot, Albany, vice R. A. GAGER, resigned.

H. TAYLOR has given up his place in the N. Y. C. Telegraph Office, Schenectady, to accept a position as operator for the C. B. and Q. R. R. in the Burlington office. H. C. SOUTHWICK, of Brockport, is his successor.

D. C. OTIS, and an accomplice in the late Express robbery at Hempstead, Texas, were arrested in Louisville, Ky., on the 4th instant.

L. B. SPELLMAN, late of Texas, has gone to Mason, Tenn., to engage in mercantile pursuits.

Mr. JOHN VAN HORNE, General Superintendent Southern Division N. U. Telegraph Co., arrived at Galveston, Texas, on the 2d of May, intending to take a horse and buggy trip through the State, probably to satisfy himself as to the practicabilities of various proposed routes of telegraph lines. He is accompanied by the well-known telegraph line builder, ED. C. BURKE. Our correspondent says he wishes them a safe journey, but does not know whether they had their lives insured previous to their starting or not.

Mr. JOSEPH W. STOVER has resigned his position as manager of the Franklin Telegraph Office, No. 11 Broad street.

Mr. MOWRY W. SMITH has been appointed manager of the Franklin Telegraph Company, No. 11 Broad street, vice J. W. STOVER, resigned.

A PRIVATE letter from San Francisco says Colonel C. S. BULKLEY is now in that city, having lately returned from Victoria, V. I., where he has been superintending the shipment of cable and wire (dividends of the Russian extension) to New York.

Mr. C. H. BILLINGS, lately in the employ of the Bankers and Brokers' Telegraph Co., at 16 Broad street, in this city, has accepted a situation with the Panama Railroad Co., at Panama, N. G., and sailed from this port on the 16th inst., by the steamer Ocean Queen.

Mr. C. KINNEY SMITH, who has retired from the Western Union Company's Produce Exchange Office in this city (erroneously printed "Commercial" Exchange), was manager of that office *pro. tem.* during the illness of Mr. JAMES W. HARON, who is now and has been in charge of the office since its establishment in 1864.

TIME AND DISTANCE ANNIHILATED.—In less than four minutes after the vote on the Eleventh Article of the Impeachment trial the result was known in every important place in the United States and British possessions, wherever the telegraph penetrated.

## TELEGRAPH.

## Bishop's Telegraph Rooms.

Mr. S. C. BISHOP has opened his rooms at 113 Liberty street, over the office of the BISHOP GUTTA PERCHA COMPANY, for the reception, exhibition and sale of telegraph apparatus and material. All needed facilities will be afforded inventors for testing their inventions and demonstrating their practicability and usefulness. The value and importance of this enterprise can hardly be over-estimated, and we hope that Mr. BISHOP may meet with liberal support in this enterprise.

## The Fire-Alarm Telegraph.

THE Albany *Express* of the 7th inst. says, "The Fire-Alarm Telegraph is rapidly approaching completion, and it is believed that it will be put in operation about the 20th inst. Nearly all the wire has been strung, and the bell-strikers have been placed in two of the four church towers to be used. The other two will be put in during the week. The central office, in the Union Bank building, is in readiness, and nearly all the machinery to be used therein has arrived. The signal boxes will be put up next week, and it is confidently expected that the work will be fully completed by the 20th of the present month.

NEW TELEGRAPH LINES.—The Western Union Telegraph Company are putting up another set of wires between New Haven, New London and Providence, and intend to lay a cable across the Thames River. The cable will be 1½ inches in diameter and will cost about \$4,000.

THE TELEGRAPH IN CHICAGO.—The Atlantic and Pacific Telegraph Co. has made application to the police authorities for the temporary use of the fire-alarm telegraph cables at Adams street, until the completion of the Washington street tunnel.—*Chicago Evening Journal.*

TELEGRAPH EXTENSION IN THE WEST.—The Western Union Telegraph Company are about to build a telegraph line on the route of the Cedar Falls (Iowa) and Minnesota Railroad.

THE TELEGRAPH IN THE TROPICS.—On the 5th of April an influential meeting was held at Pernambuco to consider the best mode of aiding in the construction of a telegraph line between that city and Rio de Janeiro. The Associaçao Commercial Beneficente was charged with the promotion of the object, and measures were to be at once taken with regard thereto.

THE SECOND CUBA AND FLORIDA CABLE.—The cable to be laid from the southern point of Florida to Cuba has been completed by the English manufacturer, and will be laid this summer. It is proposed to place the Dry Tortugas and Fort Taylor in telegraphic communication with the main land, which scheme will, no doubt, be carried out. It is further proposed to lay a cable from the Isthmus of Panama to Cuba.

INDO-EUROPEAN TELEGRAPH COMPANY.—A prospectus has been issued of the Indo-European Telegraph Company, capital £450,000, to carry out the projected line, for which exclusive concessions have been granted by the Prussian, Russian, and Persian governments, so far as their territories are respectively concerned.

## New Patents.

76,993.—PRINTING TELEGRAPH.—Edward A. Calahan, Brooklyn, N. Y.

I claim, 1st, A magnet for giving or controlling the impression, placed in a main electrical circuit, that is separated from the circuit that controls the type wheel or denoting device, so that the impression can be made independent of any other operation, when the type wheel, or denoting device has been properly moved, substantially as set forth.

2d. Two or more type wheels, separately controlled by magnetism, and side by side, or with their axes on the same line, so as to be impressed jointly or separately, on the strip of paper, substantially as, and for the purposes set forth.

3d. The combination of the type wheels, k and l, magnets, f and i, with the magnet, c, and impression roller, u, or its equivalent, substantially as, and for the purposes set forth.

4th. The reverse ratchet wheel, q, and pawl arm, in combination with the ratchet wheel, p, and pawl, 2, for moving and holding the type or character wheel, substantially as set forth.

77,882.—ELECTRO-PHONETIC TELEGRAPH.—Royal E. House, Binghamton, N. Y. May 12, 1868.

I claim, 1. The use of the reflector, shaped and proportioned in accordance with the principles described, and for the purposes set forth.

2. The respective arrangement and combination of the reflector and sounding-head, as described.

3. The combination of the reflector with sounding-head and limiters, as described, and for purposes set forth.

4. Hinging the sounder and adjusting its angle, as described, for the purpose of regulating the distance through which the permanent magnetic force shall move.

5. The use of a set of deflecting magnetized needles, constructed as described, and relatively arranged as described, for purposes set forth.

6. Constructing the axial aperture of a deflective-needle helix, constructed with an axial aperture, as described, with a set of deflective needles, constructed and relatively arranged, as described, for the purposes set forth.

## OBITUARY.

PROFESSOR CHARLES GRAFTON PAGE, whose death was announced in the last number of the TELEGRAPHER, was best known to the scientific world by his early experimental investigations in electricity, more especially in electro-magnetism and magneto-electricity, and by his numerous inventions for the illustration of these branches of science, and for their application to practical purposes. The account of these inventions and discoveries were published in *Silliman's Journal*, to which, as well as to other scientific journals, Professor PAGE was a frequent contributor. The first of these papers on electrical science, prepared by him, was published in 1834.

The early life of Professor PAGE was passed at Salem, Massachusetts, where his parents resided. In 1832 he graduated at Harvard College, and afterwards pursued the study of medicine in that University. At an early age he manifested a strong inclination for scientific pursuits, and was distinguished while in college for his proficiency in scientific studies.

In 1837, he removed to Fairfax County, Virginia, where he commenced the practice of medicine, in which, however, he did not long continue, as he was soon after appointed an assistant examiner in the Patent Office, at Washington. His duties there gave him unusual opportunities for pursuing scientific studies and experiments, and were, therefore, much more congenial to him than the practice of his profession could ever have been. He had not been in the Patent Office long when he was advanced to a full examinership. The entire business of the office at that time, as regards examination, was performed by two examiners and two assistants, and the duties of the position necessarily required perfect familiarity with applied science and a wide range of practical information. The duties were arduous and responsible; but in addition to them Professor PAGE added the Professorship of Chemistry and Pharmacy in the National Medical College in Washington, which position, however, the engrossing duties of his office finally compelled him to resign.

In the year 1849, having attracted the attention of the Government to the subject of the application of electricity as a motor, by his surprising experiments with large iron bars, acted upon by galvanic currents in coils of copper wire, he obtained by Act of Congress a large appropriation for experiments on the application of electricity as a motive power. Though these experiments ceased with the failure of means for carrying them on, yet they were, as we have been informed, the most successful and magnificent of the kind that have ever been performed. Among other results actually attained, a car, weighing *eleven tons* and containing *fourteen passengers*, was propelled by one of Professor PAGE's electro-magnetic engines, on the Baltimore and Washington Railroad, at the rate of nineteen miles an hour. These experiments and investigations excited great attention, and added much to the reputation of Professor PAGE as a practical and scientific investigator.

The results of his experiments in applying electricity as a motor so far encouraged him in the anticipation and confidence of complete success, that, with the expectation of aid from private capital, he resigned his position in the Patent-Office in order that he might devote his time and talents exclusively to this enterprise.

His expectations not having been realized, Professor PAGE became one of the editors of the *American Polytechnic Journal*, which was published during the years of 1853-54, but which was finally discontinued.

In 1861 he was again appointed an examiner in the Patent-Office, in charge of electrical and philosophical instruments, which position he continued to hold until his decease.

Professor PAGE was the author of numerous inventions—of which, unquestionably, the most important was that of the induction coil, which was based upon experiments made and published in 1836-37. This instrument is substantially the same as what is known as the "Ruhmkorff Coil." Within the last few months Professor PAGE had obtained a patent for this invention under a special Act of Congress—an acknowledgment of the just claims of an American inventor.

Professor PAGE also assisted in the early experiments with the electro-magnetic telegraph, and by his practical suggestions contributed not a little to a successful result. His last published work is a "History of the Induction Coil"—an elaborate and impartial review of the claims of all who have contributed to the perfection of that instrument.

In his death science—more especially electrical science—has experienced a severe loss, and it will not be easy to fill his place in the scientific world. He was one of the few men whose lives may be regarded as a public benefit, and whose decease is a loss and misfortune to mankind.

## MARRIED.

CRAWFORD.—MOORE.—In this city, May 9th, Mr. L. S. O. CRAWFORD, attorney at law, to Miss JOE. E. MOORE, telegraph operator, Western Union Office, 145 Broadway.

BABBITT.—HOMMER.—At Indianapolis, May 12th, 1868, CHAS. W. BABBITT to Miss JENNIE HOMMER, both of that city.

LAWLER.—WOLFF.—In Cincinnati, Ohio, on Tuesday evening, May 12th, at the residence of the bride, by the Rev. Archbishop PURCELL, Mr. WM. J. LAWLER, book-keeper in the Western Union Telegraph Office, to Miss GEORGIA WOLFF.





SATURDAY MAY, 23, 1868.

## THE ONWARD MARCH OF THE TELEGRAPH.

THERE has never been a time, since the art of Telegraphy became a practical matter, when investigations in the science, or improvements in the apparatus used, was more actively or successfully pursued than at present. Some of the best and most thoroughly scientific minds of the age are engaged in investigating the principles of electricity, and their application to the practical business of telegraphing; and the most practical and efficient mechanical genius is employed in simplifying and improving the instruments and appliances required.

The results of their labor we endeavor to collate, and present weekly to the readers of THE TELEGRAPHER, and it affords us much satisfaction to learn that our efforts are appreciated, and that this paper has come to be regarded as authority in such matters.

The recent practical adaptation in this country of the simultaneous use of a wire for transmission of signals in opposite directions, we regard as the most important advance in practical Telegraphy that has been accomplished of late years. The exhaustive treatise on this improvement, prepared by Mr. F. L. POPE for THE TELEGRAPHER, and published in numbers 94 and 95, has informed our readers fully of what has been attempted and accomplished in this direction. Although at present only in use upon one line (the *Franklin*), it cannot fail at an early day of adoption by other companies, vastly increasing the capacity of existing lines for the transmission of business, and decreasing the comparative expense. Other discoveries and improvements, which it is not our province in this article to discuss, are greatly adding to available facilities, and bringing the telegraph, day by day, into more general use. Almost every week it is our privilege to present to our readers new inventions and discoveries; some of them, it is true, of little practical value, but many of great value and importance.

The active competition in the telegraph business, which is again springing up all over the country, is stimulating the scientific and inventive genius of our scientific and mechanical master-spirits to an extent hitherto unknown, and the results cannot but prove of incalculable advantage. If the telegraph lines in this country and Great Britain can be kept out of the hands of the governments, we look for most remarkable developments in telegraphic science, from the researches and inventions now in progress. Only under the stimulus of private enterprise, in our opinion, can or will these researches and inventions be carried forward and perfected, and this alone should be sufficient to prevent the deadly blight of Government control and patronage falling upon this necessity of social and business life.

The telegraph is constantly entering more and more into universal use for social and commercial purposes. By means of instruments especially adapted to such purposes, brokers and others interested are constantly and instantly notified of the fluctuations on the stock and gold exchanges, so that the gold and stock telegraph instruments are becoming indispensable in the office of every broker and banker. With these the broker can sit in his office, and, without the necessity of his personal presence at the boards, as heretofore, give his orders to

buy or sell, as may seem to him desirable. The advantage of this adaptation of the telegraph is fully appreciated by those interested, and the orders for instruments are weeks ahead of the ability of the parties establishing these enterprises to supply them.

The number of private lines connecting stores, warehouses, manufactories, and residences of merchants, manufacturers, and others, is already very considerable, and steadily and constantly increasing. In some instances, private wires, hundreds of miles in extent, are constructed for the private use of houses engaged in large business with branches or manufactories in widely separated localities, and the advantage of such constant and instantaneous communication are found to be sufficient to warrant the great expense attending their construction and maintenance.

For the short lines simple dial instruments have been invented, which can be worked by any one of ordinary intelligence and acquirements, and which, though somewhat slow in their operations, meet the necessities of those using them.

In this branch of Telegraphy great progress has been made within the last year or two, and the class of instruments adapted to such uses has been greatly simplified and improved.

The future of the telegraph we believe no man now living can foresee; it is as yet but in its infancy. Intimately associated, as it is now, with all the most important business and social interests of the people, it is destined, from year to year, to become still more so, until it shall be as commonly used as are the mails at the present time.

The expense attending it, which now limits its use, will gradually be reduced, until it shall come within the means of all to employ it. Its honors and emoluments are not yet, by any means, exhausted, but we believe will be greater in the future than in the past.

We desire that these discoveries and improvements shall be encouraged. In the future, as in the past, THE TELEGRAPHER will advocate and illustrate every new discovery in telegraph science and art. Its columns are open to all who have any thing of real value to present in connection with the telegraph. Every new discovery or invention will be candidly and fairly considered and discussed, and if it shall be found in any respect an improvement its adoption will be advocated, by whosoever made or presented. We desire only improvement and advancement, believing that therein will be found the real and permanent interests of the practical telegraphers of the country.

## The Induction Coil Patent of Prof. Charles G. Page.

SOME excitement has been created in telegraph circles by the statement that the heirs of the late Prof. CHARLES GRAFTON PAGE claim that the special patent granted to him, by act of Congress, covers all known forms of telegraphy, except the simple closing of a circuit by the key and hand, practically putting American telegraphing in the hands of his heirs.

We apprehend that there must be some misunderstanding in regard to this matter. We have carefully examined the claims on which Prof. PAGE'S patent was granted (and which have already been published in our columns), and the only clauses on which such an assumption can possibly be founded are the fourteenth and fifteenth, and these could not, in our opinion, be sustained against any of the numerous telegraph instruments invented and in use at this time. We have not room this week to go into a discussion of this subject, and must content ourselves with a few general observations.

The object of Prof. PAGE in obtaining the special act of Congress referred to, was doubtless merely to obtain honorable recognition of the fact that he was (as has been

demonstrated) the original inventor of the so-called RHUMKORFF coil, and a vindication of his right and title to that invention. It is not probable that the idea of gain, or of making the telegraphic interests of the country tributary to him, actuated him in seeking this recognition and vindication; it was the desire to establish his reputation as a scientific man, and expose the pretensions of RHUMKORFF and others, who had acquired great and honorable reputation at his expense. And even if the patent could be construed to cover all that is understood to be claimed by the heirs of Prof. PAGE, we doubt whether it could be maintained in a Court of Law and Equity. Congress has no right to legislate away the vested rights of the public or of private individuals. Such legislation is doubtless unconstitutional, and would be so declared by the Supreme Court.

Prof. PAGE, in his position as Examiner of Patents, has passed on and approved hundreds of patents for electrical and telegraphic improvements and inventions, which now it is claimed are tributary to his heirs.

When Prof. PAGE'S application was before Congress, it was distinctly stated that it applied to induction coil apparatus, and its passage was urged as a just recognition of the scientific attainments of a distinguished American citizen, unjustly defrauded of his rights and credit in that particular branch of electrical science. Had it been intimated that the patent applied for covered telegraph inventions in use for a score of years, and which, by expiration of the original patents, had become public property, it would not have received ten votes in either branch of Congress.

Should the design attributed to the heirs of Prof. PAGE be persisted in, we shall have something more so say on this subject.

## Hon. E. B. Washburne's Government Postal Telegraph Hobby.

IN the United States House of Representatives, at Washington, on Monday last, Hon. E. B. WASHBURNE, of Illinois, introduced a bill for the construction of a Government Telegraph line from Washington to New York, under the direction of the Post-office department. This is Mr. WASHBURNE'S hobby, and having despaired of inducing Congress to enter at once upon his pet scheme of buying up all the telegraph lines in the country, good, bad and indifferent, and assuming the entire management and expense of the telegraph business of the United States, he has concluded to try to get the matter started in a small way, in hopes that once having got into the trap Congress may be wheedled or badgered into going the whole figure.

Mr. WASHBURNE proposes to buy or build a telegraph line, comprising four wires, between New York and Washington, open offices at all way stations, and do the business for one cent a word, uniform charge, half price to newspapers and government "dead heads," pay a General Superintendent \$3,500 per year salary (how such extravagance would shock our Western Union friends), and do various other and sundry things, which want of space prevents us from enumerating; for all which \$75,000 is to be appropriated, which, no doubt, will be sufficient—as long as it lasts!

We don't think the majority of Congress is green enough to throw away this \$75,000, even at the gentle solicitation of our good-natured but extravagant friend, WASHBURNE. We shall see.

For a serious and truthful presentation of the arguments and facts on this subject of Government Postal Telegraphs, we would call the attention of Mr. WASHBURNE, and all others interested, to the able and exhaustive article from the *New York World*, which we reprint on our first page.

TELEGRAPH ENTERPRISES IN CALIFORNIA.—Telegraph wires have been stretched across the Columbia River, five miles beyond the Cascade. The Western Union has projected a new line across the Sierra Nevada, following the railroad.



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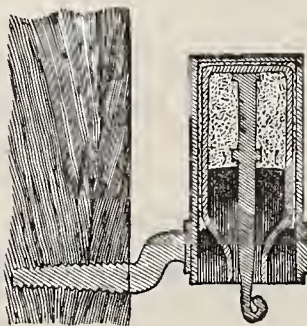
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To establish a claim to either of the premiums, the subscriptions must be from parties whose names are not now upon our books, and must be at the regular rate of Two DOLLARS per year. Two six-months' subscriptions will count as one in calculating for a premium.

We have already had occasion to open accounts with several Telegraphers who have sent in names of new subscribers since we announced our list of premiums last week, and hope to distribute hundreds of dollars' worth of valuable works on Telegraphy and Electrical Science in return for accessions to our subscription list.

The subscription price of two dollars per year must, in all cases, be remitted with the names of the subscribers by parties desiring to avail themselves of our offer.

For five subscribers, new, we will give to the party forwarding the names and money, "Highton's History of the Electric Telegraph," and "Bond's Handbook of the Telegraph," or "Ferguson's Electricity."

For eight subscribers, "Dr. Lardner's Electric Telegraph," or "Prescott's History, Theory and Practice of the Electric Telegraph," or "Turnbull's Electro-Magnetic Telegraph," or any other books on the list of equal value.

For twelve subscribers, "Shaffner's Telegraph Manual," or "Culley's Handbook of Practical Telegraphy," or "Sabine's Electric Telegraph," or "Noad's Student's Text-Book of Electricity." Or, instead of these, any other book or books on the list, of equal value.

We have, also, a few copies of Vol. 3 of THE TELEGRAPHER, very handsomely bound, which, if preferred, we will give instead of the books above named in this class.

For twenty subscribers we will give "Noad's Manual of Electricity," or any other books of equal value on the list, as may be preferred.

To the person who shall, before the expiration of the present volume, obtain the largest number of subscribers, not less than fifty, we will present a splendid copy of "A TREATISE ON ELECTRICITY," by A. DE LA RIVE, in three volumes, 8vo., the lowest price of which is \$36.50.

Persons who desire to avail themselves of the above offer, are requested to notify us of the fact, and they will be credited with the subscriptions forwarded, until they decide which of the above premiums they desire to receive.

It is understood that the last premium is to be in addition to any others that may be received.

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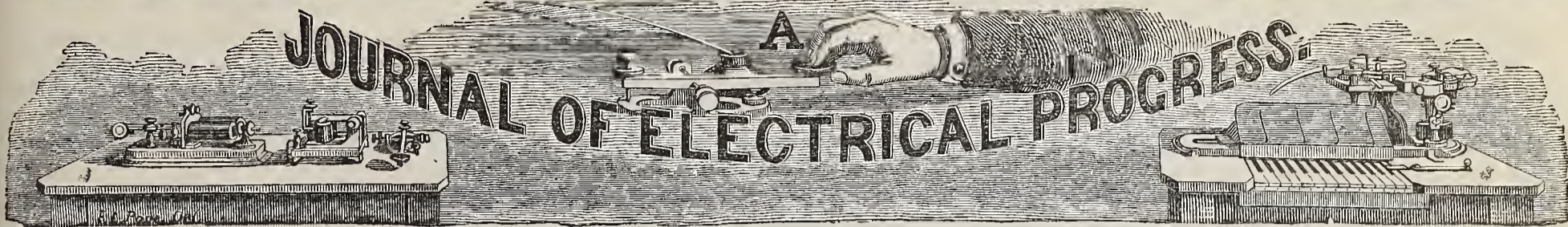
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New York, Sept. 15, 1867.



# THE TELEGRAPHER.



Vol. IV.—No. 40.

New York, Saturday, May 30, 1868.

Whole No. 98.

## SENSIBLE.

THE *Evening Post*, of this city, referring to various propositions before Congress that Government shall undertake business which should legitimately be left to private capital and enterprise, thus sensibly refers to Mr. WASHBURNE'S bill for the construction of a Government Telegraph line between Washington and New York:

"Here we find the government, which already has about as much as it can do to collect revenue and see justice done, asked to go also into the business of telegraphing. It is not only to set up an opposition telegraph line, but it is to undersell the present private corporations; and thus the whole power and capital of a government of forty millions of people are to be openly pledged to drive out of business, if they can, a private company of citizens.

Why should the government set up and manage telegraph lines? Has it more money in the treasury than it knows what to do with? Are the people anxious to be taxed more heavily? Have the government officers at present employed so much idle time on their hands that they need to manage telegraphs to keep them busy?

This bill proposes that the government shall build and own a telegraph line between Washington and New York; but does any one imagine the job will stop there? Why between Washington and New York? Will not Boston demand also a government line; and New Orleans, Charleston, Cincinnati, Chicago, San Francisco, have not all these, not to omit Toledo, an equal right with Baltimore or Philadelphia to a government telegraph line?

Moreover, if the government should go into the telegraph business, why not into the express business also? The Postmaster-General now sends letters, therefore he ought, according to the friends of this project, to send also telegraphic despatches; so, as he carries small parcels, he ought, on the same grounds, to go into the express business. In the same way, as the Secretary of the Interior surveys and sells the public lands, would it not be well to have him also fence them, plough them, plant them with corn and wheat, or perhaps with oranges and bananas? So the Secretary of the Navy has a number of steamers under his control. Why should he not undertake the conveyance of passengers and goods from one port to another, with a provision that he shall always charge a little less than any private ship-owner?

Why is it not far better to leave all these affairs to be conducted by private enterprise? Are the people so prosperous and so lightly taxed that they would like to pay the cost of telegraph lines all over the country? Are government patronage and office-seeking so excellent and elevating that it is useful to increase both enormously by adding largely to the number of men employed by the government? We have now a government post-office, and everybody who wishes to send a letter in a hurry employs a special messenger or a private despatch post; is it likely that the government telegraph will be better served than the government post-office?

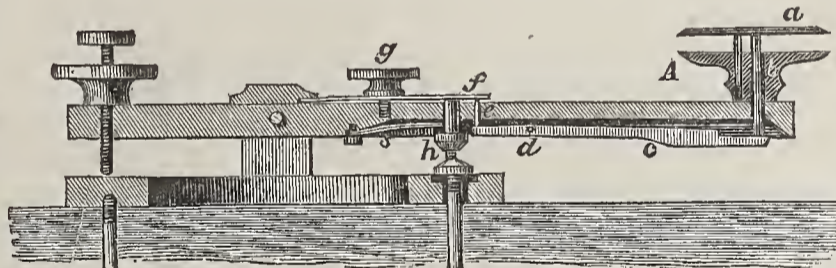
It is quite natural that persons who have for some years urged what is called "protection," that is to say, government favoritism of particular interests at the expense of the whole country, should also favor the establishment of all sorts of enterprises by the government. But we suspect that the people, who already pay as heavy taxes as they can bear, will not tolerate the imposition of new taxes for such absurd and unnecessary purposes."

## GILLESPIE'S SELF-CLOSING KEY.

A SHORT time since we published in THE TELEGRAPHER a description of a self-closing telegraph key, intended more especially for the use of railway telegraph lines. We now present our readers with another, and entirely different arrangement, for this purpose, which is claimed to be, in some respects, an improvement over the other.

The annexed cut represents a horizontal sectional elevation of the key and its attachments. A longitudinal groove is cut in the under side of the key-lever, within which the working parts of the apparatus are mostly placed, as shown in the figure.

The knob, A, which is but slightly different from the form in general use, is supplied with a movable finger-plate, *a*, which, when the key is at rest, is maintained in a position a little above the knob, A, by means hereafter to be described. This finger-plate is attached to a vertical spindle, *b*, passing through the knob, and resting upon one end of the lever, *c*, which is pivoted at *d*. A small pin, or stud, *e*, passing through a hole in the key-lever, rests upon the other end of the lever, *c*. A flat steel spring, *f*, upon the top of the key-lever presses upon the



stud, *e*, and thus maintains the finger-plate in the position shown in the figure when the key is not in use. The strength of the spring, *f*, is adjustable at pleasure, by means of the screw, *g*. The platina point of the key, which forms the working connection, is placed upon the lower end of a pin, *h*, which is allowed a slight vertical movement only, and is pressed firmly against the lever, *c*, at all times, by means of the spring, *s*.

It will thus be seen that when the key is not in use the platina point, *h*, will be kept firmly in contact with the anvil of the key by the force of the spring, *f*, acting through the lever, *c*. When the finger-plate, *a*, is depressed by the finger of the operator, the opposite end of the lever, *c*, is elevated, and also the platina point, *h*, the latter by the action of the spring, *s*, thus opening the circuit in readiness for working. The peculiar manner in which the pin carrying the platina point, *h*, is inserted into its place renders it perfectly firm while the key is in use, as will be seen by a careful inspection of the diagram.

It will be noticed that the spring, *f*, may be so adjusted as to change the key from a self-closer to an ordinary open circuit key at pleasure.

This key is in every respect as convenient to work

with as one of the ordinary pattern, one of its principal advantages being that the knob is fixed firmly in its place, instead of being movable, an objection to which several other inventions of this kind are open.

The credit of this invention is due to Mr. A. J. GILLESPIE, of Ottumwa, Iowa, from whom any further information desired may be obtained. An advertisement of this key will appear in THE TELEGRAPHER of June 13th, by which time Mr. GILLESPIE will have them manufactured, and be prepared to fill all orders promptly.

## The Northern Telegraph Company.

THE NORTHERN TELEGRAPH COMPANY, opened from Boston to Bristol, N. H., last September, is contemplating an extension from Concord to Claremont, Rutland and the Canadas, to connect with lines outside of the great monopoly telegraph to the north-west, and it now connects with lines to Portland, New York and Washington. It is doing a great thing for business wherever it goes, knocking down prices one-half, and demonstrating that cheap telegraphing, like cheap postage, is the most successful. As soon as it opened the price of telegraphing ten words dropped from forty cents to twenty cents on all points from Bristol to Boston. Wherever this line is not running the old monopoly prices are kept up. It runs to Boston from this place *via* Nashua, and has no line *via* Lawrence, and our people have to pay forty cents to telegraph ten words to the latter city, half-way to Boston—twice as much as they do to Boston. It saves thousands of dollars annually to Manchester. Every business man should patronize it for the good it is doing, and every large business

place should have this competing line.

Notwithstanding the cheapness of its tariff, that it is new, and has many obstacles to contend with, is comparatively unknown to the people, and has not the thorough patronage of the great overgrown aristocratic monopoly called the Western Union, it has earned and paid all its bills the first six months, declared a semi-annual dividend of three per cent., and has a surplus left. Those who have had enterprise enough to invest in it have the pleasure of knowing that they have conferred a great benefit on the community by so doing, have got a fair remuneration for their outlay, and have a better prospect for its future emoluments. Much of its success is due to the wise counsels of its President, Gov. FREDERICK SMYTH, and the confidence reposed in his financial ability, and to the perseverance and practical knowledge of its superintendent, Col. J. W. ROBINSON. Its office in this city is No. 4 City Hall.—*Miner and American, Manchester, N. H.*

PROPORTION OF TELEGRAMS TO LETTERS.—According to the official returns of the proportion of inland telegrams to letters in various countries, it appears that to every one hundred thousand persons one telegram to thirty-seven letters is received in Belgium; one to sixty-nine in Switzerland, and one to one hundred and twenty-one in Great Britain.



## 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.

TO THE EDITOR OF THE TELEGRAPHER.

WILL you allow me space in your columns to make a few remarks upon one of the suggestions made by your correspondent, "True Blue," in the TELEGRAPHER of May 9th? I refer to the proposition to make the Union a secret society.

Much has been said within a few months in regard to the unsatisfactory condition of the Union, and it seems to be the opinion of many members that a reorganization of it into a secret society will bring about a much needed reform, and put a stop to many of the short-comings of the present Union; it has long been the opinion of the friends of the Union that *something* must be done to restore it to its former vitality, but this is an experiment which needs to be well considered in all its bearings before it is entered upon. Leaving aside, for the present, the questionable benefits to be derived from such a change, let us examine a few of the objections which it is liable to:

One of the many alleged causes of the *decadence* of the Union is the high rate of initiation, and annual dues charged, and this it is proposed to remedy at the next convention, by a material reduction of the present rates. If the Union is to be made a secret society, it will be unsafe to do anything of the kind.

More or less pomp and ceremony in the proceedings of a secret body is necessary to make it attractive, and it would then be very desirable, if not really necessary, for each district to secure a suitable room for its exclusive use. Now a district comprising fifty members, each taxed six dollars (our present rate) *per year*, could not pay its room-rent alone for *six months*, saying nothing of other necessary expenditures. At this rate, an individual tax of at least twenty dollars per year would not more than suffice to cover the general expenses of the Union, and leave enough for the sick relief fund and the annual Convention. A reform that will bring about such a result as this will evidently not increase the popularity of the Union, if, as it is alleged, its rates are already too high, and are the cause of many old members leaving us, besides being an obstruction to the admission of new members. It is true that it is not intended to introduce all the paraphernalia and ceremonies usually attributed to secret societies into the "Reformed Union," but that "we are to go on as before, with the exception of being bound by oath to keep our proceedings secret, that our expenses would not thus be materially increased, and consequently it would not be unsafe to reduce the rates." But such a reform would have no permanent good results. It would be like administering a stimulant to a dying man: it would only create a spasmodic vitality, and would leave the Union no better if not worse off than before, after the novelty had worn away; in fact it would be no reform at all. To change the Union into a secret society would then make it impossible to reduce the dues.

Another serious objection also requires consideration. Many members of the Union are opposed to secret societies of any kind, on moral and religious principles. Should the proposed change be made, these men will of course be obliged to withdraw from the society; and for the same reason it would be impossible for many other good men to join the Union, should they desire to do so. We can ill afford such a loss, as it is not altogether certain that the new *regime* will gain enough adherents, of a different persuasion to make up for the loss.

There are other reasons, which, in my opinion, would

make it injudicious to establish a secret society among us; but I will not pursue the subject at present.

Your correspondent, "True Blue," makes a timely and very sensible suggestion. There should be a thorough discussion of all subjects likely to occupy the attention of our delegates to the Albany Convention, in order that a proper understanding of the many changes and reforms which must be made in the Union may be arrived at. A great deal of work is before us, and it is time we were about it.

BOSTONIANS.

BOSTON, Mass., May 17.

TO THE EDITOR OF THE TELEGRAPHER.

ALLOW me to make the following suggestions, for the consideration of the members of the N. T. U. It is, as you have already stated editorially, essential that at the next Convention there shall be a reorganization of the Union. I would suggest that there shall be a National organization as now, but having its headquarters *permanently* in New York city, as suggested in your articles.

Districts to consist of members in each large city, and way stations on each working circuit, provided that circuit does not extend beyond a stated number of miles. To illustrate—Boston being the headquarters of a district, should include among its members all between New York and Portland. Or, perhaps a better way would be to have a district for each State, each district selecting its own headquarters. The district being formed, it shall make its own laws and regulations, impose whatever taxes and fines it sees fit, and in all respects manage its own affairs in its own way, without interference, admitting within its folds clerks and lady operators as well as male operators, or excluding one or both these classes, as it sees fit; make their district organizations secret or otherwise as they see fit; elect as few or as many officers, &c., as they wish. Each district shall be entitled to one delegate for, say, every twenty-five members. The district to *pay the expenses of their delegates out of their own treasury*. The Convention of Delegates shall meet once a year in New York, to consider such general subjects, relative to the interests of Telegraphers, as may arise, and to elect officers. The officers shall meet at least quarterly, at the rooms of the Association in New York, to consult personally relative to any subjects affecting the welfare of the Union, and to transact such business as they may be empowered by the Constitution to transact.

It shall be optional with the districts whether to send delegates to the Conventions or not. In order to pay the expenses of the headquarters, a tax of one dollar a year shall be levied on each member of each district; the expenses of the officers of the General Union to be paid from the fund so raised. The editor should be one of the Executive Committee. Each district will do as it pleases about establishing a relief or charity fund, but no member or district should have any pecuniary claim whatever upon the general organization.

I have given my plan in a very crude condition, and have jumbled it up well, but you will see what I'm driving at. My principle object is to let each district manage its affairs in its own way, and to look out for its own members, merely paying a small annual sum towards the maintenance of a general organization. Perhaps it would be well to let each district fix its own boundaries.

If this plan does not meet approval it may have the effect of suggesting a better one.

UNION.

SOUTHERN DIVISION,  
HOUSTON, TEXAS, May 8. }

TO THE EDITOR OF THE TELEGRAPHER.

THINKING that an occasional letter from this portion of the country might not prove uninteresting to your readers, I take the liberty to write the following, which you will observe I confine to that only which relates to

telegraphy, its working, &c., in Texas. No doubt but hundreds of telegraphers imagine that Texans and Texas operators are semi-civilized—in fact wild. Right here let me observe that, in the first instance, the people of this State (beg pardon, I mean territory) have proven more law-abiding and more prone to reconstruction, under the new *regime*, than many other older, and more settled, of the "excluded" States. As regards the system of telegraphing here, many of your readers will be astonished when I assert that the manner of forwarding, receiving, dispatching and delivering business, cannot be surpassed even in Metropolitan offices. Telegraph lines now traverse this district in all important directions, radiating from this place, which, by its geographical position, is destined to be at no distant day one of the largest repeating offices in the southwest. A line from Houston to Indianola, and thence to Red River, is in contemplation and will no doubt soon be built. General Superintendent VAN HORN, who is here on a tour of inspection, has gone on to Indianola to make arrangements to commence the building of this line. The benefits derived from it, when completed, are obvious; among others will be a chance opened to enterprising telegraphers to come and "live in Dixie" with us. To all so inclined, let me assure them that they will be received with marked kindness by their brothers in the profession, and their sojourn rendered as pleasant as circumstances will permit. We have some very tastily arranged telegraph offices in this district. I am sure that many of your metropolitan telegraphers would be astonished to step into the telegraph office in this place, and observe the handsome counters, neatly arranged tables (there are five in constant operation), the artistic arrangement of office wire, the obliging manager, the busy and indefatigable operators, and the nimble messenger boys, and above all, the perfect system with which business is conducted in the office and over the wires.

Our telegraphic fraternity were somewhat startled at the sudden disappearance of one ORIS, late operator and express agent at Hempstead, Texas, who with his wife decamped, taking with them two thousand dollars in gold and other valuables belonging to the Express Company. This occurred about two weeks ago. He has since been caught at Louisville, Ky., from which place he will no doubt be brought back here to suffer that punishment which his unprincipled behavior so richly deserves. The Western Union Telegraph Company sustained no loss by his departure.

INSULATOR.

CHICAGO, Ill., May 23d.

TO THE EDITOR OF THE TELEGRAPHER.

THE assembling of the National Union Republican Convention here, this week, attracted to this city a great number of notabilities, among which there was a good sprinkling of leading Western Union Telegraph magnates. Among those who were here during the session of the Convention was Messrs. WM. ORTON, President; ANSON STAGER, General Superintendent Western Division; and Division Superintendents WRIGHT, DAVID, CLOWNY, WILSON, HIBBARD and SWEET.

One of the lower "large" boxes in the Crosby Opera House, where the Convention held its meetings, was assigned for the use of the telegraph. Four wires were led into this box, and an adequate attendance of experienced clerks and operators provided, but notwithstanding, so great was the pressure of business, that in spite of the exertions of the fastest operators in the city, the files could not be kept clear.

In addition to the great number of private despatches, which such an occasion would necessarily call forth, the Press despatches aggregated from 75,000 to 100,000 words per day.

Besides the above Western Union officials, Mr. BEEBE, Vice-President of the I. & M. Telegraph Company, and Mr. Z. G. SIMMONDS, President of the Northwestern Telegraph Company, were here during the Convention.

B.

TO CORRESPONDENTS.

J. E. M.—Mr. M. L. WOOD is the General Superintendent of the Atlantic and Pacific Telegraph Company. His address is No. 291 Broadway, corner Reade street.



## TO THE LOADSTONE OF MY LIFE.

My dearest love, when last you paid  
That telegraphic bill,  
The touch of thy soft hand gave me  
A strong electric thrill.

A spark flashed from thy beaming eye,  
Thy voice with music vocal;  
I thought how great a bliss if I  
Could have thee for my local.

And when through hours of toil I've bent,  
How sweet a boon t'would be  
To know of your kind, tender heart  
That I retain the key.

Should Cupid's current e'er grow weak  
(I say it without flattery),  
I'd turn me to thy rosy cheek,  
And just renew my battery.

And if, perchance, our hearts grow cold,  
I'll tell thee how we'd work it—  
With hand in hand, and lip to lip,  
We would complete Love's circuit.

Then murmuring soft nonsense o'er,  
And quaffing kisses sweet,  
Quick versed in telegraphic lore,  
You'd whisper, "Love, repeat!"

At last, when asked by surpliced priest  
To honor, love, obey,  
I'd be content to hear thee hiss  
Those magic words, "O. K."

Then all the joys of married life  
Would cluster round us thick;  
With credit at the grocery shops,  
We'd always "go on tick."

With temper mild, and never naughty,  
Bright as the sky, though blue it be,  
We'd ne'er be troubled (like De Sauty)  
With broken continuity.

Thus along life's stream we'd glide,  
The current smooth and steady,  
And when we're called to rest above,  
We'd answer, "Aye, aye—ready."

SKOOKUM.

VICTORIA, B. C., March 19.

## TELEGRAPH.

## A New Telegraph Line—Promised Reduction of Rates.

THE *Staats Zeitung*, of Chicago, has the following interesting article:

Without wishing to make an ado about the Western Union Telegraph Company, or their business management, we cannot well help calling the attention of our citizens, and the public generally, to the "Great Western Telegraph Company," which will shortly be organized in this city, and whose object is to establish a real business competition in telegraph matters.

As we understand, there are three lines, the Franklin of New England, the Atlantic and Pacific of New York, and the Great Western of Chicago, closely connected with each other, and carrying on their business with the intention of making the quickest possible transit of messages from one end of the country to the other. These companies need a new and better wire over which telegrams may be sent with fewer repetitions, and consequently with fewer errors. The most desirable reform is, as every business man knows, the reduction of prices, which will by this enterprise be brought to about half those of the Western Union.

We cannot be silent in regard to a thing of such evident use to the press, and in which other nations are certainly ahead of us. In Switzerland a telegram of ten words is forwarded to any part of the country for 10 cents, in Belgium for 15, in France for 20 cents, and in other parts of the continent at similar prices. The old monarchical countries are beating us in telegraphy; for there all business can be transacted by telegraph, while our great Republic is smothered by an oppressive monopoly.

It is evident enough that the lower the price the more active the business, and that the principle of high prices is a gross error. The Atlantic Telegraph gives a good illustration of this fact in its \$25 telegrams. The gross receipts have amounted to 120 per cent. more than they did at \$100 per telegram. The new lines have seen this, and have undertaken to conduct their business with lower prices, good lines, and a rigid adherence to the principle that "the nimble sixpence is better than the slow shilling."

CHICAGO METROPOLITAN TELEGRAPH.—The City Telegraph Company, the organization of which has been before noticed, already has one of its lines in operation, it having been opened for business yesterday. The line is from the Lumber Exchange, at the foot of Franklin street, to the Burlington Slips, the intermediate stations being the Board of Trade, Twelfth and Eighteenth streets. Its working yesterday was perfect, and demonstrated not only its entire practicability, but that it is destined to become a great convenience, if not an actual necessity. The office is in room 9, Nixon's building.—*Chicago Times*, May 17.

RAPID CONSTRUCTION.—We take the following from the *Denver Tribune*: "We learn that the construction party of the United States and Mexico Telegraph Company put up something over five miles of wire yesterday afternoon. Quite rapid progress for mostly green workmen. As soon as the men become accustomed to the work they will complete from ten to fifteen miles per day. This will soon bring us into telegraphic connection with our sister city, Santa Fe, and we trust ere long with the City of Mexico—the latter event being quite as probable as the former seemed when we advocated building a line from this city to Santa Fe, a few months ago.

THE UNION PACIFIC RAILROAD.—A correspondent, engaged with the Union Pacific Railroad, writes us, May 15th, from "End of Track," giving some telegraphic items of interest.

The Construction Department of the Union Pacific Railroad has given DAVIS, SPRAGUE & Co., of Fort Sanders, Dakota Territory, the contract for building the Telegraph line ahead of the track to the North Platte, a distance of one hundred miles, and EDWARD CREIGHTON the building contract from the North Platte to Salt Lake City, four hundred miles. The work is contracted to be completed in sixty days. Thirty-five poles to the mile are being put in, and the common glass insulator used. The contractors furnish the poles and do the work for \$125 per mile.

Mr. HINES accompanies the building party as inspector, and Mr. BUDINGTON as operator.

The Union Pacific Company have accepted the road to Wyoming city, five hundred and seventy-five miles west of Omaha, and within the last few days have opened several new telegraph offices on the line of the road.

LONG ISLAND TELEGRAPH.—The line of the Long Island Telegraph Company, between Jamaica and Flushing, was finished last week. A new line will shortly be constructed between Hempstead and Rockville Centre, on the south side of the island, and a prominent depot of the new South Side Railroad. This will be the first telegraphic communication between that long settled but isolated section of Long Island which the new railroad has opened to travel.

ATLANTIC AND PACIFIC STATES TELEGRAPH COMPANY.—A Company, styled the Atlantic and Pacific States Telegraph Company, was organized in San Francisco this week, to build a new line across the continent. Ex-Governor Low and Mayor McCOPPIN, of this city, are among the directors.

THE City of Cambridge, Massachusetts, is about to have erected GAMEWELL'S Fire Alarm Telegraph.

## PERSONAL.

Mr. JOHN E. CLARKE, formerly of Plaister Cove Cable Line, has taken a position with the Franklin Line, New York.

W. H. MUNROE has been appointed Manager of Fort Sedgwick, Colorado, office. Mr. McCONNIE, the former manager, has accepted a position on the Grand Trunk (Canada) Railroad.

AN office has just been opened at Utica, Ill., on the C. R. J. and P. R. R., J. B. PECKHAM, operator, son-in-law of JAS. CLARK, Esq., of Utica, to whom the town is entirely indebted for this enterprise, Mr. CLARK furnishing the instruments and necessary fixings, fully appreciating the value and importance of telegraphic communication. We wish J. B. P. success in his new business. Don't be discouraged if you hear the word "plug" sometimes. F.

JOHN OWEN, who has been on temporary duty in Poughkeepsie office, W. U. Co., has returned to Saratoga.

THOS. FOX, of the A. & P. Hudson office, takes the position, in Poughkeepsie, vacated by Mr. OWEN.

FRED. K. GILLETTE and JAMES W. STACEY, from Cleveland, Ohio, have taken positions with the construction party of the Union Pacific Railroad.

HECTOR LITHGOW, formerly train despatcher of the Union Pacific Railroad at Omaha, Nebraska, has accepted a position in the Superintendent's office of the Construction Department at Laramie City.

RALPH W. POPE has taken charge of the Bankers and Brokers' Telegraph office, at the Stock Exchange.

A. WYETH takes the place vacated by R. W. POPE in the Bankers and Brokers' Gold Board office.

MR. GEORGE CHANDLER, formerly in charge of the Mexico, N. Y., "Montreal Tel. Co's. Office," is now superintending a portion of the construction of the Atlantic and Pacific Company's lines between Cleveland and Milwaukee.

DURFEE C. CHASE has resigned his position in the Western Union Office, at Syracuse, to engage in other business. The Syracuse papers give him kindly notices on his retiring.

RIGHTS OF TELEGRAPH COMPANIES.—We are glad to hear that the Telegraph Company has refused to hand over to the Impeachment Managers any more of the despatches sent by them, until compelled to do so by law. It is doubtless important that private considerations and private rights should yield to the necessities of justice, but the mere demand of a committee should not override everybody's rights, or be sufficient to put the whole private business and correspondence of the country at their mercy. The Telegraph Company is bound by law to keep private despatches entrusted to its care confidential; and nothing less than law should excuse its agents for not doing so.—*New York Times*.

Messrs. EDMUNDS & HAMBLET, of Boston, in some recent experiments with their "Magneto-Electro Dial Telegraph," succeeded in transmitting messages over 1,700 miles of wire, and this with a current generated by one small compound permanent magnet. These instruments are now coming into general use, they being specially adapted for private lines.

WHO IS COL. FOX?—The Dubuque, Iowa, *Times*, of May 1st, contains the following special from Chicago: The latest opinion seems to be that if WADE is not nominated for Vice-President his friends will decide the contest in favor of either Col. FOX or HAMLIN; few, if any of them, going to FENTON.

EYE.—A telegraph office whose superintendent has a pupil always ready to take your message or flash back a reply.





SATURDAY MAY, 30, 1868.

### THE GOVERNMENT TELEGRAPH PROJECT.

WE trust our readers will excuse us for the space which we devote to the discussion of the Government Telegraph project, and the claims of the heirs of the late Professor PAGE, under the patent granted to him by special act of Congress. Both of these matters are of especial interest to every Telegrapher, and to every owner of Telegraph stock in this country.

The project for transferring the Telegraph business to the management of the Post-office Department appears to meet with very little favor from the press. Most of the leading newspapers of this city, and as far as we have seen, of the country, vigorously protest against any such assumption on the part of the Government, and their arguments appear to be unanswerable. We should be glad to reprint some of their articles, but our limited space forbids.

There is, in reality, no more reason why the Government should enter into the business of Telegraphing than into that of Railroad and Steamboat transportation. The less that Government has to do with these objects of legitimate private enterprises the better for those engaged in them and for the public. Such a course of action would greatly interfere with their usefulness and progress, and we hope that Congress will at once and finally reject all propositions looking to such a result.

Moreover, such action would involve an expenditure of money which, in the present condition of the treasury, cannot well be spared, and would be most injudiciously expended. Mr. WASHBURNE'S bill proposes an appropriation of Seventy-Five Thousand Dollars for the construction of a four wire line between this city and Washington, but there is not a Telegrapher in the country, of average experience and intelligence, that does not know that this could not be done by private enterprise even, for anything like the money, and as a Government enterprise it would cost nearer a million of dollars. The lines, when constructed, would be of an inferior character, and not enough business could be done over them at the proposed rates to pay one half of the working expenses, to say nothing of repairs and reconstruction.

We know that this matter of Government control of the Telegraph has for some time been a favorite hobby of Mr. WASHBURNE and a few other inexperienced Congressmen, who desire to see the Government not only engaged in its legitimate and necessary functions, but also absorb and control everything in which the public have an interest, and which will tend to increase its power and patronage. We do not believe, however, that even Mr. WASHBURNE can seduce Congress into an approval of his vagaries in this matter.

There is one objection to the proposed action which should, and we believe will, prove fatal to it, aside from any economical and prudential reasons. Under our system of government the Telegraph would become an enormous political engine in the hands of the party in power. If any party were assured of permanent possession of political power, it might be vain to urge this objection, but this is improbable, we may say impossible, and with a change in the other departments of the Government, would come a change in the management and controlling influence of the Telegraph.

We have as yet seen no good argument in favor of this project. All the faults and objections which are urged against the present system are being constantly and steadily corrected and obviated, by the active competition which has again sprung up, and which is daily extending and increasing, and which, within a year or two at the outside, will regulate and improve the Telegraph System of the country, and insure the adoption of needed reductions of tolls, and the extension of its benefits to every locality where its facilities are needed.

From the New York Herald.

### TELEGRAPH PATENTS.

TO THE EDITOR OF THE HERALD.

No little interest has been excited in telegraph and other scientific circles from the published claim of the late Prof. PAGE, of Washington, to the merit of the discovery of the powers of the electro-magnetic induction coil, commonly known as the "Ruhmkorff coil," and for which M. RUHKORFF was awarded a prize of fifty thousand francs by the French Government. Prof. PAGE'S claim was presented to Congress in the form of a petition for the recognition of his claims, asking special legislation, he, from his position of Examiner in the Patent Office, being debarred from taking out a patent upon any discovery of his own, or even acquiring an interest in any invention.

\* \* \* \* \*

The three claims tacked on to the "induction" claim, and having no relevancy thereto, are:—"The combination of an automatic or mechanical circuit breaker with a primary coil," and "the employment of one electro-magnetic instrument, using either one battery for both or separate batteries for each," and "the employment of separate and independent batteries to operate an electro-magnetic circuit breaker and the circuit which is broken by it." All substantially as set forth.

Did Congress know that the automatic or mechanical breaker, as exemplified in its best form by ROYAL E. HOUSE, and my second quotation from the special act, commonly known as the "Local Circuit," for which letters patent were granted to SAMUEL F. B. MORSE, are both public property by limitation of law, and that a vested right of the people cannot be taken from them by any act of Congress, special or otherwise; and that the invention of HICKS, in his beautiful and efficient "repeater," as substantially set forth in my last quotation, will shortly become public property, and cannot lawfully be given to or renewed to any but the party to whom the original patent was granted, or to his legal heirs? This act unites in Prof. PAGE every point of value known in electro-magnetic machines, and is a direct mortgage upon inventive genius for seventeen years to come. The only wonder is that the claims stopped where they did, and did not include the electro-magnet itself.

Let us see how this act affects patents already granted and in use, patented by the law which this act virtually repeals. Mr. HICKS' patent for a "repeater" has still some years to run. The act makes it unlawful, after April 15th last, to manufacture his machine for use without first obtaining the permission of Prof. PAGE, or his representative, which permission may be entirely withheld, or, if granted, means money in shape of royalty or otherwise. How can Congress lawfully take away his property and give it to another? Again, what right has Congress to pass an exceptional act, taking public property, giving possession for a term of years?

You, Mr. Editor, or I, may conceive an idea of great practical benefit; may work it; but, no matter how original in combination, we could be protected only in an "improvement," which it would be entirely optional with the beneficiary of this act to allow to be introduced. Of course this is based upon the assumption that an "automatic or mechanical circuit breaker," or the "local circuit," will enter into the combination; and, from our

present knowledge, either one or the other will necessarily be found in every invention in electro-magnetic mechanics.

Prof. PAGE has undoubtedly deserved well of his country. His splendid scientific abilities deserved recognition and reward, even if posthumous; but his reward should not bar the right of future inventors, nor should such a check and drag be put upon inventive genius.

At present his heirs control the future of American telegraphy, and that, too, without a shadow of right or law.

### Bliss, Tillotson & Co.

WE would call the attention of our Western friends to the advertisement of BLISS, TILLOTSON & Co., of No. 126 South Clark street, Chicago. This enterprising firm is well worthy of patronage, and are extensive manufacturers and dealers in all kinds of Telegraph Machinery and Supplies, and will fill all orders promptly and satisfactorily. We trust that they may continue to receive a liberal share of patronage.

THE EAST INDIA TELEGRAPH COMPANY.—The executive offices of the East India Telegraph Company have been removed to Nos. 23 and 25 Nassau street. The Company has just issued a new circular, and is making arrangements for the immediate completion of the subscription lists and the laying of the cables, which will constitute the first division of its lines to connect at once the ports of Macao, Hong-Kong, Swatow, Amoy, Foo-Chow, Wau-Chu, Ningpo, Hangtcheau and Shanghai, which will require nine hundred miles of cable. The line cannot fail to be a paying one from the start, as the foreign commerce alone of those ports is enormous, and from them the immense internal commerce of the whole empire spreads through its vast system of canals and rivers.

TELEGRAPH SOUNDINGS FOR A CABLE.—We learn that the soundings made by the United States gunboat, Gettysburg, from Jamaica to Aspinwall, are of a most satisfactory character. The greatest depth of water is about six hundred fathoms, the bottom of the ocean level and muddy, and the entire route admirably adapted for the object in view. Between Jamaica and Cuba the water is very much deeper, being in some places as much as three thousand fathoms. As the Company is ready to commence the work immediately on receipt of favorable news, it is more than probable the end of the year will see the cable laid from Cuba to Jamaica, and on its way to the Isthmus.—Panama Star.

### New Patents.

78,076.—RELAY-MAGNET.—Charles Durant, Jersey City, N. J., assignor to George F. Durant, same place.

I claim, 1. The jointed armature or armature-lever A or G, in combination with the magnet-cores E or E', or Ex Exx, or either of them, substantially as herein shown and described.

2. The flexible joint, in extended armature or armature-lever, substantially as and for the purpose herein fully set forth and described.

3. The shifting or sliding bolt in the extended armature or armature-lever, substantially as and for the purpose herein fully set forth and described.

78,125.—MATERIAL FOR INSULATING TELEGRAPH CONDUCTOR.—William Perkins, Russell Place, Fitzroy Square, and George Grainger Tandy, Anerly Road, Hamlet of Penge, England.

We claim, as our invention, the combination of anthracene or para-naphthalene and naphthalene with India-rubber, gutta-percha, gum-ballata, and other analogous vulcanizable substances and sulphur, for the purpose of producing a preparation or compound applicable to the uses or purposes above mentioned, or any analogous purposes.

### MARRIED.

WHYTE—WATERS.—In Albany, on Monday, May 25th, at the Church of the Holy Innocents, by the Rev. WM. S. BOARDMAN, assisted by Rev. WM. R. JOHNSON, of Hudson, Mr. SAUMEL J. WHYTE to Miss HELEN M. WATERS, all of Albany.







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J. G. SMITH, Superintendent.....New York.

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[In progress.]

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Applicants for insurance must be connected in some capacity with the Telegraphic business, must be not less than eighteen years of age, in good health, and able to earn a livelihood. Every applicant shall pay an entrance fee of two dollars, one dollar of which shall be reserved for creating a permanent fund, and one dollar towards the amount to be paid the heirs of the first insured person deceased, who will receive as many dollars as there are persons insured.

Whenever a death occurs among those insured, an assessment of one dollar and ten cents will be levied upon all. This dollar goes to the widow, orphans, or heirs of the next insured party deceased, and the ten cents to be applied to the payment of current and necessary expenditures.

Applications must be made to the Actuary, in writing, accompanied by a certificate, signed by not less than two persons in the Telegraphic business, of good character, that they know the applicant is fully qualified under the preceding rules.

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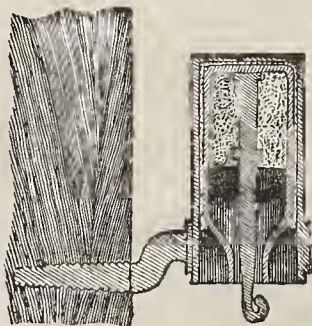
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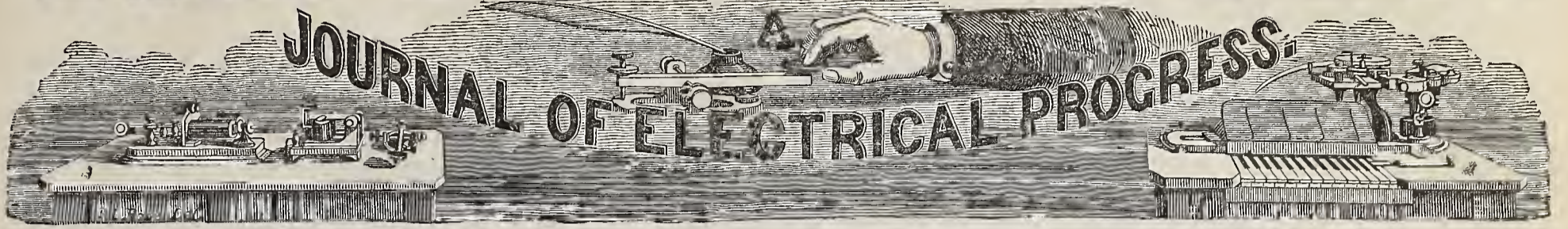
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# THE TELEGRAPHER.



Vol. IV.—No. 41.

New York, Saturday, June 6, 1868.

Whole No. 99.

[Written for the Telegrapher.]

## WAIFS.

"BY my soul, won't yer look at me?" And I, startled out of the midst of some "copy," looked at him. It was an Irishman that made the inquiry, and I asked his business. He wanted the tariff to Pittsburgh, and I gave it to him, and when he had gone returned to my key to appease, by a prompt answer, the operator whose business was going off the end of my pen, when the Irishman interrupted me, soliloquizing, "what a thing it is to be operator and everything at once." But this was not the last of my Irishman. He soon after returned and told me that, changing his mind on account of the high tariff, he had gone to a lawyer in town instead of telegraphing to Pittsburgh for advice. The advice received had amounted to five words, for which he had been charged five dollars, and in telling me that the "tillgraff wud uv done it chaper," he went off, remarking "sure an lightning is chaper than law anyhow." That man was a philosopher.

I was straying through a country church-yard the other evening, carelessly, idly, and smoking, with both hands crossed in my elbows behind my back, in a very unthoughtful fashion, when I chanced upon a new made grave, and upon a careless inquiry I learned the name of the deceased. There was no headstone, but as I walked away it occurred to me that the inscription might appropriately have been made, "wanted, an answer." And as all the sorrowful circumstances returned to my mind, of a pale-faced woman, with cager eyes and restless hands, and nervous wistful manner, haunting my office once through the long day until the night-fall, "waiting for an answer" to a message sent the night before, my eyes grew misty, and I wished that some such circumstance might chance to every one, that "answers" might not seem such "nuisances," and that the whole system of regulations in regard to "wanted, an answer," might be revised more carefully. That sad-eyed woman had a son in the hospital and he was dying. The news of his illness only had reached her, and telegraphing for a report of his condition, she waited for her answer. It did not come for thirty hours, and then he "was dead." The long suspense, and sudden certainty, killed her. She reached home falteringly and laid her down dyingly, and "in the morning" she too was dead. I do not pause to give the fault to any one of that long delay. Managers made objections to "red-tape," and "a few minutes here," and "a few more there," had lain a corpse at somebody's door. Thank Heaven it was not at mine. But if ever I am a Superintendent, and such a case is reported to me, I shall make as much effort to trace it out as though I knew it to be a heavy pecuniary loss to the company otherwise, and as promptly as if the report came from the influential hand of a rich merchant or banker. And I strayed back to my office, closing the churchyard gate musingly, and the dull clang seemed to echo, as the latch fell into the hasp, "wanted! wanted! wanted!—an answer!"

O. P. ERATOR.

## A New Electro-motive Machine.

IN response to an invitation extended by Prof. R. OGDEN DOREMUS, a considerable gathering of scientific men took place at the lecture-room of the College of the City of New York, on the afternoon of the 19th ult., to witness the operation of a new electro-magnetic motor, devised by Mr. LABAN CLARKE STUART.

Prof. DOREMUS opened the exhibition by a general explanation of the principles of electro-magnetism and their application to the production of power for industrial purposes, which he illustrated by several interesting experiments, and by small models of electro-motive devices, hitherto invented. Mr. STUART then showed the machine in motion, the apparatus being worked at a speed of five hundred revolutions per minute, by means of forty cells of the battery. When set to operate a pump it raised water to a height of about ten feet, at the rate of 15 3-10 gallons per minute, the speed being reduced to two hundred and fifty revolutions. This would indicate the apparatus to possess about one-twentieth of a horsepower, which is simply one-half of what is claimed for it by the inventor. "The motor consists of a central axle or shaft, about three feet in length, and surrounded by a series of electro-magnets, so placed that the current of electricity is kept up in a continuous stream. The magnets are only magnetized twice in one revolution of the axle, instead of many times, as in most other motors that have been constructed. These features, the position of the electro-magnets with reference to each other, the continuous stream of electricity, and the infrequency of the magnetizing at each revolution, constitute the chief peculiarities of the motor, as distinguished from others."

The apparatus operated in a very smooth and satisfactory manner, and as an illustration of one of the experimental applications of electro-magnetism, was certainly of considerable interest, but its practical value, in an industrial or business point of view, may be readily deduced from the data given by the exhibitors relative to the cost of running, which was said to be at the rate of about thirty cents per forty-eight hours for each cell of the battery employed.—*American Artisan*, May 27.

## The Fire Alarm Telegraph.

THE *Albany Express*, of Monday morning, June 1st, says: "The Fire Alarm Telegraph was tested Saturday morning, in the presence of the Joint Committee of the Common Council and Fire Commissioners, several members of the Common Council, the Commissioners, and a number of citizens. Owing to severe illness, Mr. GAMEWELL, the patentee of the system, was not present, but he was represented by Messrs. ROGERS and STOVER, two gentlemen who are thoroughly posted in the matter. The test was in all respects entirely satisfactory. Signals were sent from several stations to the central office, and the alarms were struck on the four bells selected for that purpose, viz: the South Dutch, Middle Dutch, Broadway

Presbyterian and State Street Presbyterian, and all the engine and truck house gongs. In about fifteen seconds after the signal was given to the central station the bells were struck. All the machinery in the office and the bell towers worked in the most satisfactory manner. The alarms were struck distinctly and correctly, and could be heard in all sections of the city.

Since writing the above the line has been accepted by the committee, and will be put in service at six o'clock this (Monday) evening. The keys to the boxes will be distributed to the police to-day, and they will, also, be left with the persons designated to hold them in the vicinity of the boxes. On and after to-night the firemen will be alarmed by telegraph.

EXTENSIVE TELEGRAPHING.—The telegraphic arrangements at the National Republican Convention were perfect, and the accuracy and promptitude with which all messages and reports were sent reflects great credit on Mr. E. D. L. SWEET, Division Superintendent, and Mr. R. C. RANKIN, Superintendent of the Chicago offices, who had immediate charge of the matter. Gen. STAGER, the efficient General Superintendent of the Middle Division, and Mr. ORTON, President of the Company, were personally present, and took pains to see that all messages were transmitted with the utmost promptitude. The New York afternoon papers contained very full reports of the proceedings of the first day's session, up to the time of recess. Mr. J. W. SIMONTON, the General Agent of the New York Associated Press, was present in person, and supervised the reports for his Association, which were also furnished the Western Associated Press. The New York papers of yesterday contain seven columns of the proceedings, all telegraphed after the adjournment of the Convention, giving the entire second day's proceedings with great fullness, and in a very graphic manner. The Chicago office despatched sixty odd thousand words of "specials" and regular despatches of the second day's proceedings, besides attending to its regular business, as usual—a feat of which the Superintendent, managers, and operators may justly boast.—*Chicago Republican*.

NEW WORK BY PROFESSOR MORSE.—Professor MORSE is now in Paris, and is engaged in establishing his claims as the inventor of the Telegraph. It is a singular, or at least significant fact, that all the world acknowledges the justness of the claims of the American professor, with the exception of England. The latter country claims the honor for two of its citizens, Messrs. COOKE and WHEATSTONE. Professor MORSE is just bringing out a volume on this interesting subject, entitled "Modern Telegraphy; some Errors of Dates and of Statement in the History of Telegraphy Exposed and Rectified," by SAMUEL F. B. MORSE, LL.D., inventor of the Recording or Generic Telegraph.—*Evening Mail*.



## 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.

## Private Opinion Publicly Expressed.

RENOVO, Pa. May 18.

TO THE EDITOR OF THE TELEGRAPHER.

IN No. 25 of the TELEGRAPHER, April 25th, I notice an article, "A word for Female Operators," and while the columns of our paper are open to those of the profession who may see proper to avail themselves of the privilege of expressing their views on matters pertaining to the interest of the fraternity, I have thought it a personal duty to pen a few words in reply to the above subject. I am not, in a general way, opposed to ladies connecting themselves with our profession, neither do I entertain the least prejudice against their joining the N. T. U., but on the contrary, think they would, to a certain extent, be useful in stimulating the male portion to a more active performance of their duties as members of this Society, and doubt not but that, morally speaking at least, they would be the better part of the fraternity. But although admitting these facts, we cannot be unmindful that since their introduction into the business, and because their services could be obtained at a smaller rate of compensation than had been previously paid to male operators for similar services, the salaries of operators have been generally and largely reduced. In my opinion it is to this fact that most of the antagonism to the employment of females in the business, on the part of telegraphers, must be ascribed, and that, while such continues to be the case, that antagonism, whether effectual or otherwise, will continue.

Before lady telegraphers were introduced on our lines we had no reason to complain of salaries, from the fact that we were then adequately paid, but the present day brings scarcely enough, financially speaking, to keep soul and body comfortably provided for. Employers naturally and generally engage the services of those operators who will work for the lowest compensation, and lady operators are becoming so numerous, and working at such very low salaries, it is almost impossible for gentlemen to get employment on some of our lines. This, I think, is doing the male portion a great injustice, and one that will likely prevail so long as there remains in the fraternity a lady. For these reasons, I for one, am opposed to admitting ladies to our profession, and hope the day may soon dawn when companies may announce the sudden demise of all ladies from their lines. I may no doubt be censured for entertaining this opinion of our lady friends, but notwithstanding, I claim a right to express my opinion on such matters as I think interest me, and I assure you this question does. Their being on hand at the hour, as our cotemporary is pleased to make known, I may say is giving them more credit than is deserved. Of course there are exceptions in all cases, but from my experience with the ladies in this business, I have found them to be more negligent, to a certain extent, than any gentleman I ever had occasion to work with. Always something wanted—either to be absent from duty every ten minutes, or gone all the time; and as to their being fully entitled to rank as "first-class" in every respect, I think this altogether an error, and a very great one. Few really first class operators will hesitate to say that ladies, in this business, very rarely aspire to anything beyond being second-class telegraphers. Why? Because very few are endowed with the natural abilities for becoming such. We attribute no blame to Telegraph Companies for employing females, but we do say, without fear of contradiction, that where they employ gentlemen there is always better satisfaction given, for one good male operator is worth a half dozen of the best females to be found. By paying gen-

tlemen a fair salary they would experience no difficulty in having their offices supplied with men of ability to transact any and all business.

Telegraph Companies of the present day engage those who will labor for the greatest reduction of pay, and among this class of telegraphers the ladies stand most prominent, always ready to engage for little or nothing. A greater number employed than at the present time would cause some of us males to feel as though we were out of business.

Our friend JOSHUA evidently has some lady friend whom he wishes to introduce to the fraternity, and doubtless thinks this mode will meet with the approbation of his brethren, or else she has won his affections, and he knows of no other way of returning the same other than to teach her the intellectual art of telegraphing. JOSHUA, don't go back on your own sex. OHIO.

TO THE EDITOR OF THE TELEGRAPHER.

IN my last letter I generalized the subject of reform, but in this I shall particularize, and take the question of a reduction of dues.

Almost every member of the Union knows that the monthly dues, on an average, are seventy-five cents, or nine dollars per year. Now nine dollars is a sum which few married men, with the pittance received, can afford to pay. He sees it go into the Treasury to be hoarded, for what? The Union is powerless to protect its members, and should he fall sick, the difficulty he experiences in getting his relief makes it of little value when he receives it. Besides, he has to apply for it, which many a poor, worthy, but spirited fellow will not do. It looks like alms, when it should be, as it is, his due. These things the married man considers and concludes, I can't say incorrectly, that he is but throwing his money away.

The young, single man, has not the thought of the future that the *unhappy* husband has. He thinks he can spend that nine dollars more agreeably in some other way, and he does. These are no "supposin' a case," but actual facts. I've heard precisely these sentiments expressed by operators, when urging them to attach themselves to the Union.

Look at the other "Unions;" why do they embrace their poorest co-workers? It is because they put their dues at a reasonable rate. The dues we pay ought to afford a benefit of ten dollars per week, when it is little over one half that. The reform I propose is this: Put the monthly dues at 20 or 25 cents, and have the benefit remain as it is, six dollars per week. Make it obligatory upon the District Director, upon hearing of the illness of a member, to immediately make inquiry about him, see that he is properly taken care of, and that he does not suffer. Vest power in the hands of the D. D. and his Council to investigate the brother's claim to benefits, and if he is entitled to them, offer them to him. This will show that we mean to help each other in distress, and operators seeing this spirit will join.

The local dues should also be modified in some manner. I never attended a meeting of the District to which I first belonged, owing to the distance from the place of meeting, yet I, as well as other non-resident members, were taxed over one half that the resident members were. We never received a line from our District except an occasional bill from the Treasurer. If Districts wish to have fine rooms for meeting purposes I have no objection at all, but I do protest against taxing non-resident members, to pay for it. We have no costly paraphernalia to keep, no terrible initiation ceremony to perform, therefore a plain room is all that is required for our meetings. A big show is all very nice, if there is enough behind to warrant it, but it is most absurdly ludicrous to see all show. Work, not words, should be our motto, if we intend to make the Union effectual. TRUE BLUE.

IOWA, May 14th.

TO THE EDITOR OF THE TELEGRAPHER.

NEVER having seen any communication from our line in your columns, "methinks" I will try my hand at telling you about "we'uns" out on "Ye Western wilds."

Our line extends from Boone to the Missouri River, a distance of 150 miles, and is under the immediate control of M. M. TOWNE. As a general thing it works well. Then again we have no paper operators, and that enhances the pleasure of working—obviating the necessity of frequent repetitions—unavoidable where there is a predominance of the latter.

You have an idea of how eagerly we watch for the appearance of your familiar sheet, and with what avidity we peruse its contents. Through the efforts of our congenial friend, Mr. CARR, of Boone office, it is now taken by every operator on the lines. But I must, I fear, be getting prosy.

I was "muchly" amused the other day by a party of visitors I had. A genuine backwoodsman, and family of eight or ten, who had never seen either railroad or telegraph, strolled into our office. Their attention was equally divided between the two; they first looked at one and then at the other. Our friend, at last, unable to conceal his curiosity longer, began plying me with questions in regard to the telegraph. On learning we took by sound his astonishment knew no bounds. He asked me to allow him to bring in the "old woman" (as he facetiously called his wife.) I gave the required permission; when she, a tall, lank, lean specimen of humanity, followed by her whole family, made their appearance. I was introduced thus, "Mr. Operator, this is the Old Woman." With difficulty controlling my risibles, I said, "Old Woman, how are you?" Then I was introduced in turn to the balance of the party in this wise. Pointing to an attenuated individual, he said, "This is my Old Woman's brother;" to another, "this is her sister;" and another, "this is the Old Woman's step-sister, step brother," &c., each in turn. Thus did I make the acquaintance of this ancient family. After a brief stay they departed, promising to call again.

For fear I prove too much of a tax I too will leave you, promising, if agreeable, to call again. 73 to all.

ED.

BOSTON, Mass., June 2.

TO THE EDITOR OF THE TELEGRAPHER.

A TELEGRAPH line has just been built over the Dover and Winnepisseogee branch of the Boston and Maine Railroad, from Dover to Alton Bay, a distance of 30 miles.

The wire used upon this line was manufactured by the "American Compound Wire Company," of this city, and is composed of a steel core and a copper covering, No. 14 in size, and having a conducting power equal to that of No. 8 iron wire.

There seems to be several important advantages in the use of this wire, and one in particular, which is, that on account of the great strength of the steel core, a reduction in the number of posts can be made, and a consequent diminution in the escape of the current.

In a recent experiment upon this line it was found that the use of a single carbon element was sufficient to work six relays, each having a resistance of 12 miles, No. 8 iron wire.

The city government have adopted this wire on the Roxbury extension of the fire-alarm, and it is also to be used by the Boston Commercial Telegraph, recently organized.

The building occupied by Mr. CHARLES WILLIAMS, Jr., Telegraphic Instrument maker of this city, was destroyed by fire on Thursday last. Mr. WILLIAMS had a large stock of electrical apparatus, nearly all of which was badly damaged. His loss is estimated at about \$2,000. Insurance \$5,000.

The Laboratory of MOSES G. FARMER, the well known Electrician, which contained an immense quantity of valuable electrical and experimental apparatus, was also badly damaged. Loss, several thousand dollars. His insurance was light. The same building was also occupied by W. H. REMINGTON, manufacturer of FARMER'S Thermo-Electric batteries, of which a large number were damaged. Loss probably \$2,500. No insurance. E.



TO CORRESPONDENTS.

JIM, "S. J."—Platina is used for the points of keys and relays, because it is one of the most infusible substances known. Metals, like brass or iron, soon become melted or oxidized by the intense heat of the electric spark, and the oxide thus formed, being a poor conductor, interferes with the passage of the current from one point to the other. Investigations made by the managers of the Life Insurance Bureau of the National Telegraphic Union, seem to prove that operators, unless engaged on night duty, or in exceptionally unhealthy locations, are as long lived as the average of the community, if not more so. A ground wire should expose as much surface as possible to the moist earth—the deeper the better. Four or five feet is usually enough, and much less than this will answer where the soil is wet.

W. M. WILLIS.—Send us your address. Paper received, but nothing to indicate where it was mailed.

THE TELEGRAPH.

Cables in the Gulf of Mexico.

(By Atlantic Cable.)

MADRID, JUNE 3.

THE Spanish Government has granted the necessary authorization for the establishment of additional Submarine Telegraph Cables in the Gulf of Mexico.

Telegraph Line to China and Japan.

IN the United States House of Representatives on Wednesday, June 3d, Mr. Cole presented a petition of a Company formed to build a telegraph line from the Pacific coast to China and Japan, praying for certain privileges, which was referred to the Committee on Commerce.

IN the United States House of Representatives, on Thursday, May 14th, Mr. PILE introduced a bill to establish telegraphic communication between military posts, and for the construction of a telegraph line to Puget Sound. Referred to the Committee on Roads and Canals.

A RAILROAD TELEGRAPH.—The New York Central railroad employs ninety-five operators on its telegraph line, twenty-one of whom are ladies, and they receive the same compensation as the men. There are sent twenty-five thousand messages per month, which average thirty words each, and one hundred thousand train reports are recorded every year. Any car on the road can be found in thirty minutes, and its contents noted.—*Albany Evening Journal*.

TELEGRAPH EXTENSION IN BRITISH COLUMBIA.—It is proposed to extend the Western Union Telegraph (Russian Extension) from Quesnel, B. C., to William's Creek, in the celebrated Cariboo mining district, a distance of about sixty miles. The work will probably be completed during the present summer. This point will form the north-western terminus of telegraphic communication on the American Continent.

TELEGRAPH EXTENSION.—The Toledo, Peoria and Warsaw Railway Company have just finished a telegraph line from Warsaw, Illinois, and Keokuk, Iowa, to Bushwell. It will be extended to Peoria, and connected with the eastern section in September. Offices have been opened at Blandinville, La Harpe, and Clocksville, Illinois.

BISHOP'S TELEGRAPH ROOMS.—A telegraphic exchange is about to be inaugurated here. Such an institution, it is conceded, by not only those immediately interested in, but by persons not intimately connected with the telegraphic science, has long been needed, and will, undoubtedly, be fully appreciated. Notwithstanding the immense amount of telegraphic business done in this country, it is too true that there is no other science about which so very little is practically known by the thou-

sands who avail themselves of this great annihilator of space; and it is equally true that upon no other subject is the general public so fearfully ignorant. Any steps that may be taken towards enlightening the public should be hailed with acclamation by all intelligent persons, and the public spirit of one of our oldest and best telegraphic savans has prompted him to do his share in this direction, by establishing a Telegraphic Exchange at 113 Liberty street. The projector is well known throughout scientific circles in this country and Europe, and is the inventor of the BISHOP gutta-percha telegraph cable, which was so extensively used throughout the war, and hundreds of miles of which now connect all our cities which are on the banks of rivers or lakes. This Exchange will enable inventors and others interested in the telegraphic art to be brought together oftener, where views can be freely interchanged, which will ultimately enure to the benefit of the public by cheapening telegraphic transmission, and tend to weaken the present cormorantious monopoly, which hangs like a black pall over and crushes or devours every invention which active brains and ingenious minds devise for the benefit of mankind. Great improvements are needed to be put into practical operation on our telegraphic lines; these improvements and inventions have from time to time, during the past few years, been brought to light and then as suddenly sunk out of sight by the manipulations of a set of monopolists, who see that their adoption would tend to militate, by their simplicity and cheapness, against the continuance in fat offices of a ponderous monopolizing company, the hundreds of worthless relatives whose support depends upon the retention of *old-fashioned instruments and systems*.—*N. Y. Cor. Boston Herald, May 22.*

PERSONAL.

Mr. H. C. DEPEW, formerly of the Chicago City Office, is operator at Bushnell.

Mr. G. W. HUDDLETON takes charge of the office at Clocksville, *vice* J. F. MCCONNELL, retired.

Mr. HOBART, formerly of Des Moines, is operator at Blandenville.

Mr. H. L. BACON, formerly of Warsaw, is operator and agent at La Harpe, Illinois.

Mr. W. A. WALKER, formerly of the Russian Extension Telegraph, is agent, operator, and train despatcher at Warsaw.

Mr. HARVEY B. HENDERSON, formerly of Alton and Springfield, Illinois, but who has passed the last three years at the South, is agent and operator at Warsaw, Illinois.

The lines of this company are under the management of Mr. D. K. SMITH, whose headquarters are at Warsaw, Illinois.

Mr. LEE DANIELS, formerly at Vicksburg, Miss., takes the place in the W. U. Office at Houston, Texas, vacated by BILLY LEWIS, who goes North.

Mr. EUGENE MARCHANT has accepted a position in the Western Union Office at Algiers, La., attending repeaters, to enable this company to use the Balize Telegraph Company's cable, the W. U. Company having lately lost theirs.

Mr. H. C. FELTON has been appointed head book-keeper in the Western Union Office, Chicago.

ALEX. BRUCKMAN has resigned his position as manager of the Western Union Telegraph Office, at New Westminster, B. C., and has returned to California.

Miss ANNIE TRAVER has resigned her position as operator in the city department, at 145 Broadway.

J. F. DAGGETT, Manager Telegraph at Savanna, Ill., has resigned, to accept a position as clerk and operator in Chicago and North Western Railroad Office, Sioux City.

W. M. H. AFFOLTER has been appointed at Savanna, *vice* DAGGETT, resigned.

The N. Y. C. R. R. Co. have re-opened their "Ay" office at the West Albany stock yards, which is in charge of Z. P. DE FORREST, late night operator at Schenectady.

J. H. SAUL, of Canandaigua, takes the place in Schenectady vacated by DE FORREST.

THE office at Sharon Springs, N. Y., has been re-opened for the season, and is in charge of W. M. MALLETT.

W. A. CROOKS, of Brandon, Vt., lately employed in the Coeymans, N. Y., office, has gone to Lake George, to take charge of the W. U. office, in Fort William Henry Hotel, for the season.

CHAS. CLARK, late night operator in the Rutland, Vt., Office, has accepted a position in the W. U. Albany Office.

J. H. NELSON has resigned his position as operator in the Brandon, Vt., Office, and accepted one in the Fire Alarm Telegraph Office, Albany, N. Y.

Mr. CHARLES H. SAWYER, formerly of Portland, Maine, has taken charge of the wires of the Atlantic and Pacific Telegraph Company, at No. 11 Broad street.

Miss F. A. M. EYSTER has resigned the charge of the Logan House Office, at Altona, Pa., and accepted a position in the Atlantic and Pacific Main Office, No. 291 Broadway, New York.

Mr. M. K. REEVES has taken charge of the Logan House Office, Altona, Pa.

MISCELLANEA.

ELECTRIC GAS-LIGHTING.—Mr. EDWARD E. BEAN exhibited before the Institute of Technology, last evening, a new process of lighting street lamps by electricity, which has recently been invented by Mr. FRANK BEAN, of this city. Mr. BEAN'S instrument works on the principle of the MORSE telegraph, there being an electro-magnet attached to each burner, which is made to operate as a valve to shut off and let on the supply of gas, as wanted, and the same power that in telegraphing is used in marking the paper is here exerted on a wheel which turns the valve. By adding together the amounts of pulsation there can be obtained about 59 pounds of power to each valve. Two sets of wire are used, over one of which the "quantity" electricity passes, which manipulates the valves, and over the other the "intensity" electricity, which produces the spark. The plan was tried with perfect success last evening, and will soon be exhibited in public on a larger scale. On Monday next a company will be organized, the Legislature having given them a right to incorporate, on a capital of \$300,000. By the new process fifty or more street lamps can be lighted almost instantaneously from a central office, and turned off, when necessary, with equal facility, thereby saving an immense expense.—*Boston Post, May 22.*

NO CENSORSHIP.—There is no truth in the report that Mr. BUTLER'S Impeachment managers have re-established the censorship of the telegraph lines at Washington, which existed during the war. Instead of inspecting despatches *before* they are sent, they seize and publish them *afterwards*, as a much more effective way of annoying telegraph patrons, and destroying the business of telegraph lines.

COLUMBUS.—A correspondent sends us the following bad joke:—Our joker, after a hard day at the repeaters, gets off the following, and feels much relieved: "What is the difference between putting on your breeches and putting in a Hicks' repeater?" Echo answers: "One you button up, and the other you unbutton." He has propounded several others lately, but as this is about the worst, I send it to you.

WHAT amount of Government funds does a man-o'-war disburse when she "pays out" her cables.





SATURDAY JUNE. 6, 1868.

### THE RECENT SEIZURE OF TELEGRAMS AT WASHINGTON.

THE recent seizure of telegraph dispatches by the managers of Impeachment, at Washington, brings up, prominently, the question of the rights and duties of Telegraph Companies and managers. This act is, we are pleased to see, meeting with general reprehension from the press and from the members of all political parties. We cannot but regard it as a high-handed assumption of unconstitutional power on the part of the Impeachment managers. On the other hand, the failure of the managers of the Telegraph Companies to even attempt to defend the rights of their customers, and resist this infringement of clear constitutional privileges, is simply disgraceful.

This matter has no political significance, and has nothing whatever to do with the justice or propriety of the recent attempt to impeach or remove the President. It is simply a question whether the patrons of the Telegraph can or will be protected in their right to use that institution confidentially.

It was the duty of the Telegraph Companies to use every means in their power to defend and protect the rights of their customers. Instead of surrendering confidential communications entrusted to them, at the demand of Mr. BUTLER and the other Impeachment managers, they should have taken means to bring the matter before the House, and have given them up only on the order of the House, and then merely such dispatches as should be specified in such order.

It would have been just as proper for the Impeachment managers to order the Postmaster at Washington to deliver to them all letters passing through the mail, which they might suspect contained damaging matter in connection with the Impeachment trial. No one pretends that they had any such right, and the business of the Telegraph is essentially of as confidential and sacred a character as that of the post-office.

It is true that during the war of the rebellion a strict Government censorship of the telegraph was established and maintained at Washington, and occasionally at other points. This censorship we always regarded as absurd, and it failed invariably to accomplish the purpose for which it was established; but that action we never heard defended as constitutional or legal. Like arbitrary arrests, and seizure of papers and property without warrant, other than an order of the Secretary of War or some subordinate officer, it could be justified only on the ground of military necessity. *Inter arma silent legem*—in time of war the laws are silent or suspended—was preëminently true of that period. It was clearly and unquestionably illegal and unconstitutional, and cannot, now that the war is over, be urged as a precedent or justification for the action in question.

The habit of arbitrary assumption of power is in the highest degree demoralizing, as is proved by this recent experience. It has demoralized not only the Impeachment managers, who seem in this instance to believe that the Telegraph Companies and their patrons have no rights which they are bound to respect, but also the managers of the Telegraph Companies, who appear to regard the demand of the Impeachment managers as a sufficient justification for the unquestioning surrender of the despatches

entrusted to them, in the belief that their assurances that all communications should be regarded as confidential, were made in good faith, and would be carried out. They appear to have made not the slightest attempt to fulfil their obligations to their customers, but to have allowed Mr. BUTLER to inspect their files and remove any despatches that he saw fit, whether relating to Impeachment or of a private business character.

With a singular disregard to propriety or private rights, Mr. BUTLER has incorporated in his report, and published to the world, despatches confessedly having no bearing upon Impeachment, and exposed to the public confidential business communications, with which no persons beside the parties themselves had anything to do. These may be very interesting reading, but there can be no justification of the manner in which they have been made public.

It is undoubtedly true that the Telegraph may be, and frequently is, made use of by bad men for bad purposes, but so also, to a still greater extent, is the post-office. Are we prepared to see established a censorship of the mails, and the publication of letters which may be deposited for transmission by mail, because in exceptional cases such publicity may serve the cause of justice? Will the people of this country ever submit to have their most private and confidential communications, in time of peace, submitted to inspection of Congressional Committees or public officers? We think not.

It is only necessary that the atrocity of this illegal and unconstitutional assumption of power should be realized, to raise a storm of indignation, on the part of the public, which shall effectually prevent the repetition of the outrage.

This affair furnishes a most conclusive argument against the Government assuming the management and control of the telegraph facilities of the country. With the Telegraph in the hands of the Government, it would always be used by whatever party might be in power, as a powerful engine for maintaining itself, and against its opponents. There could be, so long as human nature remains unchanged, no privacy or security for messages which might be construed as inimical to the administration, or as tending to aid its opponents in obtaining power.

We do not believe that, aside from prudential or economical considerations, the people of this country are prepared to entrust this power and control to any party or administration.

The effect of this outrage, and the pusillanimity of the Telegraph managers, cannot but have a most unfavorable effect upon the telegraphic interests of the country, and unless some reasonable guaranty is given by the latter, of their desire and intention hereafter to defend and protect, to the extent of the law, the rights and privileges of their customers (if not their own), the Telegraph must cease to be used for confidential communications, unless they can be written in ciphers untranslatable except by the parties interested.

#### The Cyrus W. Field Medal.

A BRONZE copy of the Gold Medal awarded to CYRUS W. FIELD by the act of Congress, has been received at the Treasury Department in Washington, and was on Friday last exhibited by Secretary McCULLOCH, at the Cabinet meeting. The medal was designed by J. GOLDSBOROUGH BRUFF, of the Treasury Department, and was executed at the Mint, in Philadelphia. It is regarded by the Secretary of the Treasury and competent judges to be superior in design and execution to any other medal ever produced in this country, and is of itself evidence of the present efficiency in the artistic department of the Mint.

WHY is a galvanic battery like murder? Because it is a shocking affair.

#### Renew Your Subscriptions.

WE would remind our subscribers that the TELEGRAPHER is always discontinued at the expiration of the time for which payment has been made, unless the subscription is renewed. We intend usually to notify our subscribers a week or two before the expiration of their subscriptions, so as to allow ample time for renewal, if they desire to continue to receive the paper. Often subscriptions expire and the paper is stopped, and in two or three weeks we receive a complaint that the paper fails to come. All this, of course, involves trouble and correspondence, which could be avoided if subscribers, on receiving notice, would at once renew their subscriptions.

#### Still Lives.

MR. CHARLES WILLIAMS, Jr., who, in common with several other Electrical, Telegraphic and Philosophical Instrument manufacturers, suffered by the recent fire at No. 109 Court Street, Boston, Mass., an account of which we publish in another column, succeeded in saving most of his machinery and some stock in a damaged condition. He now has his whole force engaged in cleaning and fitting up, repairing machinery, tools, etc., and will be prepared, with enlarged facilities and an increased force, to receive and fill orders promptly, within two or three weeks, at the old stand.

#### Private Despatches not Property.

MR. WILLIAM ROCHE was an operator of the Franklin Telegraph line. A special despatch from Washington was sent to the *Evening Post*, stating Mr. McCULLOCH's intentions concerning sales of gold. Mr. ROCHE sold or gave this despatch to a gold broker before it was published in this paper, to help him in speculating in gold. The result is as follows:

"In the Court of General Sessions, yesterday, the case of WILLIAM ROCHE, charged by the Western Union Telegraph Company with feloniously divulging the contents of a despatch from Washington to a gold broker, came up. District Attorney HALL thought that criminal intent had not been shown by the papers; but he drily remarked, even had it been shown, he did not believe the time of the Court should be wasted in trying this man for what Congress had been doing recently by wholesale. Recorder HACKETT thereupon ordered a *nol. pros.*, and the prisoner was discharged."

Is not this scandalous refusal, by a public officer, to administer the law, worse than the original offence? Is protection to be refused to the most sacred rights of privacy and property at the will of Mr. A. OAKLEY HALL? —*N. Y. Evening Post.*

#### The Government Telegraph Bill in England.

By steamer City of Baltimore, which sailed from Liverpool, May 20th, we learn the statement that government had withdrawn the bill for the acquisition of the telegraphs is incorrect. The bill is to be pressed forward. Further correspondence between the Treasury and the Postmaster General, respecting the bill, has been issued. It consists of a lengthy reply by Mr. SCUDAMORE to the pamphlet lately issued as a statement of the Electric and International Telegraph Company, against the bill, prepared by direction of the Postmaster General, in compliance with the wish of the Chancellor of the Exchequer.

#### MARRIED.

ADAMS—WILLIAMS.—At Gilead, Maine, May 7th, by Rev. G. F. TEWKSBURY, EDWARD P. ADAMS, telegraph operator, G. T. R., to Miss EMMA E. WILLIAMS, both of Gorham, N. H.

DUFF—AYARS.—In Lancaster, Pennsylvania, May 28th, Mr. KENNEDY DUFF, of the Franklin Telegraph Company, New York, to Miss CLARA C. AYARS, of Lancaster, Pennsylvania.

#### DIED.

JULES F. HRUBY, at Collinsville, Illinois, of consumption, April 4th, 1868. He leaves a young wife to mourn his decease.







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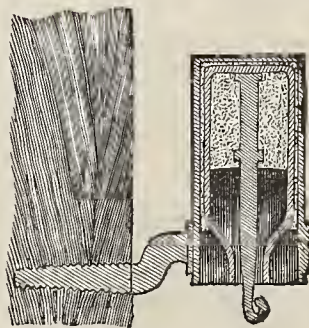
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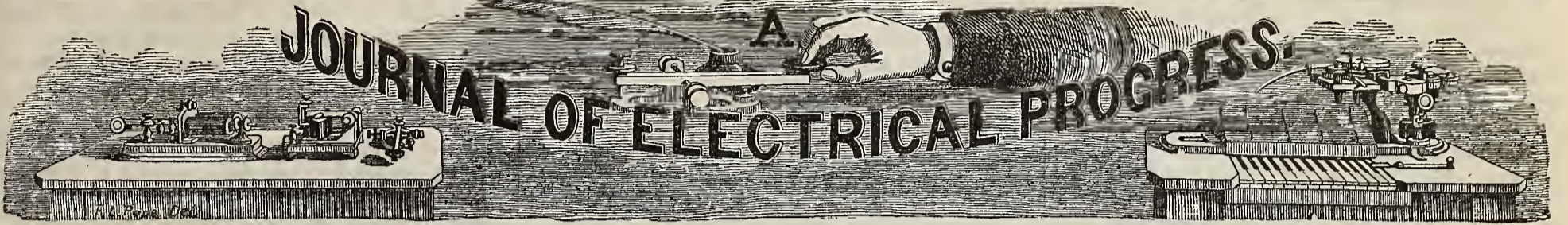
**HIGHTON E.—History of Electric Telegraph.** .... 1 00

**PRESCOTT, C. B.—History, Theory, and Practice of the Electric Telegraph.** 1 vol., 12mo. .... 2 50

*A New and Revised Catalogue of Scientific Works ready October 1, sent Free on Application.*  
 New York, Sept. 15, 1867.



# THE TELEGRAPHER.



Vol. IV.—No. 42.

New York, Saturday, June 13, 1868.

Whole No. 100.

## "A SHORT SURKIT."

THE following account of a joke, played by a Telegraphic operator in Cincinnati on a "shocking" man in that city, will be appreciated by Telegraphers. It is from the *Cincinnati Times*, and we are informed, by a correspondent in that city, that the statement is strictly true:

HAS A TELEGRAPH OPERATOR ANY NERVES?—For some time a man has had a very nice electrical battery on Third street, near our office, where persons could be "shocked" for the sum of five cents, to any extent desired. This morning a big, stout Irishman had paid his little greenback, and received in return a shock such as few persons could stand, the proprietor of the apparatus remarking at the time that, "in a long experience, he had never seen any man who could stand as much electricity."

Pat knew that this soft language was praise of some sort, and was delighted at the "illegant words of the gentleman." At this, a young and spruce-looking fellow stepped up and said, "Mister, I believe that I can stand as much of that sort of stuff as any man who ever had a hold on those handles." "Well, if you think you can, you need not pay one cent," was the quick reply of Mr. "Battery;" "and I'll trate yez to boot," responded the confident Pat. That was enough; the young fellow caught hold of the handles, and the owner commenced putting on the power, Pat looking on, still confident of success. The finger points to 50, 60, 75, 100. "Splendid," says the owner. Pat's point is reached, and he vanishes the premises; the pressure is redoubled, and the full power of the machine reached.

The man stops his grinding, carefully scans his customer from head to foot, and says, "Well, young man, in all my life I never before saw any human being with such nerves as you have. Why the shock that you have taken with so much unconcern would have proved fatal to the elephant Hanibal." The mystery was shortly after explained to us. The man of wonderful nerves is a telegraph operator in the W. Union office, and had arranged a wire under his coat, passing over his shoulders, down each arm to the hands, forming a complete circuit. So that it mattered not how much power was applied, it passed through the wire and back into the machine again, without producing any "impression" on the poor victim.

## Relative Resistances of Various Insulators.

THE following table, giving the results of tests of the electrical resistances of different varieties of insulators, were made at the establishment of the India Rubber, Gutta Percha and Telegraph Works Company, Silver-town, London, under the superintendence of MATTHEW GRAY, Esq., Engineer and Manager. They will prove interesting, as showing the superiority of the Paraffine Insulator over every other. This result shows that there is no longer any excuse for the wretched insulation of our American telegraphic system, since it has been demonstrated that the most perfect insulator yet produced is the invention of one of our own telegraphers:

TABLE.

Date of Test.	Constant of Galvanometer, Daniel Cell through 1,000,000 Ohms.	Number of Cells.	Thermometer (Fahr.)	DESCRIPTION OF INSULATOR.								REMARKS.
				United Kingdom Tel. Co., Large Porcelain.	Varley's Double Porcelain Cup.	British and Irish Magnetic Tel. Co. (Porcelain.)	United Kingdom Tel. Co., Large Porcelain.	Brooks' Pat. Screw Shank.	Ditto.	Ditto.	Brooks', with Leg for Cross Arm.	
Number of Insulators tested				4	4	4	4	5	6	6	1	
March 1.....	334	500	47°	3,500	4,500	30,000	800	2	3	7	200	Very dull.
March 9.....	336	100	49°	330	450	16,000	150	0	0	0	80	During and after rain.
March 20.....	335	500	52°	20,000	37,000	35,000	11,850	2	11	4	144	Atmosphere damp.
March 26.....	333	500	48°	10,600	25,000	18,500	14,500	1	6	6	80	During and after much fine rain.
March 31.....	327	500	43°	40,000	50,000	60,000	50,000	4	4	1	3	During a thick fog and frost.

The amounts given in the table indicate the deflection, per insulator, in degrees, as measured by THOMPSON'S Astatic Galvanometer. The "constant" of the galvanometer is the amount of deflection given by one cell Daniell's Battery through a resistance of 1,000,000 ohms.\* The value of an insulator is, of course, proportionate to the amount of resistance it opposes to the escape of the current. The greater the resistance of the insulators the more perfect the insulation.

The method of finding the relative resistance of the different insulators in ohms is as follows: In the test of March 20, for example, the constant of galvanometer with one cell is 335; with 500 it would be  $335 \times 500 = 167,500$ . If 1,000,000 ohms resistance gives 167,500 degrees deflection, the resistance of any insulator may be found by inverse proportion, the less the deflection the greater being the insulation resistance. In the case of the Varley Insulator, for instance, the deflection is 37,000:

$$37,000 : 167,500 : 1,000,000 : 4,526,027 \text{ ohms.}$$

\* One mile of ordinary telegraph line—13 ohms nearly.

The same day, also, same constant and number of cells for the Brooks' Insulator gives the following result:

$$4 : 167,500 : 1,000,000 : 41,875,000 \text{ ohms.}$$

By an inspection of the table it will be seen that in the test of March 31 the best of Brooks' insulators exceeded its rivals forty, fifty, and sixty thousand times in its insulating resistance, and in the test of March 1st the poorest of the Brooks insulators was four times more perfect than the best of the others tested.

## THE TELEGRAPH COLLEGE SWINDLE.

THE following letter will probably be read with much interest by Telegraphers, and with much greater interest

by persons now studying at the Buckeye Business College.

The desire to secure them situations is very pleasant, but the reckless indifference shown as to how they shall be retained is really heartless. There are some doubtful points in this scheme, and it seems to be holding out inducements to superintendents to engage in operations which are not strictly legitimate:

## THE GREAT SYSTEM OF ACTUAL BUSINESS TRAINING.

OFFICE BUCKEYE BUSINESS, TELEGRAPH AND PHONOGRAPHIC COLLEGE, SANDUSKY, O., April 27.

To —, Superintendent Telegraph:

DEAR SIR: I have a practical telegraph college here, and have on hand about sixty students that I graduate at receiving twenty-five words per minute, and as you have been highly spoken of to me, I think I would like to make arrangements with you to give or get situations for my graduates. I have one young man that is now ready. I will give you \$10 for every situation you get for me. I care not whether it is a night or day office, what the salaries are, or if the student is not kept longer than a week, just so it is a situation.

I would like you to take the contract to furnish all of the whole sixty students employment as soon as they have graduated. I assure you I will not send you a man unless he is a No. 1 business man as well as a good sound operator. I have worked twelve years at telegraphing



and believe I know when a man is fit for a railroad or commercial office.

Hoping to hear from you *very soon* on this matter, I remain, sir, with much respect, very truly yours,

S. P. HARE, President.

It is quite fitting that the way in which institutions of this class propose to deal with students should be made known. This is the dark side of the picture. The bright one, offset by this letter, is well set forth in the following extract from a circular:

"Enterprising young men can obtain a good salary in a shorter space of time than in most any other business. The salaries of operators on commercial lines range from sixty to one hundred and twenty-five dollars per month. Students have graduated directly into positions paying as high as one hundred dollars per month. From three to four months spent in the telegraph college will enable young men of ordinary ability to manage a telegraph office. The telegrapher may select his place of business and residence in accordance with his fancy, either in the great metropolis, the quiet village, the fashionable watering place, or the isolated cabin on the plains. In many instances the telegraph is connected with other business, and thus advantages of great value are secured. Some operators do a thriving business in this way. Railway companies, express companies and manufacturers offer a premium, by way of large salaries, for the services of telegraphers, to act as agents, bookkeepers, or to fill other responsible positions. Telegraph operators not unfrequently have the opportunity afforded them of travelling to distant parts of the country. The principal of this institution has rejected invitations of visiting Russia, Cuba, Salt Lake City, San Francisco and other distant points. In addition to being in advance of the printer in the reception of the latest news, telegraphers enjoy the privileges of railroads, steamboats, express, and not unfrequently of hotel living and public entertainments. The study and practice of telegraphy is not tedious, but on the contrary, to those having leisure hours it would serve as a pastime rather than as a task."

The inducements held out are very great, and many might doubtless be induced to enter the Buckeye College were it not for the insight now given them into Mr. HARE's intentions. Young men in the city and country should be on their guard.—*Chicago Tribune, June 3d.*

## 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.*

CHICAGO, June 5, 1868.

TO THE EDITOR OF THE TELEGRAPHER.

AFTER the election of Directors of the Chicago and North-Western Railroad, held here yesterday, a trip to the present terminus of the Union Pacific Railroad was projected. Five of PULLMAN'S celebrated sleeping cars, and the magnificent dining car, "Delmonico," composed the train, which will run through to the end of the track. Judge J. D. CATON and lady, NORMAN B. WILLIAMS and lady, and M. HUGHITT and lady are among the invited guests. The following note from the Superintendent of the Western Union Telegraph Company was received by the Directors:

"I am authorized, and it gives me great pleasure to extend the full use of the lines of this Company to the guests of the C. & N. W. R.R. Co. upon this their annual excursion, which I see is to leave this city for the end of the U. P. R.R. on the 5th instant."

On motion, the offer was accepted, and the thanks of the stockholders returned. Telegraph business here this spring has been remarkably heavy, and I am informed

the operating force will be increased by some five or six operators.

E. PAYSON PORTER, the Principal of the Telegraph College here, has recently issued several quite lengthy circulars, setting forth the advantages of his college. Among the different branches of telegraphy taught is pole-climbing. Able-bodied men only will be examined in pole-climbing. Selah! L.

NEW YORK, June 1.

TO THE EDITOR OF THE TELEGRAPHER.

I NOTICE, in the TELEGRAPHER of May 30th, an item headed "Rapid Construction." The achievement referred to may be considered as "rapid construction" where common galvanized iron wire is used, but with the new wire made by the American Compound Telegraph Wire Company, a much greater degree of rapidity in construction is attained.

On a line of thirty miles extent, just built in New Hampshire, the whole was strung in fourteen hours, and the last part of it was strung at the rate of three miles per hour. In conductivity the wire was equal to a No. 8 galvanized iron wire, but owing to the combination of steel and copper in its composition, its weight was only 112 pounds per mile, and it is believed to be, in every respect, superior to iron wire.

The men who strung this wire say that they can now string thirty miles of this wire in ten hours without difficulty. C.

PROVIDENCE, May 25.

TO THE EDITOR OF THE TELEGRAPHER.

I AM indebted, I suspect, to my friend SAM for the exposition, in the columns of your paper, of a ludicrous error which I once perpetrated. It is an awkward feeling that one experiences when in debt, and inasmuch as SAM once "made his mark" in the same way, when I was a mere juvenile in the business, and since I have never forgotten it, I shall relate the circumstance, believing that thereby I may liquidate any claim existing against me.

It was during the war when SAM, who was receiving press reports, handed a sheet to R—, one morning, saying: "Here, R—, there is a word gone in that speech; fix it up for me, please."

SAM, having resumed his "receiving," R—, who was the bard of the office, and who was possessed of a very fertile imagination, read the speech, but found the task of filling in the missing word a most decided poser. The sentence read: "I have never he — the escape," etc., and it is doubtful if any word in the English language, inserted after "he," could have imparted the aspect of perspicuity to the ambiguous sentence. Turning to SAM, when he had found the solution of the enigma impossible, R— said:

"What did the word you lost sound like?"

Inclining his head to the left, as was his wont when about to express his sentiments, SAM replied:

"Well, it didn't *sound* like anything; I broke on it three times, but it stuck so that all I could make of it either time was "L. P. E. D." This piece of information was the *desideratum*: for, by adding "lped" after "he," the mist of obscurity in which the words were enveloped was blown away, and the sentence read: "I have never helped the escape," etc.

Much merriment was elicited by this singular instance of obtuseness, in which SAM joined more heartily and more joyously than all the rest. Indeed, SAM was a most excellent fellow! Small of stature and spare in flesh, his heart was of wonderful proportions, and seemed ever effervescing with the kindest and most generous impulses. To know him without loving him was impossible. Although absent now, I never think of him but with a feeling of the kindest affection.

May his own, and the life of his young and beautiful wife, be a long one, and as the years roll down the corridors of time, may they bring to them continuous happiness, tinged by no shadow of sorrow. And their little ones, may they inherit their father's lovable characteristics and their mother's graces of manner—a coalescence of which must ever gain for them a worthy place in the affections of all lovers of the beautiful and good. PTP.

## TO CORRESPONDENTS.

M. K. THOMPSON wants the address of A. R. CHAMBERLIN immediately.

Is anxious to communicate with him relative to an important lawsuit.

OUR CORRESPONDENTS are requested, in sending us notices of changes in Telegraph offices, to always write the name of the office out in full, and not merely designate it by its "call," which, of course, is unintelligible to those not employed on the same line.

## PERSONAL.

GEORGE HARRIS, late of Minn. Valley R. R. office, at West St. Paul, has taken a position in the Mississippi Valley National Company's office at this place. The vacancy at West St. Paul is filled by THOMAS CLARKE, of Ohio.

An office has been opened in the General Superintendent's office Minn. Valley R. R., in St. Paul, Minnesota. Mr. JOSEPH HARRIS is in charge thereof.

MISS LAURA COATES, late of N. W. office, at Winona, Minn., has accepted a position in the Miss. Valley National office at the same place. G. D. MERRILL, of Red Wing, takes her place.

DR. JAMES ETHERIDGE has taken his degree as manager of Miss. Valley National Co. at Hastings.

MR. GEO. E. BAKER, formerly of the Western Union Company's office in this city, was appointed, May 1st, Superintendent of the New York City Telegraph Company, in place of Mr. F. G. BEACH, resigned.

ED. SHOLES, for some time past at New Jefferson, Indiana, has taken the place of H. D. ROOT at "Wh."

MR. ROOT takes the place of T. K. REESE at Council Bluffs, and the latter returns to New York.

MR. D. J. DINGMAN, late of Mobile, Ala., takes place vacated by ED. SHOLES at Jefferson, Indiana.

MRS. SYDNEY B. CURTIS has resigned the situation of assistant operator at the Bridgeport, Conn., office, on the Western Union Telegraph Line, which she has acceptably filled for the last three years, and retires from the business.

MISS FREDERICA MILLER, formerly an operator in the New Haven office of the Western Union Line, has accepted an appointment at Bridgeport, Conn., *vice* Mrs. CURTIS, resigned.

MR. S. B. CURTIS, the popular manager of the Bridgeport, Conn., office, retains the management of that office.

H. J. FISCHER has resigned his position in the Nashville, Tenn., office, and accepted a position in the New Orleans office, *vice* J. B. R. SPALDING, who goes north.

MR. BOOTH, Superintendent of the Ohio River lines, from Louisville to Henderson, Ky., is giving his lines a general overhauling.

SAM. LEVIS, the Telegraph line repairer, who was recently sent to the Insane Asylum, we learn is improving.

PUN-NISH.—A gentleman steps into branch office at dusk and inquires of lady in charge if she can send his dispatch.

"No," replied the female, "the line is closed."

"Oh!" says the wag, "I didn't know it was a

CLOTHES LINE."



THE TELEGRAPH.

Telegraph to India.

To THE EDITOR OF THE TRIBUNE.

SIR: Since my arrival in this country nothing has surprised me more than the indifference of the Government and people to the connection of England with India, China and Australia, by trustworthy submarine cables.

I well recollect the time when persons, both in my own country and in England, were thought to be little removed from madmen when they ventured to predict a large income from the Atlantic Telegraph, but I have lived to see their estimates more than realized; and I believe that submarine cables, properly manufactured and laid between great commercial centres, will prove a good and safe investment.

The twenty-four submarine lines now in successful operation are, as will be seen by the annexed table, all earning dividends, and when England shall be connected by direct cables with her great Indian possessions, and also with China and Australia, we shall have, I have no doubt, to record another dividend-paying line, quite as remunerative as the Atlantic, if not more so.

At the present moment the Foreign and Colonial Secretaries of State may communicate in a few minutes with the representatives of her Majesty's Government in the United States, Canada and Cuba, while Sir Stafford Northcote, the Secretary of State for India, is obliged to wait for days, if not weeks, before he hears from the administrators of the Government in India.

It is now well known that cables laid in deep water are more secure than those in shallow. A new line in the Mediterranean will, I have reason to know, be laid in deep water this season.

I see no reason why a year should elapse without efficient submarine cables being laid from Suez to Bombay. It can be done; it ought to be done, and I believe it would yield a good return upon the capital invested. I remain, sir, yours respectfully,

CYRUS W. FIELD.

Palace Hotel, Buckingham Gate, April 24, 1868.

A List of Telegraph Companies owning Submarine Telegraph Cables, all of which are paying dividends.

No.	Name of Company running Cable.	Date when laid.	From.	To.	No. of Conductors.	L'th of wire in statute miles.	L'th of insulated wires in statute miles.	Rates of Dividend.	Reserved funds which are being annually increased.
1	Submarine Telegraph Company.	1851	Dover.	Calais.	4	24	96	8 per cent.	£30,000 (A).
2	Submarine Telegraph Company.	1853	Dover.	Ostend.	4	70	420	8 per cent.	
3	Submarine Telegraph Company.	1857	Dover.	Lapland.	4	67	228	8 per cent.	
4	Submarine Telegraph Company.	1859	Falkstone.	Bonlogne.	6	23	174	8 per cent.	
5	Submarine Telegraph Company.	1860	Jersey.	Comtances.	1	31	21	8 per cent.	
6	Submarine Telegraph Company.	1861	Beache Head.	Dieppe.	6	80	320	8 per cent.	
7	Submarine Telegraph Company.	1862	Dunwich.	Zandvoort.	4	140	660	10 per cent.	£120,000.
8	Submarine Telegraph Company.	1862	Dunwich.	Abertawr.	4	131	620	10 per cent.	
9	Submarine Telegraph Company.	1862	Wexford.	Short Lines.	4	63	252	10 per cent.	
10	Submarine Telegraph Company.	1862	Severndale.	Donaghadee.	6	25	150	8 per cent.	£22,416.
11	Submarine Telegraph Company.	1863	Portpatrick.	Whitehead.	6	27	162	8 per cent.	
12	Submarine Telegraph Company.	1864	Portpatrick.	New Brunswick.	6	12	12	8 per cent.	
13	Submarine Telegraph Company.	1865	Prince Edward Isle.	Cape Breton.	1	85	12	8 per cent.	
14	Submarine Telegraph Company.	1866	Newfoundland.	Cape Breton.	1	91	91	8 per cent.	
15	Submarine Telegraph Company.	1866	Newfoundland.	Sydney, C. Breton.	1	313	273	8 per cent.	
16	Submarine Telegraph Company.	1867	Placentia (do).	Sydney, C. Breton.	1	60	60	8 per cent.	
17	Submarine Telegraph Company.	1869	Corfu.	Sicily.	1	90	90	8 per cent.	
18	Submarine Telegraph Company.	1869	Corfu.	Otranto.	1	90	90	8 per cent.	
19	Submarine Telegraph Company.	1861	Malta.	Alexandria.	1	1,535	1,335	8 per cent.	£44,597 (C).
20	Submarine Telegraph Company.	1864	Persian Gulf.	Alexandria.	1	1,450	1,450	8 per cent.	
21	Submarine Telegraph Company.	1865	Valentia.	Heart's Content.	1	2,150	2,150	8 per cent.	
22	Submarine Telegraph Company.	1866	Valentia.	Heart's Content.	1	2,214	2,214	8 per cent.	
23	Submarine Telegraph Company.	1866	Lowestoft.	Norfolk.	4	256	1,204	8 per cent.	£2,000.
24	Submarine Telegraph Company.	1867	Cuba.	Florida.	1	286	286	8 per cent.	

REMARKS.

- (a.) A large amount of the capital of this Company was issued for exclusive rights and patents.
- (b.) The balance of net receipts, after paying 8 per cent., carried to reserve fund.
- (c.) The entire capital of this Company is £152,000—£120,000 of which was raised for cables laid in the Mediterranean, but which, being too small, and quite unsuited for the position in which they were laid, very soon failed. The two existing lines cost £33,000, and are paying 8 per cent. on £32,000 preference shares, and 4 per cent. on the 120,000 ordinary shares issued for the first cables.
- (d.) It is reported that this line cost the Government about £350,000, and that the revenue is about £100,000 per annum.
- (e.) Dividend paid last year—to Anglo-American Company 25 per cent., and to the 3 per cent. preference shares of the Atlantic Telegraph Company 4 per cent. Present receipts equal to 25 per cent. Anglo-American Company, 10 per cent. Atlantic preference, and 6 per cent. ordinary, leaving a surplus.

NEW CABLE PROJECT.—The steamship City of Boston, which sailed from Liverpool, May 27th, brings intelligence that the whole of the required capital for the Anglo-Mediterranean Telegraph Company had been promptly subscribed, and the order for the manufacture of the cable had been given. The design of the Company is to improve the telegraphic system by means of new deep sea cables with the East, via the Mediterranean and Egypt. Mr. CYRUS W. FIELD is one of the Directors.

INTERNATIONAL TELEGRAPH COMPANY.—At the meeting of this company, held in Portland, Me., on Tuesday last, the following gentlemen were chosen officers for the following year:

President—E. K. Harding, Bath. Treasurer and Collector—William E. Gould, Portland. Directors—E. K. Harding, Bath; E. C. Bailey, Boston; G. W. Burleigh, Great Falls; George F. Shepley, Portland; Woodbury Davis, Portland; Henry P. Wood, Portland; Daniel Lane, jr., Belfast; Wm. McGilvery, Searsport; T. J. Southard, Richmond; J. W. Palmer, Bangor; J. B. Foster, Bangor.

The Company is entirely free from debt, and a dividend of 3 per cent. on stock paid in is to be paid July 15th.

NEW TELEGRAPH LINE TO INDIA.—Sufficient capital has been raised to construct the telegraph line from England to India, by way of Nordeney, Berlin, Odessa, the Crimea, Armenia, Teheran, Bushire and Kurrachee. The only difficulty will be that for much the greater portion of the distance it will pass through the territory of powers who may at any time become hostile to England, or quarrel among themselves.

TELEGRAPH EXTENSION.—The wires of the Atlantic and Pacific Telegraph Company are being rapidly extended west from Cleveland, and will be open to Chicago within a few weeks. An office on this line has been opened at Elyria, Ohio, where it connects with a branch line to Oberlin, Ohio, on which the following offices have been opened: Oberlin, Wellington, Penfield, Litchfield, York and Medina, Ohio.

TELEGRAPH IN COLORADO.—The Telegraph line was completed between Central City and Georgetown on Sunday last. The office here will be at the Bank, and an operator from Denver will have charge.—*Georgetown (Colorado) Miner, May 21.*

SAN FRANCISCO, June 5.

A despatch from Oregon announces the completion of a Telegraph Line from Portland to Dallas, the upper navigable waters of the Columbia River. The event caused much public rejoicing.

BANQUET TO CYRUS W. FIELD.—On the 1st of July a banquet will be given in London to CYRUS W. FIELD, under the presidency of the Duke of Argyll, "as an acknowledgment of the eminent services he has rendered to the New and Old World, by his devotion to the interests of Atlantic telegraphy through circumstances of protracted difficulty and doubt." The Chairman of the Executive Committee is Sir J. Anderson. Messrs. John Bright and Charles Dickens will speak. The Committee of invitation includes Mr. T. Baring, Sir T. F. Buxton, Mr. Fairbairn, Sir D. Gooch, Lord J. Hay, Lord W. Hay, the Earl of Morley, Capt. Sherard Osborne, Mr. J. Stansfield, and Sir C. Wheatstone.

LADY OPERATORS AT CHICAGO.—We are informed that the Western Union Company intend engaging a number of female operators to work the railroad lines centring in the Chicago offices. The Company are now fitting up rooms over the principal operating room, corner of Lake and Clark streets, for their reception. The operators will be sent there from this city—New York.

THE Telegraphs of London give employment to more than 300 women.

LITERARY.

*An Elementary Treatise on Electrical Measurement, for the use of Telegraphic Inspectors and Operators. By LATIMER CLARK. London. E. & F. N. Spon. 1868.*

IT is not until within a very few years that any work has appeared in the English language of any value to the practical telegrapher, as an elementary work on electricity and its application to the telegraph. The voluminous and heterogeneous manual of SHAFFNER, which is almost entirely out of date, and the more recent work of PRESCOTT, which is of a popular rather than a scientific character, have been almost the only works accessible to the majority of American operators. The valuable hand-book of Mr. CULLEY, of which the first edition appeared in 1863, in a measure supplied this want; but the vast progress which has been made in electrical investigations during the last five years in foreign countries, renders a work of the character of Mr. CLARK'S, comprising the results of the most recent discoveries, a welcome addition to the too limited catalogue of similar works.

Viewing it as an elementary treatise, the somewhat confused arrangement of the contents of the book is objectionable, though this defect is explained by the fact that it was originally intended merely as a companion to Mr. CLARK'S measuring apparatus, but was subsequently enlarged by the addition of an appendix, containing a great amount of useful practical information, formulæ tables, &c., the whole forming the volume under consideration.

We are disposed to take exception to the author's remarks in the introductory chapter, wherein, after stating that philosophers disagree as to the nature of electricity, he advises the students to "regard electricity as a *substance* like water or gas, having a veritable existence;" and a telegraph or battery as "an arrangement by which electricity is pumped out of the earth at one point and poured into it at another." This theory might lead the student who knew nothing of the subject to suppose that a connection with the earth was indispensable to the operation of the telegraph, whereas we know that this is by no means the case. The modern theories of electricity incline to the view that its phenomena result, not from the action of so-called "fluids," but from a polarization of the molecules or ultimate particles of matter; and we can see no advantage in the adoption by the student of a clumsy hypothesis, which utterly fails to explain many of the most common phenomena of electricity, and for which he must ultimately substitute some more rational theory.

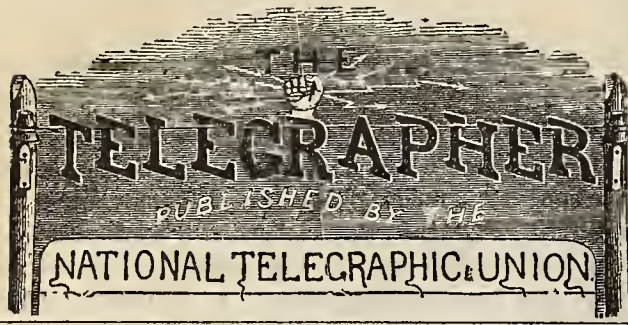
The opening chapter treats of electrical resistance, which, in the main, is well explained, although the distinction between the resistance of a line and the resistance of its insulation is not made as clear as it might be, for the benefit of those not previously aware that it is a difference merely of degree, and not of kind. This is followed by chapters on electro-motive force, tension, induction, quantity, units of measurement, &c. A description of the author's measuring instrument is given, which consists of the well-known differential galvanometer, arranged with a derived circuit or "shunt" in connection with each coil, so as to adapt it for the measurement of both high and low resistances. The method of making various tests with this apparatus is also described. The principle of WHEATSTONE'S balance and the mode of using it is explained, and the first part of the work closes with a chapter on the measurement of cables.

The appendix comprises a large number of electrical formulæ, co-efficients and tables. This portion of the book contains tables of the weight, strength, and resistance of different sizes of wire, cables, &c., &c., and much other similar matter, and will prove most invaluable for reference to the practical electrician.

We regret that Mr. CLARK has not succeeded in this work in giving a clearer definition of the terms, quantity, tension, current, and electro-motive force. In common with other writers he has evidently attempted to accomplish this, but his explanations leave the student but little further removed from bewilderment than those of his predecessors. It does not seem to us that there should be any great difficulty in giving a lucid and correct explanation of what is understood by these terms among the modern school of electricians.

The work is tastefully and elegantly got up, and the illustrations exceedingly well drawn. It should be in the hands of every person who desires to keep pace with the rapid progress of modern electrical science.





SATURDAY JUNE, 13, 1868.

### LADIES AS TELEGRAPH OPERATORS.

THE subject of the employment of ladies as Telegraph Operators, and the effect of such employment upon the interests of the male operators, has been very fully discussed in the columns of THE TELEGRAPHER during the last three or four months. We have surrendered much valuable space to this discussion, believing it to be a topic of general interest to the profession. Both sides have been fully heard, and we have published every communication sent to us, on either side, which we thought would be of interest to our readers. We have not heretofore expressed, and do not now propose to express any opinion upon this vexed question. We desired that both sides should have an opportunity to fully present their views, and have treated both impartially.

It is, however, a question which no amount of discussion will solve to the satisfaction of those concerned, and we have, after much consideration, come to the conclusion that its further discussion in our columns can lead to no good result, and for the present, at least, must decline to publish communications upon the subject. Our space is very limited, and we cannot, in justice to the greater number of our readers, devote so much space to a subject which, after all, is one mainly of personal interest.

In closing this discussion we desire to offer a few reflections, which have naturally arisen from a somewhat careful consideration of the subject, and we do so with the kindest feelings towards every member of the fraternity, both male and female.

In the first place the ladies have entered the profession in considerable numbers, and this number is increasing and likely to increase. No amount of argument, however earnest and sincere, is likely to prevent ladies, who feel that they can satisfactorily discharge Telegraphic duties, and who have an opportunity of learning the business, from becoming Telegraphers. Where the ladies have effected an entrance into any line of business no effort to dislodge them has ever been successful. As long as Telegraph Companies will employ lady operators, so long will be found a sufficient number to fill such positions as are open to them, and Telegraph Companies will continue to employ them just as long as they consider it for their interest to do so. There is but one way in which this can be prevented, and that we regard as impracticable—that is for *all* the male operators to refuse to work on lines where ladies are employed. All attempts heretofore made to combine the operators in a *united* effort to carry any point have proved failures, and while the number of operators, good or bad, is in excess of the demand, this must always be the case.

Such being the unavoidable condition, we would advise our friends of the male persuasion to make the best of the matter as it stands, and by their superior excellence and efficiency, as far as possible, seek to secure their own standing in the profession, and convince Telegraph employers that it is for their interest to employ the *best* talent and experience, even at a higher cost, than inferior services, whether male or female, can be procured.

It is too true that the standard of compensation for females in the Telegraph, as well as in other business, is less than for males, but if what is said by the opponents

of female operators, as to their inefficiency and lack of competency, is true, this would be a sufficient explanation of the fact. We do not believe, however, that this is the real reason for the lower rate of compensation received by ladies. It, in part, arises from the prevalent injustice which, taking advantage of the limited range of employments open to females, and their necessities, forces them to accept a less compensation for similar services than is paid to their more fortunate brethren, who, if adequate remuneration is denied them in one line of business, have a multitude of employments to which they can turn.

The ladies being firmly entrenched in their positions as Telegraphers, we would advise the male operators to try to elevate their standard of proficiency and compensation. Treat them kindly, and extend to them gentlemanly courtesy and consideration, for your own sakes, if not out of regard to them as ladies. You cannot drive them from their situations as long as they are sustained by their employers and forced by their necessities to labor. Do not, then, strive to make their positions uncomfortable, but try to create a fraternity of feeling which will secure their coöperation in your efforts to improve and elevate your standing, and advance the joint interests of the profession. We do not believe that ladies *desire* to labor for smaller compensation than others in the business. Let our efforts, then, be devoted not to depreciating the value of *their* services, and thus affording a justification to their employers in withholding their just dues, but to bring all to an equitable standard of compensation.

With these few observations, which we trust all our readers will receive as they are written, in the spirit of kindness and conciliation, and with our earnest wishes for increased compensation and prosperity for *all* laborers in the Telegraphic vineyard, we close this discussion, and shall hereafter devote the space which of late has been engrossed by it to other matters of importance and interest in connection with Telegraphing.

### Telegraph Colleges.

WE publish in another column, from the *Chicago Tribune*, a document or rather a letter from Mr. S. P. HARE, President of an Ohio Telegraph College or Institute, which we think must have the effect of opening the eyes of *his* victims, at least, to the swindle perpetrated upon them. We have repeatedly exposed the lying promises and swindling inducements held out by the proprietors of these Telegraphic Mock Auction establishments, and shall continue to do so; but if this fellow HARE has, as he says, sixty victims now within his clutches, it would seem without much good effect.

We wish that the Press generally would make known the fact that the promises of situations, large salaries, free blows on railroads and at hotels, and model artist exhibitions, made in the circulars periodically issued from these establishments, are all false from beginning to end, and that the only object of the proprietors of these dens is to get hold of the twenty-five to one hundred dollars which their victims may be induced to hand over.

### The American Compound Wire.

WE would call the attention of Telegraphic Companies, builders and contractors, to the advertisement of the American Compound Telegraph Wire in our advertising columns. This invention undoubtedly possesses many valuable qualities and advantages over the old clumsy oxidized Iron Wire for telegraphic purposes, and its inventors and manufacturers are confident that it will speedily supersede all other descriptions of wire for such uses. It combines lightness and durability with strength and increased conductivity.

The enterprising firm of L. G. TILLOTSON & Co., No. 11 Dey street, are the General Agents, and BLISS, TILLOTSON & Co., of Chicago, the General Western Agents, from whom any additional information may be obtained, and wire ordered.

### The International Telegraph Line.

IN a private letter recently received from a friend, who occupies an important position on the lines of the International Telegraph Company (Cuha Cable), we find some items which may be of interest to the readers of the TELEGRAPHER.

The lines of the International, or Cable Company, connect with the wires of the Western Union Company at Lake City, Florida. About three hundred miles of the line between Gainesville and Punta Rosa runs through pine forests. It is a pretty hard place for the men to live, and a very hard place through which to build a Telegraph line. The company were obliged to build several houses in this wilderness for the operators and repairers to live in. On the lower part of the line, game, such as deer and wild turkeys, are very abundant. Rattlesnakes from five to six feet long, and mosquitos that carry small bricks to sharpen their probosces on, are also plentiful, and add to the pleasures of existence in this section of the "Sunny South."

Our correspondent, however, offsets these "little" annoyances with the fact that it is the best working line he ever saw. It is worked in one circuit from Lake City to Havana, nearly eight hundred miles, and the operators work cordially and heartily together—like a band of brothers—as he expresses it.

The second cable, between Key West and Havana, is to be laid in a few days; the rapidly increasing business of the line, which has been pecuniarily as well as Telegraphically successful since the first cable was laid, requiring such an addition to its facilities.

### Address Changed.

WE are requested to notify correspondents of Mr. J. W. STOVER, Actuary of the Insurance Bureau, and late Manager of the Franklin Telegraph office, at No. 11 Broad street, New York, that his present address is at No. 104 Centre street.

Letters relating to business of the INSURANCE BUREAU of the N. T. U. should be addressed to him, care of the EDITOR of the TELEGRAPHER, Box 6077.

### Worthy of Patronage.

AMONG our Western advertisers we know of no one more worthy of patronage and support than L. C. SPRINGER, of Chicago. We trust that, in their distribution of favors, our western friends will not fail to recollect him. He is especially deserving of support from the fraternity, as he is a Telegrapher of more than twelve years' experience, and has, therefore, a practical knowledge and appreciation of what is required in a Telegraph office, and the necessity that instruments and apparatus should be of good workmanship, as well as to be constructed on correct principles.

### To New Subscribers.

THE increase of the subscription list of THE TELEGRAPHER has been so large during the last few months, that our supply of numbers 79, 81 and 90 of the current volume is exhausted, and we cannot, therefore, furnish them to new subscribers.

TELEGRAPHIC CONFERENCE.—A general Telegraphic Congress is about to be held at Vienna. It will be proposed to reduce the tariff on dispatches between Italy and Germany to 4fr., and to lower the rate in Italy itself very considerably, so that a telegram of fifteen words will only cost 1fr., and 10c. for every additional word.

The idea entertained some time ago in Italy, and which had taken the form of serious negotiations, of transferring all the telegraphs from Government to private enterprise and superintendence, appears to be quite abandoned.







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THE NATIONAL TELEGRAPHIC UNION, by authority of its special charter, granted by the State of New York, proposes to insure the lives of all persons connected with the Telegraphic business, under the following rules and regulations:

Applicants for insurance must be connected in some capacity with the Telegraphic business, must be not less than eighteen years of age, in good health, and able to earn a livelihood. Every applicant shall pay an entrance fee of two dollars, one dollar of which shall be reserved for creating a permanent fund, and one dollar towards the amount to be paid the heirs of the first insured person deceased, who will receive as many dollars as there are persons insured.

Whenever a death occurs among those insured, an assessment of one dollar and ten cents will be levied upon all. This dollar goes to the widow, orphans, or heirs of the next insured party deceased, and the ten cents to be applied to the payment of current and necessary expenditures.

Applications must be made to the Actuary, in writing, accompanied by a certificate, signed by not less than two persons in the Telegraphic business, of good character, that they know the applicant is fully qualified under the preceding rules.

A small annual assessment, not to exceed one dollar, may be necessary to cover working expenses after the first year.

This plan of insurance will be conducted under the supervision of the Executive Committee of the N. T. U., and it will be their aim to make it as inexpensive as reliability and security will allow. It is unnecessary to make any extended remarks, or any comparisons of the great advantages this plan affords for the payment of ready money, at the event of death, over Life Insurance Companies.

Parties wishing to insure should write out the following questions with their answers thereto:

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- Have you any constitutional disease or debility?

Sign the above statement, and forward it to the Actuary, with a certificate signed by two persons connected with the Telegraphic business, that the applicant is well known to them, and that the answers given by him to the above questions are correct?

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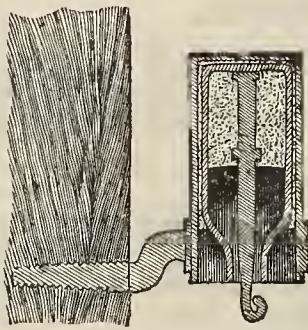
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to those who may exert themselves for that purpose. This offer will hold good until the end of the present volume, which closes with No. 110.

To establish a claim to either of the premiums, the subscriptions must be from parties whose names are not now upon our books, and must be at the regular rate of Two DOLLARS per year. Two six-months' subscriptions will count as one in calculating for a premium.

We have already had occasion to open accounts with several Telegraphers who have sent in names of new subscribers since we announced our list of premiums last week, and hope to distribute hundreds of dollars' worth of valuable works on Telegraphy and Electrical Science in return for accessions to our subscription list.

The subscription price of two dollars per year must, in all cases, be remitted with the names of the subscribers by parties desiring to avail themselves of our offer.

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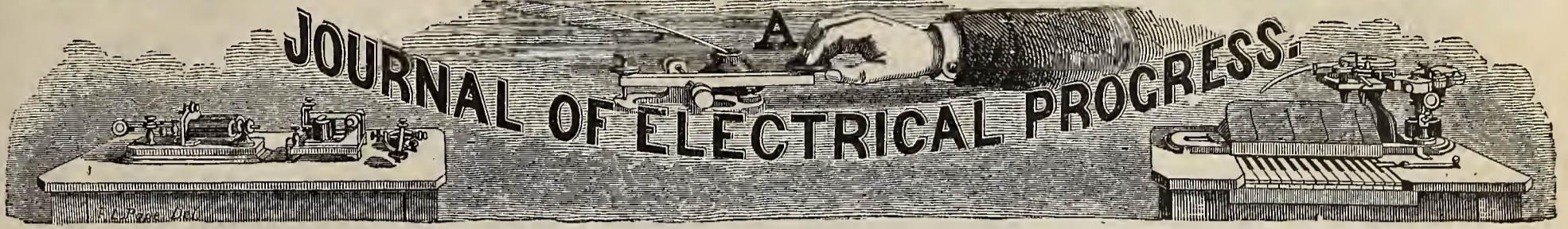
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# THE TELEGRAPHER.



Vol. IV.—No. 43.

New York, Saturday, June 20, 1868.

Whole No. 101

## THE TELEGRAPH IN FRANCE.

(Correspondence of the World.)

PARIS, May 22.

REFORMS and modifications in telegraphic systems being the order of the day, both in France and our own country, we take for granted that a few extracts from a report recently made public will prove interesting to the reader. According to the latest returns published, the French system, which is under the control of the State, comprised 32,225 kilometres (26,028 statute miles) of telegraphic lines, or 110,517 kilometres (68,687 statute miles) of wires, and had 1,209 offices open to the public—in 150 of which the part of operator is filled by women. The total number of messages forwarded in 1866 was 2,842,554, and the gross receipts for the same amounted to 7,707,590 francs (\$1,541,518 gold). The advantages offered to the public may be gathered from the fact that more than half the number of telegraphic stations do not pay expenses, as will be seen from the following items (which we will give in dollars instead of francs): 301 stations collect less than \$40 (annually); 179 collect from \$40 to \$100; 185 from \$100 to \$200; 354 from \$200 to \$1,000; 84 from \$1,000 to \$2,000; 63 from \$2,000 to \$6,000; 17 from \$6,000 to \$10,000; 12 from \$10,000 to \$20,000; 6 from \$20,000 to \$40,000; 4 from \$40,000 to \$60,000; 2 from \$60,000 to \$80,000; 1 from \$105,000 to \$128,000. Yet, collectively, the system is a paying one.

The telegraphic stations are situated in eighty-nine provinces (departments), ten of which only collect \$20,000 and upwards; 1, that of the Seine (including Paris), \$564,473; 2, Bouches du Rhone (Marseilles), \$169,446; 3, Seine Inferieure (Havre), \$121,768; 4, Rhone (Bordeaux), \$69,703; 5, Nord, \$53,125; 6, Gironde, \$52,125; 7, Loire Inferieure, \$27,760; 8, Haut Rhin (Strasbourg), \$27,097; 9, Herault, \$26,878; 10, Alpes Maritimes (Nice), \$20,255. The rest collect from \$18,000 down to \$950. The "Departement de la Seine" includes the French metropolis. Paris counts within the fortifications 43 stations, of which the gross receipts in 1866 amounted to \$544,178, being more than one-third of the total receipts of the Empire. The Bureau (Place de la Bourse) collected \$105,582; that in the Rue de Grenelle (Central Bureau, in the building occupied by the Ministry of the Interior), \$56,799; that of the Grand Hotel, 54,576; Rue Lafayette, \$50,190. Five other bureaus collected more than \$20,000; the remaining thirty-five varying from \$18,000 to \$450.

The increase, during 1867, is probably very considerable, owing to the Exposition and to the very important reductions in the tariff which have since taken place, notably that of 10 cents for twenty words within the limits of the city, 20 cents for the department, and 40 cents for any part of France or Algeria. Since 1852 the tariff on all despatches which have passed through French offices has been reduced from 11 francs 29 centimes (\$2 25) to 2 francs 71 centimes (54 cents). This includes

all foreign telegraphic correspondence; the average inland rate tariff was, in 1866, only 1 franc 90 centimes (30 cents). Since the first of January of this year telegraphic stamps have been introduced, and boxes have been placed at all the stations, so that there need be no delay, and no awaiting the good pleasure of clerks.

The immense, and always increasing, number of despatches sent within the city limits soon complicated the business of the various bureaus to such an extent that it was necessary to devise some plan for diminishing the labors of clerks and distributors (facteurs). The first essay was by sending out from the central bureau, at regular periods, the despatches for each ward, by telegraphic postmen, in light carriages. The system was no longer a telegraphic one—the progress of science demanded something better. An engineer of the telegraphic administration proposed to apply atmospheric pressure, suitably modified, to the transportation of despatches in Paris. As may be supposed, the usual outcry against innovations was at first loudly raised, but finally Monsieur LECOMTE (the engineer above-mentioned) succeeded in having his idea put into practice.

About eighteen months since a trench was dug, extending from the Boulevards to the Faubourg St. Germain. At the bottom of this opening a subterranean tube was installed for the transportation of telegraphic despatches. This tube describes a vast ellipse, nearly regular, which sets out from the Central Bureau, "Ministry of the Interior," Rue de Grenelle, St. Germain, and returns to its point of departure, after passing through the Rue St. Peres, crossing the bridge, and traversing the Place du Carousel, the Rue J. J. Rousseau (in which the Central Post-Office is situated), La Place de la Bourse, the Grand Hotel Rue Boissy d'Anglais, Place and Pont de la Concorde, and Rue de Bourgogne, attaining eight principal telegraphic stations.

This tube is of iron, and is about two inches in diameter. In each one of the bureaus with which it communicates a machine for compressed air is established. The despatches intended to be thus conveyed are enclosed in small metal boxes, which receive their first impulse from the machine at the Central Bureau. On arriving at a station the train is checked up, the box addressed is opened, despatches taken from it, others put in their place, and the train sets out again on its rounds, stopping at each station in its turn until it arrives at its point of departure. A train of boxes is despatched every quarter of an hour, the whole time occupied by the journey being one hour, forty minutes of which are taken up in stoppage and changing despatches—the time taken in the actual journey never exceeding twenty minutes.

Despatches from any part of Paris, at not too great a distance from the centre, to all parts, in fact, except what we may call the outskirts, are delivered within an hour (frequently less) from the time they are accepted at the Bureau. A bulletin is sent with the

despatches, indicating the hour sent, which the recipient is required to sign, and to mark the hour received. In the absence of the person addressed the despatch is left with the Concierge, who must sign vicariously.

## STATEMENT SHOWING THE PROGRESS OF TELEGRAPHY IN FRANCE.

YEAR.	Number of Messages.	Gross receipts annually in Francs.	Average cost per message in Francs.
1851.....	9,014	70,722 60	7.84
1852.....	48,105	542,491 58	11.29
1853.....	142,061	1,511,809 57	10.64
1854.....	236,018	2,064,983 71	8.84
1855.....	254,532	2,487,159 21	9.77
1856.....	360,299	3,191,102 04	8.68
1857.....	413,616	3,333,695 74	8.06
1858.....	463,973	3,516,633 70	7.60
1859.....	598,701	4,022,799 78	6.72
1860.....	720,250	4,188,065 26	5.81
1861.....	920,357	4,919,737 90	5.34
1862.....	1,518,044	5,302,440 55	3.49
1863.....	1,754,867	5,937,904 93	3.38
1864.....	1,967,748	6,123,272 06	3.13
1865.....	2,473,747	7,052,139 79	2.88
1866.....	2,842,554	7,707,590 61	2.71

## A New Galvanic Battery.

A NEW battery, which promises to be an extremely useful instrument, both to the physicist and the therapist, has been recently brought under the notice of the *Chemical Society* by Mr. DE LA RUE and Dr. HUGO MÜLLER. The following account of it is given in the *Popular Science Review* for April, 1868: "The negative plate is of chloride of silver, and the positive plate of zinc, the exciting fluid being salt and water. The one exhibited was of very small size, yet gave indications of considerable intensity. The chloride of silver is fused around a thin silver wire as the negative element, the positive plate being composed of a small rod of zinc, which need not be amalgamated. The size of the whole arrangement does not exceed *three inches* in height, and, with a battery of ten cells, excited with salt water, a rapid current of mixed *oxygen* and *hydrogen* gases was evolved from acidulated water. When in use, the salt brine becomes gradually charged with chloride of zinc, which tends to increase the energy of the battery; the whole arrangement continues in working order until metallic zinc begins to be deposited on the negative element, when the exciting liquid must be changed. For convenience of putting the whole series at once into action, the round bars of zinc and chloride of silver are fastened at the top to a wooden frame, which is made to slide upon glass uprights; when immersed the chloride of silver undergoes a slow reduction to metallic silver, and this permeates the mass, producing an appearance like virgin arborescent silver.—*Geo. Little.*

"Electricity," says the scientific D, "travels faster than light." "Yes," said the reflective B, "it is easier to shock than instruct."



## Scientific Definitions.

You see her in the merry dance—  
She seems to fly;  
But you don't see that rapid glance  
From her bright eye  
Flash through the long and crowded room;  
He only sees that glance, to whom  
It brings extreme felicity:  
That's *electricity*.

They dance together; full of grace  
She clung so close,  
And on his shoulder rests her face—  
A blushing rose.  
Life in that hour seems doubly sweet—  
They see it through a rosy prism—  
Their hands so long and often meet,  
That's *galvanism*.

The night has come to him, but still  
No sleep has brought;  
To her, though quite against his will,  
Flies every thought!  
In vain the struggle is with facts;  
In vain is all such heroism;  
Too powerfully she attracts:  
That's *magnetism*.

## 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.*

TO THE EDITOR OF THE TELEGRAPHER.

IN your issue of 30th ult. I saw two communications, one from "BOSTONIAN" the other from "UNION," and, judging from appearances, both "HUBISTS." I ask your indulgence for a place in your columns to answer them.

IN the first place, "BOSTONIAN" shows the dark side of the secret organization scheme, but, I think, has greatly overestimated the cost of a secret organization. 'Tis true "pomp and ceremony is necessary to make it attractive," but your correspondent must remember ours is not a society in which degrees will be conferred and honors attained. The object of secrecy is to prevent "nosing," and facilitate the workings of the Union, by having it known *only to members*. Costly regalia and other paraphernalia would not be used, and the same rooms now occupied by Districts would serve the purpose then. I cannot see as it would only "be like administering stimulants to a dying mau," and "only create a spasmodic vitality." As the "secrets" would be few and the meetings seldom, I can see no necessity of having a room exclusively for the use of Districts. The principal consideration is whether it would be advisable to bar our doors against operators morally and religiously opposed to secret organizations. This question I do not profess to answer, as I have met with so few who were not members of secret societies, or, if not, were not opposed them, that I may safely say their opposition would amount to but little. This question operators of extended acquaintance and experience can and must settle, but upon other subjects, by your leave, I desire to have a "put." We should consult the views and wishes of our conscientious men, for in them we have the material to build up our Union and advance the standard of our profession. I would propose that each District Director get the views of every member of his District upon this question, and forward the list to the President or Recording Secretary. Prepare the list to show how many *favor* a secret association, and how many *oppose*, with an explanatory clause showing the cause of opposition, whether of policy or of conscience. A full and complete list of the members, prepared in this manner, would be of value to the convention in settling this matter. I need not mention the object of this, as members will see it plainly. If we find but a few opposed on the *conscientious* grounds, why do the

Union an injury by submitting to the dictates of an insignificant minority? But if a respectable percentum of the members object on these grounds, I bow in submission.

"UNION" is very democratic. He wants Districts to regulate their own affairs altogether, fix the qualification for membership, make it secret or public as it chooses, fix its own dues, and, in fact, act independently of the national organization, or any other District. Surely he has not considered the result of such loose regulation. Confusion, and ultimately "bustification" would follow its adoption. His suggestion to allow the Districts to regulate the benefits is good, but the others are not. Some of his suggestions approach the plan of the "Brotherhood of Locomotive Engineers." I would suggest to the members of the Union that they procure and read carefully the plan of organization of the "Brotherhood," a society that has been of great benefit to engineers in every respect. Almost all respectable engine-men are members, and will loan the Constitution of the G. I. D. I think, if "UNION'S" idea of a capitation tax (Districts regulating whether to pay benefits or not) was adopted, much good would result; but then the national organization should pay the expenses of the delegates. If the headquarters are established at New York, the West and South would be at great expense to send delegates, still they pay as many dues as those near the head. This would be unjust, and, as a Western man, I would oppose it. An annual tax of \$1.50 would pay expenses, and be a light tax on the members. This would be better than to have the executive committee *levy* a tax.

IN order to lessen the number of the executive committee, so that their meetings would be more fully attended, would it not be well to abolish the offices of corresponding and recording secretaries and supply agent, and make it the duty of the Editor of THE TELEGRAPHER to attend to these duties? By adding the salaries of these officers together a respectable salary would be paid him, and we would have the advantage of a man at the head of the paper free and untrammelled. I am calculating these salaries at the rate we will have to pay under the new *regime*; with increased duties we will have increased salaries.

I have several suggestions I would like to submit to the consideration of the fraternity, but, as I have written too much already, will reserve it for another occasion.

TRUE BLUE.

NEWBURG, West Virginia.

CHICAGO, June 14.

TO THE EDITOR OF THE TELEGRAPHER.

THE following case was tried here on the 11th, in the Superior Court:

JAMES E. TYLER *et al.*, vs. The Western Union Telegraph Company. Assumpsit. On trial. This is an action instituted by TYLER, ULMANN & Co., bankers, of this city, to recover damages for the losses claimed to have been sustained by the alleged negligence of the company in the transmission of a message dated October 29, 1866, directed to J. H. WRENN, of New York, and authorizing the sale of 100 shares of defendants' stock. As received, it is charged, the message directed the sale of 1,000 shares, which were accordingly sold. Plaintiff lays his damages at \$1,500. Defendants interposed the plea to the general issue, and the special plea that plaintiff neglected to insure the accuracy of the message by having it repeated, as required by the company's rules. In the afternoon the case was closed and given to the jury, with leave to return a sealed verdict.

The Court also charged the jury that the plea was not a valid one. The jury returned a verdict for the plaintiff, with damages assessed at \$828.70. A motion was made by the defendants for a new trial.

Mr. E. D. L. SWEET, who has been superintendent for

the past eighteen years, has resigned, to take effect as soon as he can be relieved. Mr. SWEET was first appointed operator upon the Jacksonville and Springfield line, one of the first of the I. & M. Company's lines. He filled but three offices as operator, the last of which was Galena, Illinois. He was appointed Superintendent of the Western Division of the I & M. Co. while they were in their weakest condition, and by his untiring industry, tact, and excellent knowledge of the business, greatly contributed towards making the Western telegraphs what they are. His connection with the Western Union Co. dates from the lease of the I. & M. line last July. Mr. S. has been a popular and efficient officer, and his departure from among us is regretted.

The Denver and Santa Fe line was completed and working to Puebla, Colorado, at last accounts. The W. U. Company will immediately commence to build a loop from North Fork Station, on the Pacific line, to connect with the U. P. R. R. telegraph line west of Cheyenne city. The telegraph was completed from Central City to Georgetown, Colorado, in the silver mining region, on the 21st ult.

SCRIBE.

## PERSONAL.

WE want the present address of ROBERT T. TIGHE, a Telegrapher, formerly of Santiago, Chili. Have some letters for him returned from Santiago.

Mr. V. P. HASKINS, of Brattleboro', Vt., late night operator at 30th street, New York, has accepted an office at Bay State House, Worcester, Mass.

B. W. RICE, formerly of Toledo, O., has accepted a position with the Denver and Santa Fe line.

Mr. STEWART has accepted the position vacated by Mr. FISH in the Nashville, Tenn., office.

J. W. MORSE has resigned the position of manager of the Council Bluffs, Iowa, office. E. A. STREET is filling the position.

Mr. LYMAN has accepted the position of night operator in Dubuque, Iowa, office, in place of E. F. SMITH, retired.

Mr. J. H. GAGE has accepted a position in the Keokuk, Iowa, office.

S. L. ROBINSON has been appointed report operator at Council Bluffs, Iowa.

Mr. D. B. BURNETT has exchanged places with Mr. HOLCOMBE, of the Omaha, Nebraska, office. His former associates part with Mr. BURNETT very reluctantly, and hope that all his favorable expectations may be realized in the Far West.

The office of the Superintendent of the Telegraph line, on the Union Pacific Railroad, has been removed from Wyandotte to Lawrence, Kansas. The position is filled by R. B. GEMMELL.

Mr. O. H. DORRANCE, formerly of Richmond, Va., is operator in the office of the Superintendent of Telegraph of the Union Pacific R. R., at Lawrence, Kansas.

Mr. C. E. WURTELE has resigned the charge of the Western Union Telegraph office at Moingona, Iowa, and removed to Windsor Mills, Province of Quebec, Canada, with the intention of engaging in other business.

D. G. HARRIGAN, late of the W. U. Albany office, has accepted a position in the Saratoga Springs office, same company.

The office in Cozzen's Hotel, West Point, has been reopened for the season, and is in charge of C. H. SMITH, late of the West Point office.

E. P. REARDON, lately employed as clerk in the Washington Arsenal, has accepted the position vacated by Mr. SMITH.

In Albany the A. & P. Company have opened branch offices in the Lumber District and in Tweddle Hall building. The former is in charge of H. P. OSBORNE and the latter of P. MORLEY.



**THE TELEGRAPH.**

**The Atlantic Telegraph Company.**

LONDON, June 12.

THE Directors of the Atlantic Telegraph Company have this day declared a dividend, payable on the 1st day of July, of six per cent. on their preference stock and three per cent. on their original stock.

**Twenty-fifth Dividend Western Union Telegraph Company.**

WESTERN UNION TELEGRAPH CO.  
TREASURER'S OFFICE, 145 BROADWAY, N. Y.,  
June 10, 1868.

DIVIDEND, No. 25.

THE Board of Directors have this day declared a dividend of two per cent. on the capital stock of this Company, from the earnings for the six months ending June 30, instant, payable at the office of the Treasurer on and after July 20, 1868, to the owners of the said stock, as shown by the books of the Company at the close of business on the 20th June, instant. The transfer books will be closed on the 20th instant, and opened on the morning of the 21st of July, prox.

O. H. PALMER, *Treasurer.*

**Annual Meeting W. U. Telegraph Company.**

THE annual meeting of the stockholders of the Western Union Telegraph Company will be held at the Executive Office of the Company, 145 Broadway, on the second Wednesday (8th) of July, 1868, at noon of that day.

**The Mississippi Valley Line.**

OUR St. Paul, Minn., correspondent informs us that the Mississippi Valley National Telegraph Company have built their line and opened an office as far down as Lake City, Minnesota.

**A New Atlantic Cable.**

(Correspondence of the N. Y. World).

PARIS, June 5th.

THE long talked-of direct telegraphic communication between France and the United States has at length taken a decided shape. The efforts of Mr. GEORGE LAW, of New York, backed by the original French company, under EUGENE DELESSERT, have finally resulted in obtaining an official document from the Minister of the Interior, which will enable the company to carry out their intentions of laying a transatlantic cable between Brest and New York. In April, 1867, an act was passed by the Legislature of the State of New York, at Albany, granting to C. C. LEIGH and others the exclusive right to lay cables between France and New York for the term of twenty years. The parties interested in the English cable are, of course, violently opposed to this new enterprise, but the French Government having now a direct interest in it, it will doubtless be carried out. Messrs. LAW and LEIGH worked indefatigably during the past eighteen months to arrange the conditions necessary for getting an active association organized, and have now before them every prospect of success. The French Government has decided to receive the joint tender of Messrs. DELESSERT, LAW and LEIGH, on the 15th of June, subject to the following conditions:

- ART. 1. The line will set out from Brest, to terminate at one of the points on the coast between Boston and New York, without touching at any foreign shore. It must be ready for service by the 1st of September, 1869.
- ART. 2. The Government engages itself not to make another contract during fifteen years from the 1st of September, 1869.
- ART. 3. The rules of the International Convention of

Paris, or of any other convention which may be decreed to replace it, shall be applied to the use of these lines.

ART. 4. The price of the despatch of twenty words cannot exceed \$12.

ART. 5. The Government reserves to itself the right of exercising on the service of the cable the control which it may judge fit. For this purpose the service of the line shall be installed in one of the rooms of the Telegraphic Bureau at Brest, which must be rented by the holders of the grant from Government; the employés of the Bureau of the Government only to be employed to transmit and receive despatches by the cable.

ART. 6. The contractors cannot unite with any other French or foreign company of the Transatlantic Cable, nor sell out their interests without the authorization of the Government.

ART. 7. If, during the term of fifteen years which the Government engages itself not to grant any other permission to lay a transatlantic cable, a single cable should become insufficient, owing to the increase of correspondence or any other cause, the contractors shall be forced to lay another cable within thirteen months from the time from which notice is given them, unless they prefer to renounce the privilege granted them in Article 2.

ART. 8. If during the fifteen years of the cable service communication should be intercepted for a consecutive period of six months, the privilege established in favor of the holders shall be null and void, and the Government will resume the power of granting concessions to other parties.

ART. 9. No parties shall be admitted to this contract who have not first been accepted by the Minister of the Interior, nor until they have paid as security to the "Caisse des Dépôts et Consignation" of Paris the sum of one million of francs (\$200,000).

ART. 10. Within the three months which follow the 15th of June the contractors will be summoned to show the existence of an anonymous society, regularly constituted in stocks, with a capital of \$5,000,000.

ART. 11 to 13. Contain stipulations as to interests of administrators.

ART. 14. The convention of which the present stipulations regulate the conditions will not be final until it has been signed by the Emperor.

Signed by the Director General of the Telegraphic Lines of France, and approved by the Minister of the Interior.

The Corps Legislatif has been engaged in making new telegraphic regulations during the present week, the most important of which is the reduction in the price of the despatch between any two bureaus in the same department. The department of the Seine, for instance, includes Versailles, St. Germain and several other small towns—the price of the despatch of twenty words, 20 cents; that of Paris has been 1 franc—it has been reduced to 10 cents, the price remaining the same for the interior of Paris. It is proposed in the new law to lay the wires underground near cities. The renewal of the old wires will require an expenditure of several millions of francs, and although the change of the whole series from the aerial to the subterranean passage will require but a small further outlay, the French Budget will not support the additional expense, so much money being needed for the "Chassepots" and other military toys. A new gun was shown this week to the Emperor, invented by Monsieur Rousseau, doubtless a descendant of Jean Jacques, which is described as a love of a gun; fires thirty-five or forty shots a minute only by the turning of a crank, which a child can manage; say 2,400 can be despatched in an hour. Progress in the most praiseworthy direction.

**MISCELLANEA.**

A TELEGRAPHIC JOKER.—A Telegraphic operator was once taken prisoner by a gang of guerrillas in Western Virginia, and the captain told him he would spare his life on the condition of his taking the oath to support the Southern Confederacy.

The prisoner promptly replied, that if, "after a whole life's hard work, and the use of more oaths than it was pleasant to reflect upon, he had been unable to SUPPORT HIMSELF, how could it be expected that, by taking one little oath, he could SUPPORT the Southern Confederacy?"

**Fire in Albany.**

THE operating-room in the main office of the Atlantic and Pacific Company in Albany, with its entire contents, was destroyed by fire at five o'clock on the morning of the 13th inst. No other portion of the building was materially injured.

There is some doubt regarding the origin of the fire, but it is supposed to have been caused by a lighted cigar being thrown into a wooden spittoon, which contained sawdust.

Steps were immediately taken to have the room fitted up again. The entire work of the office is now being done in the receiving department on the first floor.

The Chief Engineer of the Albany Fire Department, in his report of the fire, stated that the promptness with which the apparatus was brought into action was the means of saving enough property to cover the entire cost of constructing the Fire Alarm Telegraph in that city.

**A New Trial.**

IN Superior Court, in case of TYLER, ULMANN & Co. vs. WESTERN UNION TELEGRAPH COMPANY. Assumpsit. Motion by defendants for new trial sustained. Defendants to pay the costs for the term.—*Chicago Journal*, June 15.

ELECTRIC SIGNAL BELLS.—Three of the electric signal bells invented by Mr. J. G. BLOOMER, Superintendent of the Telegraph office in this city, are in use in the Savage mine, and are found to be all that was anticipated. As we stated in a former notice, the bells are operated by the electricity in pretty much the same way that messages are sent on a line of Telegraph wires. At a touch of the finger upon a key at the bottom of a shaft nearly a thousand feet deep, a loud and clear stroke is produced on a bell that is placed just in front of the engineer, who is attending to the lowering and raising of the cages; another touch and another stroke until the proper signal is given. The sound produced by the bell is sufficiently loud to be distinctly heard above all the din of the surrounding machinery; and as the apparatus is never out of order, it is next to impossible for mistakes to occur. Although the miner, far down in the bowels of the earth, does not hear the sound of the signal bell away above him in the light of day, yet each stroke as made is repeated on a small bell just before his face, and he knows he is right. There are keys at every level of the mine, so that the engineer is in perfect telegraphic communication with all the dark caverns of the underground works. Once the apparatus is set up the cost is a mere trifle—only the cost of a few simple chemicals.—*Daily Territorial Enterprise* (Virginia, Nevada).

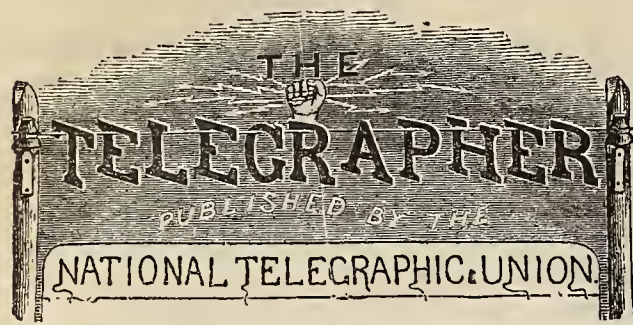
THE MAGNET AS A STOVE.—An experiment made by M. LOUIS DE HENRY is cited to illustrate the correlation of physical forces. If a glass flask, it is said, be placed on a small copper plate, and a magnet, with its poles pointing upward, be made to revolve rapidly in a vertical axis below this plate, an increased temperature in the air of the flask will be observed, which may be made sensible by any particular arrangement. It is supposed that, by substituting for the plate and glass a copper vessel containing water, sufficient heat may be generated by the rapid action of the magnet to cause the water to boil. But would not heat be generated in such a case, whether the apparatus had magnetic power or not?

SEARCH AND FIND.—Can any of the readers of the TELEGRAPHER give a word of seven letters, which, written in the Morse Alphabet, will read the same backwards and forwards? CURLY.

**BORN.**

In Cincinnati, Ohio, June 15th, a son to Wm. HARTMAN, operator in the Western Union Telegraph office.





SATURDAY JUNE, 20, 1868.

PATENT OF THE LATE PROFESSOR PAGE.

WE understand that the heirs of the late Professor PAGE have made a proposition to the Western Union Telegraph Company, to transfer to that corporation the comprehensive patent granted to the Professor under the special act of Congress, so far as the same applies to the Telegraph, for five hundred thousand dollars. We are further informed that the Western Union Company have this proposal under consideration, and have several lawyers of great legal ability and reputation employed in an examination into the validity of the patent, with a view to availing themselves of it as a means of rendering tributary or crushing out all rival or competing Telegraph organizations.

We call the attention of parties interested in this matter to these negotiations, in order that they may without delay take such steps as may be necessary to protect their own interests, and the interests of the public from the dangers with which they are threatened.

Congress, in haste, and without sufficient appreciation of what it was really enacting, passed this special act—which, if sustained by the courts, is likely to build up a most odious monopoly in the Telegraph business of the country—and perpetrated a great wrong, which it should without delay take adequate measures to prevent from being consummated. If the matter had been understood by Congress, it would never have passed a law to render the Telegraph interests of the country tributary to any one man, or set of men, for an additional term of seventeen years after the patents which had been granted and paid for by the public had expired. Several of the very members of Congress who mistakenly voted for this bill are the most clamorous for cheap Telegraphing, while at the same time they favor a law which for many years to come, if carried into effect, renders cheap Telegraphing an impossibility.

Measures should be taken at once to secure such additional legislation as shall render nugatory, as far as the interests of the Telegraph are concerned, this act, ignorantly and unwittingly passed.

We do not wish to be understood, in anything that may be said on this subject, as disparaging the scientific acquirements, discoveries, or reputation of the late Professor PAGE. As an American, we feel proud of his scientific attainments, and desire that all due credit shall be rendered to him therefor. He was an earnest and devoted scientist, and his labors and scientific discoveries deserve suitable recognition, and should have been adequately rewarded. We do not believe, however, that the very comprehensive claims under which his extraordinary patent was granted can be maintained in a court of law.

For most of the principles claimed by him patents had been granted, which having expired, some of them were renewed or extended, and again expired, and had thus become public property. Can Congress legislate away these vested rights of the public, and render one of its most important interests tributary, for seventeen years to come, to the heirs of any man, however great may be his scientific attainments? We think not; and into whatever hands this patent may fall eventually, it will not be

submitted to until every means of legal and legislative redress have been exhausted.

If Professor PAGE had a valid claim to the original discovery of the great principles and inventions which underlie all systems of Telegraph in use in this country, and for which, under his approval as Examiner of Patents, patents had been previously granted to others, it might have been proper for Congress to make to him from the Treasury some adequate compensation. It could not, under any circumstances, be proper that this great interest should be hampered and impeded by the grant of a paramount interest in every Telegraph instrument and invention to any man.

Let us consider what would be the condition of the Telegraph interests of the country if this patent should be sustained and enforced. In that event, doubtless, the Western Union Company would purchase from the heirs of Professor PAGE their property and rights under it. This would at once place in its hands the power requisite to secure a monopoly of the Telegraph business throughout the limits of the United States, which it has so long sought to establish. Competing and connecting lines already constructed would be compelled to submit to consolidation upon such terms as it might dictate, and from them there would be no possibility of appeal. No new lines could be constructed, and no new inventions or improvements could be rendered available, except such as it should see fit to permit or license. There would be no possibility of escape from this. If the Government even should see fit to assume the management and control of the Telegraph, as has been proposed, it would have to make terms with this great corporation for the right to work the lines which it might purchase or construct.

While this would render the franchises of the Western Union Company extremely valuable, and enrich its stockholders to an extent of which they have previously had no conception, it would be at the expense of the public, and of every person outside of that company having an interest in Telegraph property or inventions.

Will Congress then quietly see this great wrong perpetrated? We should suppose that the bare statement of the monstrous proposition would be sufficient to ensure prompt action to prevent its realization.

As we have before stated, we do not believe that Professor PAGE ever contemplated the enforcement of any such claims. It is but natural that his heirs should seek to enforce them, but it is so contrary to public interest, that we cannot believe it possible that this will, under any circumstances, be permitted.

Although on general principles opposed to government subsidies to individuals, yet, if it shall be found that under this law the estate of Professor PAGE has acquired vested rights of which otherwise it cannot be divested, we should, under the circumstances, favor an appropriation to purchase these rights and make them free to the public, and thus reasonable and adequate competition in the Telegraph business be secured.

Every operator has an interest in this matter, for experience has shown that with the business a practical monopoly, the interests of the employees must and will suffer, and no sufficient encouragement be extended to secure the continuance in the profession of men of talents and acquirements, calculated to maintain it in a state of efficiency such as the necessities of the public require.

We hope, therefore, that all parties interested will at once realize the importance of this subject, and take such prompt and effective action as shall prevent the consummation of this great wrong.

OUR FRIENDS would greatly favor us if they would send us any copies of Nos. 79 or 90 they may have to spare, as we are very short of them.

Washburne's Government Telegraph Project.

WE learn from Washington that the House Committee on Post-Offices and Post-Roads, have decided unanimously to report adversely Mr. E. B. WASHBURNE'S bill to build a government line of telegraph between Washington and New York. In the consideration of this measure, the general subject of the propriety of government undertaking business which should properly be left to private enterprise, came up, and, as we understand, the committee were unanimously opposed to all such schemes.

While we are glad to know that the present Post-Office Committee of the House realize the impropriety and impolicy of such attempted governmental interference in legitimate private business, we warn all parties interested that this snake is only "scotched" not "killed," but will with a new Congress again reappear, we hope to meet a similar defeat.

Prof. S. F. B. Morse.

THE venerable Professor MORSE, after a two years' sojourn in Europe, has once more returned to his native land. He has received a hearty welcome from his many friends. He is now in his seventy-eighth year, but is hale and hearty, and bids fair to enjoy the reward of his labors for some years yet. During his sojourn in Europe he was the recipient of many gratifying and honorable attentions from distinguished civil, literary and scientific individuals, societies and governments.

Ought to be Adopted.

IN the United States House of representatives, recently, Mr. ELDRIDGE offered a proposition declaring that the seizure of private and personal telegrams was violative of the Constitution, which provides for the right of the people to be secure in their houses, papers and effects, against unreasonable searches and seizures, and that no warrants shall issue but upon a probable cause, supported by oath or affirmation, and particularly describing the place to be searched, and the persons or things to be seized; that such seizure is an outrage upon personal liberty, to which no free people can tolerate or submit.

Mr. ELDRIDGE moved to suspend the rules, which was disagreed to, and so the resolution went over until the next Monday.

Zinc in Batteries.

IN order to render common equally serviceable with pure zinc, amalgamation is usually resorted to, as well as to decrease the local action.

IN BUNSEN'S batteries, where a stronger acid solution has to be used, great difficulty has always been experienced in keeping the zinc element well amalgamated, so as to reduce as much as possible the great expenditure of the metal. Several plans with this object have been tried, but generally have, for one or more objections, been put aside.

A very simple remedy has lately been tried by M. DEMANCE, who simply places in the zinc cell several drops of mercury. The amalgamation is at once renewed.

From the results of experiments made by him with cells whose zincs have been amalgamated in this manner, he finds that the current obtained is of remarkable constancy, and that the exterior disengagement of hydrogen is very feeble. In addition to this, after numerous experiments, he is satisfied that the intensity of the current is manifestly superior to that of a battery of the same number of elements, under ordinary conditions. It is only under the influence of a current that the re-amalgamation will take place. The mercury being in excess, the zinc always remains bright, local secondary currents are removed, and when the zinc is withdrawn from the cell the absence of the froth is noted—generally due from impurities in the metal, which usually soils the surface.







CHARLES T. & J. N. CHESTER,

104 Centre Street, N. Y.,

Telegraph Engineers,

AND MANUFACTURERS OF

INSTRUMENTS,

BATTERIES,

AND EVERY DESCRIPTION OF

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Sole Agents for the United States

FOR

BROOKS' PATENT PARAFFINE INSULATOR

AND FOR

BUNNELL'S PATENT REPEATER,

The simplest and most efficient instrument ever devised for the purpose.

They publish an Illustrated Descriptive CATALOGUE of their manufactures, of which a new edition is now preparing, which will contain, among other matters, a description of a New Battery, having the power of 100 Grove cells, yet portable; also, an Enduring Battery, capable of giving a steady current for one year, without renewal.

W. E. FACER,

General Manufacturing Electrician,

No. 48 SOUTH FOURTH STREET,

PHILADELPHIA,

Keeps constantly on hand and manufactures to order, all kinds of

Telegraphic, Galvanic and Electric Apparatus,

Of the most approved patterns and cheapest possible rates.

ALL WORK WARRANTED.

Galvanometers of extreme delicacy, Physicians' Apparatus, and model work neatly executed.

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Applicants for insurance must be connected in some capacity with the Telegraphic business, must be not less than eighteen years of age, in good health, and able to earn a livelihood. Every applicant shall pay an entrance fee of two dollars, one dollar of which shall be reserved for creating a permanent fund, and one dollar towards the amount to be paid the heirs of the first insured person deceased, who will receive as many dollars as there are persons insured.

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Applications must be made to the Actuary, in writing, accompanied by a certificate, signed by not less than two persons in the Telegraphic business, of good character, that they know the applicant is fully qualified under the preceding rules.

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What is your age?
Where is your residence?
What is your occupation?
Have you any constitutional disease or debility?
Sign the above statement, and forward it to the Actuary, with a certificate signed by two persons connected with the Telegraphic business, that the applicant is well known to them, and that the answers given by him to the above questions are correct?
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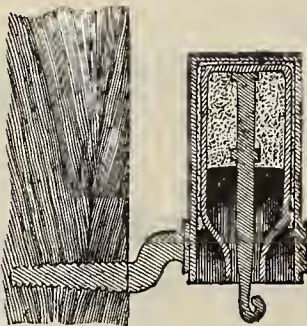
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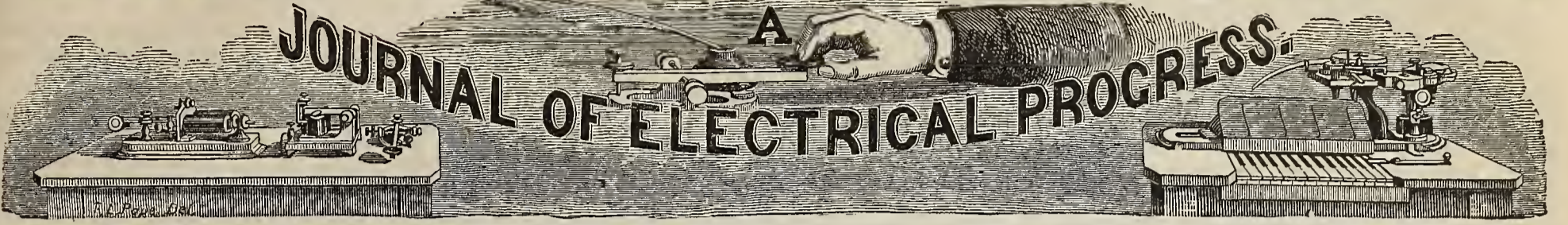
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JOURNAL OF ELECTRICAL PROGRESS.



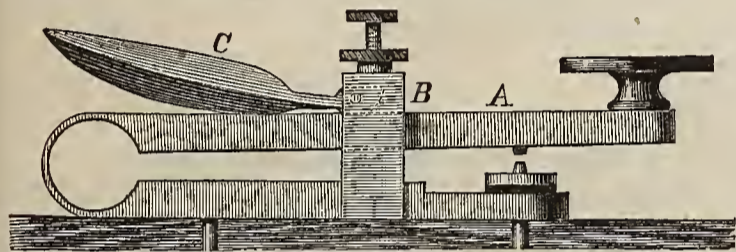
Vol. IV.—No. 44.

New York, Saturday, June 27, 1868.

Whole No. 102.

## BENTON'S ANTI-TRUNNION TELEGRAPH KEY.

THE attention of the inventive portion of the telegraphic fraternity seems to have been mainly directed, for some time past, to the improvement of the transmitting key.



We have already given descriptions in these columns of several different inventions of this kind, and we now present our readers with another, and a decidedly novel arrangement, quite different from any hitherto brought out, which is intended to obviate some of the evils caused by the manner in which the ordinary key is constructed.

The most important feature of this invention consists in dispensing entirely with the trunnions or pivots usually employed, and making the key lever A and the base of a single piece of steel, as shown in the engraving; the thin semi-circular portion at the rear, which connects the two parts, forming at the same time a substitute for the trunnions, and a spring for lifting the key when the pressure of the operator's finger is withdrawn.

Almost every operator has observed some defect at times in the working of the key in general use. The arbor frequently becomes loose, and the pivots, unless attended to occasionally, become oxidized and dirty in their bearings, causing considerable resistance to the passage of the current. These difficulties, together with the trouble inexperienced operators often find in adjusting the bearings of the key, are obviated in the instrument under consideration.

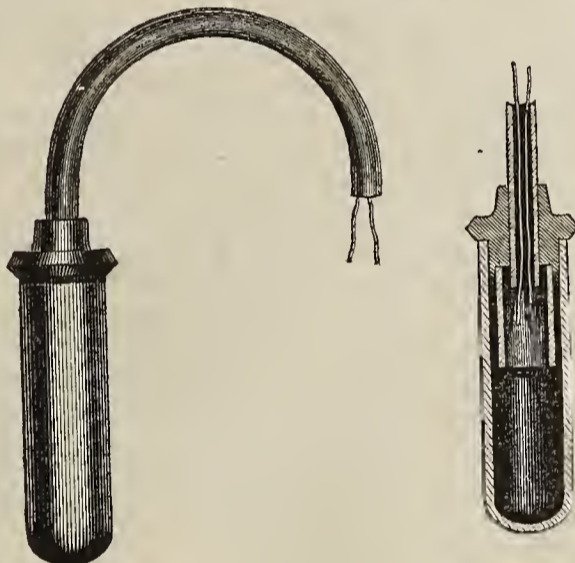
The arrangement of the circuit closer C, in this key, also presents some new features. In the engraving it is represented in a horizontal position, above the lever, leaving the circuit open ready for transmission. If moved into a perpendicular position, the cam near the pivot, the form of which is shown by the dotted lines, depresses the key lever, thus closing the circuit. It will be noticed that this circuit closer somewhat resembles a railway switch signal. When the lever is up the line is "all right," as may be seen at a glance from any part of a large office, and any key accidentally left open would be far more likely to attract notice than where the movement is entirely horizontal, as in ordinary cases.

The inventor has also devised a very simple and effective attachment to this key, by means of which it can be converted into a self-closer, if desired.

The key from which the drawing illustrating this article was taken works quite as freely and easily as the best keys of the usual form. Those of our readers desiring further information in regard to it, may obtain it by addressing the inventor, Mr. WM. F. BENTON, of Macon, Georgia.

## THE ELECTRIC FUSE.

WE are glad to be able to give to-day an illustration of what we are assured is an improvement upon the fuse in common use. The accompanying figures represent very clearly the construction of the electric fuse. The arrangement of fuse No. 1 is such that it can be used for the explosion either of gunpowder or nitro-glycerine. Great care has been taken to have it made of the very best materials. In order more especially to insure this, the manufacturers have put the preparation of the fulminating powder into the hands of one of the best chemists of the country. The arrangement is simple. The primer is enclosed in a glass tube. All outside coverings of the fuse are made of gutta percha, while the two conducting wires, each three and a half feet in length, are insulated from each other by means of selections of the purest



No. 1.

quality of that article, and thoroughly tested before being made use of. They can be relied on as being of perfect material and construction. So confident are the makers of this fuse, in regard to its perfection, that they have no hesitancy in warranting every one of them. To the users of the electric fuse this is assuredly a most important point.

In case of fuse No. 2, the gutta percha cap shown in the engraving is to be used with match fuse, for the purpose of blasting with nitro-glycerine. The fulminating powder to be used is the same in quality as that used in case of No. 1, and is just as certain not to miss fire. We shall be very glad to learn of the extensive use of this fuse in blasting operations. It seems to possess qualities that should give it place above all others in use. SAMUEL C. BISHOP, of the Bishop Gutta Percha Company, 113 Liberty street, will furnish any information that may be desired in regard to this very excellent article of fuse.—*Journal of Mining.*

No. 2.

## MILITARY TELEGRAPHS.

### THE DRILL AT WEST POINT.

WE find the following very interesting account of the Military Telegraph drill at West Point Military Academy on Saturday, June 20, in the letter of the special correspondent of the *N. Y. Tribune*:

WEST POINT, June 20, 1868.

America is destined to lead the world in the arts of modern warfare. Perhaps the most interesting feature of the exhibition at the Military Academy was the Telegraph Drill to-day; interesting from the fact that it was the first practical drill of the new system, and officers and visitors were alike astonished at the rapidity with which a telegraph line could be established, ready for the transmission of messages. To Gens. GRANT, PITCHER and SCHRIEVER, the nation is indebted for introducing a branch of study at the Academy, the want of the actual execution of which was often experienced by those Generals during the late war, and to Gen. MEYER belongs the honor of having arranged and perfected that system, until now one mile of wire can be laid, with apparatus attached and ready for work, in seven minutes. The cadets are instructed, not only in all the duties of locating the lines, but in the attaching of instruments and the transmission of messages. Upon the balcony of Roe's Hotel Gens. SCHRIEVER, PITCHER and MEYER, Col. MICHE, Lieut. STRONG, and a numerous assemblage of ladies and gentlemen, had gathered to witness the drill. Passing slowly along the road in review is the Flying Telegraph train. First came the wire wagon. In the rear of this vehicle, on an adjustable stanchion, is a reel of wire, with a crank to wind the wire when the line is taken up, extra reels of wire, insulated wire, to be used when rivers are to be crossed, naked wire for ordinary uses, and the "sounder." The cadets are so thoroughly trained in this branch that they can both receive and transmit messages by sound. In this wagon is also a patent reel, made to fit on the back of a horse, in case a point is reached where it is impossible to go on in the wagon; followed by the lance wagon, in which are placed the poles for the wire, crowbars, a tool-chest, pins, nails and ladders, so, if necessary to have the line run through dense woods, the wire can be fastened to the limb of a tree. Followed by the telegraph station, also on wheels, containing the batteries, so arranged as to be almost impossible to be broken—a very ingenious contrivance, made by the firm of CHARLES T. & J. N. CHESTER, of New York. The improvements made in military telegraphy by this firm have received warm comments from military officers, and the insulator for naked wire is admitted by foreign officers to be the finest in the world; and I would here state this fact, gratifying to every American, that officers from other nations are now in this country for the purpose of learning our military telegraphic and signal system. The batteries run along the



side of the wagon, and can be easily removed, and, with the instruments, carried into a house, and have only to be supplied once a fortnight. In this wagon are desks, stools, and all the appliances for four telegraph lines. These three wagons constitute a Flying Telegraph train. After passing in review the wagons halted near the barracks, about three quarters of a mile from the hotel; the signal was given, and the drill began. First came, on the double-quick, a non-commissioned officer, bearing a flag, and marking off the points with a pin where the poles or lances are to be set. Next followed the wire wagon, also on the run, reeling out the wire; next the lance wagon, on the double-quick, the men inside throwing out a lance at every pin, and a squad of men, with crow-bars, made holes in the ground, taking up the pin, setting the lance, and laying the wire. Then followed the station wagon, with instruments set, and in seven minutes three quarters of a mile of line was ready, and a message was passing over the wire, and an answer received from headquarters. A station was opened at Fort Putnam, on the hill, within sight of the hotel, and a signal officer was sent up with a flag. Now the two systems were combined; a message was sent to the fort, with instructions to answer by the flag, and in a few seconds the waving flag spelt out the answering words. The great importance of the signal system to the united service cannot be too highly appreciated when land and naval forces unite in attack or defence. One of the most interesting features of the presence of the fleet is the conversation carried on by signals between the middies on board and the cadets on shore. The movements of a train can be likened, in some respects, to those of light artillery, and lines can be ordered to any point and stations established with as much ease and certainty as a gun can be ordered to any position. The average rate of speed in building a telegraph line, putting it up and setting it at work, when without emergency, is one hour to three miles of line. The drill yesterday was to exhibit the working with the greatest possible speed. The men attached to the Field Electric Telegraph, or the Flying Telegraph train, are drilled with as much precision as soldiers in any other branch of the service. It is the object of the train organization to be able to erect lines and establish stations rapidly along roads on which the army is moving, or to run out lines and make communications any where between forces actually engaged upon the field—to be able, in fact, to send orders by electricity almost as soon as issued by the Commander-in-Chief, instead of mounted couriers, to be lost in the woods, or aids, galloping under the enemy's fire. After testing the telegraph to the satisfaction of all—the ladies sending messages to the barracks and the fleet—the order was given to take down the line. This movement was also executed on the double-quick; and, in a few moments, the wagons, with the wire reeled up and the lances in the wagon, passed slowly along the road to quarters, and no trace remained of the military telegraph line.

NEW MANGANESE BATTERY.—A battery, composed essentially of peroxide of manganese and a single liquid, chloride of ammonium, has been recently constructed by M. LECLANCHE, and, according to *Les Mondes*, has been already somewhat extensively adopted, or at least taken on trial by several telegraph companies on the Continent. It has long been known that peroxide of manganese possesses an electric conductivity similar to that of metals. The author only uses the natural crystalline peroxide, of the purest quality. This is broken up and placed in a porous vessel, where it surrounds a carbon plate, forming the positive pole of the battery; the negative plate outside the porous vessel is simply a thick rod of zinc; the liquid which bathes both plates is a concentrated solution of sal ammoniac. It appears to be a very constant form of battery, and exceedingly economical.

## 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.*

SHAKETOWN, Mich., May 23, 1868.

TO THE EDITOR OF THE TELEGRAPHER.

I HAVE for some time been expecting to see in THE TELEGRAPHER some correspondence from this part of the country, but as no one else seems inclined to represent this upper peninsula in your columns, with your permission I will briefly describe the line extending from Marquette to Houghton, Mich.

At Marquette Mr. W. S. DALLIBA is manager, and is a popular and efficient telegrapher. He is a *sound* operator, in every sense of the word, having learned in an office where there never was a register, and in one year attained such proficiency as to qualify him to take charge of the office, which at that time averaged eight hundred dollars per month receipts. He runs the office with the aid of an assistant, better known as "K."

Across the street from the main office at Marquette is the headquarters of the Marquette and Ontonagon Railroad, and the telegraph instrument at this station is manipulated by Mr. B. H. BICKNELL, late of Mendota, Ill., a first-rate operator and clever fellow, whose merits are duly appreciated.

At Morgan, nine miles from Marquette, the office is run by JOHNNY MINICK, who is a graduate of the Houghton office, and who is always around and willing to assist. At his office both railroad and commercial business is done.

At Negaunee, which may justly be called the electrical reservoir of the upper peninsula, Mr. D. F. WADSWORTH presides. He is the oldest man on the line, having emigrated from Illinois in the year 1865, when the line was in its infancy; and being a steady, sober man, has held his position with great credit. Mr. W. resembles Gen. BUTLER in his outward appearance, but says he is no relation that he *knows* of to the general. He works the Houghton and Marquette wire, also the Green Bay circuit; has a main battery of 80 cups (HILL'S patent), and is enabled to connect the two lines by means of a button repeater. He is in direct communication with Chicago and other large cities, and is a regular bulletin board of all public news. Just across the street, in the new depot recently erected by the Marquette and Ontonagon Railway Co., is where FRED BARLOW drums away on one of TILLOTSON'S new main line sounders. FRED is a good operator, and a tip-top good boy.

At Ichpenning S. J. NEWMAN has charge, and combines railroad and telegraphic duties. He would also like to combine the management of the telegraphic line with his other numerous duties, but somehow his associates on the line don't see it.

At Greenwood the office is occupied by Mr. M. R. HUNT, lately from the lower world. He was sensible, and brought with him a wife to comfort him in the wilderness. He is a good operator and good fellow, and is much liked on the line.

S. H. MING administers telegraphic affairs at Clarksburg, and is also a good sound operator. I understand that he has been offered a better position on the new line now being constructed from Houghton to Eagle River, and has tendered his resignation on this line. All on the line regret his leaving us, but hope the change may result in a benefit to him personally.

At Champion Mr. L. D. DOTY officiates as operator, and besides his ability as an operator he drives a good quill.

From Champion the line goes for 35 miles through a dense forest of tall pines to Lansc, a small village, the inhabitants of which are principally Indians, and they say

a white man can't live long there without smelling smoky. I wonder whether FRANK TOMPKINS has been there long enough for that yet. He is telegrapher there, and another graduate of Houghton office. He also goes upon the new line as soon as completed.

Thirty miles northwest of Lansc we come to Houghton, Michigan, and for the present the terminus of the line.

Houghton is situated over a heap of copper, and surrounded by mines of the richest kind.

Mr. HENRY MOHL, late of Chicago, Illinois, manipulates the key at this place six days out of seven, seldom breaks, makes few mistakes, and is always in good humor.

Mr. W. V. STEVENS, late of the Houghton office, has been appointed superintendent of the construction of the Mineral Range Line, the title of the new line in course of erection now, and I understand is to superintend the working of it after it is completed.

If desired, I will keep the fraternity posted in regard to this new line, its offices and directors, hereafter. The Marquette and Houghton line belongs to the Northwestern Telegraph Co., whose lines extend over Wisconsin, Minnesota and Michigan.

SOJOURNER.

LAKE SUPERIOR, June 17th.

TO THE EDITOR OF THE TELEGRAPHER.

THINKING that a few items relating to the Telegraph in this section of the country might be of interest to your readers, I take the liberty to write the following:

This line is owned by the North-Western Telegraph Co., and extends from Marquette to Houghton, a distance of one hundred miles. In favorable weather it works well, but during wet and foggy weather it is almost impossible to work the line through. At such times the figure 8 may be heard frequently repeated for the edification of sundry individuals, who, it would seem, have not yet learned the use of the adjustment screw. There are ten offices on this line at present; seven of them belong to the Marquette and Ontonagon R. R. Co.

The Railroad Telegraph Office at Marquette was destroyed by fire on the night of the 11th inst., but the operator succeeded in saving the instruments, and an office has been opened in the ticket office.

The M. and O. R. R. Co. are building a line along their road, which will be a decided improvement on the N. W. Co.'s wire, which they are now using. The poles are already set, and the work of stringing the wire will be commenced immediately.

The Mineral Range Telegraph Company commenced working their line between Hancock, Calumet and Eagle River, a distance of 30 miles, last Friday. They forwarded messages between the above points gratuitously for three days. Their cable across Portage Lake, between Houghton and Hancock, about three fourths of a mile in length, was laid this morning, and works splendidly. This line will be extended to Eagle Harbor and other points up the lake at an early day. Mr. W. V. STEVENS, formerly manager of Houghton office, is superintendent; his headquarters are at Hancock, Mich. MAGNET.

St. JOSEPH, Mo., June 15.

TO THE EDITOR OF THE TELEGRAPHER.

A TERRIBLE wind-storm passed over this part of Missouri and N. W. Kansas at 7 P. M., June 4th, prostrating nearly all our lines, and shattered the river mast on the Missouri side, at this point.

We laid a half mile cable across the Missouri river on the 7th, and it works well. A new mast, 150 feet in length, will be put up in place of the broken one as soon as possible.

W.

TROY, N. Y., June 23.

TO THE EDITOR OF THE TELEGRAPHER.

YOUR readers are asked for a word of seven letters, which, written in the MORSE alphabet, will read the same backward and forward.

I find  
"Waiting."

S. B. P.



**Paper Operators Defended.**

TO THE EDITOR OF THE TELEGRAPHER.

IN the *Journal of the Telegraph* for June 1st I noticed a communication, signed "VOYAGEUR," and dated St. Louis, Mo. In his communication there is a slur on paper operators, which, in my opinion, at least, is unkind and uncalled for. Is there, I would respectfully inquire, any disgrace in being a paper operator?

If my memory is correct, I think this same "VOYAGEUR" was once "a runner of the slip," as I was, and as most of the operators—even those who most excel—have been in the earlier years of their professional experience. It seems to me ungenerous and unkind for older and more experienced operators to make younger operators, who are treading the same paths which they have trodden, their jest and butt, and I do not like to see it done.

Perhaps "VOYAGEUR" may remember one operator, who was once the object of his slurs, who *now* ranks far above him as regards rapidity and correctness of operating; and, perhaps, his memory may be too treacherous, but, at any rate, I well remember the circumstance, and can refresh his recollection with names and dates, if required.

REGISTER.

**PERSONAL.**

CORRECTION.—ED. SHOLES, whose change of location was noticed June 13th, was formerly at New Jefferson, Iowa (not Indiana), and has taken position in "Mr." (instead of "Wh.") office.

D. J. DINGMAN, operator at New Jefferson, Iowa, has gone East.

A. EMGENS, Agent C. & N. W. R. R., assumes control of the Telegraph, in addition to his former duties.

W. E. VIGERS has been relieved from duty at Topeka, and goes to Atchison, Kansas, as assistant operator.

JOSEPH E. HARD takes charge of the Topeka, Kansas, office.

GEORGE PARMELEE takes position at Lawrence, Kansas, vacated by Mr. HARD.

J. L. BAKER is rustivating at Oakland, Maryland.

A. K. V. HULL, Manager of Cumberland, Maryland, office, has gone to farming near Lynchburg, Va.

Mr. DEETZ has accepted the management of the Cumberland, Md., office, with CHARLIE SMALL as assistant, and BILLY FLURSHURTZ, night operator.

HENRY M. HOFFMAN has taken the management of Camden Station office, of the Baltimore and Ohio Railroad, at Baltimore.

GEO. B. SCOTT, of Frederick, Maryland, has accepted the assistant superintendency at Grafton, W. Virginia, of the Baltimore and Ohio R. R., *vice* HOFFMAN, gone to Camden Station.

JOHN CURRAN, night manager at Memphis, and HUGH IRVINE, of Louisville, Ky., office, have gone to Canada to spend two or three weeks.

The Mississippi Valley Telegraph Company has reached Dubuque, Iowa, and an office was opened there on the 16th ult. Mr. ETHERIDGE, formerly of Hastings, Minn., is in charge.

Mr. J. J. S. WILSON has assumed charge of the Chicago district of the Caton lines in addition to his present district. His headquarters will be at Chicago after the 1st of July.

Mr. E. KINNEY SMITH, formerly connected with the W. U. Telegraph Company, New York, arrived in Chicago on the 17th ult.

A. C. HALLOCK, of Pierceton, Ind., has accepted place on the C. C. & I. C. R. R.

F. C. ARMSTRONG, Manager W. U. Cincinnati office, is on a visit to Chicago.

**TO CORRESPONDENTS.**

PICO.—We are expecting soon to be able to furnish the readers of THE TELEGRAPHER with a full description of the working, etc., of the Cuba cable and its connections, as we have been promised a communication on the subject from one who knows all about it.

The cable is worked with the ordinary MORSE relay and magnets, as the cable is not of sufficient length to require the use of the system used on the Atlantic cable and other long submarine wires. The MORSE system has been found practicable for operating comparatively short cables, although it is necessary to graduate the speed according to the length of the cable.

Both the English and Spanish languages are used in the transmission of despatches.—ED. TELEGRAPHER.

FREDERIC.—Communication crowded out this week, but will appear in next week's issue.

T. P. (Forsyth, Ga.)—The deposit upon the zincs of a local battery is a necessary result of its action, and cannot, therefore, be prevented. It should be removed about once a week, by the use of a stiff brush, otherwise the action of the battery will become enfeebled.

K. D. W. wants the address of W. C. ARMOR, telegraph operator. When last heard of he was in the neighborhood of Washington, D. C.

**THE TELEGRAPH.**

(By Atlantic Cable.)

**Government Telegraph in England.**

IN the British House of Commons, on Thursday night, June 18th, the bill for the purchase by Government of all the telegraph lines in the kingdom was read for the second time.

**The Mexican Telegraph Line.**

A CORRESPONDENT at Brownsville, Texas, writes, under date of June 13th, that the work on the Mexican Telegraph Line, from the City of Mexico to Matamoras, opposite Brownsville, is progressing finely, and it is expected to be completed by October 1st. A few weeks since an additional two hundred miles of wire was received at Brownsville from New York, with which to commence the work from Matamoras.

When this line is completed it will require but three hundred and twenty-five miles of new line from Brownsville to Galveston, Texas, to make the connection complete from the States to the principal cities in Mexico. Will not some of our Telegraph capitalists fill this gap, and bring Mexico and the Rio Grande into Telegraphic connection with this country and the world? If the present Government of Mexico can succeed in its plans for the pacification and regeneration of that Republic, its business relations with the United States must make such an enterprise very profitable; and the fact that it is possible to construct and maintain a line of Telegraph between the capital and the Rio Grande is evidence that the condition of the country is improving, and that there is a fair prospect of the restoration and continuance of peace, order and prosperity, and the consequent development of the wonderful elements of wealth and business activity which have been dormant under the turbulence and anarchy which have so long prevailed in that republic.

PROPOSED NEW RAILROAD AND TELEGRAPH LINE.—A bill is before the House of Representatives "to authorize the construction of a Railroad and Telegraph Line from the City of Washington, District of Columbia, to the City of Cleveland, in the State of Ohio, in the nearest direct line," to be known as "The Atlantic and Northern Lakes Railroad and Telegraph Company." A letter from one of the corporators marks out the projected line as "from

Cleveland via Cleveland and Pittsburgh Railroad; thence to Youngstown; thence to Freeport, Pa.; thence to Latrobe, on the Pennsylvania Central; thence by the Cumberland Valley to Hancock, Md.; thence by the Berne Branch of the Chesapeake and Ohio Canal, or Baltimore and Ohio Railroad to Leesburg, Va.; thence by Loudon and Hampshire Railroad to Washington, D. C., and the Potomac, and by an extension to the Chesapeake Bay."

NEW WIRE TO SALT LAKE.—The Western Union Telegraph Company are putting up another line, to connect with the lines just completed on the Union Pacific R. R. to Salt Lake. This will give the Company two lines through to Salt Lake. From Salt Lake there are two lines to Virginia City, Nevada, and five from thence to San Francisco, Cal. A. C. BASSETT, assistant superintendent at Salt Lake, is superintending this work.

TELEGRAPH CABLE TO QUARANTINE.—Messrs. W. O. LEWIS and S. C. HENDRICKSON, on account of the Western Union Telegraph Company, successfully laid a new Telegraph cable on Thursday last, connecting the upper quarantine station with the boarding-ship Falcon. It will prove a great accommodation and convenience to all parties having business with vessels in quarantine, and materially aid in the prompt and correct collection and transmission of marine news for the Associated Press and others. Our friends LEWIS and HENDRICKSON are *au fait* in the business of laying Telegraph cables.

NEW OFFICE REGULATIONS.—The offices at Omaha, Cheyenne and Salt Lake, will hereafter close on Sunday nights, after finishing up all business. On other nights they will be kept open all night.

**Bands vs. Bunds.**

A SPECIAL, published in one of the Western papers, in relation to the recent *Saengerfest* held at Chicago, says:

"Chorus from SCHUBERT'S Linden-Tree, by all the bands in Wisconsin."

It should have been by all the "Bunds, in unison."—

HANS.

TOO MUCH ELECTRICITY.—The operators in the Western Union Telegraph Office were treated to an extensive display of electric lights last night. We might almost say the display was superabundant, as the operators would very willingly have dispensed with it, for the sake of the additional safety its absence would have created. At nine o'clock the lightning which accompanied the storm followed the wires into the office, and at each flash concentrated in a sheet of flame on the switch-board, producing a concussion similar, at first, to the discharge of a score of rockets, quickly followed by two reports as loud and distinct as the discharge of a six-pound cannon, succeeded in turn by a volley of musketry. It became necessary to disconnect all the wires, and keep them disconnected about an hour and a half. Some of the operators, who were unused to such severe electric displays, supposed at first that the "day of reckoning" had come, and bemoaned their foolishness in not having procured accident insurance tickets. Others showed an agility that would do honor to any base ball club, in removing their precious frames to the end of the office at the greatest distance from the display, no doubt thinking they could see just as well back a piece.—*Cincinnati Chronicle*, June 17th.

**BORN.**

June 17th, to C. H. SEAVER, agent of supplies for Western Union Company, Chicago, a son.

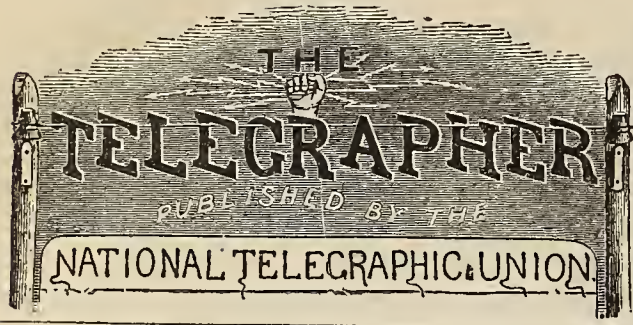
**MARRIED.**

BENTON—STARK.—In Macon, Ga., June 16, at Christ Church, by the Rev. H. K. REES, Mr. WM. A. BENTON to Miss ESTELLA E. STARK.

**DIED.**

At Nashville, Tenn., June 18th, EDWIN HUGHES.





SATURDAY, JUNE 27, 1868.

**MISMANAGEMENT OF THE PATENT OFFICE.**

THERE seems to be a thorough reform needed in the administration of our Patent Office. In times past the issue of letters patent was *prima facie* evidence that the thing patented possessed elements of novelty, or at least a novel application of some principle, if not entire originality. Such is no longer the case. Patents are granted apparently without reference to the claim of the patentee to merit or novelty in his pretended invention or application, or even of its interference with other patents previously issued from the same office. It may be gratifying to our national pride to know that two or three hundred patents a week are issued, and that the surplus funds of the Patent Office are yearly augmented to a handsome amount, but this pride will be greatly toned down by a critical examination of the character of the patents issued.

Formerly there was a close examination into the novelty and usefulness of the inventions for which applications for patents were made. Now there seems to be none at all. We could point to numerous cases, even of the limited class of patents which we record in the columns of THE TELEGRAPHER, where, within a short time, patents have been issued on claims which would not stand a trial before a back-woods jury. Principles and adaptations have been patented which have been known and used in this country and Europe for the last ten or fifteen years; patents are issued directly conflicting with each other; and, in fact, so loosely are the examinations conducted, that a patent is rapidly becoming neither an evidence of novelty and originality of invention or application, or a protection to the interests of inventors.

We do not, in these remarks, refer particularly to the outrageous patent issued to the late Professor PAGE, as we have already fully expressed our views with regard to that. It cannot be maintained, and we do not believe the heirs of Professor PAGE, or their assignees, will ever attempt to enforce it.

While we would have the original inventor of any new and useful improvement, whether Telegraphic or otherwise, fully protected in his rights and property, we would have all applications for patents carefully scrutinized by able and efficient Examiners, whether such application be contested or not, and patents granted only upon reasonable evidence that the improvement is legitimately patentable.

We are inclined to think that the difficulty arises in great part from the fact that the number of Examiners is insufficient to give adequate attention and examination to the applications for patents, and that, consequently, the work is slurred over and applications passed, which, with proper examination, could never receive the Examiners' sanction. If this is so, Congress should not adjourn without authorizing such an increase of the force of the Patent Office as shall enable it to properly perform its functions. It is not necessary or advisable that the Patent Bureau should be a source of profit to the Government; if it pays its own expenses that is all that should be required or expected. The surplus funds, if there be any, should be devoted to improving and increasing the

efficiency of the service. As it is, a United States patent is becoming almost valueless; and when it is a matter of sufficient importance to contest the legality of a patent, it is in many cases impossible to maintain it before a judicial tribunal.

We call the attention of the Commissioner of Patents, and of the Congressional Committees on Patents, and the Patent Office to this matter, and hope to see an investigation instituted, and the necessary forms inaugurated with as little delay as possible.

**GOVERNMENT TELEGRAPHS.**

By late advices from Washington, we are informed that we were in error in stating that the Post-Office Committee of the House of Representatives had decided to report adversely Mr. WASHBURNE'S bill for establishing a Government Telegraph line between Washington and New York. They have not, as yet, come to any decision in the matter, not having been able to give it the necessary examination and consideration.

There is no probability, however, of a favorable report from the Committee at this session. We understand that the impression of the Committee, from such examination as they have been able to make thus far, is unfavorable to the project. Aside from the many cogent arguments which have been adduced against the Government undertaking the charge of the Telegraph business of the country, the present condition of the Treasury precludes the appropriation of the large amount of money which would be necessary even to the inauguration of such a policy. We do not regard the danger of such an absurd departure from the true functions of Government as very imminent at present. The project will not, however, be abandoned, but will be urged from time to time by Mr. WASHBURNE and others, who have, to use a forcible vulgarism, "got Government Telegraph on the brain," in the hope that eventually Congress may be bullied or wheedled into an adoption of this policy. It can never be done, however, if those interested watch closely all such attempts, and controvert, as they easily may, the specious arguments which are used by those who desire to see the Government assume functions which do not, in any sense, properly belong to it.

There is no argument which can be adduced in favor of Government undertaking to do the Telegraph business of the country which is not equally applicable to the express or to passenger transportation. If Government begins to assume functions which properly belong to private enterprise there is no place where it shall stop.

We regret to see that the project is making progress in England, and is likely to be carried into effect there. The bill for the purchase of all the Telegraph lines of that kingdom has passed to its second reading in the House of Commons. We hope that the opponents of the measure there may be able to prevent the final passage of the bill at this session of Parliament, and thus gain time to contest its final enactment.

Whatever may be the result there, however, we hope that the people of this country may be spared this misfortune, and that our Government, at least, will hesitate before assuming functions which are utterly foreign to the purposes for which it is established, and repugnant to the interests of the people, and, to a great extent, destructive of progress and improvement in the science of electricity and art of Telegraphing.

Since the above was in type we learn, by a cable despatch to the Associated Press, that on Tuesday evening, June 23d, in the House of Commons, the bill for the purchase of all the Telegraph lines in the British Kingdom was referred to a committee. This would indicate that there is not much danger of its passage at the present

session. A postponement may enable the opponents of the measure, and the friends of free and independent Telegraph communication, to defeat it entirely. We trust that this may be the result.

**C. T. and J. N. Chester.**

WE would call attention to the reconstructed advertisement of the above enterprising firm, in the present issue of the TELEGRAPHER. We are pleased to know that the enterprise of this well known firm is meeting with the success it deserves, and that their business is rapidly and profitably increasing.

**A Handsome Insulator.**

L. G. TILLOTSON & Co. have just got out a new pattern of glass insulators, which is the handsomest we have ever seen of that class of insulators. Telegraphers and others interested can examine samples, at their warehouse, No. 11 Dey street.

**Corrected.**

OUR Telegraphic friends will doubtless be pleased to learn, as they will by reference to the advertisement of S. F. DAY & Co., of Ballston Spa, N. Y., Telegraph Instrument Manufactory, that they have ceased the manufacture of KEYS having only *ten ounces of wire*, but that RELAYS with only that quantity of wire will be supplied as heretofore.

This error of the printers has escaped our notice for some time, but the excellent reputation of DAY & Co. as Instrument Manufacturers is too well established to suffer from any blunder of that sort. We are pleased to learn that they, as well as other manufacturers of Telegraph apparatus and instruments, are fully and profitably employed.

**Resigned, and the Reason Why.**

WE are informed that Mr. E. D. L. SWEET has accepted the secretaryship of the Farwell Hall Building Association, of Chicago. Said hall is now in process of re-erection, under the auspices of the Young Men's Christian Association. Mr. SWEET is now on a visit to New York. We understand that the principle reason which led to Mr. SWEET'S severing his connection with the Telegraph business, and resigning his position as one of the superintendents of the CATON lines, now worked by the Western Union Company, which he had held for many years, was the inadequacy of the compensation allowed by that Company, his salary having been considerably reduced, as is customary with the Western Union Company in such cases, upon consolidation. In view of this fact, the pious, laudatory, and regretful remarks of the organ of that Company in reference thereto, are particularly interesting and amusing.

**A Flash of Lightning.**

THE Galena Gazette says, that during the storm Sunday night, when the air was thoroughly charged with electricity, the lightning passed along the wires into the telegraph office in that city, setting fire to the window curtain, a bunch of envelopes on the table, and other papers. The curtain was completely burned up; the window casing was charred by the burning of the telegraphic files which hung against it. Nothing was known of it till morning, when the operator went to the office and found the office filled with smoke.

**French Military Telegraph.**

EIGHT telegraph clerks have been despatched to the French camp at Chalons, for the express purpose of instructing young engineer officers in the science of telegraphy, as henceforth a certain number of telegraphists will form part of the staff of every commanding officer.



List of Patent Claims recently Issued from the United States Patent Office.

78,619.—ELECTRO-MAGNETIC ENGINE.—L. C. Stuart, N. Y. city. I claim, 1st. In the employment of a series of rotary magnets, arranged in pairs, and so connected that the magnetization of one set of magnets is effected before the demagnetization of the other, substantially as and for the purpose as described, in combination with a series of stationary magnets, when arranged and operating in the manner substantially as hereinbefore described, for the purpose set forth.

2d. Alternately energizing and demagnetizing the electro-magnets, without breaking the connection between the poles of the battery, in the manner hereinbefore described.

3d. Conveying the induced or secondary current from the magnets as they are demagnetized, along with the current running to supply another set of magnets, substantially in the manner herein described, for the purposes set forth.

4th. The employment of a series of adjustable conductors, substantially as described, whereby the speed and draft of the engine may be governed at pleasure, as hereinbefore set forth.

5th. The combination of the disks, a and b, and the conductors, e, f, g and h, when arranged and operating substantially as described.

78,629.—ELECTRO-MAGNETIC ENGINE.—William Wickersham, Boston, Mass.

I claim, 1st. In electro-magnetic engines, the arrangement of the magnetic bars in an endless chain, having alternate magnetic bars and links of non-magnetic metal, the chain being so arranged in the engine that all the magnetic bars can pass successively through the same helix, or column of helices, substantially as described, and for the purpose set forth.

2d. In electro-magnetic engines, the construction of two chain gears on parallel shafts, of suitable form and distance apart to receive the electro-magnetic chain, all arranged in such manner that the gears and chain can revolve together, substantially as described.

3d. In electro-magnetic engines, the arrangement of two, or any desirable number of chain gears on the same shaft, with the corresponding number of electro-magnetic chains, all working concurrently together, and communicating their power to the same shafts, substantially as described, and for the purposes set forth.

4th. In electro-magnetic engines, out of a thin, ribbon-shaped strip of metal, the formation of two or more helices, as described, and so arranging them in the engine, in columns or otherwise, that each shall receive a different series of magnetic bars through it, and so further arranging them that when the circuit is closed through one helix it shall be closed through all of the series thus formed of said strip, substantially as described.

5th. The circuit cylinder, with its spiral conductors so formed and in such connection with the helices that it shall continue the same relation between the closed circuits and the position of the magnetic bar, or as near as may be, as it advances through the column of helices.

6th. Such disposition of these spiral conductors around said circuit cylinder that one of them will perform the same function for each magnetic bar as it enters a column of helices, or for all the magnetic bars of a series which enter a series of said columns at the same time, substantially as described and for the purposes set forth.

7th. Such an arrangement of the spiral conductors, e, e, e, on the sides of the cylinder, in combination with its movable arrangement on its shaft, as will close the circuits in such manner in its middle position that there will be no tendency of the magnetic bars to move in either direction, and will open the circuits in such manner in its upper and lower positions as will give motion to the magnetic bars, but in diverse directions; the upper position in one direction, and the lower position in the opposite direction, substantially as described and for the purpose set forth.

8th. In combination with the cylinder, the device, consisting of the sliding bar, o, and the spring, q, for moving the circuit cylinder to and holding it in any position needful to stop the engine, or running it in either direction, as described.

9th. Making each alternate helix, of those formed of the same strip of metal, coil around in a diverse direction from the others, in such manner that when an electric current passing through a line of helices, so formed of the same strip of metal, produces a north polarity in one end of a magnetic bar, placed in any one of said helices, a south polarity will be produced on the same end of a magnetic bar placed in either of the adjoining helices of the same line, the electric current flowing in the same direction through all the helices in the same column, substantially as and for the purpose described.

10th. Such an arrangement of the column of helices on the opposite sides of the engine that through any two columns, one on the back and the other on the front of the engine, through which the same electro-magnetic chain passes, the electric current shall flow in diverse directions, giving north polarity to the upper end of a magnetic bar in one, while it gives south polarity to the upper end of the magnetic bars in the other, and vice versa, all substantially as described and for the purpose set forth.

78,674.—ELECTRIC FAN FOR LAMPS.—Charles T. Mason, Sumter, S. C.

I claim, 1st. The application of electricity, to cause the revolution of a fan for the production of a draught of air, substantially as and for the purpose described.

2d. The continuation of the electric coil, A, and fan, F, and their respective equivalents, in manner substantially as and for the purposes described.

To the Members of the New York District, N. T. U.

The next Regular Meeting of this District will be held at the usual place, on the evening of Tuesday, July 7th.

The attendance of every member who can possibly be present is earnestly desired, as nominations for Delegates to represent this District at the Annual Convention of the NATIONAL TELEGRAPHIC UNION, which meets at Albany, New York, in September next, will be made.

It is hoped that the members generally will realize the obligation which rests upon them, to see that proper Delegates are selected, as most important matters will come before the Convention for consideration and action.

M. K. THOMPSON,  
Secretary.

BLASTING BY ELECTRICITY.

Bishop's Electric Fuse

WITH  
GUTTA PERCHA CAPS;

ALSO,  
Electric Machines,

For use with the above, furnished to order, of any size required.

BISHOP'S GUTTA PERCHA CAPS,

FOR  
EXPLODING NITRO-GLYCERINE

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Match Fuse,

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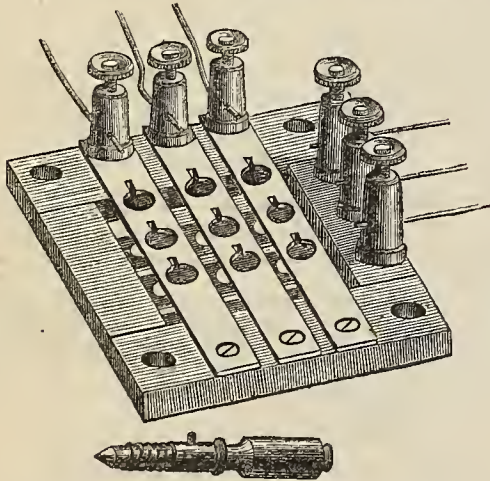
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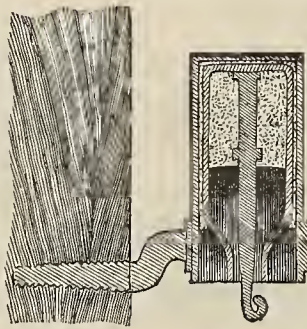
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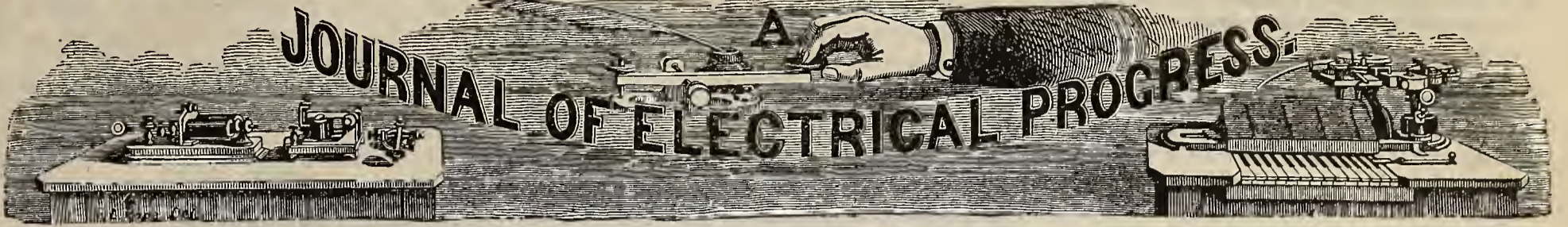
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Vol. IV.—No. 45.

New York, Saturday, July 4, 1868.

Whole No. 103.

[For the Telegrapher.]

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No. 1.

### THE ISTHMUS CONNECTIONS.

THE rapid extension of the arts and sciences in the United States, and the unparalleled progress of civilization towards the Far West, have so absorbed the attention of our people that they have given very little notice to the industry and internal improvements of other countries; and closely allied as we are in political sympathy with the South American republics, the masses of our population, and even a very large proportion of our business community, are totally unaware of the advancement being made by many of those States. The bombardment of Valparaiso and Callao by the Spanish fleet, in 1866, and the prolonged and bloody war between the gallant little State of Paraguay and the Allies of the Atlantic coast, have brought South American affairs quite conspicuously before the public; and all who have studied the resources of those countries, and the vastness of the field for enterprise, like that which has characterized the settlement of this country, have been astonished at the magnitude of the inducements offered to energy and capital, and the ignorance which prevails in respect to them.

We propose to give, in a series of articles upon the Telegraph in South America, an idea of the progress being made in other public works, and of the opportunities constantly opening for men of ability and steady purpose to build up their own wealth and position upon enterprises that shall closely connect the United States and those countries, and honor the names of all engaged in them. A few years ago the Isthmus of Panama was an unbroken wilderness, except where a narrow mule path wound through the tangled, death-infested swamps, from one ocean to the other, and the trade of the East and the West crept sluggishly around Cape Horn in sailing vessels, whose cruises were reckoned by years. Now thirty-five ocean steamers visit the Isthmus every month, and a tide like that of the sea swells to and fro unceasingly across it, between California and Oregon and Japan and China, New Zealand, Australia, the Islands of the Pacific, the riches of the West coast and the nations of the Atlantic. All along the seaboard of Peru and Chile railroads and telegraphs, connecting the commerce of the world with the untold wealth of the valleys and mines that fill the Andes' western slopes, have sprung up like magic; fortifications, unsurpassed by any in the world, have been erected about seacoast cities; and men, and money, and steam engines, are already transforming the wonderful fields that smile on the springs of the Amazon into rich and flourishing communities. We can now almost count the days to the period when the Telegraph shall link us to the Isthmus, and put us within eight days closer communication with South America; but the

enterprise will not have attained its chief end and glory until it shall have placed us face to face with the wealth and growth, and public spirit of all those regions.

Space will not permit us to give in this article more than a description of the work now going on between Havana and the Isthmus, and of the line already in operation between Aspinwall and Panama; but in future papers we shall give an idea of the telegraph's workings in Peru and Chile, their influence upon revolutions and other military movements there, and the steps taken for the completion of, and the benefits to be derived from the proposed line from Panama along the west coast to Valparaiso, and thence across the country to Buenos Ayres. Our readers are familiar with the progress of the submarine cable from our coast to Havana, and the fact that the United States steamer Gettysburg has for some time been engaged in making an elaborate survey between the island of Cuba and Aspinwall for the remainder of the line. This work is advancing favorably, and at a very early day we shall read in the morning papers telegraphic despatches a week ahead of the mails from St. Thomas, Central America, the United States of Columbia, and the whole west coast, from Panama to the Straits of Magellan. So much has been written upon telegraph cables that there remains very little of interest to be told of this line to the Isthmus aside from the addition made by the survey to our knowledge of the ocean bed, and the proclivities of the sea in the tropics.

The line from Aspinwall to Panama belongs to the Railroad Company, and is forty-seven miles in length. It is built in the most substantial manner, has offices constructed with due regard to the climate and the comfort of all connected with the working of the line, and is managed as well as any telegraph in this country. Great difficulty was at first experienced from the rapid decay of the posts supporting the wire, but this was finally obviated by adopting the novel plan of cement supports for the line. A hole was dug of sufficient depth to give firmness to the post, and in this a long cylinder, divided into two longitudinal sections, bound together with iron straps, was placed. This tube, measuring about a foot in diameter at its base and six inches at the top, was filled with cement, and a spike, bearing the insulator, was placed in the top. The composition rapidly hardened, and in a short time the mould could be removed, leaving a solid post of any height that might be required, impervious to water, and indestructible, except by blows or by frosts, which never visit those latitudes. The instruments used are those common to the telegraphs in this country, and are operated by young men from the United States in the employ of the Railway Company. The line is devoted principally to the running of the trains and the announcement of steamer arrivals, as the local business between Panama and Aspinwall is very small. The steamer announcements, however, are of great importance. At Aspinwall the steamers all lay along the

wharves, where the tide rises and falls only two or three feet; but at Panama there is a difference of twenty-two and a half feet in the spring tides, compelling the steamers on that side to discharge in lighters, which only come to the wharf at certain hours. As passengers, and specie, and freight are transported from steamer to steamer at different times, the telegraph is brought into almost constant use by this business alone—there always being some of the New York, Californian, Australian, South Pacific, and French and English steamers receiving or discharging cargo. In addition to these, are several steamers, running from the Isthmus to Central America and the West India islands.

The route traversed by this telegraph is one of the most picturesque in the world. Its path is an avenue through almost impenetrable masses of tropical vines and shrubbery, from twenty to forty feet high, covered during a large portion of the year with every variety of flowers, and filled with birds of rare and brilliant plumage. Above the vast jungles, whose walls are trimmed perpendicularly along the line of the telegraph and railroad, tower majestic trees, with trunks free from branches to the height of sixty or eighty feet, and with wide-spreading tops, that sway in the storms, and cast their morning and evening shadows far across the fragrant wilderness. At the pretty stations on the road are groves of oranges, and lemons, and bananas, and garden spots luscious with the odor of pine-apples and mangos; and, save when disturbed by a passing train, the hours glide by in silence and beauty, like an Oriental dream.

HOW THEY DISTRIBUTE TELEGRAMS IN PARIS.—The number of telegraphic despatches received at the Central Station in Paris has increased so considerably that the administration, finding it impossible to send them by porters in all directions to their respective destinations, has adopted a plan which is already in use for the transmission of letters. A continuous series of iron tubes, 65 millimetres (two and a half inches) in diameter, has been laid down from the Central Office in the Rue de Grenelle St. Germain to the Hotel des Postes, and back again to the Central Office. This continuous line touches besides at the Cercle Imperial in the Rue Boissy d'Anglais, then at the Grand Hotel, the Bourse, Hotel de Louvre, and the Hospital de la Charitie. The despatches to be sent off are put into a cylinder fitting loosely into the tube, but provided with a leathern disk, which closes the vertical section of the tube completely. The means of propulsion adopted is both simple and economical. At each station there is a cistern of water and a reservoir of compressed air; the water, supplied by the town pipes, merely serves to compress the air, while the latter, rushing into the transmission tube as soon as a communication with it is opened, drives the cylinder before it with extraordinary celerity. Each cylinder may contain as many as forty despatches, and a new one is sent off every ten minutes.



## 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.*

## Resistance in Telegraphic Circuits.

TO THE EDITOR OF THE TELEGRAPHER.

ALTHOUGH little has been said or done in relation to the resistance of relays and line wires in working telegraphs, with a view to its reduction, it is a matter of much importance, and should commend itself to the attention of all telegraphers.

This subject has been brought forcibly to mind by the perusal of articles upon the character and legality of the late Prof. PAGE'S patent, and its results to the Telegraph interests. With these possibilities in mind, let us consider, briefly and practically, the results that may be accomplished by superior conductivity.

There are lines in operation at the present time having from twelve to twenty miles of ordinary No. 8 or 9 line wire, and averaging, perhaps, one office to every mile, which offices use no relays or local batteries, the terminal main batteries working registers and sounders direct.

The advantages derived from this method of working short lines appear, not only in being rid of local batteries and in other conveniences, but the lines actually work better than if fine wire relays and local circuits are employed, for the reason that the *proportion* of the current lost in escape is lessened in the same ratio that the conductivity of the circuit is increased by the substitution of the small coils of coarse wire in place of the relays. Now, following up this principle, in a wire of greater length—the conductivity of a wire depending upon both its length and cross section—we have only to increase its size, or, by some other means, to enlarge its conducting capacity sufficiently to make the aggregate conductivity the same as that of the shorter wire, and the small, coarse wire coils may be used in either circuit, batteries and escapes reduced, and with similar results in every respect.

Although it is evidently impracticable to obtain these results in full by this system on very long lines, still the same principle is involved, and, by doubling the capacity of the conductor, of whatever length it may be, the practical working results will be the same as by halving its length.

This accomplishes more than can be done by the use of local circuits and repeaters; the local circuit, of course, rendering no assistance to the working of the main line, and both local circuits and repeaters being, in one respect, detrimental to practical operations, viz., on account of the time required in the operations of the magnet and armature which work the local circuit—and in repeaters, the two magnets and their armatures, which must act in succession before the second main circuit can be operated upon.

The above is offered, not as involving any new ideas, inasmuch as telegraphers generally are aware of the facts alluded to, but simply with a view of calling the attention of your readers to a subject which has evidently not received the study and practical application it deserves, and which may become of still greater importance in case of certain contingencies relating to the PAGE patent.

June 23, 1868.

FREDERIC.

CHICAGO, June 15.

TO THE EDITOR OF THE TELEGRAPHER.

It may not be generally known to the world that we have in Chicago a telegraph boarding-house. Up to within six months ago it had been popularly believed that any attempt to establish an institution of this kind would result in a failure. Indeed, to such an extent had this opinion prevailed, that there was a singular unanim-

ity of belief among the keepers of boarding-houses that the unbalanced condition of their weekly accounts was traceable to the presence at their board of one of the fraternity.

It would be idle to speculate upon how long we should have enjoyed this enviable reputation had not two of the more daring of our number conceived the bold project of making a final experiment, under the auspices of Mrs. W., and accordingly shaped their course in the direction of the residence of that estimable but incredulous lady, with the intention of placing their unfortunate condition before her in as favorable a light as possible. Upon learning that these gentlemen were employed at the corner of Lake and Clark streets, she murmured a reference to her house being full; but, upon being assured that on no other conditions would they consent to taking up their abode with her except that she allow them the privilege of either paying their board in advance, or promptly paying it at the expiration of every week, she yielded a mechanical assent to their coming.

No sooner had these young men ensconced themselves in their new quarters than others were attracted thither by the glowing accounts received from them of Mrs. W.'s tenderness to her birds, consideration for her two dogs, and the discipline which she exercised over her budding presidents.

From two, at first, her table has been swept by a force of as high as nine of the fraternity at one time. At present her house is graced by the presence of six, five of whom room together. Of this interesting quintette I am a member. Nothing can exceed our contempt of the maxim, "A place for every thing, and every thing in its place;" better, we think, "No place for anything, and every place full." The old maxims were well suited to our "grandfathers' days," when it was considered witchcraft to be the owner of a second pair of boots, and to be caught with a paper collar about your person, or to suffer hair oil to make an island of your ear, was a crime punishable by death at the stake. What a change a few years have wrought in our customs. Now it is almost impossible to get "staked." Hotels have long since abolished this relic of barbarism. It is "tough;" but, to return. During the five months which we have domiciled together, as a general rule, the utmost harmony has prevailed. Occasionally a dispute arises as to the ownership of a curiosity, which sometimes finds its way among us, in the shape of a sock free from holes. After a proper indulgence in the use of pet names, peace is usually restored by the discovery of the owner's name stamped upon it. To our surprise, always, we fail in establishing a claim upon it. One thinks it can't be his, because of an absence of ventilation in the heel. Another disclaims it because it will not serve as a cuff for his ankle. Another compares it with his own, and expresses a grave doubt whether or not the disputed article was intended for the feet. Ties, blacking and vests are common property.

It was with feelings of regret that we bid adieu to Mr. DUG BURNETT to-day, previous to his departure for Omaha, where he goes to accept a position, in exchange with Mr. HOLCOMB, of that office. He carries with him the good wishes of a host of friends. H. •

## The Mississippi Valley National Line.

ST. PAUL, MINN., June 20.

TO THE EDITOR OF THE TELEGRAPHER.

THE Mississippi Valley National Telegraph line is now completed, and working from Minneapolis, Minn., to Dubuque, Iowa. Offices have already been opened at Minneapolis, St. Paul, Hastings, Red Wing, Lake City, Reed's Landing, Wabashaw, Minneiska and Winona, in Minnesota; Prescott, La Crosse, Lansing, Prairie du Chien, in Wisconsin; De Soto, McGregor, Clayton, Guttenberg, and Dubuque, Iowa.

A branch line is now being built from Dubuque to Chicago, which will be completed by the 15th of July, by which time, also, the connection with St. Louis will be completed.

I will keep THE TELEGRAPHER posted in regard to the progress of this line, changes in the offices, etc., and all matters of interest to your readers.

Mr. B. A. SQUIRES, the General Superintendent of the line, is pushing the work through. WAR EAGLE.

## Camden Station.

BALTIMORE, MD., June 27.

TO THE EDITOR OF THE TELEGRAPHER.

HAVING noticed, in your issue of this date, that Mr. HOFFMAN has taken charge of this office as manager, and as that is slightly erroneous, I should like to have that statement corrected. Mr. HOFFMAN is no longer on the B. & O. line, but is manager of the W. U. office, at Frederick, Md. HUGH CRAIG is, and has been for a long time, manager of Camden Station office. M. A. C.

## PERSONAL.

Mr. JAMES ETHERIDGE, formerly of Hastings office, has accepted the management of Dubuque office, on Miss. Val. Natl. Tel. Co.'s lines.

Mr. W. L. DRAKE, of New York, has taken charge of Hastings office.

Mr. E. F. WHITNEY, formerly of Bayard, Ohio, has taken charge of Clayton, Iowa, Telegraph office.

Mr. GEO. HARRIS, formerly of West St. Paul Telegraph office, on Minn. Valley R. R. line, has been appointed manager of St. Paul office, on M. V. N. T. line.

J. J. SQUIRES has been appointed Supt. Building on Miss. Val. Natl. Tel. Co.'s lines.

Miss L. L. LA DUC has accepted the position of manager of Minneapolis office of the M. V. N. T. line. She has been formerly in the Milwaukee office of the North-Western line.

Mr. JOHN WALKER, formerly of La Crosse, has been appointed operator at McGregor, on the M. V. N. T. line.

Mr. E. B. CLARKE, Superintendent of the Telegraph of Marietta and Cincinnati Railroad, has removed his office and headquarters to Chillicothe, Ohio.

Miss ATHERTON has accepted a position with the North-Western Telegraph Company, at Milwaukee.

Miss F. FOSTER has resigned from Western Union office, 145 Broadway, and accepted a position in the Atlantic and Pacific Company's office, 291 Broadway, corner of Reade street.

Mr. J. J. SABIN, of the Salt Lake, Utah, office, has gone East. KIT DOUGHERTY is filling his place.

Mr. B. F. COGGER, formerly of Omaha, Nebraska, has taken a position in the office of the Franklin Company, at New York.

Mr. O. ROBERTSON, recently of the Minneapolis, Minn., office of the Western Union Company, has accepted a position in the same company's Milwaukee office.

## TO CORRESPONDENTS.

SEVERAL communications, personals, etc., are necessarily omitted this week, that would ordinarily appear, as, in consequence of our publication day coming on the Fourth of July, we are compelled to go to press rather earlier than usual.

JOSHUA.—Your communication received, but as we have closed the discussion on that subject we are compelled to decline publishing it. Would be pleased to hear from you frequently on other matters of telegraphic interest.



**THE TELEGRAPH.**

**Financial Report of the Western Union Telegraph Company.**

THE Western Union Telegraph Company has published its financial report for the six months ending May 1st. We have not room to publish this document in detail, but it shows the Company to be in a flourishing condition pecuniarily.

According to this statement, the gross receipts of the company for the five months have been \$2,906,331 79; the working expenses, &c., \$1,783,889 72, and the net profits, \$1,122,442 07.

The capital stock of the Company, May 1st, was \$41,022,700.00, of which the Company owns \$675,000, leaving as balance, on which dividends are payable, \$40,347,700.

The bonded debt of the Company outstanding May 1st was.....\$4,890,500 00  
 For the month of May last the gross receipts were..... 597,374 47  
 The expenses..... 349,165 41

Profit..... \$248,209 06

The estimated receipts for June are..... 550,000 00  
 Expenses..... 350,000 00

Estimated profits.... \$200,000 00

**Maine Telegraph Company.**

BANGOR, Maine, June 24.

At the annual meeting of the stockholders of the Maine Telegraph Company, holden in this city to-day, the following gentlemen were chosen directors for the ensuing year: HIRAM O. ALDEN and W. H. SIMPSON, of Belfast; ALBERT W. PAINE, JACOB A. SMITH and ALBERT HOLTON, of Bangor; BION BRADBURY and W. P. MERRILL, of Portland; EDWIN F. LITTLEFIELD, of Winthrop, and ROBERT MOWE, of Eastport. At a subsequent meeting of the directors, HIRAM O. ALDEN, Esq., was elected President, and W. P. MERRILL Secretary and Treasurer of the Board for the ensuing year.

**The Telegraph in New Mexico.**

FORT UNION, NEW MEXICO, June 27th.

The telegraph lines are completed to Fort Union, New Mexico, and will reach Santa Fe next week.

**Telegraph Extension in British Columbia.**

By recent telegraphic advices, we learn that the extension of the Western Union Line from Quesnel to Williams' Creek, in British Columbia, a distance of sixty miles, is being rapidly pushed forward, and will be completed in a few weeks. Williams' Creek is in the heart of the celebrated Cariboo gold regions, and will be the most northern Telegraphic station on the American Continent, it being situated north of the fifty-third parallel of latitude. The line is being built along the wagon road, which was finished two or three years since. Mr. FRANK H. LAMB, formerly of the U. S. military lines, and afterwards chief operator of the Cincinnati office of the U. S. Company, is superintendent of the W. U. lines in British Columbia. We understand that the line through British Columbia, which was originally built as a part of the overland line to Russia, is doing a good local business.

**Reduction of Rates.**

THE Mississippi Valley National Telegraph Company, as fast as its offices are opened, has reduced the rates for despatches from twenty-five to forty per cent. The North-Western Company has also reduced its rates to places where the former Company has established competing offices.

**The West India Telegraph Cable.**

By a late arrival at this port we have advices from Kingston to the 9th inst.

The soundings which the United States steamer Gettysburg has been engaged in taking, between Aspinwall and Jamaica, for the laying of a marine cable, have been completed. It has been found that the greatest depth of water does not exceed 1,200 fathoms, while the bottom is all so soft as to afford a safe bed for the cable to rest on for many years without injury. In regard to the soundings between the north side of Jamaica and St. Jago de Cuba, the British steamer Cordelia took them in December last, and found a soft bottom, and no part deeper than 1,250 fathoms. A bill was before the Jamaica Legislative Council to give the necessary authority to the International Telegraph Company to establish the cable connection between Jamaica and Aspinwall on the other side. It was expected that the measure would become law in a few days.

**MISCELLANEA.**

(By Cable.)

**Banquet to Cyrus W. Field.**

LONDON, July 1st.

A GRAND banquet was given at Willis' Rooms this evening to CYRUS W. FIELD, as an acknowledgment of the eminent services rendered to the New and Old World, by his devotion to the interests of Atlantic Telegraphy, through circumstances of protracted difficulty and doubt.

The Duke of ARGYLL was Chairman.

Over three hundred gentlemen were present, among whom were Earl RUSSELL, Sir JOHN PACKINGTON, Sir STAFFORD NORTHCOTE, and many other distinguished guests.

**An Improvement in Electrotyping.**

It very frequently occurs that the copper which is deposited by electric means is so brittle as to render it unfit for manufacturing purposes. A very simple and ingenious method of preventing it has been described by M. BOUILLET.

M. BOUILLET has found that a small quantity of gelatine, dissolved in water of the bath, gives a copper of extensive mallability, and nearly equal to rolled copper.

**Superiority of the Electric Light.**

M. FELIX LUCAS concludes, from theoretical considerations, that the luminous distance at which the electric spark is visible is greater than that of a permanent light, the apparent intensity of which would be 250,000 times that of the spark. The light actually employed to illuminate modern light-houses gives a brilliancy equal to 125 carcel lamps. An electric spark, possessing the illuminating power of the 200th part only of a carcel burner, is superior as to its power of projecting light. Hence, we can conceive the immense effect of a warning light composed of intermittent flashes of the electric spark proceeding from a strong LEYDEN battery. M. LUCAS states that, in an experiment made in a laboratory, two apparatuses were established—one voltaic battery, equal to 125 carcel lamps, and another spark battery, equivalent to only the 1-2000th part of a carcel lamp.

The pholometer (such as is employed in the light-house administration of England) showed a marked superiority in favor of the spark.

**BULLS.**

THE following specimens of receiving at the Milwaukee office indicate the necessity of a term at a telegraph college:

A despatch for a well-known firm, EISENDRATH & Co., was received R. S. ENDRATH & Co. Another despatch, to BONDURAAT & TODD, was received BOND URANT AND TODD. SNAG.

**Legalization of Telegraphic Messages.**

It may not be generally known that the Legislature of California, by an act passed April 18, 1862, legalized messages transmitted by telegraph in their relation to instruments and acts of law. This act introduces a new feature in the business of telegraphing, a feature not only novel in its conception and application, but of incalculable importance to the civilized world.

Appropriate provision is made to secure the public against dishonesty and fraud on the part of the operators and other employes. Penalties are imposed for divulging the contents of messages, changing the sense or meaning, knowingly sending false or forged messages, appropriating information to private uses, wilfully neglecting to send messages, or postponing or sending them out of order. Also, against fraud by any person whatsoever who may open seals of messages addressed to any other person, read despatches by means of any machine or contrivance, bribe telegraph operators to divulge the contents of messages, damage the line, or otherwise attempt to cut off communication. But the great feature of the law is that contracts by telegraph are deemed to be contracts in writing, and the signatures thereto are valid in law. Notice by telegraph is actual notice. Power of attorney or other instrument in writing, duly acknowledged and certified, so as to be entitled to record, may, together with certificate of acknowledgment, be sent by telegraph, and the telegraphic copy or duplicate has *prima facie* the same effect in all respects as the original. Checks, due bills, promissory notes, bills of exchange, and all orders and agreements for payment or delivery of money or other things of value may be made or drawn by telegraph, with full force and effect as if written. Persons indicted on oath for, or accused of any public offence, may be arrested and imprisoned upon warrant issued by any competent officer, properly endorsed and directed to such officer as may be legally authorized to make the arrest. Writs or orders in civil suits or proceedings may also be transmitted in the same way. All these provisions are carefully guarded, so as to avoid any infringement upon individual rights, while they tend materially to promote the public convenience and welfare.

**ELECTRICAL THERMOMETERS.**—A new English invention is an apparatus for employing electricity, in connection with a thermometer, to regulate the temperature of a room. An ordinary mercurial thermometer is provided with a platinum wire inserted in the glass bulb, so as to be in connection with the mercury. Another wire, capable of elevation or depression, is placed at the other end of the thermometer. These two wires connect with two poles of a battery, and forming part of the circuit is an electro-magnet, whose armature controls the opening or closing of a valve regulating the admission of hot air. If it is desirable that the temperature of the room should not rise above sixty degrees Fahrenheit, the point of the movable platinum wire is brought to that number on the thermometer. When the mercury registers sixty degrees the circuit is closed, and the armature of the magnet closes the hot-air valve until the temperature becomes reduced, when the valve is again opened. Thus a nearly even temperature may be maintained—a very desirable object in hot-houses.

ANSWERS to "CURLY'S" query continue to come in. CANUCK suggests "Waiting." C. A. R., of Canandaigua, suggests "FOLKLOF," a person's name in that village; "Tetetet," loafer's choice, and "Melolem," a musical instrument.

**WANTED.—Back Numbers Telegrapher.**  
 A FEW copies of No. 4, Vol. I., are wanted, for which Fifty Cents each will be paid. Also, wanted Numbers 46, 47 and 48 of Volume III., for which Twenty-five Cents each will be paid, if sent to the Editor of THE TELEGRAPHER, or the amount will be allowed in current subscriptions to THE TELEGBAPHER.





SATURDAY, JULY 4, 1868.

### THE ANNUAL CONVENTION.

THE time has arrived for the nomination of Delegates for the next Annual Convention of the NATIONAL TELEGRAPHIC UNION. In this connection we would call the attention of the members of the New York District to the notice of the meeting of this district for that purpose, to be held next Tuesday evening, published in THE TELEGRAPHER.

It is of the utmost importance that every member who can possibly arrange to be present should do so, in order that suitable persons may be put in nomination to represent the district. It is not less important that the members of other districts should attend to this business, and not allow it to go by default.

The importance of this Convention cannot be overestimated. Upon its action may depend the continued existence of the UNION itself. It cannot, and should not, be overlooked or denied, that a thorough reform and reorganization of the Association is imperatively required, if it be desired that it should prove beneficial or desirable to the personal and professional interests of the Telegraphers. The questions to be considered, and the reforms to be inaugurated, have been, to some extent, discussed in our columns, both editorially and by correspondents, but not as generally as could be desired. We have printed every communication that has been sent to us on the subject, and should have been pleased if they had been more numerous, as this would have manifested a more general interest in the subject.

We have, from time to time, pointed out such changes and reforms as appeared to us most essential, and we desire that the Convention shall be so constituted that its action may be cordially endorsed and approved, and its recommendations receive such a hearty co-operation as shall secure the greatest possible benefit to the profession. That this may be the case, a full attendance of the members of the different districts at the preliminary meetings now about to be held is absolutely essential. Select your best men to represent you, and let them go to Albany in September fully informed as to the sentiments of their constituents, and prepared to act promptly, wisely and effectively. It is not desirable that they should be hampered by instructions; they should be left free to act as shall, after full consideration and comparison of views, be deemed most proper and advantageous. In this way only, in our opinion, can the best results be secured.

That the continuance of the UNION is desirable and necessary we think will be generally conceded. It is the only organization of Telegraphers in this country; and if this be surrendered or allowed to expire by default, no way remains in which the profession can make its united influence felt. It has undoubtedly effected much good in the past. Without it THE TELEGRAPHER could not have been established or maintained. Whether it can be continued without the existence of some general telegraphic organization is a question, but one which we do not desire to have solved. It is the organ of the Telegraphers and of the UNION, and as such we would have it continued. As a private enterprise it certainly could not be of as much value as at present. It should

be enlarged and improved, and without the UNION our plans for the future conduct of the paper must necessarily be changed, if not seriously embarrassed.

We do not write thus because we believe that there is a prospect of a dissolution of the Association, but simply to arouse the attention of the Telegraphers to the work necessary to be done between this time and that of the meeting of the Convention. Let us all take hold of this work vigorously, with the determination that whatever may be faults of the present organization—in whatever it is weak, and illy-calculated to carry out the purposes for which it was originally formed—those faults shall be corrected, and those weak points obviated, and that the NATIONAL TELEGRAPHIC UNION, reorganized and reinvigorated, shall again take that leading and influential position which it ought always to have occupied. Let us show that the Telegraphers are not careless, selfish and short-sighted, as has been charged (and we must admit, heretofore, with some show of truth), but earnest, intelligent and united, and prepared to act together, in all proper ways, for the greater good of all engaged in the noble science and art to which their lives are devoted.

### Improper Treatment of Operators.

WE fear that our friends of the Western Union Company, in their zeal for economy, are carrying matters rather too far in some instances. We are reliably informed that the number of employes in the larger offices have been steadily reduced for some time past, and that the exactions made of those who are retained are becoming unreasonable and burdensome. In one office, at least, we are informed that every other day thirteen to fourteen hours' continuous labor is exacted, and extra services, *without extra compensation*, required of the operators whenever the exigencies of the business necessitate extra labor. When mechanics are striking for eight hours per day, and wages exceeding the usual salaries paid to telegraphers, it seems unreasonable that in a profession requiring greater intelligence and application such exactions should be enforced. Were there a scarcity of operators there might be some excuse for requiring extra labor on the part of those employed, but it is well known that there is rather a superabundant supply of labor in this business, and that advantage is taken of this fact to extort this additional labor from employes whose necessities compel them to submit.

We do not wish to encourage animosity or ill-feeling between employers and employed. On the contrary, we desire that reciprocal kindly feelings shall exist, and regard this as essential to the best interests of all concerned. As the organ of the telegraphic fraternity, however, it is our duty to protest against such outrages whenever they come to our notice.

The Western Union Company cannot plead poverty as an excuse for this course. Its monthly returns show that its receipts are larger than they have ever been before, and notwithstanding waste and extravagance in other branches of its business, it is paying handsome dividends on its actual investment of capital.

Telegraph Companies have no right to make unjust and unnecessary exactions of their employes, neither have they a right to immerse them in subterranean, ill-lighted, and unventilated offices, where it is only a question of time how long they can resist the miasmatic influences which surround them. As long as they do these things just so long will they constantly be deprived of the services of their best operators, who, of course, are on the look-out for situations where they can expect to receive the treatment to which they are entitled as gentlemen and ladies, and such reasonable hours of labor and rates of compensation as their services should secure.

The public are directly interested in this matter, for it is of the utmost importance that the business shall not be

abandoned by the experienced, reliable and intelligent operators, and fall into the hands of college-learned plugs and ignorant messenger-boys. The interests committed to them are of a character that should secure the services of the best professional talent and skill, and we are decidedly of the opinion that telegraph employers will eventually find it quite as economical to employ and compensate suitable persons to transact their business, as to be constantly called upon to pay damages arising from the multitudinous errors of incompetent, careless and cheap operators.

### The Telegraph in South America.

WE commence, in this week's issue of the TELEGRAPHER, the publication of a series of papers on the Telegraph in South America. These are written for us by a gentleman who has just returned from South America, where he has resided for several years past, and has occupied a position which has enabled him to become thoroughly familiar with the Telegraph system in that country. They will be especially interesting and instructive to the telegraphic fraternity, and scarcely less interesting to the non-professional reader. Although necessarily intimately connected with the South American States, we really know very little of their internal affairs, especially as regards the extension of the Telegraph, and other modern improvements among them.

The gentleman who has, at our solicitation, prepared these articles for THE TELEGRAPHER, is an able and experienced writer, and well qualified to interest and instruct those who may be favored with an opportunity of reading the productions of his facile pen.

The series will comprise four articles:

No. I.—The Introductory article in this paper.

No. II.—"Peruvian Lines; their rise at the bombardment of Callao, and their influence on revolutionary movements."

No. III.—"Lines in Chile."

No. IV.—"The Submarine Line to Chile, and the proposed line to Buenos Ayres and the Andes."

New subscribers, desirous of securing this series of articles complete, must send in their names at once, as otherwise the earlier numbers are likely to be exhausted before their orders are received.

### Ample Facilities.

THE National Democratic Convention, which meets at Tammany Hall, in this city, to-day (July 4th), has been amply furnished with telegraphic facilities, by the different companies here, for the transmission of any amount of business that may be necessary.

On one side of the platform the Western Union Company have quite an extensive office, having run in nine wires—eight through wires, and a short wire from the hall to the office of the Associated Press, corner Liberty street and Broadway, where an operator will be stationed during the sessions of the Convention, for the purpose of supplying the regular business reports of the proceedings for the local and out of town press.

The Atlantic and Pacific Company also have two wires run into the Hall; the Franklin line two; the Bankers and Brokers one, and the City Line two wires, making sixteen wires in all.

Of course the Convention will develop a very large amount of telegraphing, and it is probable that all the wires will be kept pretty busy during the next few days.

### Premiums.

WE would remind our friends that the offer of premiums for obtaining subscribers to THE TELEGRAPHER still holds good. We shall be happy to contribute valuable works to the scientific and professional libraries of our friends and subscribers, and, at the same time, increase and extend the circulation of THE TELEGRAPHER.





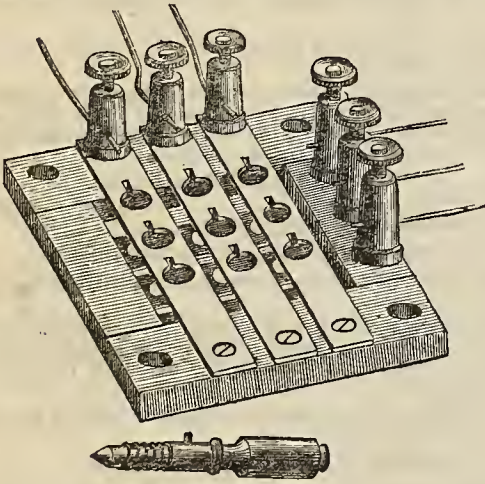


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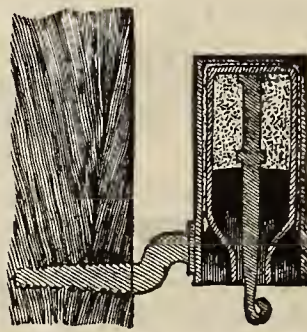
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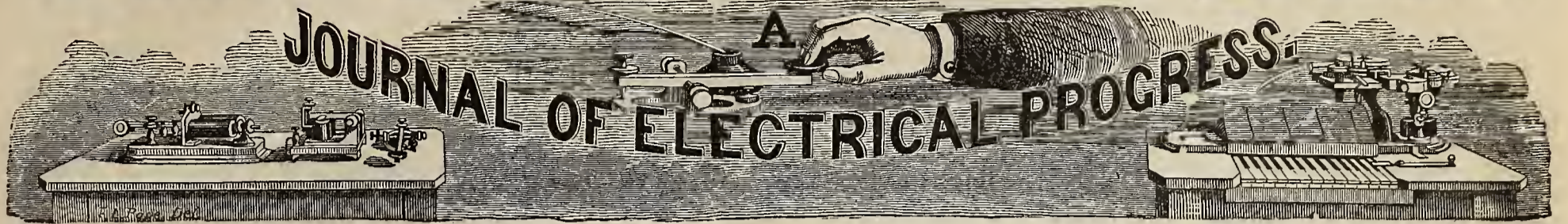
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# THE TELEGRAPHER.



Vol. IV.—No. 46.

New York, Saturday, July 11, 1868.

Whole No. 104.

[For the Telegrapher.]

## The Telegraph in South America. No. II.

PERUVIAN LINES: THEIR USE AT THE BOMBARDMENT OF CALLAO, AND THEIR INFLUENCE ON REVOLUTIONARY MOVEMENTS.

FROM Panama to Callao, the port of Lima, it is a little over 1,300 miles, with regular steamer connections three times a month. Between these two points it is proposed that the submarine cable shall touch at Guayaquil, in Ecuador (thence communicating with Quito), and at Payta. The reasons for not constructing an overland line are the same that have retarded the progress of the Telegraph in all parts of Peru, and are familiar to every one acquainted with the topography and industry of that country, and will be referred to explicitly in a future article upon the subject of the cable. Peru consists of a territory of 540,000 square miles, almost one fourth of the area of the whole of the United States, with a population of less than three millions, nearly all of which occupies cities separated by vast tropical wildernesses, totally barren deserts, or almost impassable mountains. In the north of Peru are a few small districts, where foreign enterprise has developed the culture of cotton, rice and sugar; but south of Lima it is nearly all a sterile waste, with here and there a diminutive oasis nestled among the dreary cordilleras that rise abruptly one behind the other from the sea; while beyond the ever snow-clad cliffs and precipices of the Andes the fair and fertile plains, with the exception of a few new-born towns on the Amazon's head-waters, stretch for many a league, in all the solitude of an unexplored wilderness.

As the conquest of Peru was for glittering spoil, so succeeding generations confined their attention to precious metals, and later to the exportation of guano, upon whose revenues alone that country has for several years subsisted; and not until adventurous foreign capitalists recently commenced to pierce the interior from the principal seaports, and to traffic in the riches of remote districts, was there any thought of internal communications other than Indian runners, and the mules and llamas that slowly and laboriously crept along the lonely paths. The establishment of the English line of mail steamers along the west coast opened a fair highway from Peru to the manufactories and markets of the world, and European commercial houses, that had located agents in interior towns, soon built up a business that necessitated more modern means of transportation. A few short lines of railroads were constructed from the coast up into the mountains; and with them went the inseparable companion of thrift—the Telegraph. It is but a very short time since this progress was initiated; but Peru, absorbed with her easy gains from guano, began to realize how foreign enterprise was fastening an iron gripe upon her more enduring treasures, and turned her attention to in-

ternal improvements. Just at this time Spain pounced upon her, railroad and telegraph schemes were laid aside, and all her energies were required to prepare the enginery of war with which to resist her formidable adversary. At the commencement of the late difficulties with Spain, Peru had but three lines of railroad and telegraph—one from Arica to Tacona, another from Callao to Lima, and the third from Lima to Chorillos. Soon after another telegraph line was constructed from Islay to Arequipa, about one hundred miles in length; but here all such work was suspended, with the exception of the construction of a small line connecting the new batteries at Callao.

The Arica and Tacona line is about fifty miles long, and is devoted almost exclusively to the railroad business. Commercial affairs there consist principally of shipments of Peruvian bark, cocoa, coffee, wool, &c., in exchange for European goods, and rarely requires the use of the telegraph. Only as an auxiliary to the railroad is it a paying institution, and but for the road it never would have been built. Its use, however, is gradually becoming more general, and its success, independent of the railroad, will become established as soon as the now rapidly increasing trade shall have attained an importance to justify liberal competition. The Callao and Lima line, only nine miles long, is an exceedingly profitable one, connecting, as it does, the large and wealthy capital with the most important port of that coast. There is, probably, as much business done over that line as between New York and Albany, and its offices are fitted up in very fine style. All important intelligence arriving at Callao by the various steamers (some fifteen per month) is transmitted over its wires for the press *extras* of Lima, and every morning all ship news is sent to the Exchange and the clubs. The Lima and Chorillos line is simply for the convenience of visitors at the latter fashionable watering place, seven miles from the capital. All their lines are similar to those in common use in this country, and do not require any detailed description. The instruments used are of the kind most employed in our offices, and are operated by natives at a small salary, about fifty dollars per month. Rates for messages (all of which must necessarily be in Spanish) are correspondingly low, and many use the telegraph, in consequence of its cheapness, when a letter sent by the mail would answer every purpose. The low prices were rendered indispensable to the success of the telegraph by the general indifference in that country to innovations, and the tardiness of the people to depart from old-established usages, but now that a large business has been obtained rates will doubtless gradually increase to a figure approximating to common prices. As it never rains in the districts through which these lines extend, they are seldom out of repair, and are maintained at an expense considerably lower than in this country.

When the Spanish squadron, after the bombardment

of Valparaiso, reached Callao, for the purpose of attacking that city, the fleet found the port protected by heavy fortifications, mounting about forty guns, including five 450-pounder Blakeley's, and four 300-pounder Armstrong's. Four of these guns were mounted in circular iron-clad batteries, with a revolving platform, and as there had been no opportunity for target practice, in order to get the angles and distances properly laid down for the use of the artillerists in action, a line of telegraph was put up from one extremity to the other of the long semi-circular chain of works, with which it was intended to communicate the result of observations from different batteries in an engagement, and thus quickly work out the exact distance at which an attacking ship might be lying from the guns. The operators were placed in the iron-clad batteries, which were situated near the extremities of the line of fortifications, and when the engagement opened between the Spanish fleet and the shore, on the second of May, 1866, the four heavy guns above referred to were trained according to mathematical calculations, worked out with the aid of careful observations and the telegraph. Unfortunately, before the practicability of this plan was demonstrated, the two iron turrets were disabled by the carelessness of the artillerists, and the telegraph was abandoned early in the action. Wires were also laid connecting the shore with torpedoes planted in the bay to blow up the Spanish squadron, but, for some reason, probably the hasty and imperfect manner in which the torpedoes were fixed in their places, nothing was accomplished.

It would not be *mal apropos* to diverge at this point and to give a brief description of a remarkable circumstance which transpired in connection with the use of torpedoes at Callao. When the Spanish fleet threatened Callao, during President PEZET's administration, a launch was loaded with square blocks of English patent coal, each block having been previously sawed open and a loaded shell, with a bottle of fulminate of mercury, placed inside. These blocks were neatly and firmly gummed together again, dusted so as to conceal the joints, and in the launch were to have been set adrift in the bay at night for the Spaniards to pick up, put into their furnaces, and get blown out of time. That difficulty, however, was arranged between Peru and Spain before the new experiment was carried out, and the stuffed coal was securely packed away for future use, unknown to any one except the few persons first admitted into the secret. The writer was present at the bombardment of Callao by the same Spanish vessels two or three years later, and one night, while on board the U. S. Steamer Tuscarora, called the attention of the officers of the deck to something resting at no great distance off on the water. The night was foggy, and supposing that the object was either a picket boat from the Spanish fleet anchored close at hand, or an armed boat on the look-out from shore, we finally gave up the watch. Next morning we discovered



a launch fast to the stern of the U. S. Steamer Wateree, and on going on board that vessel, found that the boat was loaded with coal, and had been picked up in the night. This was what we had seen, but of course we were ignorant of the dangerous character of the cargo, and the commanding officer of the Wateree, not knowing to whom his valuable prize belonged, concluded to keep the launch on exhibition a day or two for any claimant that might present himself, and if none appeared, to put the coal in his bunkers. This was done, and some of the coal had already been placed in the furnaces, as all the vessels were kept under steam. When one of the firemen happened to strike a block a sharp blow, and out rolled a loaded shell. The fires were instantly hauled, and in the furnaces were found several shells, so hot that they could not be touched with the naked hand. Five minutes later, but for this discovery, the boilers would have been blown up and the ship placed in the same condition that the Peruvians hoped to inflict upon the Spaniards.

The telegraph line to Arequipa, from Islay, extends across a perfectly barren desert, and never served to any purpose until President PRADO availed himself of it at the siege of the former place during the late revolution. While he invested the city this line kept him in constant communication with his base of supplies, and by being cut, gave him the first warning of the operations of the revolutionists in his rear. Mr. ROBERT TIGHE, an accomplished young American, who had had considerable experience in the Army of the Potomac, was PRADO's confidential cypher operator, and had charge of the whole line. Through his familiarity with the facilities afforded a commander by an army telegraph, Mr. TIGHE made himself of incalculable service to PRADO, and the writer knows, from personal observation during that siege, that had the suggestions offered by Mr. TIGHE, from time to time, relative to the entirely feasible perfection of telegraphic communication at that period, been adopted, the ruin caused by that raid upon PRADO's base of supplies and his immediate rear might easily have been averted. As it was, the line extending nearly a hundred miles through an unoccupied country, was destitute of patrols or stations, and the knowledge of its being "down" was followed almost immediately after by the intelligence of the capture of the base of supplies and the 300-pounder gun on its way to PRADO's batteries. After the revolution the line was worked as before between the two cities, and now that the railroad is being built between Islay and Arequipa, it will probably soon become a paying institution.

In consequence of the great distances between the principal cities of Peru and the capital, and the proportionate tardiness in the transmission of intelligence, revolutions have always been conceived and inaugurated in Peru before the alarm could reach the general government. By the establishment of telegraph lines the authorities at Lima could be promptly informed of any conspiracy in an important district in time, probably, to thwart the designs of the conspirators. Now weeks and sometimes months are required to send information and receive a reply between some of the principal cities and Lima, and while all this delay is embarrassing the government the revolution is progressing, and, perhaps, not only rendering itself exceedingly dangerous but absorbing the very officers and forces of the government, which might have been enabled to put down the uprising had they received timely instructions. The present government has not only manifested a purpose to encourage and aid all the enterprises calculated to develop the country, but seems to have in mind the internal improvements peculiarly applicable, and, in many cases, necessary to the preservation of order in that State. Principal among these, as before suggested, is the telegraph, and it is now under consideration to construct lines connecting Lima with all her principal towns. In the north the telegraph will touch Torujillo, Lambayeque, Pinra and Payta, and

with a southern line running through Islay to Arica, would not only do well pecuniarily, but would, undoubtedly, give the general government warning of any insurrection in time to suppress it before it could assume the proportions of a formidable revolution. This work, however, will probably be delayed until the much talked of west coast submarine cable is laid, as that project is already in the hands of energetic individuals, and if completed, will effect nearly the same connections as those indicated above.

This subject will be properly treated hereafter, in an article calculated to give a more extended knowledge of telegraphic necessities and inducements in South America than any description of Peruvian interests alone could possibly afford.

## 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 Correction.

THE W. U. TELEGRAPH COMPANY, CENTRAL DIVISION,  
SUPERINTENDENT'S OFFICE, 13TH DISTRICT,  
CHICAGO, June 29th, 1868.

TO THE EDITOR OF THE TELEGRAPHER.

I HAVE just had my attention called to an article in your paper of the 27th, relative to my resignation as Superintendent of this district, which not only does me injustice but also the Western Union Telegraph Co.

The question of salary was not a subject of consideration, and if it had been, the Company manifested a willingness to do all I could reasonably ask or expect.

By giving this explanation a place in your paper you will greatly oblige,

Very respectfully,

E. D. L. SWEET.

### Indifference to the Union.

BALTIMORE, MD., July 1st.

TO THE EDITOR OF THE TELEGRAPHER.

SINCE the death of our lamented friend and fellow-worker, P. A. STIDHAM, "N. T. U." have become letters without any meaning to the telegraphers in this district. The "cause" lingered along a few months, with here and there a spasmodic effort "at" recovery, and finally dropped into an untimely grave. The only trace left to remember it by is the name of STEWART, published in your columns as District Director. Some one or two hung on to the wreck until there was no longer any prospect of obtaining a quorum for the work, and they, too, gave it up, and "Poor Tom's a-cold."

The cause was good and just; the material of which the association was formed was no good, hence the failure. I was for three years a non-resident member, and in spite of all the inquiries I made (which, upon an average, was one letter a month,) I could never get head nor tail of any of the doings of the "confederacy," excepting a quarterly bill for "dues." This at last ceased, and when I became a resident of Baltimore my inquiries for the "N. T. U." were answered by, "She's dead." Some of us who look upon this as a sort of a stain upon our profession, which should, in its dealings with individual operators, at least, be unimpeachable, would like to see a little account of where the funds went to which we paid in; how were they expended, &c.; what claim have we got to be considered in the case at all, and what course can we pursue to get into a live active district; and "last but not least," where is that kind of a district to be found. I ask these questions in a spirit of kindness (to myself and one or two other victims), and hope no one will feel that they are in any way suggestive of aught else. A little information, published in your columns, with regard to the present standing and financial condition of the association, would do a great deal towards establishing a better feeling in what

was once the Baltimore district. There is no reason why the Baltimore district should die and others live. Baltimore city can boast of as much talent, intellect and education among her telegraphers as any other in the Union. All that is required is for some one to "stir 'em up."

7 x 9.

PITTSBURG, PA., June 29th.

TO THE EDITOR OF THE TELEGRAPHER.

IT has often been a matter of surprise to me that, in your correspondence from all quarters of the telegraphic world, the "Murky City" has been so entirely neglected. Surely, because we are always under such a black cloud of soot and dirt, is no reason why we should be forgotten.

The excellence of THE TELEGRAPHER over all would-be competitors is appreciated by all, and is found in the variety and brevity of its intelligence. It is certainly refreshing, after clearing one's hooks, and saying to your distant friend "min. pls.," to elevate your pedals and lay back with all the ease of an American gentleman, utterly oblivious to calls and the accumulation of business. And we read, with a great degree of interest, the migrations and situations of our peripatetic brethren. We learn that "Tom" or "Mac" have "resigned" their position to go South, or "Jim" has "accepted" a situation in the West, and pretty generally west of Omaha, too. What a moral and model community of individuals we are! Never dismissed, nor never filling a place to "keep the wolf from the door." This calls to my mind an old and truthful axiom that

"A little soft-soap, now and then,  
Is practiced by the best of men."

Some changes are occurring here, among which I note: P. P. HAUFF, report operator, is taking a vacation of two weeks at his home in Ohio.

G. W. FURR transferred from Pittsburg to Cincinnati.

S. A. DUNCAN suspended indefinitely, for failure of a message in reaching its destination.

T. E. MORELAND transferred from Pittsburg to Cheyenne, D. T.

The above are from the W. U. office.

A. S. HAWKINS, D. D., of the Meadville district, N. T. U., has taken charge of "S. K." office P. and A. line, of this city.

D. J. DINGMAN has found a place in the main office, P. and A. line, this city.

M. F. ROBINSON, manager, Titusville, Pa., W. U. Co., leaves the business to engage in commercial pursuits in Conneautville.

JAMES HUGHES succeeds him as manager.

FRANK SEHMER, manager of Omaha office, has been in search of a wife in the "Smoky City," and has been successful. More anon. QUIEN SABE.

ST. PAUL, MINN., June 28.

TO THE EDITOR OF THE TELEGRAPHER.

THE Mississippi Valley National Telegraph is now open from Minneapolis, Minn., to Dubuque, Iowa, a double wire line, with offices already opened at the following places: Minneapolis, Saint Paul, Hastings, Red Wing, Lake City, Reed's Landing, Wabashaw, Minneska, Winona, Minn.; Prescott, Trempealeau, La Crosse, De Soto, Wisconsin; Lansing, McGregor, Clayton, Guttenburg, Dubuque, Iowa.

By the time this note reaches you we will have offices open at Bellevue and Sabula, Iowa. The line is progressing rapidly, both from Dubuque to St. Louis, and from Dunleith to Chicago. Our officers are I. M. MASON, President; E. S. ROWSE, Treasurer; J. L. REED, Secretary, and B. A. SQUIRES, General Superintendent. \*

WIDE AWAKE.—Cannot publish your communication until you send us your full name and address.



**PERSONAL.**

CHARLES E. TAYLOR, one of the oldest operators in the Western country, formerly chief operator W. U. lines, in Louisville, and night manager, New York, and latterly operator at Adams' Express office, in Cincinnati, has relinquished business for the summer, at least, and will spend the season in the suburbs of Frankfort, Ky., his old home.

L. C. WEIR, who is the agent for Adams' Express Co., and one of the best operators in the country, will assume TAYLOR'S duties in addition to his own. S. L. ROBINSON continues in the Chicago office, having declined the Council Bluffs offer.

Mr. FURR, recently of the Pittsburgh office, has accepted a position in the W. U. Cincinnati office.

TOM WILLIAMS, of W. U. Pittsburgh office, is off on a visit to Lafayette, Ind.

Mr. G. B. SCOTT is assistant superintendent B. & O. lines, with headquarters at Grafton, W. V.

H. M. HOFFMAN, formerly of Grafton, is operator at Frederick, Md.

Mr. HUGH CRAIG, formerly of the Grand Trunk Railroad, is manager of Camden station, having held that position since October last.

J. C. VAN DUZER, formerly of Caton, Southwestern and Military lines, is at present out of business and looking for an engagement. His address is New Haven, Conn.

The present address of W. C. ARMOR is at the Pacific and Atlantic Telegraph Office, Brady's Bend, Armstrong County, Pennsylvania.

WALT. PIERSON, JULE. GUTHRIDGE and ED. BAKER, late of Cincinnati, W. U. Tel. office, sailed for San Francisco on the steamer Santiago De Cuba, Saturday, July 4.

Mr. M. C. LAVEN has resigned his position in the office of the Western Union Co., at Boston.

Mr. CHARLES HATCH, formerly of Calais, Maine, succeeds Mr. LAVEN in the Western Union office, Boston.

Mr. E. L. BUGBEE, late of Charlestown, Mass., has accepted the management of Western Union, India street office, Boston, in place of Mr. J. LABONTE, resigned.

Miss S. S. LONG, late of South Boston, Mass., takes the situation vacated by Mr. BUGBEE at Charlestown, Mass.

Mr. L. E. BATHRICK has resigned the management of the Telegraph office at Sterling Junction, Mass., and also the position of acting agent of the W. & N. and F. & W. Railroad. He will take a short vacation before resuming official duties.

Mr. C. H. LORING has resumed the management of the office at Sterling Junction, Mass., vacated by Mr. BATHRICK.

CHAS. USHER has taken charge of the W. U. Rhinebeck, N. Y., office, *vice* Belden, gone to the Mountain House, Catskill.

THOS. STEWARD, jr., of Vermont, is in charge of the Lake Mahopac office this season.

JOSEPH B. NELSON, from Oswego, has charge of the office at Cornwall Landing, N. Y., for the summer season.

The office in the Mountain House, Catskill, has been re-opened for the season. FRANK BELDEN, late of the Rhinebeck office, is operator in charge.

The W. U. Co. have opened an office in the New Congress Hall, Saratoga Springs. It is in charge of J. G. OWEN.

J. A. SMITH, from BRYANT & STRATTON'S College, Albany, has taken charge of the A. & P. Co.'s Hudson, N. Y., office, *vice* Fox, resigned to accept position with W. U. Co., in Po'keepsie.

H. A. BOGARDUS is at present employed in the W. U. Co.'s Saratoga Springs office.

WANTED.—A first class operator, to act as a substitute, in this city, during the month of September. Must come well recommended. Address the editor of THE TELEGRAPHER.

**THE TELEGRAPH.**

**The East India Telegraph Company.**

TELEGRAPHIC ENTERPRISE.

IN regard to the telegraphic enterprise projected under the auspices of the East India Telegraph Company, the *News Letter* has the following:

"It appears to have been abandoned by the corporation. The first design was to erect land lines to connect the principal cities of China, but their Commissioner, DR. MACGOWAN, failed to procure from the Chinese Government the requisite concession, the foreign office at Peking being willing only to permit submergence of a cable to connect the maritime cities. At one time the Company announced its intention to send out a cable, but their recall of the operators indicates a total relinquishment of the project. Telegraphy is not, however, lost sight of by DR. MACGOWAN, who is the inventor of a system by which messages can be sent in Chinese. From time to time he is calling the attention of the Chinese Government and people to the subject by articles in the Chinese issue of the *North China Herald*, through which channel he is dissipating much of the peculiar prejudice which resists the introduction of the electric telegraph in China.

The above is from the correspondent of the *Times* of this city, and is, as we know, entirely incorrect. So far from the enterprise being abandoned it is being actively carried forward, and will before long be carried into effect, and the principal ports of China be connected by a submarine cable line. This line will be the nucleus from which it is confidently expected a system of wires will be constructed, that, within a few years, will reach all the different sections of the great Chinese Empire, and through other similar enterprises about to be undertaken, connect China telegraphically and commercially with our own country.

It is true that DR. MACGOWAN has ceased to represent this company in China, which, doubtless, is unfortunate for the Doctor, but by no means warrants the efforts he is making to convey the impression that the Company has abandoned the enterprise to which so much time, labor and money has been devoted.

**VALEDICTORY.**

BY request, we publish the following valedictory of Mr. E. D. L. SWEET, on retiring from the Superintendency of the Thirteenth District of the Central Division of the Western Union Telegraph Company:

W. U. TELEGRAPH, SUPT'S OFFICE, 13TH }  
DIST., C. D., CHICAGO, July 1st, 1868. }

To all Managers and Employés, 13th Dist. W. U. Tel. Co.

HAVING resigned my position as Superintendent of this Company, it seems proper that I should communicate the fact to you in a farewell message. In taking leave of you and the service I have had to bring my mind to give up many pleasant associations, but of all that have come to my mind none has shaken my resolution so often as that of dissolving my relations with you. A year ago to-day, the relations of those of you in the employ of the old Company were, like my own, transferred to this. Had I considered my own inclinations, and, perhaps, interests, I should then have retired from the profession; but I owed, as I thought, a duty to this Company, myself, and those of you who were under my supervision. This duty I have endeavored to discharge to the best of my ability, and now that all alike are known to the officers in charge of the different departments of this Company, I feel that I have a right to consult my own preferences, and it may be, to better my condition in life, by other pursuits, feeling satisfied that you will all maintain your positions in

the service with credit to yourselves and profit to the Company.

In my successor, whose appointment is herewith announced, you will find a gentleman well versed in the duties of his position, and, I trust, the pleasant relations of the past will be realized in the future under his supervision. I feel assured that this will be the case when I remember the many years in which we labored together harmoniously as associate Superintendents in the I. & M. Telegraph Company. As soon as I can have a little more time to express my mind more at length, I trust it will not be thought obtrusive to do so. Hoping that your success in the future may be commensurate with your labors, and the prosperity of the Company you serve, I remain as ever, respectfully,  
E. D. L. SWEET.

**Change of Districts.**

AN official order from Gen. ANSON STAGER, General Superintendent of the Central Division of the Western Union Telegraph Company, announces the consolidation into one District of the Twelfth and Thirteenth Districts of that Company. The new District will hereafter be known as the First District of the Central Division. J. J. S. WILSON is the Superintendent.

**Telegraph Extensions in the Far West.**

OUR Telegraphic despatches announce that the Western Union Telegraph Company has built a line of Telegraph to South Pass City, in the Sweetwater Mines. It has also recently built lines eastward from St. Louis to several points in Illinois, has closed a contract to build one southward to Columbus, Ky., and is now extending a line in advance of the track of the Eastern Division of the U. P. R. R. to Fort Wallace. These lines have been and are being constructed under the supervision of Col. R. C. CLOWRY, the Superintendent of the Company for the district west of the Mississippi river. Col. CLOWRY is one of the most able and accomplished telegraphists in the country. He is well known in this city as the son-in-law of our fellow citizen, Gen. E. ESTABROOK.—*Omaha Republican.*

**Telegraph Matters in Chicago.**

WE learn that the Western Union Telegraph Company have entered into a contract with the Trustees of a new building, to be erected on the north-west corner of La Salle and Washington Streets, Chicago, Ill., nearly opposite the Board of Trade Buildings, for office accommodations. The building will be a handsome and substantial one, built of Athens marble, and when completed will be an ornament to the city, and is excellently located for a Telegraph office.

We understand that Gen. ANSON STAGER, General Superintendent, is about to remove his residence from Cleveland to Chicago; also, that the Machinery Department of the Western Union Company is to be moved from Cleveland, where it is now located, to Chicago.

The Atlantic and Pacific Company have leased an office at No. 128 Washington street, and expect to be working East by the first of August.

**The Mexican Telegraph.**

LATE advices from Mexico say:

The Telegraph from Monterey to the capital had been put up as far as Rinconada.

THE LIGHTNING AND THE TELEGRAPH.—The lightning, on Friday evening, July 3d, injured the police telegraph wires and apparatus in Brooklyn. At the Forty-third, Forty-eighth, Forty-ninth and Fiftieth police precincts the instruments were all thrown out of order. The electric fluid played about the apparatus in the Forty-eighth precinct station until all the wires were burned off, and the box looked as if it had passed through a powder mill explosion. It is needless to say the police kept a respectful distance at the time.





SATURDAY, JULY 11, 1868.

TELEGRAPH INSTITUTES AGAIN—A MODEL PROSPECTUS.

WE have heretofore frequently had occasion to refer to the Telegraph Institutes swindle, and to expose the false statements, exaggerations and lying pretences by which they seek to obtain patronage. That these places still exist, and, it is to be presumed, meet with more or less success, is evidence of the truth of the old couplet:

That the pleasure is as great  
Of being cheated as to cheat.

It is, perhaps, useless to seek to preserve those who apparently pay as little heed to the dear-bought experience of previous victims as to the warnings and counsels which, from time to time, the Press has given in relation to these so-called Institutes.

We have recently come into possession of the prospectus of one of these shops, located in this city, which is only excelled in truthfulness by the correctness of its grammatical construction and the ornate beauty of its somewhat complex and involved style of composition.

Its introductory sentences, showing how the foundations of this precious Institute were laid, are decidedly good. That the causes enumerated should result in the laying of the foundation of the Institute referred to is, if true, certainly not encouraging to those at present engaged in the Telegraph business.

The inducements to the study of Telegraphing set forth are of such extraordinary character that we copy them, not only for the information of aspirants to Telegraphic fame and pay—only to be attained, we presume, through the portals of this Institute—but also to enlighten the unappreciative intellects of those already in the ranks who are unaware of their good fortune.

From this unique document we learn that the building of such a vast amount (?) of new Telegraph lines is not the chief attractive influence that operates upon those who are now studying the science of Telegraphy at this Institute.

The science of Telegraphy is good! We doubt not that HENRY, WHEATSTONE, HOUSE, MORSE *et al*, will feel greatly indebted to the genius who, in the classical language of A. WARD, "sculpted" this prospectus for the discovery that *Telegraphy* is a science. Scientists generally, as well as the rest of mankind, were previously aware of the fact that there was a science of *Electricity*, but it required the genius of the Principal or Principals of this Institute to develop the fact that *Telegraphy* is a science. Heretofore its most ambitious professors have been content to have it rank as an *art*, but henceforth it is elevated to the dignity of a science. This, at least, the Institute has accomplished, besides extracting filthy lucre from those who aspire to be High Priests at least of the new science.

But we quote further:

"The SALARIES that operators receive are so remunerative, and the necessary expenditures of time and money are so small, that the fact is almost marvelous that there are not hundreds of young ladies and gentlemen, in this city alone, RUSHING to embrace the present opportunity for acquiring a Telegraphic education!!! The SALARIES that operators receive vary with their respective abilities, although we may state with accuracy that they range from \$60 to \$130 per month, and in numerous instances even

more!! The amount of time incumbent upon operators to give to the practice of their profession, viz., from FIVE to EIGHT hours daily, render their duties pleasant as well as lucrative!!!"

In the words of the proprietor of another, and in some respects similar Institute, the immortal SQUEERS, "there's richness for you!" Come all ye young men and maidens who are willing to accept, from urgent and importunate Telegraph Companies, salaries—more properly, perhaps, we should term them complimentary gratuities—of from \$60 to \$130 per month for merely nominal occupation; rush with fifty dollars in your hands, and unspeakable gratitude in your beaming countenances, to the "Institute for Telegraphic Education."

We can assure you that only through its spacious and well ventilated apartments is such bliss attainable. Do not be discouraged or deterred by the required payment of a paltry fifty dollars to the benevolent proprietors. What is that insignificant sum to the assured advantages?

That those of us who have labored for years in the Telegraphic vineyard were previously unaware of our good fortune, and ignorant of the advantages we have so long enjoyed, should not hinder novices from contributing fifty dollars towards the exchequer of this and other "Institutes for Telegraphic instruction." The fact that operators who have devoted years of their lives to acquiring a knowledge of the business are daily abandoning it and turning to other more remunerative employments, should be no check upon the flow of fifty dollar bills to the pockets of the proprietors of Telegraph Institutes. Oh, no! Ladies and gentlemen, walk up and pay your money and see the elephant.

We regret that the limited space at our disposal prevents us from bestowing upon this production of genius, in the shape of a prospectus, all the attention it deserves. It is of such surpassing richness, and of such a high order of literary merit, and so indisputable in the accuracy and truthfulness of its statements, assertions and inferences, that we should like to set forth all of these in detail, but must reluctantly forbear.

We would, however, express our gratitude to the able "SCULPTIST" of this prospectus for the information that "The SCIENCE (!) of Telegraphy stands high among its sister sciences, and reflects as much honor upon its devotees and even more than any of the others." Good boys and girls, your highest reward hereafter shall be the promise of a fifty dollar investment at the Institute where the science (!) of Telegraphy is taught, and your enrolment amongst its devotees. The "promised blessings of the counting-house" are good, but they are nowhere beside the "resplendent glory" and "rich blessings" of the "science of Telegraphy." This veracious prospectus further states what, of course, every operator's experience will confirm:

"The LENGTH OF TIME required for acquiring a knowledge of SOUND OPERATING varies with the abilities of the student, though we may average the time of all and place it about THREE MONTHS!"

Spirit of Baron MUNCHAUSEN, thou yet abidest upon the earth, and hast found a permanent home in the Telegraph Institutes which adorn this and other cities of the UNION.

We regret to find appended to this circular the recommendations of two or three gentlemen who ought to be ashamed to lend their names to such a worthless concern. We cannot believe that they ever examined this matter properly, or they would never have allowed themselves to be stultified by appearing as the endorsers of such an enterprise; and we trust that they will at once take means to inform themselves as to the use which is being made of their names and withdraw from such association.

To those who desire to become Telegraphers we would say, avoid these so-called Telegraph Institutes and Colleges as you would Peter Funk shops and Gift Enter-

prise swindles. Save your money and seek an opportunity to study the ART of Telegraphy in some regular office. Procure some good standard works on the SCIENCE of Electricity and study them in connection with your practice of the art, and thus you may become intelligent and reliable operators—a credit to yourselves and to the profession which you desire to enter. Thus only can you become good Telegraph operators, and whoever pretends or promises otherwise is only seeking to obtain your money, well knowing that no adequate equivalent will be rendered therefor.

Laying of the New Cuba Cable.

TEMPORARY SUSPENSION OF THE WORK.

THE work of laying the additional cable between Key West and Chorrera, for the use of the International Ocean Telegraph Company, was commenced on Friday last. Everything progressed successfully, and there was every prospect of the work being completed in the most satisfactory manner, until about five o'clock on Saturday morning. The cable was paid out from the *Narva*, the steamer employed in laying the first Cuba cable. She was accompanied by the United States steamer *Gettysburg* and the Spanish man-of-war *Francisco de Asis*, the latter leading the way.

At the time before mentioned the *Narva* came into a strong easterly current, against which she was unable to make headway, and was carried, with the cable, to the eastward. At this time her trim was very light and down by the stern, which, with the paying out of the cable, prevented her making way against the current, which is described by the pilot, and Capt. IRWIN, of the *Gettysburg*, as of extraordinary force.

At half past five o'clock A. M., it being evident that the *Narva* could make no headway against the current, and was losing much cable, which could not be restrained without danger of being parted, and being then in deep water, the course of the vessel was changed, and she was run for the nearest land, in order to bring the cable into as shallow water as possible. Finally the cable was cut, and buoyed about five miles to the east of Morro.

The end of the cable lies in shallow water, about three miles from the shore, and is on a sandy bottom. As the water is shallow and the bottom sandy all along that part of the coast, there will be no difficulty in landing the cable at any desired point, from whence it can be connected by land lines to Havana. Or, if it shall be deemed preferable, the cable can be under-run to the point where the easterly current took the *Narva* out of her course, and another attempt be made to land it at Chorrera, at a time when the force of the current is less and the vessel properly ballasted, to bring her into good trim and more easily controlled.

The *Narva* is amply provided with all the necessary appliances for either course, and the officers of the Company expect to have the new cable in good working condition during the present month, and perhaps within a week or ten days.

The reports of the electricians, as regards the excellence of the cable and its high insulation, are all that could be desired. There is every reason to regard it as one of the best deep-sea cables that has ever been manufactured; and once laid, there will be little danger of future interruption.

The present facilities of the Company are sufficient for the prompt transaction of business now offering; but it being evident that increased facilities would soon be required, it was determined to lay a new cable this season—consequently, no interruption or delay of business will be caused by this postponement of the inauguration of the new cable.

The cable has since parted from the buoy to which it was attached, and the *Narva* was, at the last accounts, engaged in grappling for it, assisted by the United



States gunboat *Gettysburg*. As the current is so strong, the difficulty of finding and recovering the end is greatly increased. Should this be found impracticable, however, it will probably be necessary to under-run and relay the whole cable.

**Annual Meeting Western Union Telegraph Co.**

THE Annual meeting of the Western Union Telegraph Company, for the election of Directors for the ensuing year, was held on Wednesday, the 8th inst., at the office of the Company, No. 145 Broadway, in this city.

The number of Directors was increased to twenty-nine. Everything had been properly arranged beforehand, and the voting was unanimous. About twenty millions, or one half of the nominal capital stock was represented.

The old Board were all reelected, and the following members were added: J. D. CATON, Ottawa, Illinois; Z. G. SIMMONS, Kenosha, Wisconsin; E. CREIGHTON, Omaha, Nebraska; R. E. LANCASTER, Richmond, Va.; A. B. CORNELL, Ithaca, N. Y.; MARSHALL LEFFERTS, New York.

At a subsequent meeting of the new Board of Directors WILLIAM ORTON, President; HIRAM SIBLEY, N. GREEN, and B. R. McALPIN, Vice-Presidents; and O. H. PALMER, Secretary and Treasurer, were reelected.

**American Compound Telegraph Wire.**

A LARGE quantity of the new American compound Telegraph wire is used by the different Telegraph companies who have established offices at Tammany Hall, during the sittings of the Democratic National Convention, in running their lines into and about the Hall. It makes a beautiful appearance, and is found to work excellently. So far, this wire has tested well, and fully come up to the expectations of its inventors and manufacturers.

DEATH OF AN ESTIMABLE YOUNG MAN.—We are pained to chronicle this morning the death of EDWIN HUGHES, train despatcher, and superintendent of the Telegraph lines along the Nashville and Chattanooga railroad. He died at the office of the company, on Church street, yesterday afternoon, at three o'clock, from dropsy of the stomach, supposed to have been occasioned by an excessive use of ice water, some ten days since. Mr. HUGHES was a gentleman of exemplary character, a faithful and efficient officer, and one whose loss cannot easily be repaired. He came to this city about two years ago, from Marshall, Michigan, where his mother now resides. He has also a brother living in or near Breckinbridge, Missouri. At the time of his decease he was twenty-seven years of age. His friends will retain his body here until his relatives arrive.—*Nashville Union and Despatch.*

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This Wire has already been put up on sections of several Telegraph Lines, and its merits fully tested, and the results show that it combines all the good qualities which are claimed for it, viz.: *Economy, Superior Conductivity, and Increased Strength, with Decreased Weight of Metal.*

In its composition are used three metals, either of which is a good conductor, Steel, Copper and Tin; and the superiority of Copper as a conductor over other metals is well known, and but for its ductility rendering its permanent suspension in a pure state intact impracticable, it would have always been used exclusively as a Conductor on Telegraph Lines. By combining it with Steel the desired strength and permanence is attained, and the necessary weight of the line wires reduced two thirds, thus obviating the necessity for using a large number of poles to the mile, and by reducing the points of contact, lessening the chances for trouble and escape of the electric fluid.

All other Line Wires must inevitably be superseded by this, and such Telegraph Companies as now adopt it will the sooner realize the advantages to be derived from its use over those whose lines are of the old rotten and rusty iron wire pattern.

For further information, call on or address

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It will continue to advocate, as it has done heretofore, in an independent and fearless manner, the just rights of the TELEGRAPHIC FRATERNITY, to whom it owes its origin and support. It will seek to point out and correct abuses, wherever existing, to elevate the moral and scientific standard of the Telegraphic profession.

It will not support the views of any particular person or corporation, but will discuss all subjects relating to Telegraphy in a progressive, independent, and liberal spirit.

THE TELEGRAPHER will contain numerous original contributions upon Electrical and Telegraphic science; Correspondence from various parts of the world; Literature and Poetry upon Telegraphic subjects; Notices of changes of Telegraphic offices; and other incidents and items of personal interest, together with a large and varied selection of Telegraphic News-items, Notes, and Memoranda of every description.

THE TELEGRAPHER will continue, as heretofore, to be illustrated with a large number of

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Whatever the experience of its conductors—whatever industry, energy, and a liberal expenditure of money can accomplish towards making it a paper indispensable to the profession—is pledged to the subscribers of THE TELEGRAPHER.

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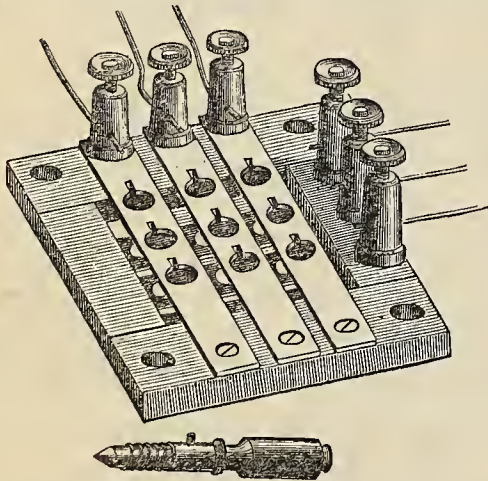
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What is your age?
Where is your residence?
What is your occupation?
Have you any constitutional disease or debility?
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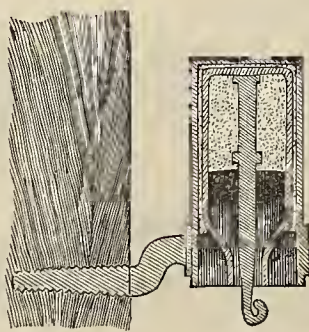
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In order to afford inducements to Telegraph Operators and others to make special efforts to extend and increase the circulation of THE TELEGRAPHER, we have concluded to offer the following

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to those who may exert themselves for that purpose. This offer will hold good until the end of the present volume, which closes with No. 110.

To establish a claim to either of the premiums, the subscribers must be from parties whose names are not now upon our books, and must be at the regular rate of Two DOLLARS per year. Two six-months' subscriptions will count as one in calculating for a premium.

We have already had occasion to open accounts with several Telegraphers who have sent in names of new subscribers since we announced our list of premiums last week, and hope to distribute hundreds of dollars' worth of valuable works on Telegraphy and Electrical Science in return for accessions to our subscription list.

The subscription price of two dollars per year must, in all cases, be remitted with the names of the subscribers by parties desiring to avail themselves of our offer.

For five subscribers, new, we will give to the party forwarding the names and money, "Highton's History of the Electric Telegraph," and "Bond's Handbook of the Telegraph," or "Ferguson's Electricity."

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We have, also, a few copies of Vol. 3 of THE TELEGRAPHER, very handsomely bound, which, if preferred, we will give instead of the books above named in this class.

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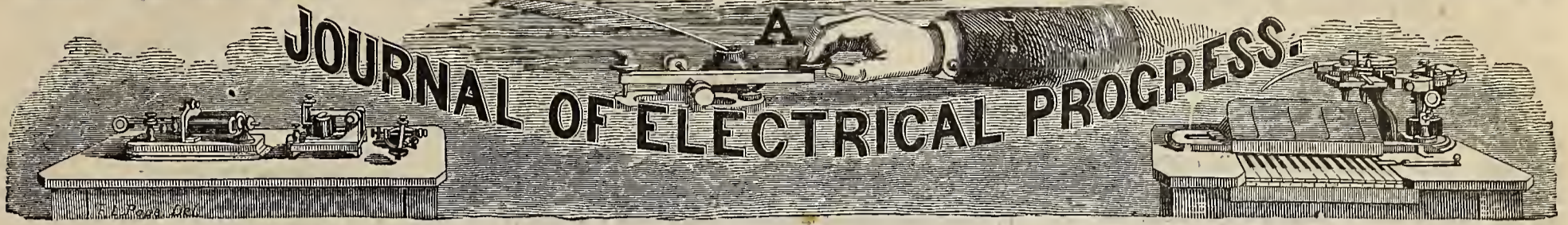
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New York, Sept. 15, 1867.



# THE TELEGRAPHER.



Vol. IV.—No. 47.

New York, Saturday, July 18, 1868.

Whole No. 105.

[For the Telegrapher.]

## The Telegraph in South America.

No. III.

### CHILIAN LINES.

NO COUNTRY in the world has made more rapid advancement during the last few years than Chili; and when her remoteness from the great powers, and the absence of immigration to her territory are taken into consideration, it will be found that her progress has proportionately exceeded even that of the United States. Fifteen years ago Chili did not possess a single line of Railroad or Telegraph, and, with the exception of a stage line between Valparaiso and Santiago, had no means of internal communication other than carts, pack-mules, and mounted couriers. By reference to the map, it will be seen that Chili occupies a very narrow strip along the western slope of the Andes, but no idea can be obtained from such a source of the mountainous character of the country, nor of the almost insurmountable obstacles to the march of improvement. Fortunately for Chili, she was settled by an entirely different class of Spaniards from those who overrun Peru, and wrote in blood the romantic annals of her conquest. There was the same difference between the invaders of Peru and Chili that there was between the early colonists of Virginia and those of New England. While profligates, reckless adventurers, and offenders against justice, sought the wondrous riches reported to abound along the James, a stern, sober, energetic people was founding an industrial civilization among the New England hills; and, in the same manner, while Spanish cupidity greedily overrun Peru in quest of treasures, an honest, pure blooded agricultural class went down to the green vallies of Chili, where fertility invited the husbandman, and where there were no shining sands to lure the outcast. Peru filled the world with the fame of her gold and silver, and when these became unprofitable, her unsettled population, instead of developing the agricultural resources of the country, only sought for some new source of sudden wealth, which, when exhausted, would leave her inhabitants as poverty-stricken as before; but Chili sowed and reaped rich harvests, that each year grew more abundant, till beautiful cities, enduring wealth, and a steady march of improvement, full of promise, rewarded her peaceful, independent people. The Spanish yoke once thrown off, and her sovereignty established, republican ideas gradually broke up the limited and exclusive landed aristocracy that thrived upon the labor of the masses, and as the lower classes crept up to competency, science was called to the aid of domestic competition, and modern appliances succeeded primitive implements, until we find the reaper substituted for the sickle, railroads for the cart and pack-mule, and Telegraphs for the tardy courier.

Now, that little republic of two and a half millions has over five hundred miles of railroad completed, a

much greater distance surveyed for new roads, soon to be constructed, and over twelve hundred miles of Telegraph. All these improvements, it must be remembered, have been introduced by the Chilians themselves, and are principally owned by the Government or its native born citizens.

These preliminary observations give the chief interest to the following details respecting the Telegraph enterprises in that country, and indicate the progress which Chili is to hereafter make in this and all other branches of internal improvements.

The first Telegraph constructed in Chili was built by an English company, subsidized by the Chilian Government, and extended from Valparaiso to Santiago, one hundred and twenty miles. Through the mismanagement of the directors the line soon became bankrupt, and was sold at auction, the proceeds barely sufficing for a supper given at the time to the stockholders. By prudent management the line soon after became profitable, and has ever since been doing well. It runs along the railroad, with offices at each of the principal stations, and in point of substantiality and efficiency is equal to any line in the United States. Another line runs South from Santiago to Concepcion, but as this extends through a large tract of country, inhabited by ignorant peasantry, who have no respect for the institution nor fear of the laws, it is frequently interfered with, and about half of the time out of order. It is not uncommon for a peon to cut out a section of wire to repair a cart or patch a fence, and the writer has seen a blooming olive cheeked country lass sporting a crinoline made of the same electric conductor. This Southern line has very little to do, and is used principally by the Government in communicating with distant officials. It leaves the railroad at Curico and strikes across the meadows through groves of Lombardy poplars, and fields that bear the fig and grape, till it reaches Talca, and from there winds among hills, crowned with myrtle trees, down to the pleasant city of Concepcion, nine miles from Talcahuano, once the great whaling port of the Pacific. Heavy storms often prostrate it, as the poles are of about the same character as those used in the army during our late war, and at such times the operators go about with perfect "looseness," conscious that the repairing party will be as leisurely as possible in putting up the fallen line. Sometimes two weeks elapse before a break is repaired, and as the virgins that bloom along the line are not yet all supplied with crinoline, business men still prefer the mails to that Telegraph for important communications. The operators always receive despatches whether the line is working or not, and the writer has had occasion to send a message from Santiago to Concepcion, and afterwards making a visit to the latter place, found that the despatch had never been delivered, and probably was never sent.

Another telegraph extends from Santiago northward to Ovalle, Serena, Copiapo and Caldera, and runs nearly the whole distance through a totally barren and unin-

habitable country. This line is kept in good order and does considerable business. All the steamers with mails from Peru and Panama touch at Caldera, and as this port is about five hundred miles from Valparaiso and six hundred from Santiago, a great amount of news and commercial matter is transmitted over the wires. Besides, the north of Chili is exceedingly rich in silver and copper mines, many of whose owners and stockholders reside in Santiago, and whose private business yields a handsome revenue to the line, all of which, with the exception of fifty miles, is owned by the Government. Other telegraphs extend along the various railroads and are owned by the roads, doing no other business than that pertaining to the running of trains and shipment of freight. All the lines in Chili are conducted in the same manner as in Peru; all messages being in Spanish, and rates and salaries very low. The terminus of the Government line being in Copiapo, and the private line from Copiapo to Caldera having had a quarrel with the other, there is always some delay in forwarding messages. For instance, unless a party sending a message from Caldera to Santiago has a friend in Copiapo to receive the despatch and take it to the Government office, he is compelled to send it up on the train, which runs but once a day. All press despatches from the steamers go by mail from Caldera to Copiapo, to be telegraphed to Santiago. The train leaves Caldera at eleven A. M., and if the steamer arrives after that hour the news has to lay over until next day, as the railroad company's line, not being on good terms with the Government line, will not receive it; consequently, the news brought by a steamer to Caldera at twelve M. on Saturday would not reach Santiago by Telegraph till Sunday night, although there is Telegraph all the way; and after the press despatches have been sent, they must pass through the hands of officials for censorship, and the information of the President and his Cabinet, before they are given to the newspapers. Thus, it is not unfrequently the case that the steamer arrives at Valparaiso before the Telegraph has announced her arrival at a port four hundred miles distant. Efforts are being made to rectify this matter, but there does not seem to be much prospect of success until the Government shall have extended its line to Caldera—a work already initiated.

The Telegraph of Chili was the means of conveying to the Spanish Admiral, PAREJA, the first intelligence of the capture, by the Chilians, of one of his vessels, the *Covadonga*, during the late war. The circumstances, as related to the writer soon afterwards by our Consul at Valparaiso, and by Admiral PAREJA's secretary, have never been published, and are worthy of introduction here. PAREJA was lying off Valparaiso in his flag-ship, and with his vessels on other stations was blockading the Chilian ports. On the morning that a telegram was received in Valparaiso, announcing the capture of the *Covadonga* by the Chilian man-of-war, *Esmeralda*, our Consul went on board the Spanish flag-ship to see the admiral, in relation



to an American vessel that had been detained by the blockading fleet. The Consul, during his interview with the Admiral, supposed that he had heard of the loss of his ship, and from motives of delicacy made no reference to the subject, until the Admiral inquired what was the cause of all the cheering on shore. The Consul then told him the news, which seemed to impress the Admiral deeply, and soon after the former withdrew and returned to the shore. The Admiral's secretary relates that no one visited the Admiral's cabin for some time. Shortly after the departure of our Consul a pistol shot was heard in the Admiral's apartment, but the officers, supposing that he was firing through the windows at the sea gulls (his favorite pastime when lying at anchor), paid no attention to the report. About two hours after the shot the secretary went into the cabin and found the Admiral lying dead, having killed himself with his pistol. Previous to committing suicide he had dressed himself in full uniform, with all his medals on his breast, and had also written a note, directing that his remains be buried at sea. Next day the *Villa de Madrid* sailed out of the harbor with flag at half mast, and on her return, twenty-four hours later, the people on shore learned for the first time of the tragic event. Admiral NUÑEZ then took command.

Chili is now making arrangements to extend her lines of Telegraph to Valdivia, her most southern province, and north to the extreme mining district, so as to place her whole territories within easy communication with Santiago. This will add over a thousand miles to her Telegraphs now in operation, and will not only be of much service to the Government, but will afford facilities to commercial houses long needed, and which would infuse new life into the already thriving trade of that section.

There is at present, however, very little inducement for Telegraphic professionals to go to Chili, as they must necessarily acquire the language in order to accomplish anything, and would have to compete with native Telegraph men, thoroughly versed in the requirements of that country. When the submarine cable is taken in hand a promising field will be presented to young men who can go to South America under the auspices of the Company, but it is folly for any person to visit that country, a stranger and unaided by capital or influence, in quest of employment. A great many have tried it, and failed so signally that subscriptions have been raised there to aid them in returning to the United States.

The Government has, in addition to its electric Telegraph, a system of signals from elevated points, used principally along the coast to announce the approach of vessels. At Valparaiso the signal station is upon the top of the heights, about 2,500 feet above the sea, and notice is received in the city, in fair weather, of the proximity of ships, long before they can be seen from the mole. This system is in use at all the ports.

In a few years Chili will have a complete network of Telegraph connecting all her principal cities. The enterprising spirit of her people does not rely on foreign capitalists for internal improvements, but is constantly and energetically pushing on in the development of her vast resources, the construction of public works, and the introduction of modern machinery of all kinds. In her cities we already find steam fire-engines, street railways, gas, water-works, and all the elegance and refinement of our most favored towns, and with a beneficent and stable Government the little republic is rapidly advancing to a leading position in all the affairs of South America, and to a high eminence of respectability among the nations of the earth.

NEWSPAPER ENTERPRISE.—The sums paid for cable messages by the English press for a year amount to a total of \$7,000, against \$70,000 paid by the American press.

## 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 Reply to "True Blue."

TO THE EDITOR OF THE TELEGRAPHER.

WITH your permission, I will undertake to answer "True Blue's" communication in the TELEGRAPHER of June 20th.

In my former communication I argued that a change of the present Union into a secret society would not be followed by the results anticipated from it, and, perhaps, "True Blue" will agree with me when I have explained my position a little further:

The Union is not in as satisfactory a condition as it might be; a portion of its members have become demoralized and take little interest in its affairs, and it is often impossible to get a quorum at district meetings. With these difficulties in view, many members think it would be advisable to change the present Union to a secret society, or in other words, to abandon the Union as a failure, and form a new secret society in its stead, believing that the peculiar interest felt by "outsiders" towards secret societies will be the means of inducing many operators to join the new Union, and that afterwards the "solemn oaths" they took on becoming members will be sufficient to keep their zeal to the sticking point, &c. Such, however, will not be the result. The whole scheme is at best an experiment—a mere temporary measure to meet an emergency; in fact "it would be like giving a stimulant to a dying man," and only create a short, unnatural vitality, and leave the Union worse off than before, after the novelty had worn away. The mere fact of the Union being a secret society will not be sufficient to induce operators to join it, except, perhaps, with a not very numerous nor particularly desirable class; neither will it revive more than temporarily the flagging interest of delinquent members. Familiarity generally breeds contempt in cases like these, and, after the novelty has worn away, such men, who, through curiosity, were induced to join the Union, will become indifferent to their duties as members, and in the end have to be "expelled for non-payment of dues." This may be showing only the "dark side" of the question, but the other side is not much brighter. We aim at sudden results and forget that perseverance in any proper and beneficial enterprise is one of the principal elements of success. It may be that the Union has not been as successful as its friends had reason to anticipate, but that is no reason why all that has been done to establish it should be abandoned as a failure and a new society founded instead (which is precisely what the "secret movement" means, with most of its advocates at least). It is the fate of most enterprises to undergo a period of "dark days" before attaining permanent success, and, therefore, we should not be discouraged if our progress has been slow and success still far distant.

My principle objection to the "secret movement" is that it will not strike at the root of the evils we complain of, and, consequently, will not lead to any permanent good results. Many members have lost confidence in the efficiency of the Union, and do not believe it to their advantage to remain in the society, and, therefore, either resign or allow themselves to be thrown out by default. But this state of things is not due to any weakness in the Union itself but to other circumstances. Owing, perhaps, in some instances, to an injudicious choice of officers, the affairs of the Union have not been administered with all the care, promptness and attention they required, and some confusion and many disappointments have been the consequence. The surest way, then, to restore confidence in the Union, and, at the same time, do away with the much complained of "apathy of members," will be for the

Convention to elect officers who can and will give to the affairs of the Union all the care and attention they require, and give Telegraphers to understand that all the promises of the Union shall be faithfully and promptly fulfilled. When this is done the rest will only be a question of time. No reduction in the present rate of assessments will be necessary, for when Telegraphers see that it is for their interest to join the Union the paltry sum of six dollars per year will not be an obstacle in their way.

BOSTONIAN.

## The Annual Convention.

TO THE EDITOR OF THE TELEGRAPHER.

I HAVE been reading your editorial to the fraternity in reference to the next Convention, and although the thermometer stands at 96 in the shade, I felt nerved by its perusal to the exertion of doing what I desired to do—to endorse every word of it. My interest in the Union has existed from its inception, and it troubles me to note its declining health and spirits. When I first knew of it its constitution was robust and sinewy, and I am anxious to see every symptom of debility outgrown, and every fault in its organization removed. I want every district to send its delegates to Albany, and I want to see its best men there, to represent its interests, and inaugurate such reforms and improvements as may be needed. I want one fair trial given of men and time, and thought, and earnest work. I want Baltimore and Pittsburg to re-awaken to a sense of its worth, and in this to send a voice to the next Convention. I am sure *once* every district was zealous and earnest. What's the trouble now? I see some faults, but I shall not pause to enumerate them.

Let every district send its representative to express its wants, its wishes, and in united sympathy to smooth out the wrinkles that give such forbidding aspects to the faces of its brothers. Mutual sympathy and support cannot be obtained nor sustained unless by *mutual sympathy and support*. The Conventions must be made effectual by being made to express the sentiments of the entire Union through able representatives from each of its districts. If there are faults existing that impair its usefulness and decrease its membership, we have only ourselves to blame, for the Constitution is of our own framing, and can only be "reconstructed" by ourselves. Each of us has an idea of an ideal Union; each of us *know* the benefits that could be gained from such a Union. Why not make this present brotherhood unitedly give their ideas at the next Convention, and make the present links into such a chain and bond of sympathetic interests as shall make the Union a *power* and a blessing? In UNION only is strength, and surely our fraternity needs a united strength to maintain its interests. Come, wake up! Let us take hand, and circle ourselves together, closing out all unpleasantness and foreign interests; closing in love, faith and good-fellowship, and let us all say, with united action, at the next Convention, "The Union *must* and *shall* be preserved."

O. P. ERATOR.

P. S.—I almost forgot to say, three cheers for Portland (*Dirigo*) district, who asks of New York, "I say where's that quorum?"

O. P. E.

## Interchange of Courtesies.

CINCINNATI, July 11.

TO THE EDITOR OF THE TELEGRAPHER.

THE Western Union Co. ran a wire to Mr. GEO. H. PENDLETON's private residence in Cincinnati, and also provided operators to work it, and keep him posted in regard to matters in the New York Democratic Convention. On Thursday, at 3 o'clock, P. M., Mr. P. sent to the main office a fine basket of champagne, ice, &c., which was distributed among the operators by Messrs. WILLIAMS, Superintendent, ARMSTRONG, Manager, and STEVENS,



Chief Operator. The following note was also shortly afterwards received :

"To GEO. T. WILLIAMS, Superintendent, and operators.

I am very much obliged to all the operators of the Telegraph Company for their promptness and consideration in sending me the news. I hope none of them may ever be defeated in life, but if they unfortunately shall be, that they will find as many kind friends to make defeat easy as I have done. I drink health and happiness to you all.

GEO. H. PENDLETON."

GEN. STAGER and WILEY SMITH, formerly operator, now Vice-President of the Cincinnati and Indianapolis R. R. Co., were present, and joined in the festivities.

CANTEEN.

Milwaukie vs. Chicago.

MILWAUKIE, July 9th, 1868.

TO THE EDITOR OF THE TELEGRAPHER.

SNAG, operator at Chicago, would learn at a Telegraph College that time is an essential phrenological development, which, if properly cultivated, would obviate the necessity of any such errors as spoken of. The operator who took the message to EISENDRATH & Co., Madison, Wis. (a well known firm at Madison, but not Milwaukie), is the same operator who takes night reports from Cleveland through a button repeater at Chicago for months without breaking, and has to repeat portions to the SNAGS at Chicago, who are unable to get it on a straight circuit. The other message SNAG speaks of cannot be found on our books, and was probably sent by SNAG in imagination during the small hours. Query. Can any operator at Chicago send or receive 2,631 words in sixty minutes? There's where the shoe pinches.

CHAMPION OFFICE.

A Live District.

WASHINGTON, D. C., July 15.

TO THE EDITOR OF THE TELEGRAPHER.

I AM pleased to be able to inform you that, unlike the Baltimore District, the Union has not become defunct in Washington. We intend to be represented at the Convention, and expect that from its meeting we shall see a general revival of interest in the N. T. U.

At the regular meeting of this District, July 10, the following gentlemen (all good men and true) were put in nomination for officers and delegates :

District Director—W. H. YOUNG, M. MAREAN. Secretary—W. C. HALL, W. E. KETTLES. Treasurer—A. S. ADAMS, A. J. LOMBARD. Delegate—T. H. SHERMAN. Alternate—W. J. BODELL. SEMPER PARATUS.

PERSONAL.

HOMER CLUTE has resigned his position as manager of the Western Union office at Scranton, Pa.

Mr. J. N. HOOVER, formerly of the Bellefontaine Railroad office, has returned to the Indianapolis, Indiana, office.

Mr. C. C. RAWLINGS, who was temporarily filling Mr. HOOVER's situation, has been relieved on account of reduction of force on the line.

HARRY L. BROSS has resigned his situation as clerk and operator at the Janesville shops, Wisconsin, and is now visiting in the East, accompanied by his wife.

ED. ANGEL, of the Chicago W. U. office, has gone home to Monroeville, Ohio, on a short vacation.

J. Q. MASON has returned to Illinois from his Kansas trip.

Mr. STEARNS, special report operator in the W. U. Chicago office, has gone to Iowa on a two months' leave of absence. His place will be filled by his brother during his absence.

GEORGE T. MARKLE has resigned his position in the Chicago office and gone West.

Mr. THOMAS KNOX, formerly in the Austin, Minnesota, office of the Northwestern line, has taken charge of the Hastings office on the M. V. N. T. line, vice W. L. DRAKE, resigned.

Miss H. BEERS, formerly of the Northwestern Company's office at Tremplean, Minn., has taken charge of the M. V. N. T. Company's office at the same place. The Northwestern Company's office at that place is closed.

C. E. HUGHES, late of St. Paul, fills the place vacated at Minneapolis, on the N. W. Telegraph line, by the retirement of O. ROBERTSON.

Mr. FOREMAN, formerly of Pennsylvania, has charge of the West St. Paul's office.

Mr. E. F. WHITNEY, announced recently in the TELEGRAPHER as having taken charge of the Clayton, Iowa, office of the M. V. N. T. Co., has resigned the position and returned to Ohio.

W. W. HEFFERD, order clerk, Western Union Telegraph Company, Chicago, fell off a train on the C. B. & Q. R. R., and broke his shoulder and wrist.

F. J. CONNER is operator at North Platte, U. P. R. R.

J. F. SEARS, of Corinth, Miss., has accepted a situation in the W. U. office, Cheyenne City, D. T.

Mr. F. V. DANIELS has resigned the management of Galveston, Texas, office, to engage in other business.

Mr. CHARLES R. CHASE, of Shreveport, La., accepts a position in Houston, Texas, office, vice L. H. KORTY, resigned, who goes north.

Mr. H. S. MING, operator at Clarksburg, Michigan, has removed to Calumet, Mich., and takes charge of the office at that place.

It was erroneously stated, in a previous number of the TELEGRAPHER, that LEE DANIELS had accepted a situation in the Houston, Texas, office, vice BILLY LEWIS. It should have read the New Orleans office.

Mr. FRANK B. GOODRICH has accepted a situation in the Keokuk, Iowa, office.

FRANK LEHMER, Supt. of the W. U. Telegraph Office, at Omaha, Neb., has gone to Pittsburg, with a view of entering into the marital state.

THE TELEGRAPH.

Telegraph Extension in California.

THE Atlantic and Pacific States Telegraph Company, of California, are now building a line from San Francisco eastward to Virginia City, via San Jose and Stockton, Cal., which will be extended eastward, via Salt Lake City, until a connection is made with some of the opposition companies, which are extending west of Chicago. The work is in charge of J. M. HUBBARD, of San Francisco. The line is being constructed in a very superior manner, with the Brooks Paraffine Insulator. Experiments are being made with a novel system of transmission, which has been proposed for the use of this company by STEPHEN D. FIELD, a young man who has displayed marked ability as an electrician and inventor, during his connection with various Telegraphic enterprises in the Pacific States. In the event of the success of the experiments now in progress, under the direction of Mr. FIELD, we hope to be able to present our readers with full particulars.

New Offices.

THE following new offices have recently been opened upon the lines of the Atlantic and Pacific Telegraph Company:

Wolcott and Tonawanda, N. Y.; Toledo, Tremont, Clyde, Sandusky, Elyria, Tiffin, Carey, Forrest, Kenton, Bellefontaine, Urbana, Belle Centre, West Liberty, Osborne, Springfield and Dayton, Ohio. The offices at Perrysburg and Mannee City will be opened in a few days.

First Telegraph Line in New Mexico.

THE Telegraph line to Santa Fe, New Mexico, was completed July 8th, and the following congratulatory messages were transmitted over it on the 9th :

WASHINGTON, July 9, 1868.

The following are the telegrams received by the President to-day on the Telegraphic connection of New Mexico with the capital of the nation, and his reply—

SANTA FE, July 9, 1868.

To the President of the United States.

To-day the Telegraph line from Denver, Colorado, to this city is completed. We, citizens of Santa Fe, greet you as President of the Republic on the consummation of this work—a sure evidence of our determination to keep pace with the spirit and progress of the times.

Signed by many citizens of Santa Fe.

WASHINGTON, D. C., July 9, 1868, }  
FROM SANTA FE., N. M. }

To His Excellency the President of the United States.

SIR—The capital of New Mexico sends to you, and through you to the world, her greetings over the first Telegraphic line erected within the Territory. Its completion is another advanced step of an enlightened age, bringing an old into an instantaneous communication with newer though more advanced section of our blessed Union, and with mankind in all civilized lands.

H. H. HEATH, Acting Governor.

WASHINGTON, July 9, 1868.

To H. H. HEATH, Acting Governor, and Citizens of Santa Fe.

I thank you for your kind greeting, and congratulate you that the capital of New Mexico is in Telegraphic communication with the capital of the nation. May the wires yet serve to render yet more indissoluble the bond that unites the people of your Territory with their fellow citizens of the States.

ANDREW JOHNSON.

TELEGRAPH EXTENSION IN SOUTH AMERICA.—By the steamer Rising Star, which arrived here from Panama on Wednesday last, we learn that Telegraphic communication is increasing rapidly throughout the Republic. Besides the National Telegraph Company's lines, which exist between Lima and Callao, Tacua and Arica, and Arequipa and Islay, a total of 140 miles of wire, the Telegraphic company that CARLOS PAZ SOLDAN directs has planted two new lines between Lima and the port of Chorrillos and Huacho, or about 100 miles more. Within a few days they will begin the prolongation of the line of Chorrillos, as far as the city of Ica, and that of Huacho as far as Lambayeque, which will produce an increase of 550 miles of Telegraphic wire, and, these lines concluded, they will begin the construction of one between Lima and the city of Cerro de Pasco, and of a submarine cable between Pisco and the Chincha Islands

TELEGRAPH CONFERENCE.—The International Telegraph Conference was opened on the 12th of June at Vienna, with a speech from Baron BEUST. The Austrian Prime Minister said he felt peculiar satisfaction in opening the Conference, because it was essentially a work of peace, and expressed the pleasure he felt in seeing a representative of the British Government present. He combated the notion that the increased development of Telegraphs and Railways had led to a succession of sanguinary wars. Instead of imputing such calamities to increased facilities of communication, those facilities, on the contrary, were the means of international misunderstandings being at once removed, and confidence restored in "as many minutes as it formerly took days, and even weeks, to accomplish."

A MAGNETIC TOY.—A new scientific toy is a magnetic fish, cut out of paper, colored to imitate nature, and which, being placed in the palm of the hand, wiggles as naturally and uneasily as—"a fish out of water."





SATURDAY, JULY 18, 1868.

## PARTICULAR NOTICE.

WE cannot change the address of subscribers unless they send us the full direction to which the paper has previously been sent.

## THE PROPER STUDY OF ELECTRICITY AND TELEGRAPHY.

IN our strictures and condemnation of so-called Telegraph Colleges and Institutes, we do not desire to be understood as deprecating the proper instruction of those who seek to become Telegraph operators. The absurd, false, and ridiculous statements contained in the circulars of these institutions, put forth solely to secure patronage, and without regard to the interests of those who may be induced to patronize them, we have exposed and characterized as they deserve. We know, and so does every intelligent, practical Telegrapher, that they cannot make operators of even fair proficiency. When their victims complete the three months' course of study which they are induced to believe will qualify them to fill first-class positions, if fortunate enough, in exceptional cases, to obtain employment, they find themselves utterly unable to discharge their duties, and are obliged to relearn the practical duties of the profession upon which they have entered. They must submit to months of hard labor and mortification, which a proper understanding of the nature and requirements of the profession would have saved them from.

We wish to impress upon the minds of those who desire to become Telegraphers, that only upon Telegraph lines, and in the practical daily practice of the duties of an office, can they become qualified for Telegraphic positions.

Another fact is sedulously kept out of sight by the proprietors of these Colleges, which is patent to every practical Telegrapher, that is, that probably less than fifty per cent. of those who seek to learn Telegraphy, even in the regular and proper manner, become good, reliable operators. The profession requires a quickness of perception and a certain amount of mechanical skill and facility of manipulation which is not generally possessed. Very few become good, practical Telegraphers, unless they commence the study of the art before they reach their twentieth year. For those of over that age to endeavor to do so, is, in a majority of cases, pure waste of time. We do not mean to say that instances are unknown of persons more advanced becoming first-rate Telegraph operators, but they are so few as not to offer encouragement to such to seek admission into the Telegraphic ranks.

We have heretofore pointed out the deficiencies in scientific knowledge of a large proportion of the practical Telegraphers. This we should be glad to see corrected, and we should regard any means of education in this particular afforded to Telegraphers, and a disposition to avail themselves of such facilities by operators generally, with favor and gratification.

If the proprietors of the so-called Telegraph Institutes would confine themselves to this branch of education, and not seek to deceive and mislead their students with the idea that they can turn them out prepared to assume leading or important Telegraphic positions, we should be

disposed to regard them with more favor. But they seek to obtain patronage on other grounds, and generally are utterly unqualified to teach these scientific rudiments. They actually, in most instances, teach merely the manipulation of the key, and attempt to teach their students to receive, in which, from the very nature of the case, they must generally fail.

In other professions a different course is pursued. For instance, we have schools of law and medicine. Do these pretend to turn out fully qualified, practicing lawyers and physicians? By no means. They do just what they are intended to do—impart a knowledge of the elementary principles which underlie the practice of law and medicine. They do not hold out, as inducements to become students, that upon the completion of a certain limited course of study their patrons can at once take front rank in their chosen professions, and secure a profitable business. On the contrary, every student, either of law or medicine, knows that, after having finished the course of study prescribed, he must go into the office of some lawyer or physician, and there learn the *practical* duties of his or her profession. We think that any college or institute that should pretend to turn out fully qualified, *practical* lawyers or physicians, would deservedly meet with but little patronage.

In regard to the Telegraphic profession the same principle applies, and we commend this fact to the serious consideration of every one who is thinking of investing time and money with the charlatans who pretend to manufacture first class practical Telegraphers to order.

At the same time we would urge upon every Telegrapher, who desires to become an honor and credit to a most honorable and important profession, to seek to obtain that knowledge of the principles of electrical science without which he or she is but a mere machine and day laborer. It is within the means and ability of all such, who are so disposed, to become something better than the average of those now engaged as operators. Elementary works on electricity and telegraphing can readily be procured, and there are few operators, however hardly worked, who cannot find at least half an hour a day to devote to this study. We have been gratified, of late, to see a gradual increase of interest among Telegraphers in this matter, and hope that it will continue to increase until uneducated Telegraphers shall become the exception. We desire to have the standard of proficiency elevated, and that the Telegraphers themselves shall insist upon it that those who will not properly qualify themselves shall not rank as first class and reliable operators, and exclude from responsible positions those who are qualified to discharge their duties with credit to themselves and with advantage and profit to their employers. Let the public once become satisfied that of two competing companies one employs thoroughly competent and careful operators, and the other those who are cheap but inefficient and careless, and they will soon, by the disposition of their patronage, convince the latter that to ensure success it must employ the best attainable talent, even though at a higher rate of compensation.

This subject is one of equal importance to Telegraph managers, employes and the public, and we would again urge attention to it upon all concerned.

## The Government Telegraph Project.

It having become evident that, at present, there is no probability of getting Congressional endorsement of the project for the direct establishment of a system of Government Telegraph lines, Mr. FARNSWORTH, of Illinois, on Friday, June 10th, introduced in the United States House of Representatives an Act to incorporate GARDNER G. HUBBARD, SAMUEL W. BATES, ESTES HOWE, their associates, &c., under the name and style of the United States Postal Telegraph Company. The capital stock is to be five hundred thousand dollars, with power to in-

crease, not to exceed three hundred dollars for *every mile of wire* owned and operated by the Company east of the sixteenth degree of longitude west from Washington, and five hundred dollars for every mile of wire west of said longitude. The capital authorized is certainly ample for the purpose.

The other provisions of the act, however, make it evident that it is not intended that this Company shall ever have more than a nominal existence; but under cover of this act an attempt is to be made to indirectly inaugurate Government Telegraphs.

Section sixth provides that the Post-office Department shall, for three months after the passage of the act, receive bids from any Telegraph Company for the transmission of despatches by Telegraph, received and delivered through the Post-office, upon condition that the Company bidding shall receive and transmit over the lines of the Company all messages received at postal telegraph stations. That it will construct, as soon as practicable and convenient, lines of Telegraph to all cities and villages of five thousand inhabitants and over within the United States, to which its lines may not be constructed at the time of making the bid, and that as cities and villages reach five thousand population its lines shall be extended to them. That it shall pay to the Post-office Department the same amount as postage on despatches received otherwise than through postal stations, as the Department is authorized to retain on all despatches so received and delivered. The act further provides that the Postmaster General, at the expiration of the three months, is authorized to make a contract with such Telegraph Company as shall contract to transmit and deliver messages at the least sum per word, not to exceed a rate of one cent per word, *including* date, address and signature, for each and every five hundred miles or fractional part thereof, that such despatches may be transmitted wherever the Telegraph postal stations between which such despatches are sent are east of said sixteenth degree of longitude, and at the rate of two cents per word for each five hundred miles or fractional part thereof, on any message sent from or directed to any such station west of said degree, and three cents for the postage of each such message.

The act also provides that the Post-office Department shall furnish, at each postal Telegraph station established, suitable and convenient room for the office employes and machinery of the Company, required for postal Telegraph purposes.

The Company is chartered upon condition that if the Postmaster General shall offer, within six months, to make a contract with it upon the terms of the act, and the Company shall refuse or neglect to make such contract, then the incorporation shall be null and void.

It is evident that it is not expected that any sane capitalists, much less the shrewd business men named in the act, will ever invest a dollar in such an enterprise. The failure to make such an absurd contract with existing companies, or to create a corporation which will, out of pure love for the public, throw away its money, will be made the basis for an appeal to Congress to assume, without further delay, this beneficent undertaking, and still further deplete the Government treasury to buy or build lines for this purpose.

We trust that this new attempt to humbug the Government and people into undertaking the Telegraph business of the country will meet with no more favorable reception than previous efforts in that direction.

A PRIVATE TELEGRAPH LINE.—The North-western Fertilizing Co. are to have a private line from Chicago to their manufactory on the Pittsburg, Fort Wayne and Chicago Railroad, fifteen miles from that city.

PUBLIC SPIRITED.—Boise City has raised \$4,300 to bring the Telegraph to that city.







CHARLES T. & J. N. CHESTER,  
104 Centre Street, N. Y.,

TELEGRAPH ENGINEERS,

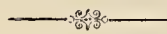
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BATTERIES,

AND EVERY DESCRIPTION OF

TELEGRAPH SUPPLIES.



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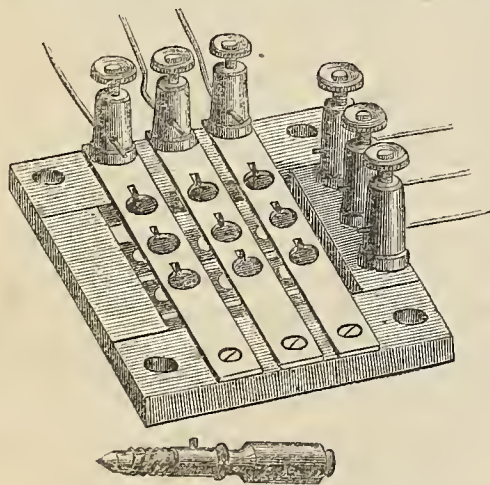
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The simplest and most efficient instrument ever devised for  
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The most compact and reliable method of Switch, forming a  
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the space of a square inch for each connection, by the aid of  
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Manufacture the Genuine ELECTROPOION BATTERY, with  
Patent Platina Connections, introduced by them eight years  
since; also, THE ALPHABETICAL OR DIAL TELEGRAPH,  
now extensively used in this and other cities for private lines.  
They offer for sale, among other novelties, a "SOUNDER" that  
will work practically with a single cell, and 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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and description, is now ready for distribution.

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Telegraphic, Galvanic and Electric Apparatus,

Of the most approved patterns and cheapest possible rates.

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Lines completed from New York to Cleveland.

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Franklin Telegraph Company.

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Lines extending from Boston to Washington.

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We would call the attention of all Telegraphers and Telegraph Companies to the fact that we are manufacturing

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We are working all Instruments with an ENTIRE NEW MAGNET, excluding thereby all use of Local Batteries. Our Main-Line Registers and Sounders have been put to the SEVEREST TESTS, and are pronounced by competent judges

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We claim to gain more power or effective working force in our Instruments, with ten ounces of wire, than has heretofore been gained by using one pound, as we get rid of the residual magnetism.

We also manufacture a Relay with only ten ounces of wire, thereby putting very little resistance in the line, and doing the work as well, if not better, than those that contain one pound of wire, and put a great resistance in the line.

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Aside from the advantages apparent upon inspection of these magnets, their acknowledged merits consist in the construction of the helix, which was patented Aug. 15, 1865. This being of naked copper wire, so wound that the convolutions are separated from each other by a regular and uniform space of the 1-800th of an inch, the layers separated by thin paper. In helices of silk insulated wire, the space occupied by the silk is the 1-15th to the 1-300th of an inch; therefore a spool made of a given length and size of naked wire will be smaller and will contain many more convolutions around the core than one of silk insulated wire, and will make a proportionably stronger magnet, while the resistance will be the same.

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THE NATIONAL TELEGRAPHIC UNION, by authority of its special charter, granted by the State of New York, proposes to insure the lives of all persons connected with the Telegraphic business, under the following rules and regulations:

Applicants for insurance must be connected in some capacity with the Telegraphic business, must be not less than eighteen years of age, in good health, and able to earn a livelihood. Every applicant shall pay an entrance fee of two dollars, one dollar of which shall be reserved for creating a permanent fund, and one dollar towards the amount to be paid the heirs of the first insured person deceased, who will receive as many dollars as there are persons insured.

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What is your age?
Where is your residence?
What is your occupation?
Have you any constitutional disease or debility?
Sign the above statement, and forward it to the Actuary, with a certificate signed by two persons connected with the Telegraphic business, that the applicant is well known to them, and that the answers given by him to the above questions are correct?
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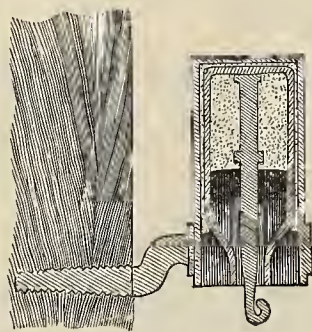
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We have already had occasion to open accounts with several Telegraphers who have sent in names of new subscribers since we announced our list of premiums last week, and hope to distribute hundreds of dollars' worth of valuable works on Telegraphy and Electrical Science in return for accessions to our subscription list.

The subscription price of two dollars per year must, in all cases, be remitted with the names of the subscribers by parties desiring to avail themselves of our offer.

For five subscribers, new, we will give to the party forwarding the names and money, "Highton's History of the Electric Telegraph," and "Bond's Handbook of the Telegraph," or "Ferguson's Electricity."

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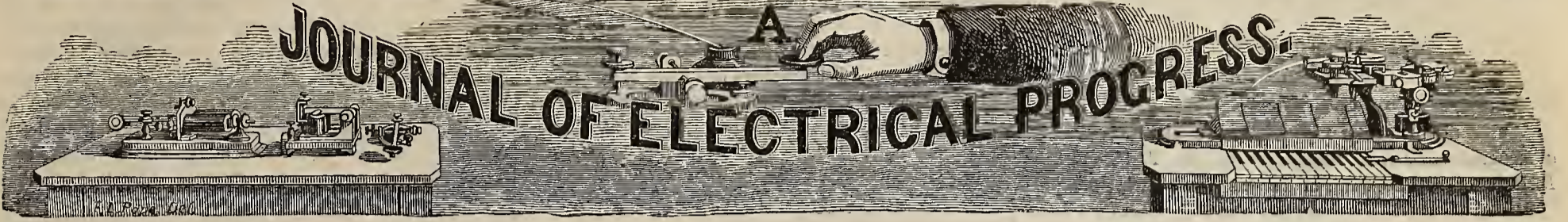
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# THE TELEGRAPHER.



Vol. IV.—No. 48.

New York, Saturday, July 25, 1868.

Whole No. 106.

[For the Telegrapher.]

## The Telegraph in South America.

NO. IV.

### SUBMARINE CABLE FROM PANAMA TO VALPARAISO, AND TELEGRAPH TO BUENOS AYRES.

A GREAT deal of attention has been directed, of late, towards the establishment of Telegraphic communication with the various republics of South America, and the construction of the line from Key West to Havana; and its projected extension thence to Aspinwall, which will shortly be accomplished, has revived the hopes of the early completion of this important work. The project of laying a submarine cable along the west coast was first earnestly taken up about three years ago, and the proper parties were directed to ascertain from the South American Governments what subsidies might be expected in aid of such an undertaking. Peru was first approached on the subject, but PRADO had just assumed control at Lima, and was unprepared to give any reliable assurances. Ecuador and Chili were also consulted, but those republics were embarrassed by the aspect of affairs with Spain, and nothing definite was attained. A company was formed for the purpose of laying the cable, and a South American gentleman, SENOR AROSEMENA, was empowered to solicit pecuniary aid from the west coast republics. Our diplomatic representatives at those respective capitals were also instructed by Mr. SEWARD to lend their aid in the accomplishment of the great undertaking, but for some reason the project gradually lost interest along the coast, and is now rarely mentioned. It was proposed to connect the capitals of Ecuador, Peru, Bolivia, and Chili by means of a substantial Telegraph with the rest of the world, *via* the isthmus, now soon to be connected with the United States; and there is no doubt that had those countries been unentangled in foreign complications, they would have given liberally. As it was, they were at that time unable to make any reasonable appropriation, and the enterprise fell, if not entirely dead, at least so hopelessly as to apparently discourage all who had engaged in it.

There is not the least doubt, however, that the matter will soon be taken in hand again, and in all probability we shall, ere long, see the work progressing rapidly. The obstacles to laying a cable are very trifling. The placid waters of the Pacific offer no such risks as those which beset the Atlantic cable undertaking, and a steamer paying out the wire would glide along over the entire distance (more than 3,000 miles) as gently as on a river, except, perhaps, when nearing Valparaiso, where a slight swell is sometimes encountered. Judging from the mountainous character of the coast, there is every reason to believe that considerable irregularity would be found along the ocean bed, but careful soundings in that calm sea would easily define the position of any submarine cliffs or ledges, and undoubtedly discover less difficulties than those between Europe and Heart's Content.

Whatever company may hereafter engage in the enterprise will probably have the cable touch at Guayaquil, Payta, Callao and Arica, thus connecting all the most important intermediate points with Panama and Valparaiso. From Guayaquil an overland line would be extended to Quito, the capital of Ecuador; from Payta lines would communicate with the centres of the great cotton and sugar districts of northern Peru; Callao would be connected with Lima and adjacent cities; and Arica would form the base of operations for running a line through interior towns to the capital of Bolivia. When the trade of those countries with Europe, in sugar, cotton, wool, wheat, quinine, silver, copper, &c., is taken into consideration, the constantly increasing importance of such a line is thoroughly appreciated. Now the capitalist, engaged in shipping any of these articles, is compelled to wait two months for information from distant markets, and, at the time when he dispatches his cargo, he is a month behind in the current commercial news.

Had such a line been in operation during the late war between Spain and the allied republics, it would have proved of incalculable service to the allies. They all then realized the necessity for such a work, and are ready to engage in it as soon as circumstances will admit.

It will not be long before the various overland lines of Telegraph, now being constructed in Peru and Chili, will extend along a great proportion of the coast, but the connections thus established never can be made reliable in consequence of the barren and uninhabitable condition of a large part of the territory traversed. In many places the Telegraphs already built extend for over a hundred miles across perfect deserts, and, in constructing an overland line from Peru to Chili, it would be necessary to cross not only almost impassable mountains, but tracts of deep, burning sand, from two to five hundred miles wide. These obstacles will effectually prevent the erection of any through line overland, and as the radiation of interior Telegraphs becomes more extensive, linking the great producing districts with the coast, it will augment the necessity, already deeply felt by those Republics, for a reliable and direct Telegraphic communication with the United States and Europe by means of the proposed cable.

From Chili it is also intended to construct a line across the Andes to Buenos Ayres. The principal obstacles to be surmounted are the snow covered Andes, but over the most elevated ridges, where storms might sweep down the line, it would not be found very difficult to bury the wire. The construction of the line across the pampas would not be attended with much trouble, and once substantially built, the Telegraph would require but little expense to keep it in repair. A great amount of trade is carried on across the Andes, and not only would the national and commercial interests of the Republics of the Atlantic and Pacific coasts be immeasurably sub-

served, but Buenos Ayres and Brazil, from whom we now only hear at long intervals, would be brought to our very doors.

That such a line would pay there can be no doubt. The local business would be very heavy, particularly between Peru, Chili and Buenos Ayres, as some of those countries are always at war, and an already well established class of enterprising newspapers, as well as the commercial communities, would give the line, at times, all that it could do. The line across the Andes could be obtained with perfect ease by the Company laying the cable, and should by all means be connected with the submarine wires.

That there is a fortune in the establishment of Telegraphic communication with those countries no one familiar with their inexhaustible resources and rapid development can disbelieve. The rapid strides made by Peru, Chili and Buenos Ayres, in the last five years, are astonishing to all who now turn to those little republics; and the next ten years will place them far a-head of countries now exacting much more attention. The new and extensive sugar and cotton fields of Peru, the thriving towns springing up along the upper Amazon, the vast silver and copper, and coal, and wheat districts of Chili, are each year becoming grander, and building up a gigantic commerce. Twenty-five ocean steamers ply regularly between the ports of the west coast, and Callao and Valparaiso seldom have less than a hundred large ships loading or discharging at their wharves. There are two lines of steamers from Valparaiso to Liverpool, and the trade between Europe and Chili alone amounts to many millions annually. All these interests demand a Telegraph, and are ready to aid liberally in its construction.

Any solid company that will take up the subject energetically, and present it in a proper light to the Governments of South America, will encounter very little difficulty in attaining its object. It is only necessary to convince those governments that the Company is in good earnest, and that it will fulfil its promises. They are all anxious for the work to be effected, but they will hesitate, whenever the case is presented, until they become assured that the company does not simply make the cable a blind to a great money speculation, but really mean to use the funds which it may receive in the construction of a substantial Telegraph. Once secure the confidence of those people, and they will give generously.

TELEGRAPH LINES.—In the report upon the Universal Exposition of Paris, prepared by M. NEUMANN, in the name of the Austrian Commission, it is shown that the telegraphic lines of the whole world have a total length of 47,255 geographical miles. There are in Europe 8,000 telegraph offices, and 4,000 in the other continents. No less than 1,300,000 hundred weights of metal have been used for the conducting wires, and the expenses of establishing all the lines are estimated at nearly \$42,000,000.



## 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.

## Telegraph College Swindle.

INDIANAPOLIS, IND., June 30, 1868.

TO THE EDITOR OF THE TELEGRAPHER.

A FEW nights ago the operator at a little town not a thousand miles from Bridgeport, on the T. H. and I. R. R., after cutting out, put on his ground wire for a lightning arrester. It ARRESTED the battery at the city office here more than it did the lightning.

The Telegraph Institute, or Bryant's Commercial College, at this place, has been playing quite a nice little game on some poor country boys, and several of the city boys have been foolish enough to be persuaded into it. They make great promises that they will teach a young man the art of Telegraphing by sound in a short space of time, say three or four months, and that they will procure for them a good situation at the end of that time on some good railroad, or in some commercial office. This is a very nice little swindle, as I have learned from one or two of their victims (whom they pronounced competent to take an office). They tell the poor fellows that they will procure them an office if they will pay them the sum of ten (10) dollars in addition to the forty (40) already paid for teaching them; and, talk about teaching them, there is not one, or has not been one of them competent to take a paper office, let alone a sound office. Now, this is a nice little swindle, and I would advise those young men now in the College (some of whom never will learn, as they are too old) to go to work at something else. There are two or three men in this College, 25 or 30 years old, that may stay there until they are grey headed, and never will learn enough to run the smallest office. They are able-bodied men, and should go to work, and not waste their time and money so foolishly.

I suppose I must say of Mr. R. (the instructor), after writing this, that he is not to blame—he is making his seventy-five or eighty dollars per month—but would advise him to get an office and make it in that way, and he will be more respected by the Telegraph operators and his acquaintances generally. WIDE AWAKE.

LEE, MASS., July 7.

TO THE EDITOR OF THE TELEGRAPHER.

I DISCONTINUED the TELEGRAPHER a few weeks ago, thinking I could not afford it, but find I must have it again, and you will please re-enter my name on your subscription list. I picked up a little joke to-day, which I must tell you. An ancient Irish dame called at the office window and wished to send a package to Jimmy O'Donnell, who lived on "F" St. in "Pf." After settling that to her satisfaction she said, "and what is it that makes that noise." She was informed that it was the telegraph. "Is it, I never see one. Is it that drives the messages to New York?" "Yes," I said, "and to New Orleans or California, or anywhere in the world." She then expressed a strong desire to see it. On being admitted, then she must know what made the noise. I pointed to the lever of the register and enlightened her as well as I could. After a moment of admiration she said, "Ah, it is a great mystery how the letters get through without catching on the wires or the posts."

I noticed in a late number of a paper a communication from a Michigander about his wire, and thought business must be brisk with him, or that it was an uncommonly fine place for news, or he would not be able to write so much. It isn't the case our way; we never have any news; nothing happens; things continue as from the beginning, only more so. Our "Glorious Fourth" was

celebrated with imposing ceremonies, firing cannon, squibs, ringing bells, oration, Declaration of Independence, fire engines, rum and Albany ale, unlimited soda water, "Valley Gleaner Extra," &c., closing with fire-works. Everybody was in town from Becket Flat and adjoining places. A very hot day, and the general feeling, as far as I can learn, is that once a year is sufficient for all practical purposes. Telegraphers had part of a holiday, for which we are thankful; our business here, however, didn't seem to decrease. Enough for now. Must go to work.

M. A.

PITTSBURG, PA., July 14.

TO THE EDITOR OF THE TELEGRAPHER.

I NOTICE, in your issue of July 11th, a curiosity, in the way of "a letter" from Pittsburg, brim full of startling intelligence too. We expect to produce something in the way of a curiosity too, but it will be void of poetry. My object in writing is to correct a few statements made by QUIEN SABE, in regard to changes in the W. U. office here. He does Mr. DUNCAN great injustice in stating that he has been suspended indefinitely on account of a message failing in delivery. Such is not the case, and, in fact, there is nothing of it. Mr. DUNCAN has charge of the Cresson Springs office for the season, and if that is punishment for an offence, a few more of us would like to be found guilty, and sentenced to the same fate. Again, he transfers Mr. MORELAND, our jovial, good-humored, smiling DODE, away off to Cheyenne, and yet MORELAND himself is totally oblivious of the fact. If such is the case, and DODE has really gone, we congratulate the Cheyennians on their good fortune, and mourn not for his loss, as his shadow always reports promptly for duty here, on time, relieving the weary frame in the corner day after day. The weather is too hot to write, besides I've, perhaps, said enough for this time. I regret very much my inability to wind up poetically. Thinking it might do QUIEN SABE good, I will add, by way of information to his many friends, that in case they come this way they can be persuaded that FLEMING still uses the weed.

ADUX.

## Interesting Western Telegraph Items.

CHICAGO, ILL., July 18.

TO THE EDITOR OF THE TELEGRAPHER.

THE weather is too hot at present to warrant much exertion, even to collect information for the TELEGRAPHER. I have obtained, however, a few items which may be of interest to your readers.

A general reduction of charges has been made to-day by the Western Union Company to all points reached by the various opposition lines now in process of construction. At points where there are no competing offices established, however, the old rates are maintained. The beauty of this system is (and it is one that customers fully appreciate), that a message can be sent to distant points for about one third the tolls charged on a similar despatch transmitted to a nearer office, where no competition exists. The charge between Chicago and Cincinnati has been reduced from \$1.15 and 8 to 75 and 6. The tariff to Milwaukee has also been correspondingly reduced.

The new office over the main Western Union office, corner of Lake and Clark streets, in this city, intended for the occupation of the female operators, is now ready for their reception. Twenty-one railroad wires are run into the room, and twenty-one new tables, with new instruments and machinery of the CATON pattern, have been provided, so that our lady friends will start with everything new and bright. The office is large, airy and well lighted, and is considered, in all respects, a decided improvement on the ladies' operating room at No. 145 Broadway, New York, it being three times the size of that office.

The wires were run and the instruments set up by Mr. GEORGE C. YORK, the highly efficient electrician of the Chicago office.

STAR.

## Telegraph Matters in Chicago.

CHICAGO, July 20.

TO THE EDITOR OF THE TELEGRAPHER.

THE Telegraph fever is running high, just at this time, in the west. Gen. STAGER, of Cleveland, is about removing to this city, with all the supplies heretofore distributed from that city for the W. U. Co. The General will domicile here, as a point of observation, keeping his eye principally on the Great Western Tel. Co., organized in this city some four months since, proposing to keep company with the W. U. Co. in the towns, villages and cities, on a trip of some four thousand miles in the north-west and southwest, that embraces their routes. The G. W. is a live Company, its stock list hourly increasing. Chicago has set the example of her confidence in the undertaking by subscribing half a million to the capital, while in Iowa \$62,000 is on the books at Davenport, and at Des Moines the people have contributed a \$20,000 lift. Wisconsin is doing her share; Minnesota is at work; Kansas, Leavenworth, has furnished her quota of \$40,000; Rockford, Ill., eagerly took up her allotment of \$32,000. This Company has become a fixed fact. On Saturday poles were contracted for a thousand miles, and delivery commences next week.

The Atlantic and Pacific, from New York, is nearing us daily. Fifteen miles from our city laborers are at work placing poles.

The Pacific and Atlantic, from Cincinnati and east, were putting up their wires through the streets of Logansport, Indiana, on Saturday, heading for Chicago, being only 117 miles from here.

The Miss. Valley Co. are distributing their poles from Chicago to Dubuque, to connect with the wires of that Company on the Mississippi River.

The Miss. Valley Co., east and west, are getting out poles for a line from La Crosse to Milwaukee and Chicago.

So, you see, within the next sixty days, there will be a grand entrée into Chicago of five new competing lines.

ARGUS.

ALBANY, N. Y., July 23.

TO THE EDITOR OF THE TELEGRAPHER.

AT the last regular meeting of this District the following nominations were made:

For District Directors, JAMES H. RUGG, S. C. RICE. For Secretary, J. L. WAY. For Treasurers, JOHN GRAY, H. V. SHELLEY. For Delegates, S. C. RICE, F. H. LAWRENCE.

This District is still alive and vigorous. We are in hopes of welcoming quite a number of our Telegraph brethren here in September, at the meeting of the Convention, and will give them a cordial, brotherly reception.

SYNDIC.

## An Answer to "Curly's" Puzzle.

"Curly" dear, your puzzle is queer,  
But good—and here is an answer:  
We must admit you'r a stunner-er,  
But we'll beat you if we can, sir.

Here, look you sharp, and you will find  
That for which you have been waiting.  
The task "curl(y)"ed almost our mind,  
But, success kept us from waiting.

You try now, as well as others;  
Reverse your "Morse," and let us see  
If you find words of eight letters  
In numbers two, as well as me.

HOUSTON, Texas, July 1st, 1868.

CULLIES.

IMPECUNIOUS BETTERS.—A western correspondent sends us the following: There are reckless betters in the Chicago Telegraph office. Recently seven operators, while enjoying a drop of good beer at a saloon under the Sherman House, made sundry bets on political matters, the total of which amounted to \$642,000. The entire cash capital possessed by the crowd was fifty cents!



**PERSONAL.**

WANTED, information of the whereabouts of MICHAEL W. BYRNES, prospector and miner. When last heard from was on his way from Salt Lake to Sweetwater mines. Address the editor of the TELEGRAPHER. *Montana Post* please copy.

Mr. JOSEPH E. SEARS, from Corinth, Miss., has gone to Cheyenne, D. T., as operator in the Western Union office.

Mr. H. A. KEELEY has left the Brookfield, Mo., office, and gone to McPherson Station, Nebraska, to operate for the Union Pacific Railroad.

Mr. W. E. VIGERS has been ordered from Atchison, Kansas, to Ellsworth, Kansas.

Mr. J. D. JOHNSTON has resigned the managership of the Ohio and Mississippi and Illinois Central office at Sandoval, Illinois, and accepted the managership of the Dubuque, Iowa, office, on the Mississippi Valley National Telegraph lines.

THOS. G. TOBIN has left the W. U. Syracuse office, and taken a position with the same Company as night operator at Anburn.

JOHN H. TOPLIFF has resigned his place in the Albany office and gone to Syracuse, in Mr. TOBIN'S stead.

H. L. WATERBURY has accepted the position in Albany vacated by Mr. TOPLIFF.

J. B. ANTES, of New York, is filling a position in the W. U. Saratoga office.

Mr. GEO. E. HINMAN has resigned his position in the Milwaukee office, and gone to Syracuse, N. Y.

Messrs. LENNERT and ORRELL, formerly operators in the Indianapolis, Ind., office, have accepted situations on the western end of the Union Pacific Railroad.

Mr. J. F. MCCONNELL was at Anderson, Indiana, on the 15th inst., open for an engagement.

Mr. J. J. FLANAGAN is an operator in the Western Union office at Cincinnati, Ohio.

**THE TELEGRAPH.**

**A Heavy Business.**

It is officially stated that, during the four days of the sitting of the late National Democratic Convention, from July 6th to 9th, inclusive, there was transmitted on the lines of the Western Union Company, from this city—

Date.	Commercial Messages. No.	Press Mess. Words.
Ja'y 6th.....	9,650	151,569
" 7th.....	8,169	147,074
" 8th.....	8,984	136,266
" 9th.....	7,143	147,913
Total.....	33,946	582,822

Commercial messages, estimated at 25 words each, including No., date, address, signature and check... \$48,650

Total number of words transmitted.....1,431,472 or about 15,000 words per hour, day and night, during four days and nights.

We can state, from personal observation, that the arrangements of the Western Union Company on this occasion were most complete and effective, and that every effort was made to fully and satisfactorily accommodate the press and the country.

In addition to this large amount of business, the wires of the Atlantic and Pacific, Franklin, and Bankers and Brokers' Companies, which also had offices in Tammany Hall, were kept fully and profitably occupied.

TELEGRAPH TO SANTA FE.—It is about six months since the first step toward the construction of a Telegraph line to Santa Fe was taken. It will be done and in operation in a few days. The line, striking off across the country forty-five miles, is equal to any in the United States.

**Central American Telegraph Co.**

The following Board of Directors have been elected—E. S. SANFORD, WM. ORTON, GEN. W. F. SMITH, ALEX. HAMILTON, JR., M. LEFFERTS, CAMBRIDGE LIVINGSTON, CHAS. B. HOFFMAN, WM. G. FARGO, WILSON G. HUNT.

The following officers were elected—E. S. SANFORD, *President*; WM. F. SMITH, *Vice-President*; CAMBRIDGE LIVINGSTON, *Secretary*; MARSHALL LEFFERTS, *Engineer*.

This Company is organized for the purpose of extending Telegraphic communication, by means of submarine cable, to the British West India Islands, as far as Demerara, and thence to Aspinwall. It is expected that the cables will be laid during the next year.

**Progress of M. V. N. T. Co.**

THE lines of the Mississippi Valley National Telegraph Company are in fair working order from Dubuque, Iowa, to St. Paul, Minnesota, and south of Dubuque to Sabula. The work is being rapidly pushed forward, and the lines of this Company will soon be completed to Chicago and St. Louis, and will be extended from St. Louis to Cairo, Ill., and from there South.

**Reduction of Tolls.**

THE joint Committee of the Anglo-American and Atlantic Telegraph Company, of London, with the approval of the Directors of the New York, Newfoundland and London Telegraph Company, have decided to reduce the tolls on cable despatches between Valentia, Ireland, and Plaister Cove, Nova Scotia, to £3 (fifteen dollars—gold) for ten words, allowing five words for date, address and signature. The tolls on the land lines west of Plaister Cove and east of Valentia must be added to this rate. The reduction will take place on and after the first of September next.

**New Office for W. U. Co., at Cleveland.**

THE Western Union Co. are about to move from their present office, opposite the Kennard House, Cleveland, Ohio, into new and very handsome rooms, corner of Water and Superior streets. The building, which was erected for banking purposes, is well adapted for the Telegraph business.

The receiving room will be in the basement, and the operating rooms in the upper stories. All the dummies are run in the wall, and the office will be, in every respect, a great improvement over that now occupied.

**Telegraphic Brevities.**

THE *Pueblo Chieftain*, of the 2d inst., says—A Telegraph office is to be opened at Doyle's Ranch.

The Director-General of Telegraphs in India states that, under the terms of the Paris Convention, the cost of a despatch between Europe and India will be reduced to something less than £3.

The Western Union Telegraph Company have just completed a new line on the Cincinnati and Indianapolis Junction Railroad.

The Pacific and Atlantic Telegraph Co. opened an office at Urbana, Ohio, recently. This is on the route, via Indianapolis, to Chicago. They expect to reach Chicago with their line about the first of August.

**Western Union Telegraph Items.**

A RIVER mast 150 feet long was put up at St. Joseph, Mo., July 15, for the Western Union Telegraph Company. Two wires will be put across the river at that point. The span between the masts is 2,000 feet by measure, being the widest span between Telegraph masts in the west.

The Western Union Company have an office in the capital town of one of the Western States, at which office the night report operator has to open his key whenever

a customer appears at his counter, and loan the customer his lamp, there being only one lamp in the office. A notable instance of economy!

CONGRATULATORY.—The telegraph from Fort Bridger to the Sweetwater mines, giving the new El Dorado a lightning connection with the rest of the world, was completed yesterday, and the first message sent over the wires at 5 o'clock P. M. And so another thread has been woven in the web of wires that is extending itself around and over the globe. At the same time that we congratulate our Sweetwater friends on their present situation, as close communionists with civilization, we can but commend that spirit of enterprise which has prompted the Western Union Telegraph Co. to plant its batteries in the midst of a new mining country, which counts its age by months rather than years.—*Montana Post*.

**MISCELLANEA.**

**Sad Accident.**

Mr. E. A. HALL, an operator in the Franklin Telegraph Company's office, No. 11 Broad street, accidentally fell from the roof of his boarding house, in West Twentieth street, at an early hour Monday morning, and was instantly killed. He had gone on the roof on account of the extreme heat, to get a little fresh air, and it is supposed that his foot caught and he was thus precipitated to the ground. He was an amiable and capable young man, and much esteemed by his friends and professional associates.

**Coney Island Telegraph.**

THE new line and cable to Coney Island commenced operations on Friday, July 3.

DROWNED.—JOHN COWIE, a telegraph operator at the Brighton House, on the St. Louis and Alton road, was drowned on Saturday, while bathing in Mud Creek. Some boys, with whom he was sporting, pushed him out beyond his depth, and he sunk. He was quite a young man, perhaps seventeen years old. An inquest was held, and a verdict rendered in accordance with the facts.—*Chicago Republican*.

RATHER MIXED.—The following despatch appears in some of the Eastern papers:

"MILWAUKEE, June 29.

"Wobertdem, of Concordia, took the first prize at the Sangerfest Concert on Saturday. The Sangerfest closed to-day with a Summer night's festival at Quruitin's Park."

Being translated, this would read:

"MILWAUKEE, June 29.

"The Concordia Mannerchor, of Watertown, took the first prize at the Sangerfest Concert on Saturday. The Sangerfest closed to-day with a Summer night's festival at Quentin's Park."—*Chicago Tribune*.

DIDN'T THINK IT POSSIBLE.—A gentleman recently received a message at Chicago from Galveston, Texas, dated the same day. He afterwards returned to the office, desiring to know about the date. Said he thought it was wrong, as he did not think it possible a despatch could come from Galveston in so short a time.

COULDN'T SPARE THEM BOTH.—Our correspondent, "Pete," at Forsyth, Georgia, sends us the following: Last Summer one of the boys sent his wife to my place to spend some time with her parents. Upon arrival she found them short of bedding, and sent the following: "Send my feather bed first train." To which her liege lord replied "spicely." "To Mrs. —. If you want the feather bed you must come home. Can't spare you both at once."

CONUNDRUM.—Why is a retired telegrapher like an interpreter? Because he is an ex(brass)pounder.





SATURDAY, JULY 25, 1868.

## PARTICULAR NOTICE.

WE cannot change the address of subscribers unless they send us the full direction to which the paper has previously been sent.

## THE VARIOUS USES OF THE TELEGRAPH.

THE various uses made of the Telegraph, and the extent to which it enters into different lines of business, aside from its general and universal use as a means of public correspondence, is scarcely known or appreciated by the general public.

The Americans, more quick to realize the possible applications of this most important agent, have, we believe, introduced it more generally, and make more extensive use of it than any other people, and it is daily coming to be regarded as essential to success in any business requiring rapid and constant communication between points more or less distant.

Its importance in disseminating rapid information in regard to fires, and directing to the scene of conflagration the agencies for its extinction, were early appreciated. The first experiment in this direction was made in Boston, and its success was complete from the first. It has now been in use there for many years, and has come to be regarded as an indispensable part of the machinery for the protection of property. Other cities were somewhat slow in adopting it, but it has now already been introduced into a large proportion of the principal cities of the country, and is rapidly being adopted by even comparatively small cities. It has, doubtless, by affording the means of rapid concentration of the engines and appliances for suppressing and preventing the speed of conflagration, been the means of immensely reducing the losses from this cause. It has become a large and increasing interest, and a large amount of capital is invested therein.

More recently the Telegraph has been adapted to reporting stock and gold quotations to the bankers and brokers in large cities, and its success in this important work has been most satisfactory and complete. In this city, as the centre of financial operations, this application of the Telegraph was first and has been most generally made. By means of the admirable instrument invented by Mr. S. S. LAWS, the gold quotations are reported as made in the office of almost every banker and broker of any account in the city. By means of a little instrument placed either upon his desk or in some conspicuous place in his office, the banker or broker can see at a glance the exact state of the market, and operate thereon or issue his orders promptly, thus greatly simplifying and facilitating his business.

Mr. E. A. CALLAHAN has also invented, and has in operation a very ingenious instrument, by which the quotations of stocks at the different stock boards are instantly printed in the offices of brokers, thus, not only showing the immediate quotations but furnishing a record thereof, and showing the variations throughout the day.

We are gratified to know that both of these inventions have met with general approval and adoption by those for whose benefit they were made, and that the inventors are reaping the reward of their genius, study and labor.

They are, as we learn, being introduced in other cities, and probably the time is not far distant when the system will be so extended as to enable the brokers of distant cities to receive instantly the quotations and variations in the principal financial and business centres of the country.

Besides these applications of the Telegraph many large business houses, having offices and factories in distant places, or at a considerable distance from each other in the same locality, or branches or agencies in different places, have established private lines, owned and operated exclusively for their own convenience. No railroad of any importance would undertake to run its trains or transact its business without one or more wires devoted exclusively to that purpose.

In addition to these more general and important applications of the Telegraph, it has been practically and usefully employed in burglar alarms, in the construction of annunciators for large hotels, and also in mines and tunnels, as a means of communicating promptly signals and orders, thus greatly facilitating operations under the surface of the earth, and increasing the safety and diminishing the chances of danger and death to those who are compelled to labor where, under the most favorable circumstances, dangers always lurk, and succor is difficult to be afforded.

There seems really to be no limit to the uses to which electricity and the Telegraph may be applied. Constantly new modes of application and usefulness are developed, and it becomes more and more indispensable in all the social and business necessities of civilized life.

## To the Members of the New York District.

WE hope that every member of this District will make a special effort to be present at the meeting to be held at the Merchants' Hotel, in Courtlandt street, on Tuesday evening next. Business of the utmost importance will come before that meeting, in which every member of the District should feel the liveliest interest.

It is of special importance that delegates should be selected to represent the District at the Albany Convention, who shall fairly represent the District, and aid effectively in its counsels and deliberations, fraught as they will be with the future prosperity and perpetuity of the Union. The time has arrived when such changes and improvements should be made in the organization of the UNION as the experience of the last four years has shown to be desirable and essential. It is necessary that these changes be made carefully, and only after due consideration and consultation. To this end it is requisite that the best men shall be sent to the Convention—men in whom the Telegraphers have full confidence.

Nominations for District officers for the ensuing year are also to be made at the meeting on Tuesday evening, and it is eminently desirable that the wishes of the majority of the District in reference thereto should be manifested, as it is probable that, in the reorganization and reconstruction of the UNION, which is likely to be made at the Albany Convention, the positions of District officers will be made more responsible and their duties increased.

## On the Amoor.

IN the August number of "Harpers' Magazine" Mr. THOMAS W. KNOX, a well known and able literary gentleman of this city, who accompanied the Russo-American Telegraph expedition, commences the publication of a very interesting series of articles on the Amoor river and the territory through which it flows. The initial article is lively and interesting, and is handsomely illustrated.

Mr. KNOX is well known to many Telegraphers, and we are sure that his contributions will be read with equal interest and profit by the profession and the public generally.

## The East India Telegraph Company.

THE Board of Directors of the East India Telegraph Company has recently been strengthened by the addition of Mr. PAUL S. FORBES, of the firm of RUSSELL & Co., China, and Mr. FREDERICK BUTTERFIELD, of New York. Ex-Gov. A. G. CURTIN, of Pennsylvania, has been chosen President. Mr. NICHOLAS MICKLES retains the Vice-Presidency, and has charge of the interests of the Company here, and is, in fact, its principal agent and executive officer.

The following extract from a recent article in the *Philadelphia Ledger* well sets forth the purposes and present condition of this Company.

After alluding to the fact that, notwithstanding its numerous populous cities and towns, and its vast internal traffic, China has neither postal accommodations nor Telegraphs, the *Ledger* says:

"This is one of the marvels of China. Of course, such a condition of affairs has not failed to attract the notice of American and European merchants there, and from time to time there have been attempts to introduce both the post and the Telegraph, but nothing like a successful effort has been made until quite recently, and this, too, is a large part Mr. Burlingame's work. Through his agency the Chinese Government has granted to the East India Telegraph Company, an American organization, permission to connect the great seaports of China from Canton to Tientsin (the seaport of Peking) by Telegraph. They are about to commence the work by laying a series of cables. Beginning at Canton, the first cable stretches to Macao, a distance of seventy miles; thence to Hong Kong, seventy-five miles; thence to Swatow, 130 miles; thence to Amoy, 115 miles; thence to Foo-chow, 120 miles; thence to Wau-chu, 120 miles; thence to Ningpo, 125 miles; thence to Hangtchean, sixty miles; thence to Shanghai, eighty miles; making nine cables, of an aggregate length of 895 miles, connecting nine seaport towns and cities, with an aggregate population of about 6,000,000 of people. Ultimately, these connecting lines of cables are to be carried to Tientsin, with a line to Peking, and from Peking, by a line of 600 miles, to a point (Kiachta) on the Russian line to the mouth of the Amoor River. The company that has this grant from the Chinese authorities is exclusively American. This introduction of the Telegraph into the populous cities of China is an enterprise worthy of the American character, and should certainly be of advantage to American interests there, while it will be of great value to the commercial interests of the whole mercantile world."

We understand that this Company is now making good progress, and expects soon to contract for the necessary cables, and that, within a reasonable time, the cities enumerated will be connected, as proposed. Once established, there can be no doubt of the pecuniary success of the Telegraph in China, and the fact of its introduction into that vast Empire, through American enterprise and capital, will, doubtless, greatly strengthen American interests and influence with its government and people.

## The Telegraph in South America.

WE, this week, publish the last of the very interesting papers on the Telegraph of South America; kindly prepared for the TELEGRAPHER by Mr. S. M. CARPENTER, of Washington, D. C., but recently Secretary of Legation to the United States Embassy at Chili. We know that our readers will regret the conclusion of this series of papers, but hope to be able to induce Mr. CARPENTER hereafter to use his able pen, and acknowledged talents as a writer, for their instruction and gratification, often. Many Telegraphers, more especially those who were engaged on the Military Telegraph lines during the war, will recognize in Mr. CARPENTER an old friend and genial companion, and we can assure him of a hearty and appreciative welcome from the readers of the TELEGRAPHER, whenever he chooses to grace its columns.

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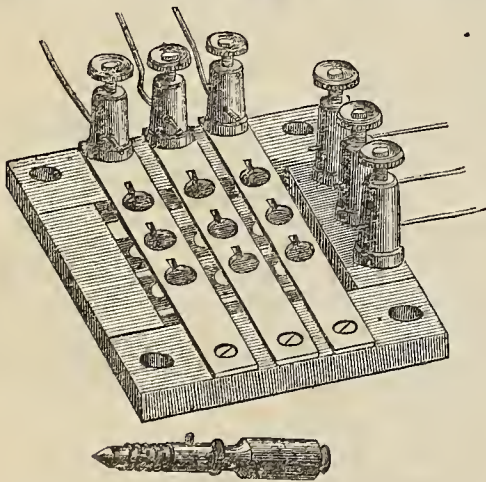
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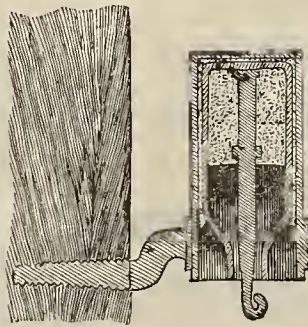
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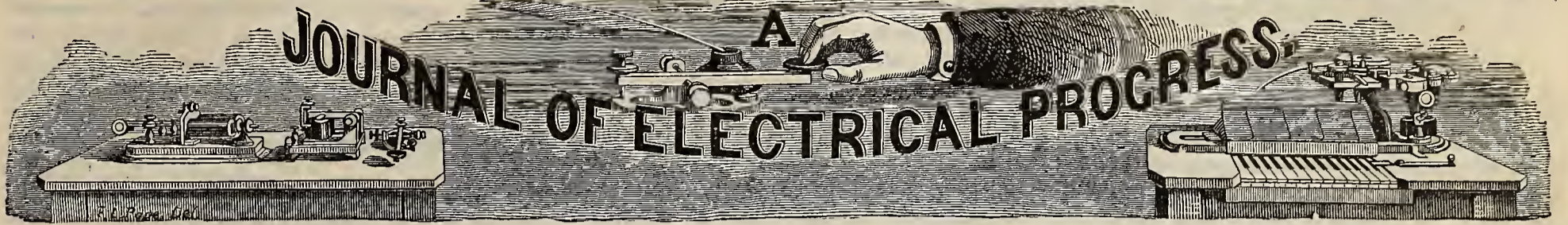
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PRESCOTT, G. B.—History, Theory, and Practice of the Electric Telegraph. 1 vol., 12mo. .... 2 50

A New and Revised Catalogue of Scientific Works ready October 1, sent Free on Application. New York, Sept. 15, 1867.



# THE TELEGRAPHER.



Vol. IV.—No. 49.

New York, Saturday, August 1, 1868.

Whole No. 107.

(Written for the Telegrapher.)

## SELF-ADJUSTING RELAYS.

THE problem of a self-adjusting relay has recently engaged the attention of Telegraph operators and others. A number of attempts have been made to construct such a relay by the addition of mechanism for making the adjustment automatic. There are so many conditions, however, to be fulfilled, that the problem, even in its simplest form, is one of great mechanical difficulty, and he who solves it successfully will confer an important benefit on practical Telegraphy.

It is not our intention to speak of the methods already devised for this purpose, their value can readily be determined by actual work on a line of sufficient length; but we shall attempt to elucidate a few of the fundamental principles necessary to a thorough understanding of the subject.

It is well known that no battery is constant, it varies from day to day, and even from hour to hour. If, therefore, a line was perfectly insulated, it would only be necessary to adjust our instruments for the varying strength of the current. This may be accomplished in two ways, viz., by varying the tension of the spring, or by changing the distance of the armature from the "core." By either method a perfect adjustment would be secured. There are, however, limits to both forms of adjustment. If the armature is too far from the "core" there will not be sufficient power to work well, and if too near, it will come within the influence of the permanent magnetism, causing it to "stick," or work irregularly.

Every electro-magnet, when the circuit is opened and closed rapidly, retains a portion of its magnetism, depending on the strength of the battery, the diameter and length of the "core," and the number of convolutions of wire. The distance at which this residual or permanent magnetism will affect the armature, depends in a great measure on the form of the electro-magnet. It would be foreign to the subject, however, to enter into a discussion of the theory of electro-magnets. In fact, but few principles appear to have been established for their construction—since we find good working relays, having from 8 to 24 ounces of wire, and "cores" differing in length from one inch up to six inches. It is to be hoped that more attention will be given to this subject by makers of electro-magnets, for, by the adoption of a uniform system, we believe a line can be operated with greater economy and less annoyance.

Now, provided the insulation of the line was perfect, the armature having been adjusted at a given distance from the "core," would never need to be changed. All the adjustment due to the varying strength of the battery could be accomplished by means of the spring.

The second, and most difficult adjustment, is that due to "escape" or want of insulation on the line. The effect of the "escape," on the relay does not seem to be generally understood. In order to present this subject in its

simplest form, we will assume a case as near as possible to the every-day experience of Telegraph operators. Take as an illustration a wire extending from Washington to Albany, *via* New York City; and farther, suppose that the line is in good working order, and only one battery employed, being located at the Albany office. Now, it is a well known fact, that no line of any considerable length has yet been constructed with the wire perfectly insulated. A small portion of the current, even in the finest weather, escapes at every pole. While, therefore, Albany will always have a heavy current, Washington will have a weak one. In this case, we will assume that New York received one half, and Washington one tenth of the current. Under these circumstances, how are the several "relays" to be adjusted?

We begin with the Albany relay. When the circuit is opened at Washington the relay in the Albany office is discharged of only one tenth of its magnetism, the rest remains as permanent magnetism. Now, it is well known to operators, that in order to get the "breaks" from Washington, it is necessary to remove the "core" from the armature. The distance at which it will work depends on the amount of the escape and the strength of the battery. On the other hand, the operator at Washington will find it necessary to bring the "core" as near the armature as possible; since, when Albany opens circuit, the Washington relay is discharged of *all* its magnetism, except that portion which always remains as permanent in every magnet. In the one case the armature must be at the *greatest* distance, and in the other at the *least* distance possible. For New York City it will be at some intermediate distance.

Supposing now all the instruments are adjusted, we will next consider the effect of increased escape—the strength of the battery remaining the same. We will presume that in the second case Washington receives only one twentieth of the current; in order to get Albany, it will be found necessary to move the "core" still nearer, or change the tension of the spring. As the Albany relay is now only discharged of one twentieth of its magnetism, changing the tension of the spring will not be sufficient to get Washington, but it will be necessary to remove the "core" yet farther, and regulate the spring accordingly. It is a well known principle that the attraction of an electro-magnet is inversely as the square of the distance of the armature from the "core," and the fundamental principle in working a magnet over "escape" is this, viz.: The effect of that portion of the current opened at the distant station must be greater than the difference of attraction in the two positions of the armature. Therefore, in working over "escape" the distance of the armature must be continually varied to meet the different conditions of the line. If the amount of the "escape" and the strength of the battery is given, it is possible to calculate the distance the armature must be removed in order to work successfully. The effect of

"escape" on a magnet is easily shown by closing circuit through it with eight or ten cups of battery, and then attempting to work it with one or more additional cups. It will be found that the greater the amount of permanent magnetism the farther the armature must be removed from the "core."

From a thorough study of the question we have come to the conclusion that the construction of an automatic relay is impracticable. It is possible, and perhaps not a difficult problem, to construct an auxiliary apparatus which shall take the place of the operator, and change the distance of the "core" and armature according to the amount of permanent magnetism remaining in the electro-magnet; but such a mechanism would necessarily be complicated and expensive.

Facility of operation, as well as economy in working a line, both point to a better method for overcoming the difficulty, viz., in the improvement of the *insulation*. A well insulated line, provided with "relays" of small resistance, and constructed especially with reference to their position with regard to the battery, can be worked with one half or one third of the battery power now generally used.

H.

Albany, July 15th.

## Extent and Importance of the Telegraph.

SOME interesting facts in the history of Telegraphic communication are given by Herr NEUMANN, in an official report just published at Vienna.

It appears from this report that a line of Telegraph was opened between Persia and Russia, *via* the Caucasus, so early as 1859. Telegraphic communication between Europe and Northern Asia was also first established by the Russian government, which laid down a line between Moscow and Omsk in 1862, and extended it to the sea of Japan, *via* Irkutsk and Kiachta, in 1864. A Russian Telegraphic agency exists at Peking, through which messages are transmitted from the Atlantic to the Pacific Ocean. The line is now being carried to Behring's Straits by Ochotsk, and if the plan of the United States government to establish a Telegraph through the territory lately ceded to it by Russia is carried out, there will soon be an uninterrupted line of Telegraphs round the earth. The longest line in the world is that between San Francisco and St. John's, Newfoundland, a distance of nine hundred geographical miles.

Herr NEUMANN annexes to his report some statistical tables, showing that the total length of the European Telegraphs is 53,340 geographical miles; of those in America, 14,239; of those in Asia, 4,736; of those in Australia, 1,842; of those in Africa, 1,504—exclusive of submarine lines. There are in all 12,000 Telegraph stations, and the number of persons employed in them is about 38,000. The total weight of the wires is calculated at about 1,300,000 cwt., and there are about 7,500,000 Telegraph posts, which it costs 5,000,000f. a year to keep up. The capital expended in the construction of the various Telegraphs is 412,500,000f.—*Lond. News*, June 12,



## 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 Late Baltimore District.

NEWBURG, W. Va., July 20.

TO THE EDITOR OF THE TELEGRAPHER.

IN the last number of THE TELEGRAPHER I saw a communication from Baltimore announcing the death of that district. I am sorry to hear it; am sorry to hear of the demise of any, but particularly this one, at a point where one of the most flourishing and influential districts could and can be established. I was a member of that district; joined it in its days of prosperity, when YEAKLE had hold of the wheel. It was at one time one of the largest districts in the Union, and no other cause can be assigned for its death than the inattention and inefficiency of its officers. I do not characterize any one particularly as the person, but think all are equally responsible. Some of the best men on this line were members, but, becoming disgusted, withdrew; others allowed themselves to be expelled, not being able to see the efficiency of the Union. I, as well as other non-resident members, received no communications from the district, except my quarterly due bill, but I knew it was not the fault of the Union but of its officers. We were allowed no participation in the selection of officers, not even being notified of the nominations or elections; never knew what was going on, or one single thing in which we were interested. Can it be wondered at that such administration should drive off all the non-resident members?

Some of the members foresaw the result of such a ruinous policy, and, I think, had a resolution passed that the Secretary forward a copy of the minutes to each member not present at the meetings. It was done once, to my knowledge, and was then discontinued. I could enumerate other grievances, but will not, but will now say a few words to the delegates to Albany.

Amend all the laws relating to officers' duties; make them more specific; and for neglect, in any instance, work removal. Endeavor to have offices as posts of honor to the worthy and efficient, and not of favoritism to "good fellows."

The Secretary should notify every member of all that goes on in the district, and the Directors should see that it is done promptly; then, instead of losing members through neglect, we shall receive their hearty support and coöperation, and, with all working together, the UNION will be successful and effective.

To your correspondent I would say, gather together what remains of Baltimore District, elect new officers of the right stripe, and get things in trim for the new régime. If this is impracticable, I would refer him to the West Virginia District as one of the kind he inquires for. We have not many members, but it is alive, and will be a stronghold with a modified constitution. Come and join us, "7 x 9," and we will give you a hearty welcome, and all you bring with you.

J. H. S.

## A Personal Explanation.

PITTSBURGH, Pa., July 27th.

TO THE EDITOR OF THE TELEGRAPHER.

THE sordid emanations of a diseased brain, and wilful misrepresentation of facts which appears in your issue of July 25th, place me in the ridiculous position of making a "personal explanation." These explanations, although dull, and void of interest to any except those interested, are nevertheless popular, and furnish a convenient means of relieving one's self of the accumulated bile, and bringing out in purer and brighter colors that good old maxim, that "Truth is mighty and will prevail." A DUX! He might, with greater propriety, have styled himself a goose,

had not the early part of his letter implied a plurality of them. This correction would be unnecessary were this "weary frame in the corner," this over-zealous, obsequious sycophant of the "pap that gives him suck," known beyond the precincts of Pittsburgh and a few adjacent Sunday beer gardens.

I repeat it, "Mr. DUNCAN was suspended indefinitely, for the failure of a message in reaching its destination." He now fills the lucrative position at Cresson Springs, with one half the receipts—properly speaking, half rations.

The transfer of Mr. MORELAND to Cheyenne, I allow, was premature. He had such an offer under favorable consideration, but afterwards declining, the "jovial, good-humored" compliment was all gratuitous, and serves only to give both a bit of cheap notoriety. If DODE was ever seen in this happy state of mind, it must have been about the fifth of the month, when he was receiving his last month's salary.

ADUX expresses a decided aversion for poetry, but he forgets or omits giving you a sample of how hard the muse struck him one evening last week: I give you just four lines:

"Oh, Bennie, it is tick, tick, tick,  
Here all night we stick,  
Receiving specials from Washington,  
Proceedings of the night session."

I will close by saying, if ADUX is prompted to respond, that he first pay his debts, then "lay on MAC(a)DUX," etc.

QUIEN SABE.

## Death of a Telegrapher.

JACKSONVILLE, Fla., July.

TO THE EDITOR OF THE TELEGRAPHER.

ONE of the most intelligent and valuable employés on the lines of the International Ocean Telegraph Company, Mr. EDWARD VALENTINE, died at Gainesville, Florida, July 16th. He was stationed at that place as supervisor of the lines.

Mr. VALENTINE was formerly engaged on the American, and after the consolidation, on the Western Union lines, between Philadelphia and Washington, for several years. He was well known in that section of the country, and very much respected. When this line was commenced he joined us, and has been engaged upon it ever since, until his death. He was a most excellent man, and had made many friends in this part of the country.

His death was caused by bilious remittent fever. He was a single man, about thirty-five years of age. He has a sister in Chester, Pa., to which place his remains were sent.

FLORIDA.

## The Telegraphic Championship.

TO THE EDITOR OF THE TELEGRAPHER.

IT is rumored that Mr. P. H. BURNS, of Boston, the possessor of the "golden champion key," who enjoys an enviable reputation as a fast sender, is about to give to the Telegraphic world another exhibition of his powers. He is still confident that he can transmit 2,700 words in an hour; and Mr. JOHN DAVIS, of Worcester, a gentleman well known as an expert Telegraphist, has, at his own request, been chosen to receive the same. From the rapid progress which Mr. DAVIS has made in the practice of his profession during the past year, there is hardly a doubt but he will succeed, and if he should, it is understood that he will challenge Mr. BURNS to a trial of sending the number of words to be specified hereafter. The reputation of Mr. DAVIS as a manipulator of the key is fully established on the circuits leading from his own city, and it now remains for him to add further lustre by vanquishing the champion in fair fight. The friends of both parties, and the Telegraphic fraternity generally, will await the progress of the match with interest.

J. O. KERR.

PITTSBURGH, PA., July 18.

TO THE EDITOR OF THE TELEGRAPHER.

THE following, which I send for the information and benefit of the fraternity, can doubtless be claimed as the latest and most original production of innate or acquired Telegraphic genius. It is well calculated to excite new ideas in the minds of young Telegraphers (especially college taught ones), and to open clearer paths into the hidden mysteries of the fluid when the principles involved shall have become sufficiently familiar.

LA VOICI.

"——— PA., July 10.

———, Supt.

Send by express fifty (50) feet gutta percha covered wire; must have it to detach wires from house and wrap around pole during storm, or owner of property will compel removal of office. She has lightning on the brain.

OPERATOR."

Whether this originated in the fertile imagination of the operator, seeking means to quiet the lady's apprehensions, or whether gifted with an intuitive appreciation of the difficulties to be met, she was enabled to see and provide in so simple a manner the necessary requirements to avert a fire that only milk can extinguish, I am unable to say, but should future developments, or a more extended report make this point clear, I shall hasten to inform you.

The P. and A. have lately opened offices at Franklin, O., Middletown, O., and Washington, O. (Guernsey, Co.) More recently the same company opened at Port Perry, Pa., and Columbia, Pa. The test office on P. and A. lines, at Fairview, O., was closed a short time since, and the operator in charge, Mr. HURST, transferred to Philadelphia.

H.

## PERSONAL.

Mr. JAMES HENDERSON, of Memphis, has accepted the management of Galveston, Texas, office, vice F. V. DANIELS, resigned.

Mr. H. L. MARTIN has resigned his position with the New York City line, and accepted a situation in the Western Union office, at Saratoga.

Mr. MARSH, of the Louisville and Nashville Railroad Telegraph, is off on a vacation trip north.

Mr. J. C. C. JONES, of San Fernandina, Florida, office, International Ocean Telegraph Company, has resigned, and retired from the Telegraph business.

Mr. SAML. B. ROWLES, of Ocala, Florida, takes charge of the San Fernandina office.

W. H. HULSE, formerly of the Philadelphia office of the Western Union Company, takes charge of the Ocala office.

Mr. J. E. MATTERN has resigned his position at Gorham, Ohio, and has accepted the situation of night operator for the Michigan Southern Railroad at Wauseon, Fulton Co., Ohio.

Mr. JEREMIAH O'CONNELL has resumed his position in the Milwaukee, Wisconsin, office.

Mr. T. O. CORD, of El Paso, Illinois, has gone to Maysville, Kentucky, on a visit.

R. VALENTINE, Jamesville, Wis., office, having been on an extended tour throughout the east, resumed work on the 24th inst.

L. H. KORTY, recently of Houston, Texas, has taken a position in the Western Union Chicago office.

Mr. PECK takes the situation vacated by Mr. A. H. BLISS, who goes to the A. and P. office, in the Chicago office.

Mr. H. W. COWAN, formerly of this city, is now in San Francisco, California.

Mr. JAMES GORMLEY has resigned his situation as printing operator at No. 145 Broadway, and gone into other business at Bridgeport, Conn.



Mr. A. B. TALCOTT has been displaced from the Superintendence of the Fire Alarm Telegraph at Washington, D. C., in consequence of a political disagreement between the appointing power and himself. POP always would "spress his opinion," regardless of consequences.

Mr. T. H. SHERMAN has received two months' leave of absence from the Washington, D. C., Western Union office, and rusticates for that time down east.

WM. H. SAWYER, late of the Bankers and Brokers' Co., has recently accepted a position with the Gold and Stock Telegraph Co., at 18 New street.

## THE TELEGRAPH.

### New Overland Telegraph to India.

THE following, which we copy from the *Boston Advertiser* of last Friday, contains some details of the new Telegraph route to the East Indies, which the readers of THE TELEGRAPHER will doubtless find of interest:

"But little mention has as yet been made in this country of a Telegraphic enterprise that promises to rank in importance next to the Atlantic cable, and the overland Telegraph lines between the Atlantic and Pacific States. It is the proposed construction of an overland line connecting Great Britain with the East Indies, by way of Germany, European and Asiatic Russia, and Persia. The project, originated in England and Germany, was so favorably received by the capitalists of those two countries, that its early realization may be considered certain. All of the necessary capital has been subscribed, and the work of construction is going forward. The line will start at London, and pass through Berlin, Thorn, Shitomir, Kertsch, Tiflis and Teheran. From the British capital to the North German coast the 'Indo-European Company' will make use of the cable recently laid through the North Sea to Hamburg by the Reuter Telegraph Company. From Hamburg to Thorn, on the Russian frontier, a special line will be constructed for the company, by the central administration of the Telegraph system of the North German Confederacy. For the continuation of the line from the Russian frontier to and across the Black Sea, and thence through Asiatic Russia to Teheran, a contract has been made by the company with the well-known Telegraph constructors, SIEMENS BROTHERS, of London, Berlin, and St. Petersburg. The land portion of the whole line to Teheran has already been surveyed, and the material for putting it up is being rapidly provided. The poles and wires for the portion between the Black Sea and Teheran are already on the way to that region. The poles will be uniformly of iron for the whole line. The rest of the material will be of equal solidity. The governments of all the countries, including Persia, through which the line is to pass, very readily granted charters to the Company. The Russian even placed a man-of-war at its disposal for the necessary surveys in the Black Sea. Both Russia and the North German Confederacy have agreed that the working of the line shall not be interfered with in time of war. According to the terms of the construction contracts, the line is to be finished to Teheran by the end of next year. No steps have as yet been taken to continue the line beyond Teheran, but the Company is determined to extend it to the Anglo-Indian possessions immediately after the Persian capital shall have been brought in Telegraphic communication with Europe."

### The Law as to the Telegraph.

THE Court of Appeals of Maryland has just decided that Telegraph Companies have a right to make their own rules and regulations with regard to the transmission of messages, and that the public are supposed to know and must comply with these rules, in order to make the companies liable for the safe transmission and delivery of messages. We remember some instances in which it has been held by the Courts as necessary for Telegraph com-

panies to relieve themselves from liabilities as common carriers, to show that rules and regulations established for their business action were brought to a knowledge of the parties doing business with them. The Maryland Court of Appeals seems to reverse this ruling, as it holds that the sender of a message involving large interests must make known the importance of the message to the company, in order to hold it to the full measure of damages suffered by the failure of the company to transmit the message.—*Philadelphia Ledger*.

### Purchase of Telegraph Lines by the British Government.

INFORMATION has been received, by cable despatch to the Associated Press, that on Thursday, July 23d, the bill for the purchase of all the Telegraph lines in Great Britain was passed by the British House of Commons.

It has yet to pass the House of Lords before it becomes a law; but, having received the sanction of the popular branch of the Legislature, there is little doubt of its ultimate success. It will, however, require some time to arrange the details, before the experiment of Government control of the Telegraph in a great and free country can be practically inaugurated.

### India Telegraphic Items.

FROM 1857 to 1866, the length of Telegraphs in British India increased from 4,162 to 13,390 miles. In the latter year the total expenditure for Telegraphs amounted to £253,191—£48,067 of which was for cost of construction, £163,392 on account of working and maintenance, and £41,732 spent in England for stores, freight, &c. The total receipts for the same year amounted to £112,944, £101,306 of which were derived from private messages and other sources, and £11,638 from service messages of all kinds. There has been a large progressive increase of receipts year by year since 1857. 172 offices are now open.

### Telegraphic Brevities.

It costs four francs to send a Telegraphic despatch of 20 words from Paris to London.

The work on the Great Western Telegraph Company's line is to be commenced during the present month. The company was organized in this city some four months ago, Mr. DAVID A. GAGE being its president. Poles for 1,000 miles are contracted for, and wire for 500 miles is now on its way from the east.—*Chicago Times*, 22d.

### Telegraphic Communication Restored.

THE wires of the Western Union Telegraph Company, over the Patapsco River at the Relay House, nine miles from Baltimore, which were swept away by the late flood, were restored on Wednesday, and are now in complete working order.

## MISCELLANEA.

### Posthumous Honors to Professor Faraday.

THE proposition for the erection of a monument to the late Professor FARADAY, in Westminster Abbey, is being discussed very generally in England, and is warmly advocated both in and out of Parliament.

### The Polarization of Electrodes.

A NOTE on the above subject, which is one of considerable interest to telegraphists and electricians, has been presented by M. GAUGAIN to the Academy of Sciences. Several savants have sought to determine the part which each of the electrodes takes in polarization, and have arrived at different results. M. POGGENDORFF found that the two electrodes contributed equally to the production of the electro-motive force developed; MM. LENZ and SARVELGEN found, on the contrary, that the part of the cathode is greater than that of the anode. M. GAUGAIN

has tried, in his turn, to resolve the question by making use, as he did on former occasions, of the METHOD OF OPPOSITION. The following were the results thus obtained by a series of experiments carried on with a mixture of nine parts, by volume, of distilled water, and one part of sulphuric acid:

Polarization of the anode.....	193
" of the cathode.....	157
Total polarization.....	350

It appears to be of little consequence if more or less sulphuric acid be added to the electrolyzed water, provided that this proportion does not fall below a certain limit; but when it becomes extremely small, the polarization of the cathode increases, without the polarization of the anode being sensibly modified. The following are the results obtained by electrolyzing pure water:

Polarization of the anode.....	193
" of the cathode.....	243
Total polarization.....	436

M. MATTEUCCI recently\* called the attention of the Academy to an experiment which he made in 1838, and upon which he depended to prove that the polarization proceeded from the gases adherent to the electrodes.

In fact, polarized metals should be considered as fugitive combinations, formed by the metals and gases, and the author is of the opinion that in polarization couples, as well as in GROVE'S gas pile, the electro-motive force is the affinity exerted on one of the elements of this water by a gas associated in a particular manner with a metal.

### Magnetic Effects of Lightning.

ARAGO tells how the lightning one day visited the shop of a Swabian cobbler, did not touch the artisan, but magnetized all his tools. One can well imagine the immense dismay of the poor fellow; his hammer, pincers and awl attracted all the needles, pins, tacks and nails, and caused them to adhere firmly to the tools. We read of a merchant of Wakefield, who had placed in a corner of his room a box of knives and forks and iron tools, destined to be sent to the colonies; in came the lightning, struck open the box, spread all the articles on the floor, and it was found, when they were picked up, that every one had acquired new properties—they had all been affected by the subtle touch of the current. Some remained intact, others were melted, but they had all been rendered more or less magnetic, so that there was not a single nail in the box but might have served the purpose of a mariner's compass.—*Electric and Congregational Review*.

### Important to Tobacco Users.

A BERLIN physician asserts that he has traced six cases of lead colic and paralysis to the consumption of tobacco that has been kept in leaden boxes.

Another chemist has found that, when the weed is wrapped in the thin sheet-lead, falsely called tin-foil, it becomes impregnated in the course of time with the acetate of lead.

TELEGRAPHY.—In France the greatest distance over which a telegraphic message can be transmitted is about six hundred miles; in Prussia about five hundred; in Belgium about one hundred and sixty, and in Switzerland about two hundred miles. The charge for a message of twenty words over the greatest distance in France is 1s. 8d.; in Prussia, 1s. 6d.; in Belgium, 5d.; and in Switzerland, 5d. In Great Britain 2s. is charged for the transmission of a message over five hundred or six hundred miles, and 1s. 6d. for any message sent one hundred and sixty or two hundred miles.

### DIED.

VALENTINE.—In Gainesville, Fla., July 16th, of bilious remittent fever, Mr. EDWARD VALENTINE, Supervisor of International Ocean Telegraph wires.

\* *Comptes Rendus*, Jan. 14, 1867.





SATURDAY, AUGUST 1, 1868.

## SHALL THE UNION BE MAINTAINED?

THIS is a question of great importance to the Telegraphic profession. We have been gratified to witness the development of considerable interest in this subject among the Telegraphers of late, and believe that if the action of the approaching Convention is wise and judicious, the UNION can and will not only be maintained, but made more effective and beneficial than heretofore. In view of the fact that, upon the deliberation and action of the Convention, the perpetuation and effective maintenance of the only organization of practical Telegraphers in this country depends, it is essential that the most intelligent and practical working members shall be sent as delegates. As far as heard from, the nominations thus far made have been excellent, and the *personnel* of the Convention is likely to be such as will redound to the credit, and result for the best interests of the organization.

It would be a lasting disgrace to the Telegraphers of the United States if the UNION, after four years of existence, should lapse, through their supineness and indifference. Such a result must not be thought of for a moment. The UNION must be maintained, but it should be thoroughly reorganized and adapted to the requirements of the profession. Experience has shown wherein it is defective, and we believe that if the Convention comes together in the right spirit, and with an earnest determination to cast aside all local jealousies and individual preferences, and act for the general good, its deliberations will lead to the best results.

We have heretofore pointed out in these columns some of the changes and reforms which appear to us desirable and essential. As far as we have had opportunity of learning the opinions of the Telegraphers, these suggestions have been favorably regarded. The correspondents of THE TELEGRAPHER have also, to some extent, discussed the matter, and given their opinions and suggestions. It would have gratified us if our invitation to the brethren to do this had been more generally responded to, but enough has been said and written to show that the profession are not insensible to the importance of the subject. More than a month yet remains before the meeting of the Convention, and during this time we shall be pleased to publish such communications as we may be favored with in regard to this matter. The more general the expression of opinion the better prepared will the delegates be to act effectively, intelligently and satisfactorily.

We have no sympathy with the croakers who lugubriously lament the decadence of interest in the UNION, and predict its early demise. Some of these, it is true, have in times past been earnest workers in and for the UNION. It cannot be denied that there have been causes for discouragement. The Telegraphers, as a whole, have not manifested such a general interest in the UNION as was expected. This, we believe, arises in great part from the fact that the organization and administration of the Society has not been such as to appeal to and secure a practical and constant personal interest in its affairs on the part of the members. Too much of the work has been devolved upon the central, and too little upon the district organizations. The duties of the various officers of the UNION have been too onerous to receive that prompt

and constant attention which they require. On the other hand, the Districts and the District Officers have had too little devolved upon them to ensure such an interest as would secure attendance at the monthly meetings, and a lively personal interest in its affairs.

All this must be corrected. The past must, to a great extent, be ignored, and the Telegraphers invited to connect themselves with the organization, and make it, as it should be, the representative of the greater portion of all the respectable operators in the country. That this can be accomplished we firmly believe. What is required is, that it shall be felt to be the best possible concentration of the intelligence and power of the profession. Its dues should not be so onerous as to prevent any person from maintaining a connection with it, and its system of relief should be such that no member, in time of trouble and adversity, should fail to feel its beneficence. All this can and should be accomplished, and we commend these brief suggestions to the brethren, in the hope that they may lead them to give the subject earnest thought and consideration during the next few weeks.

Let all take hold of this matter with an earnest and unselfish spirit, and before the expiration of the next year the NATIONAL TELEGRAPHIC UNION will have attained a position and influence which it has never before had, even in its best days. It has in it now the germ of a beneficent and powerful organization, which we trust, under the influence which may be brought to bear upon it at Albany, next month, will be made to fructify and develop in a manner which shall exceed the most sanguine expectations or hopes even of its originators.

Let every Telegrapher but once realize that this is *his* organization, and that its prosperity is destined to elevate the profession, and work to the advantage of each and all of its members, and we shall hear no more forebodings of dissolution. Let us then, one and all, individually and unitedly, determine that, so far as in us lies, THE UNION MUST AND SHALL BE PRESERVED.

## An Excellent Appointment.

WE learn that Mr. A. H. BLISS, for several years past connected with the Illinois and Mississippi, and since the consolidation, with the Western Union Company's Chicago office, has resigned his position in that office, to take effect August 10th, and will then take charge of the office of the Atlantic and Pacific Company in that city.

In securing the services of Mr. BLISS the Atlantic and Pacific have made a wise selection. Mr. B., as an electrician and operator, and as a business manager, is not surpassed by any one of the profession in the west, and we do not doubt but that, as far as capability and industry in the management of the office is concerned, the success of the A. and P. in Chicago is assured.

Mr. BLISS has been, and still is, an earnest and effective supporter of the NATIONAL TELEGRAPHIC UNION, and of the TELEGRAPHER, and has labored unselfishly to maintain and secure the success of both. We congratulate him upon his appointment, and trust that he may find his new position pleasant and profitable.

## Another Gone.

WE regret to hear that our old friend and former associate as a printing Telegraph operator, at the old 21 Wall street office, Mr. ROBERT J. BLACK, has resigned the situation in the Philadelphia office of the Western Union Co., which he has for several years filled with credit to himself and profit to the company. Mr. BLACK has devoted nearly twenty years to manipulating the keys, and as a printing Telegraph operator has no superior. We regret Mr. BLACK'S resignation, more particularly on account of the loss to the profession and to THE TELEGRAPHER. Personally, we congratulate him upon the improvement in his prospects, as he enters into business for himself with, we understand, flattering prospects of success.

Mr. BLACK has labored for years earnestly and disinterestedly for the UNION and THE TELEGRAPHER. The success of both in Philadelphia has been largely due to his exertions. It will be difficult to fill his place in the Telegraphic ranks, and wherever he may go, or in whatever business he may engage, he will have the earnest wishes, not only of his late professional associates, but of a large circle of friends and acquaintances, for his continued good health, prosperity and happiness.

## Suspension of Telegraphic Progress in Great Britain.

WE learn, by a cable despatch to the Associated Press, that the bill providing for the purchase of all Telegraph lines in the United Kingdom of Great Britain, which had previously passed the House of Commons, was, on Tuesday evening, July 28th, finally agreed to in the House of Lords, and has in effect become a law.

This is practically a suspension, or termination rather, of Telegraphic progress in that country, and the Telegraph will now subside there into a sort of a one-horse attachment to the post-office department.

## The Brokers' Telegraph in Boston.

A TELEGRAPH for reporting gold quotations has been for some time in operation between the Franklin Telegraph office, in Boston, and the principal brokers' offices in State st. and vicinity, on which an instrument is used, invented and manufactured by Messrs. EDMANDS & HAMBLET, of that city. This enterprising firm have also recently brought out a printing instrument, for reporting stocks, &c., which will, it is thought, work at a much greater rate of speed than the instruments now in use.

## Chirography.

MR. T. A. EDISON, of the Western Union Boston office, is about the *finest* writer we know of. We have received a specimen of press report sheet written by him as the news came over the wire from New York at the usual speed. The sheet is five inches by eight inches, and there are 647 words upon it. Each letter is separate from the other, which is one of the peculiarities of Mr. EDISON'S chirography, and the whole plain as print—with the diamond type so fashionable in Boston.

## The New York District.

At an adjourned meeting of the New York District of the N. T. U., held Sunday evening, July 28th, the following nominations were made:

*For District Director.*—F. L. POPE, C. L. GOODWIN. *For Secretary.*—H. W. POPE, J. S. FITCH, W. W. BURHANS. *For Treasurer.*—W. H. COLLINS, W. O. LEWIS. *For Delegate to the Convention.*—W. H. H. CLARK, R. W. POPE. *Alternates.*—W. O. LEWIS, F. L. POPE. *Committee on Elections.*—W. W. BURHANS, J. J. DENNIS, M. K. THOMPSON.

Blank ballots will be forwarded to each member of the district entitled to vote, which are to be filled up with names of candidates desired to be voted for, and enclosed to BURHANS, DENNIS and THOMPSON, box 6,077 New York Post-office.

The next regular meeting will be held at the Merchants' Hotel, in Cortlandt Street, Tuesday evening, Aug. 4th.

## Nominations for District Officers and Delegates.

THE following nominations have been made in Boston: *For District Director.*—H. W. WHEELER, T. A. DAVIN. *Secretary.*—J. E. WRIGHT, E. H. COREY. *Treasurer.*—J. A. ELMS, F. STEVENS. *For Delegate to the Convention.*—J. W. DUXBURY, J. C. BARRETT. *Alternate.*—J. E. WRIGHT, E. H. COREY.

IN the absence of trees, out on the plains, the Vigilants hang horse thieves and other desperadoes on the telegraph poles.



**The Complimentary Dinner to Cyrus W. Field.**  
(Correspondence of the Evening Post.)

LONDON, July, 1868.

I WAS going to tell you more of the regular London season, but for the present I am diverted by two exceptional events—the dinners to Cyrus W. Field and the poet Longfellow.

THE DINNER TO CYRUS W. FIELD.

One of the enlivening incidents of the occasion was the introduction of the wires into the very room where we were eating, and the constant interchange of sentiment with all the world thus kept up. The despatches were sent off just as we sat down to table, and before the entertainments were concluded we had received replies from Canada, New York, Washington and Vancouver's Island. As soon as they were received they were read from the chair, and produced a prodigious enthusiasm.

The company was a distinguished one, embracing many of the most eminent men in politics, science, art and trade; and the compliment to Mr. Field was universally felt to be appropriate and deserved, though a little tardy. The Duke of Argyle, a most unmistakable Scotchman, with red hair, high cheek-bones and light blue eyes, presided with great dignity and grace. His short remarks on introducing the several toasts were always felicitous, and his main address in Mr. Field's honor particularly so. It was somewhat of a surprise to me when he remarked that, in the two collisions England had had with America, she was most unmistakably in the wrong, and to hear the sentiment applauded to the echo. Sir John Pakington and Sir Stafford Northcote, both connected with the administration, made pertinent and admirable speeches, and John Bright's speech was such as only John Bright makes in England.

\* \* \* \* \*

The bore of this lively evening was Sir Stratford de Redcliffe—ancient diplomat—who has unfortunately lost his voice, and being a little tedious, is not apt to entertain a miscellaneous audience of three or four hundred people after they have well dined, and the shorter hours of the night are approaching. The audience intimated as much to Sir Stratford by coughing, hemming, beating the table and ringing their glasses, but Sir Stratford, although he had been a diplomat all his life, was not quick to take the hint.

\* \* \* \* \*

Mr. Parke Godwin, one of your ancient acquaintances, was the only American chosen by the committee to speak, as the dinner was essentially an English compliment to Mr. Field. Mr. Godwin rose on the heels of the turbulence which Sir Stratford had created, and I doubt if anybody heard a word he said for several minutes. But it is certainly very creditable to English hospitality that the wild uproar soon ceased, and the words of your countryman, such as they were, were listened to with attention.

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It will not support the views of any particular person or corporation, but will discuss all subjects relating to Telegraphy in a progressive, independent, and liberal spirit.

THE TELEGRAPHER will contain numerous original contributions upon Electrical and Telegraphic science; Correspondence from various parts of the world; Literature and Poetry upon Telegraphic subjects; Notices of changes of Telegraphic offices; and other incidents and items of personal interest, together with a large and varied selection of Telegraphic News-items, Notes, and Memoranda of every description.

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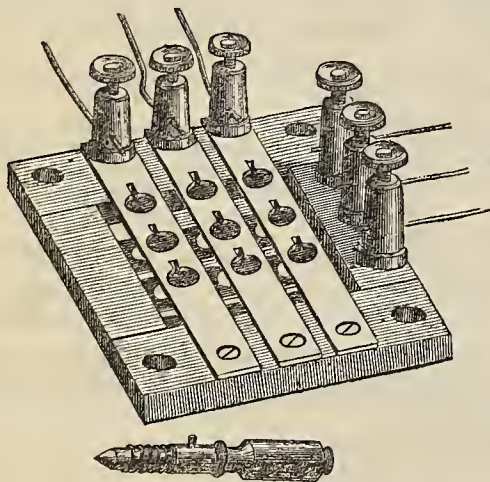
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THE NATIONAL TELEGRAPHIC UNION, by authority of its special charter, granted by the State of New York, proposes to insure the lives of all persons connected with the Telegraphic business, under the following rules and regulations :

Applicants for insurance must be connected in some capacity with the Telegraphic business, must be not less than eighteen years of age, in good health, and able to earn a livelihood. Every applicant shall pay an entrance fee of two dollars, one dollar of which shall be reserved for creating a permanent fund, and one dollar towards the amount to be paid the heirs of the first insured person deceased, who will receive as many dollars as there are persons insured.

Whenever a death occurs among those insured, an assessment of one dollar and ten cents will be levied upon all. This dollar goes to the widow, orphans, or heirs of the next insured party deceased, and the ten cents to be applied to the payment of current and necessary expenditures.

Applications must be made to the Actuary, in writing, accompanied by a certificate, signed by not less than two persons in the Telegraphic business, of good character, that they know the applicant is fully qualified under the preceding rules.

A small annual assessment, not to exceed one dollar, may be necessary to cover working expenses after the first year.

This plan of insurance will be conducted under the supervision of the Executive Committee of the N. T. U., and it will be their aim to make it as inexpensive as reliability and security will allow. It is unnecessary to make any extended remarks, or any comparisons of the great advantages this plan affords for the payment of ready money, at the event of death, over Life Insurance Companies.

Parties wishing to insure should write out the following questions with their answers thereto:

- What is your name?
What is your age?
Where is your residence?
What is your occupation?
Have you any constitutional disease or debility?

Sign the above statement, and forward it to the Actuary, with a certificate signed by two persons connected with the Telegraphic business, that the applicant is well known to them, and that the answers given by him to the above questions are correct?

Applications may be sent to J. W. STOVER, Actuary, Box 6077, New York.

JAMES J. CLARK,

MANUFACTURER OF

TELEGRAPH INSTRUMENTS,

BATTERIES AND MATERIALS,

HARRISBURG, Pa.

Having had over twenty years' experience in the business, and

having made many improvements, I am prepared to furnish

INSTRUMENTS AND MATERIALS

of the most approved construction.

LEFFERTS BROS. & MERRY,

Office and Warerooms,

No. 282 Pearl Street,
NEW YORK,

Manufacturers of American

GALVANIZED SHEET IRON.

TELEGRAPH WIRE

Made Exclusively from the best of
American Iron.

PLAIN AND GALVANIZED

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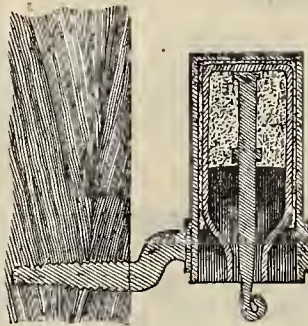
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PATENT PARAFFINE INSULATOR
WORKS,

No. 22 South Twenty-first Street,
PHILADELPHIA.



All varieties of Insulators manufactured at these Works are warranted to excel the usual style of Glass and Rubber more than one hundred fold. In view of the error and delay in transmission, waste and consumption of battery material, the results of defective insulation, its fragile nature and expense of renewal, nothing is more manifest than its economy.

To RAILROAD COMPANIES relying upon the efficiency of their telegraph departments it is of great value.

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MANUFACTURE TO ORDER

A MAGNETO-ELECTRIC TELEGRAPH,

On the Alphabetical Dial principle; the best, most useful and economical instrument for private business and railroad purposes.

VALUABLE PREMIUMS

To be given to Agents!

In order to afford inducements to Telegraph Operators and others to make special efforts to extend and increase the circulation of THE TELEGRAPHER, we have concluded to offer the following:

HANDSOME AND VALUABLE PREMIUMS

to those who may exert themselves for that purpose. This offer will hold good until the end of the present volume, which closes with No. 110.

To establish a claim to either of the premiums, the subscriptions must be from parties whose names are not now upon our books, and must be at the regular rate of Two DOLLARS per year. Two six-months' subscriptions will count as one in calculating for a premium.

We have already had occasion to open accounts with several Telegraphers who have sent in names of new subscribers since we announced our list of premiums last week, and hope to distribute hundreds of dollars' worth of valuable works on Telegraphy and Electrical Science in return for accessions to our subscription list.

The subscription price of two dollars per year must, in all cases, be remitted with the names of the subscribers by parties desiring to avail themselves of our offer.

For five subscribers, new, we will give to the party forwarding the names and money, "Highton's History of the Electric Telegraph," and "Boud's Handbook of the Telegraph," or "Ferguson's Electricity."

For eight subscribers, "Dr. Lardner's Electric Telegraph," or "Prescott's History, Theory and Practice of the Electric Telegraph," or "Turnbull's Electro-Magnetic Telegraph," or any other books on the list of equal value.

For twelve subscribers, "Shaffner's Telegraph Manual," or "Culley's Handbook of Practical Telegraphy," or "Sabine's Electric Telegraph," or "Noad's Student's Text-Book of Electricity." Or, instead of these, any other book or books on the list, of equal value.

We have, also, a few copies of Vol. 3 of THE TELEGRAPHER, very handsomely bound, which, if preferred, we will give instead of the books above named in this class.

For twenty subscribers we will give "Noad's Manual of Electricity," or any other books of equal value on the list, as may be preferred.

To the person who shall, before the expiration of the present volume, obtain the largest number of subscribers, not less than fifty, we will present a splendid copy of "A TREATISE ON ELECTRICITY," by A. DE LA RIVE, in three volumes, 8vo., the lowest price of which is \$36.50.

Persons who desire to avail themselves of the above offer, are requested to notify us of the fact, and they will be credited with the subscriptions forwarded, until they decide which of the above premiums they desire to receive.

It is understood that the last premium is to be in addition to any others that may be received.

WORKS ON

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192 BROADWAY, NEW YORK.

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—A complete History and Description of the Semaphoric, Electric, and Magnetic Telegraphs of Europe, Asia, and Africa, with 625 Illustrations. By Tal. P. Shaffner, of Kentucky. New Edition. 1 vol. 8vo., cloth, 850 pp. .... 6 50

CULLEY, R. S.—A Handbook of Practical

Telegraphy.—Published with the sanction of the Chairman and Directors of the Electric and International Telegraph Company, and adopted by the Department of Telegraphs for India. Second Edition, revised and enlarged. 300 pp., Illustrated. London, 1867..... 5 25

SABIN, ROBT.—The Electric Telegraph.

—Containing a Complete Description of Telegraphs now in use in the U. S. and Europe. 1 vol., 8vo. Illustrated with 200 Engravings. Over 400 pp. London, 1867..... 6 25

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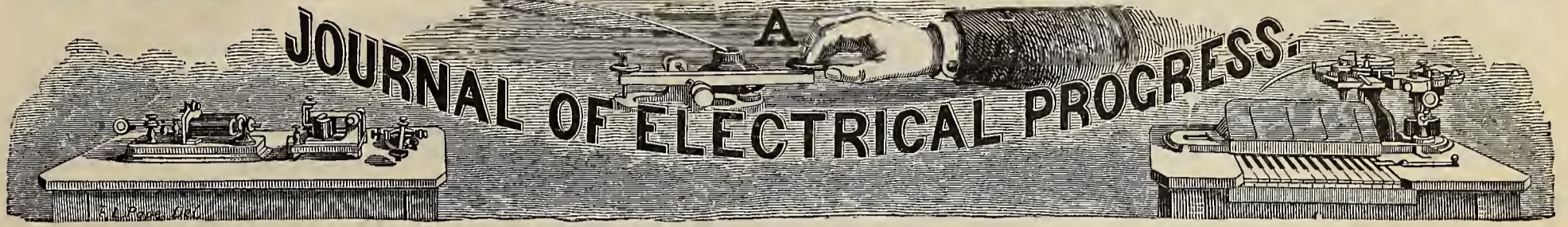
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A New and Revised Catalogue of Scientific Works ready October 1, sent Free on Application.

New York, Sept. 15, 1867.



# THE TELEGRAPHER.



Vol. IV.—No. 50.

New York, Saturday, August 8, 1868.

Whole No. 108.

## Important Judicial Opinion.

In the case of *TYLER et al.* against the Western Union Telegraph Company, tried at the June Term of the Superior Court, at Chicago, JOSEPH E. GARY, Chief Justice, presiding, an important opinion, affecting the liabilities of Telegraph Companies, was delivered by the Court.

The action was for the recovery of \$729.77 loss, alleged to have been sustained by an error which occurred in the transmission of a message from the plaintiffs at Chicago to a broker in New York, ordering the purchase of Western Union stock.

The defendants admitted the allegations of the plaintiffs as to the facts, and based their defence upon the fact that the original message was written upon the blank in use at the defendants' office in Chicago, and that, by the terms of the notice upon the blank, the company could not be held liable beyond the amount paid for transmission upon an unrepeatable message.

The case was argued, and the Court instructed the jury in behalf of the defendants as follows:

"If the jury believe from the evidence that the message delivered by the plaintiffs for transmission to J. H. Wrenn, in New York, was written upon one of the company's blanks, the same as, or similar to one of the blanks exhibited by the witness, Rankin, then the plaintiffs can recover but \$2.05, the amount paid for transmitting said message."

The jury found for the plaintiffs, and fixed the damages at \$828.70, and the defendants moved for a new trial. On granting the motion for a new trial the Court said:

"The verdict of the jury cannot be allowed to stand. It is clearly established by the authorities adduced that Telegraph companies are not common carriers, in the sense of the common law. They have a right to limit their liability, as the evidence shows was done in this case, by the use of a blank. The evidence establishes clearly that such a blank was used by the plaintiffs, and the verdict of the jury is contrary to the law and the evidence of the case. Motion for a new trial granted."

## The New York District.

As will be seen by the notice of the Secretary, published in another column, the regular monthly meeting of this District, which was held on Tuesday evening last, at the Merchants' Hotel in Cortlandt street, was adjourned until Tuesday evening, August 18, at the same place.

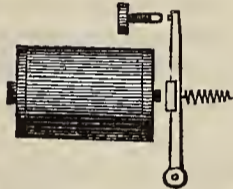
This was done in order to afford opportunity for all the members of the District, entitled under the constitution to vote for officers, to send in their ballots to the committee.

We hope that all those who have neglected this duty will at once attend to it, and that every member who can possibly do so will make arrangements to be present at the adjourned meeting.

## Self-Adjusting Relays.

It is a well-known law of magnetism that there is a limit to the magnetic attraction which can be induced in a soft iron bar, and this law may be taken advantage of in the construction of a self-adjusting relay magnet for telegraphic purposes simple both in principle and form.

The diagram will convey a good idea as to the size of the helix and core, when compared with the ordinary form of relay magnets.



The cores of this magnet are composed of bars of soft iron, one sixteenth of an inch in diameter. It will be seen, by referring to the diagram, that the helix is quite short and thick,  $2\frac{1}{2}$  inches by 2 inches, which is another adaptation of a well known law of electro-magnetism, to wit: that short and thick electro-magnets receive and lose their magnetism with more facility than those of greater length, although both may have the same retentive power.

The cores being very small, and wound with a great number of convolutions of fine wire, become magnetized to their fullest extent by a current whose action would scarcely be perceptible upon the ordinary form of magnets.

As before stated, there is a certain limit to the amount of magnetism that can be induced in a soft iron bar, and it will, therefore, be seen that currents of different tensions may pass through the helix, but only a small portion of each will produce an effect upon the core.

To illustrate more clearly, suppose that the smallest force which an ordinary instrument can be worked on be represented by 5, and the strongest by 100, then the force of 5 from the distant battery passes through the helix and thence to the ground (this magnet must necessarily be worked on the open circuit principle). The little cores become magnetized to their highest limit. If the force be now increased to 100, this increase will produce no effect, as the force of 5 had already produced all the power obtainable.

This little core, being always intensely magnetized by the passage of the current through the helix, allows a considerable tension to be placed upon the spiral spring, which tends to make the armature act quick. As no change in the strength of the magnet ever occurs, the armature is drawn up to the core with a uniform force.

T. A. E.

## Charter Refused.

In the Florida Legislature the bill to charter the Royal Oceanic Telegraph Company in opposition to the International Ocean Telegraph Company has been defeated.

## Daniell's Battery.

MR. RUDALL, of the London, Chatham and Dover Railway, of England, has lately introduced an improvement in the modified form of DANIELL'S battery (commonly known as the sulphate battery), generally in use upon the English railways.

The old form used to consist of a trough, divided by partitions, and subdivided by a porous plate let in. Several arrangements were tried and adopted for doing away with this partition, in order to occupy less space; amongst these may be mentioned that known as the SILVERTONN battery, consisting of loose porcelain double cells in the wooden trough, the copper being formed as a rectangular cell, in order to contain the necessary sulphate.

The front of the cell was perforated all over with round equidistant holes, and at the back was attached a piece of leather, closing over these holes and acting as the porous diaphragm; in RUDALL'S modification the form of the copper cell is maintained, but the leather and the front face of the copper are replaced by a porous plate, which is let in and secured. The advantage of this battery is that the porous plate acts better, and the battery is cleaner; the absence of the copper face prevents the large amount of deposition that usually, in spite of the well varnished surface, took place. The present modification is found to answer well, as a good practical battery for English needle lines, or other Telegraph work.

## An Improved Voltastat.

In the *Popular Science Review* for July, 1868, an improved Voltastat is described by professor GUTHRIE, by which the current of a galvanic battery may be maintained perfectly constant and regular by a self-acting arrangement, which will become intelligible by the following description: A vertical glass cylinder, of about the size of a test tube, is charged with dilute sulphuric acid, with a layer of mercury below, occupying about one third of its total contents. Partly immersed in the acid liquid is a pair of platinum electrodes, insulated by glass fused upon the wires at that portion which passes through the cork stopper of the jar, and a comparatively wide glass tube, open at both ends, is fixed in the same cork, with its lower extremity dipping below the level of the mercury, whilst another delivery tube, with bulb and capillary orifice, provides for the slow escape of the mixed gases resulting from the electro decomposition of the water. This apparatus, having been placed in the battery circuit, say of three BUNSEN cells, evolves the oxyhydrogen gas with a rapidity which may be easily regulated by the size of the aperture; if, then, the activity of the battery is increased, the larger volume of gas, unable to escape, exerts a greater degree of pressure upon the liquid contents of the cylinder, and the mercury is forced up the open tube, whereby the column of liquid descends, and smaller surfaces of the platinum plates are left immersed, and the power of conduction is, to a corresponding extent,



lessened. In this manner the author states that he found no difficulty in maintaining a perfectly uniform current for a period of six or seven hours, and any required adjustment could be made, either by altering the size of the apparatus or of its component parts. By collecting the gases evolved, this little arrangement could also be made to serve as a Voltmeter. GEO. LITTLE.

Hudson City, N. J., 20th July, 1868.

### 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 Pleasant Excursion.—Milwaukee Again.—A Ratification.

CHICAGO, July 28.

TO THE EDITOR OF THE TELEGRAPHER.

AMONG the unhappy results of the New York Convention was an increase of specials westward, to such an extent as to render our celebration of the Fourth simply nominal. The stirring recollections which a recurrence of that day usually awakens had faded from our minds, when a tastefully printed card, bearing the following inscription:

"Steamer 'Mayflower.'

"Friday Evening, July 10th,  
"9 o'clock P. M."

was placed in our hands by the guardian of the Keokuk wire, who had chartered the "Mayflower" for an excursion on this evening, and with commendable kindness had sought by this means to dispel any lurking disappointment at the unsatisfactory termination of our Fourth. The invitation was generally accepted with enthusiasm. A few of the more timid ones dismally alluded to the fate of the "Little Western," with an extended reference to the unsafe condition of boilers, and the intemperate habits of helmsmen. These gloomy objections were promptly met by the more cheerful view of a few hours' possession of a boat propelled by steam, the officers of which, from captain to ballast regulator, for the time, being under our immediate orders.

Accordingly, on the evening of the 10th, a large crowd had assembled in the vicinity of the "Mayflower," some for the purpose of embarking—while others, a majority, perhaps, met to enjoy the perfumes of Chicago River, and listen to the stirring music of the string band which had been engaged for the benefit of those who wished to dance. The party consisted of several of the married portion of our number, with their wives, a respectable number of the eligible single ones, while the remainder were either acquaintances or people of prominence, who were granted admission upon showing proper credentials.

The time for departure having arrived amid the shouts of the captain and the unfeeling remarks of a crowd of small boys, the "Mayflower" swung proudly into the swift current and transparent waters of Chicago River, the band executing "A Life on the Ocean Wave." The evening was a delightful one, and the cool breeze from the lake peculiarly refreshing. The principal amusement of the evening was the festive dance, in which, first and last, nearly every one participated. I should be pleased to describe some of the unique performances of the Knights of the Key, but, until THE TELEGRAPHER is enlarged, I suppose its correspondents must "condense."

Sitting in the forward part of the boat were a few of the more romantic ones, less interested in the amusements of the evening than a contemplation of a beautiful display of Aurora Borealis, which was unquestionably brought out for the occasion. At length the boat was headed homeward, and as the time approached when our pleasant excursion must end every one seemed to be impressed with the determination to devote the remain-

ing hour to the fullest enjoyment, and, as the "Mayflower" rounded to at her moorings, nothing could be discovered, in the general satisfaction expressed on every hand, that bore the slightest resemblance to a flight from religious persecution.

In one of the late issues of THE TELEGRAPHER we noticed a belligerent communication from one of our retired lake villages, under the head of "Milwaukee vs. Chicago," in the course of which the writer, after darkly hinting something concerning "button repeaters and repeating report," valiantly perpetrates a query, or conundrum, which carries its answer with it, and cruelly compels us to understand that we are powerless to perform the feat of sending or copying two thousand odd words in an hour, as it appears some one in that country has done. We wish to preface a direct reply by saying to our Milwaukee friends, "Keep cool." It is too warm to engage in the manufacture of conundrums; much too warm to think of sending or receiving that number of words in so short a space of time; we are surprised that you are ignorant of the fact that people are dropping off daily from the effects of over exertion. Our ambition never has been to die young. We prefer to "strut and fret" awhile yet. Should you insist upon a more satisfactory answer to your query, we beg that you allow us a few months' reflection.

The report of large sums having been wagered upon the coming Presidential election, in the basement of the Sherman House, among operators of this office, is true. "In company with a guide" I visited the identical spot last evening, where were seated around a circular table several whose roseate faces indicated intense political excitement, and arguments and bets were proposed with equal profusion. All bets made were those of honor, however, the currency adopted being Micawber's "I O U." Fabulous sums, prospectively, changed hands in this way. The beaming countenances which the office presented the following day spoke plainly of a ratification.

H.

#### The Fire at Oil City.

OIL REGIONS, PA., Aug. 1st.

TO THE EDITOR OF THE TELEGRAPHER.

A few notes of passing events among us may be interesting to some of your readers. Business is rather lively in most parts. At present there is a great rush to Pleasantville. Some very large flowing wells have been struck there lately, and a great number of new wells are being put down, and every operator expects to get a 150 or 200 barrel well. Every one is on tip-toe of expectation. Salaries have gone up like a meteor, on account of the scarcity of men. Living is not so high as would naturally be expected, consequently the excitement is a good thing for all except those who fail to strike "ile" after having invested their all.

Oil City has again been unfortunate. On Friday, 31st July, the lower portion of the city and principal business part was destroyed by fire. Over fifty families were burned out of house and home. Amongst others in misfortune were the Telegraphers—the main offices of the Western Union and Pacific and Atlantic Lines being destroyed—the boys having to work hard to save their instruments and other valuables belonging to a Telegraph office. Great credit is due to Messrs. LUCE and FIRMAN, managers of the offices, for their activity and promptness in opening new offices. The fire had scarcely been quelled before we noticed Mr. FIRMAN (P. & A.) manipulating on a small table in a flour and feed store, with the wires run through the open door-way—Mr. LUCES (W. U.) establishing his a little further up street, in a warehouse filled with household furniture saved from the devastating element, and surrounded by men women and children, looking amongst the wreck of their goods for a place to lay their weary heads, and something wherewith to satisfy the demands of the inner man.

Before two o'clock P. M. at least a dozen repairers had arrived, and were busy straightening out and connecting the wires, and before night comfortable offices were established, and were doing a thriving business.

The cause of the fire is generally supposed to have been from the accidental combustion of "ile." O.

#### Suspended, and Why.—Have Telegraphers any Rights?

TO THE EDITOR OF THE TELEGRAPHER.

WM. H. HARTMAN, an operator in the Cincinnati office, after completing his regular duties, went home to his hash and family. In the evening he stepped into the office to get a letter which he heard was there. While there he was ordered to go to work by the night manager, Mr. WARNER. He declined, as he had done his regular day's work, was not a night operator, and had previously made an engagement for that evening.

The result was that Mr. WARNER reported him to the Superintendent, Mr. WILLIAMS, and he was suspended for two weeks. At the end of the two weeks WILLIAMS requested him to resume his position which he was very happy to be able to decline, having secured a position elsewhere.

It is evident that the Western Union Company, or some of its Superintendents, are disposed to regard operators merely as slaves, bound to come and go, to labor or rest, as they shall be directed, or graciously permitted to do by those in authority over them.

If an operator is absent from duty for a day, his pay for the time is deducted, while, at the same time, the company claims the right to exact any amount of labor without extra compensation. This may be just, but it does not so strike the

VICTIMS.

#### Alleged Sharp Practice.

INDIANAPOLIS, July 30.

TO THE EDITOR OF THE TELEGRAPHER.

THE Pacific and Atlantic Telegraph Company ran their wire upon the Western Union poles, between Logansport and St. Louis, crossing near Chicago, hitching the wire upon about every fifth pole. This was all done before the sleepy officials of the W. U. Co. at this point were aware of it. The P. & A. Co. employed a large gang of men, and worked day and night. There is a terrible commotion in the W. U. Co.'s office here, and they are organizing a large force to head off the P. & A. folks, and to take down what has been put up. Your correspondent is not able to give you any further particulars in regard to this matter. As the matter now stands, a nice little fight is in prospect. I am informed, though, that the P. & A. Co. have some understanding with the railroad company along which the lines run, (the C. C. & I. C.) The poles may belong to the railroad company instead of the Western Union, in which case the wires will probably remain intact. The Atlantic and Pacific Co. are rapidly building from Dayton towards Cincinnati, and expect to open there in a few days.

THE TELEGRAPHER—the only Telegraphic paper worthy of the name—is read by all hands in this section of the country, and is highly valued. K. K. K.

#### Appreciative and Intelligent.

FAIRMONT, W. Va., August 3.

TO THE EDITOR OF THE TELEGRAPHER.

HERE is a short one. You can use it if you wish. A short time before the Telegraph line was completed between Fairmont and Morgantown a gentleman remarked, in one of the stores on the route, that the Telegraph line would soon be completed from the R. R. to Morgantown. An old fellow remarked, in good faith, "I suppose they will take the stage off then." HEARER.



## The Washington, D. C., Fire Alarm Telegraph.

WASHINGTON, July 29th.

TO THE EDITOR OF THE TELEGRAPHER.

NOTHING of interest has transpired here in Telegraphic circles, aside from the late change in the *personnel* of the Fire Alarm Telegraph of this city. Soon after the election of the new Mayor, Mr. S. J. BOWEN, the Chief of the Fire Alarm Telegraph Department, Mr. A. B. TALCOTT, was removed, and a Mr. LARKHAM appointed in his place. The latter had very little experience in Telegraphy, and none whatever in this particular branch; but it was supposed that the two assistants would remain, and that with their aid the new Superintendent would eventually become posted in his duties. Immediately upon the removal of Mr. TALCOTT, however, the assistants, Messrs. NOYES and SEIBOLD, resigned, leaving the office without a competent operator. Mr. LARKHAM imported from Baltimore a Mr. BURRETT, to show him how to run the office, but this experiment failed, as since the change the Fire Alarm has not been available, and the alarm of fire is now in the hands of the Police Telegraph. Two new assistants, Messrs. H. H. BISHOP and H. R. MILES, have been lately appointed, and it is hoped that the Fire Alarm Telegraph will soon be in working order again. It is to be regretted that Mr. TALCOTT was removed, as he is one of the most capable officers in Telegraphy, and to him is due the success and great efficiency which has characterized the Fire Alarm Telegraph since its establishment in this city.

Congress adjourned without acting upon the various Telegraph projects introduced some time since for its consideration. These subjects have already been very fully laid before the readers of THE TELEGRAPHER, and require no further explanation.

OBSERVER.

## Union Matters in Boston.

BOSTON, MASS., Aug. 4th.

TO THE EDITOR OF THE TELEGRAPHER.

AT the annual election of the Boston District, N. T. U., held August 3d, the following officers for the ensuing year were duly elected:

*District Director.*—T. A. DAVIN. *Treasurer.*—J. A. ELMS. *Secretary.*—J. E. WRIGHT. *Delegate.*—J. W. DUXBURY. *Alternate.*—T. A. DAVIN.

There were some mistakes in the nominations, as published in the last TELEGRAPHER, but as the election is over, this is now of no consequence.

Mr. H. W. WHEELER withdrew his name from the ticket in consequence of the pressure of other duties rendering it impossible for him to devote as much time to the affairs of the district as would be necessary.

We are preparing to make this district a live one in every respect, and, with earnest and persistent effort, will, I think, succeed.

BOSTONIAN.

## More Competition.

CHICAGO, August 1st.

TO THE EDITOR OF THE TELEGRAPHER.

A NEW Telegraph Company, styled the Mississippi Valley Telegraph Company, East and West, has just been organized, to build a line from La Crosse, Wis., to Chicago. Capt. WHITE, of the former place, is the President of the Company. They have already commenced the construction of the line.

The Pacific and Atlantic Company have reached Brighton, within six miles of Chicago.

PROGRESS.

ADVANTAGE OF THE TELEGRAPH.—A party of ladies and gentlemen, attempting to go from Cheyenne to Fort D. A. Russel, one night last week, got lost on the prairie in a storm, and were only rescued by at length running foul of a Telegraph pole, and following the direction of the line of poles, reached the fort, and were rescued from their unpleasant predicament.—*Cheyenne Star.*

## PERSONAL.

Mr. P. H. BURNS, of the Western Union Boston Office, is spending a brief vacation at Fishkill, on the Hudson River.

JOE PIERCE was in Boise City, Idaho, July 2d.

J. M. ELLISON has resigned position as manager of Joliet City, Ill., office, to accept place at Atchison, Kansas. Mr. H. MCGREGOR, from New York, relieves him.

J. F. MCCONNELL has gone out in the U. P. R. R.

FRANK B. KNIGHT, of the Chicago Office, has gone on three weeks' leave to Rochester, N. Y.

CHARLES R. SHERMAN, D. C. RAND and B. U. BUGBEE, of W. U. Co., Boston, have been promoted by the resignation of M. C. LAVEN.

F. H. DUNCAN, formerly of Easton, Pa., has taken charge of Scranton, Pa., office, *vice* H. A. CLUTE, resigned.

LIZZIE O'REILY has taken charge of Easton office, *vice*, DUNCAN transferred.

DENNIS J. HEARN, formerly of W. U. Co., Boston, has resigned, and accepted position as operator with Franklin Telegraph Company.

JOHN CREIGHTON, formerly of Halifax, has accepted position as clerk with A. & P. Co., Produce Exchange, N. Y.

Mr. J. W. STRAUCHON has resigned his position as operator on the O. C. and A. Railway, at Oil City, and accepted a similar position on the Union Pacific Railroad, (E. D.) in Kansas.

Mr. J. B. MINICK has resigned his position in the office at Morgan, Mich., and accepted a situation with the M. and O. R. R. Co., *vice* F. G. BARLOW, resigned.

Mr. ED. C. STEWART, of the Washington and C. W. office, has been transferred to Plaister Cove, N. S.

Messrs. T. H. SHERMAN and BILLY KETTLES, of the same office, passed through New York last week *en route* to the East, on leave of absence.

## THE TELEGRAPH.

## The Second Atlantic Cable Broken.

ON Monday afternoon, August 3, the second Atlantic Cable, laid in 1866, was broken, it is supposed from the same cause which damaged the other cable last year—the grounding of an iceberg upon it in comparatively shallow water. Subsequent electrical tests have located the break at about eighty miles from Hearts Content.

The following despatch from Mr. CYRUS W. FIELD announcing the fact, was furnished to Mr. J. W. SIMONTON, the general agent of the associated press, by Mr. HENRY H. WARD, Superintendent of the New York, Newfoundland and London Telegraph Company, Monday evening:

"LONDON, Monday afternoon.

The cable of 1866 ceased to work at 12.35 this afternoon. Tests show fault at the Newfoundland side. The cable has probably been damaged by an iceberg.

(Signed), CYRUS W. FIELD."

The cable of 1865 is intact, and in good working condition, and is fully competent for the prompt transmission of all business offering at present.

Measures will at once be taken to pick up the fractured ends and repair the cable, and it will doubtless be in serviceable condition again within a few weeks.

## A New Line in the Far West.

A TELEGRAPH LINE is projected from Salt Lake City, *via* Fort Hall and old Fort Boise, to the Columbia River. This will ultimately make a short route to Vancouver's Island, connecting the British possessions directly with the main line. It will probably be built during the ensuing year.

## The Telegraph at Plymouth, N. H.

THE Western Union Telegraph Company, Aug. 4th, opened a new station in Plymouth, N. H., at the Pemigewasset House. The guests at this popular summer resort are thus put in direct communication with the friends they have left behind them, as well as with those at the other mountain houses.

## Ladies' Department, Chicago W. U. Office.

THE Female Department of the Western Union Office, at Chicago, has been fully inaugurated with five operators. The Company propose to employ ten lady operators at this office eventually.

## The Vienna Telegraph Conference.

CORRESPONDENCE from Vienna states that the International Telegraph Conference has decided upon using the Hughes printing system. The tariff of charges between the various countries will undergo a radical revision.

## Encouraging to the Shareholders.

THE following statement, from the official organ of the Western Union Telegraph Company, must be highly gratifying to the owners of its bonds and stocks:

"Since the last semi-annual report of the Western Union Telegraph Company its bonds have advanced from 80 to 90. This shows the public appreciation of the increasing soundness of the Company. As these bonds are reduced in amount by the monthly absorption which it is the settled policy of the Company to maintain, the price of the stock will gradually advance. At present prices it yields an income of about 11 per cent. Sales have varied during the last month from 34½ to 35½. The lines never worked better, and increased attention is being given to their condition."

## The Brooks Insulator.

THE Schuylkill Navigation Company are putting up a line of Telegraph with four (4) wires along the Schuylkill, from Philadelphia to the coal regions in Schuylkill County, to facilitate the coal trade. They use the Brooks insulator.

## Telegraph Extension.

THE St. Joseph, Mo., and Council Bluffs, Iowa, R. R., which only lacks four miles of being completed, are to have a Telegraph line. The road is 150 miles in length. Operations on the Telegraph line have already begun from the St. Joe end of the road. The W. U. Co. are also extending a line west to Council Bluffs from Des Moines, Iowa, on the Chicago R. I. and P. R. R. Mr. HUNTOON is superintending this work.

## TO CORRESPONDENTS.

R., JANESVILLE—The concern you mention has an office in this city, we believe, but has never built or owned a rod of line anywhere to our knowledge, nor is it likely to.

## MISCELLANEA.

## Bulls.

A WESTERN correspondent sends us the following bulls.

A despatch from Cheyenne says: "I think not without pass from Omaha—*Judy* for self." Should have been "judge for self."

Another one from Nevada came addressed to "Mr. MOTHER'S, Pork House"—should have been "Mr. MALTER'S, Park House."

S. F. B. MORSE has given to the Theological Seminary at Yale College the sum of \$10,000 towards the erection of a new divinity hall.—*Exchange.*





SATURDAY, AUGUST 8, 1868.

**GRUMBLERS.**

TO GRUMBLE and find fault appears to be one of the inalienable rights and uneradicable proclivities of mankind. Like giving advice, it comes natural to a large proportion of men and women. Experience has shown, however, that grumblers and fault-finders are not, as a general thing, of much account as reformers. It is so easy to growl and complain, and so difficult to remedy or remove the cause of complaint, that your constitutional grumbler usually confines himself to the first, and leaves to others the more onerous and practical duty.

From experience and observation, during the last year or two, we have come to the conclusion that a large number of these grumblers has, first and last, become connected with the NATIONAL TELEGRAPHIC UNION, and that, with the contributive efforts of others who do not, and never did belong to the UNION, they have succeeded in accomplishing a decided success in their specialty in connection with its affairs.

We do not desire to be understood as deprecating discussion of the affairs and results of the UNION. Intelligent discussion, with a view to improvement, is just what is needed, and just what THE TELEGRAPHER has aided and encouraged. Our readers will bear witness that this paper has neither sought to excuse or cover up any short comings or inefficiency on the part of the association. Believing that it had an important work to perform, and that it was capable of becoming more useful and valuable than heretofore, we have steadily and earnestly labored to so amend and reconstruct it as to render it adapted to that work, and to still further develop its usefulness and value.

What we do object to is the tendency, on the part of some of its members and others, to complain of its short comings, without manifesting any disposition to aid those who are striving to make it what it should be. These growling members do not even attend the meetings of their Districts although always grumbling or complaining of what is done or left undone at such meetings. They are generally months in arrears with their dues and keep the Treasurer constantly at work to secure what he ought never to be required to ask for more than once.

There is no way in which this class can be satisfied, and we do not know that the UNION is any better off for reckoning them among its members. If they would leave off their grumbling, and participate actively in the business and management of the UNION, then there might be more reason in their fault-finding if things went wrong. The UNION is just what its members choose to make it. It is a thoroughly democratic institution, in which the voice of the active majority rules. If it does not now answer the expectation, and accomplish the purposes for which it was instituted, the remedy is in the hands of its members. Let the Districts send to the Albany Convention delegates in whom they have full confidence, and let them know what is desired by their constituents, and we have no doubt but that from its meeting the UNION will take a new start, and become more vigorous, numerous and valuable than ever before. Do not growl and grumble but *work*, and the result cannot fail to be much more satisfactory.

As to that other class referred to—men who do not, and never have belonged to the UNION, but who feel themselves privileged to criticise and condemn all its proceedings—we do not know that we need trouble ourselves much about them. As they always have criticised and grumbled, we presume they always will. It is one of their prerogatives, and if it affords them any satisfaction it would perhaps be cruel to attempt to deprive them of it.

Let us then seek to place the UNION on a fair and lasting basis. Let it be made so useful and beneficent in its character and operations as to attract to its membership all operators whose connection with it would tend to strengthen and improve it, and we can afford to let the grumblers—we mean the incorrigible grumblers—go. Under such auspices, and with the organization extended all over the country, and embracing within its membership a large proportion of the practical Telegraphers, it will become a power that will be respected. It will afford the means of intercommunication and concentration of influence of the profession, which, in many ways, will be found advantageous to their interests.

The N. T. U. is now passing through an experience which almost every association of a similar character, or established with like purposes, has to go through. Most of those who originated it have either retired from the business, or if still Telegraphically employed, have devolved upon others the management of its affairs. The charm of novelty has passed away, and the beneficial results have not met the expectations of many of those who have become connected with it. It evidently needs a thorough revision and reconstruction. It is felt that its burdens should be lessened and its benefits increased. Under these circumstances, it is but natural that for a time its progress should be arrested, and its prospects less encouraging. Notwithstanding all this, however, we believe that it has a future before it, and that it will soon rebuild what has been destroyed, and resume its onward progress. Let all hands stop grumbling and go to work, and the future of the UNION is assured.

**Things that Should be Corrected.**

WE have frequently had occasion to criticise and condemn the acts of Telegraph Companies as tyrannical and unjust towards their employés. We are inclined to think, however, that it is not the companies alone who are to blame in this matter. Much of the discomfort experienced by operators, in some offices, arises from the domineering spirit of those who are placed more immediately over them. Superintendents and managers, especially those who have risen from the ranks, as in this country most of them have, are sometimes unable to bear with equanimity their elevation, and are disposed to exact too much from those over whom they exercise a brief authority. We do not mean this to be applied to any particular office or case, but wish to call attention to what we should judge, from the information we receive, is a growing evil. The rules and regulations of at least one of the companies are sufficiently onerous, without any additional pressure on the part of those upon whom their enforcement devolves. Managers of large offices should remember that operators are, or are supposed to be gentlemen and ladies, and deserve to be treated as such, and not ordered around like hod carriers or navvies.

Another unjustifiable custom is that of requiring extra work from employés, without extra compensation. Formerly, when vacations were allowed to operators, without a discontinuance of salary—when a day's or a week's sickness did not appear in a reduction of the pay roll and when Telegraphers had many other privileges which have gradually been withdrawn from them—if the necessities of the business required extra service it was cheerfully rendered, without expectation of extra reward. As matters are at present arranged, with the understanding with which operators are employed, that so

many hours' labor shall constitute a day's work, and that any failure, either from sickness or accident, to render that amount of service, shall cause a proportional reduction of the amount of compensation, we do not consider that any company which enforces such regulations has any right to require an hour's extra service of its employés.

On one line, we understand, it is the custom to assess operators for damages arising from mistakes. As it is almost impossible, when working MORSE by sound, to determine which of two operators makes a mistake, it is the custom, when an error has been made, and it cannot be discovered by whom it was made, to choose a committee who guess at the criminal, and he has to stand the loss. If mistakes always occurred through the carelessness of operators, and the fault could certainly be placed upon the right individual, there might be some reason in this, but as it is it frequently works injustice, and we do not think that any company has a right to rob its employés in this manner—and we understand that eminent lawyers have given an opinion that such exaction is not only unjust but illegal.

There are many other matters, in connection with the administration of Telegraph affairs, that need correction, but the above will answer for this week.

**A Deservedly Popular Superintendent.**

OF the numerous district superintendents of the Western Union Company, no one is more deservedly popular with the employés on his district than Mr. JAMES S. BEDLOW, of Portland, Maine, Superintendent of the Third District, Eastern Division. He regards and treats his operators and other employés as something more than mere machines, out of which the utmost possible amount of labor is to be extracted, without reference to their comfort or convenience. We understand that, as has been his custom heretofore, he has this season made arrangements to afford his operators their regular vacations, without producing a financial collapse by the deduction of salary, while recuperating their energies for future labors. We have no doubt but that the employés of the Third District, or at least such of them as have experienced the *kindness* of some other Superintendents in the Western Union service, will fervently pray for his continuance in its management.

**Again in the Field.**

LIKE the Phoenix rising from its ashes with renewed youth and vigor, the well known and successful establishment of Mr. CHARLES WILLIAMS, Jr. for the manufacture of Telegraph instruments and electrical apparatus, at No. 109 Court street, Boston, has been reconstructed, and he is again prepared to respond promptly to the requirements of his customers. Mr. WILLIAMS has taken advantage of the opportunity afforded by the partial destruction of his establishment by fire, to enlarge his premises and facilities, and with new and improved tools and machinery is prepared to turn out work which shall not only sustain, but add to his already excellent reputation. We have no doubt but that he will meet with that encouragement and success which his efforts deserve.

**Increasing Prosperity.**

THE following is the official statement of the receipts and expenditures of the Western Union Telegraph Company for the month of June, 1868:

Gross receipts,.....	\$579,911 00
Current expenses,.....	353,375 50
Net profit,.....	\$226,535 50

The receipts for the month are \$26,000 above the estimate, and exceed the balance for the corresponding month of last year by \$56,000. This, in view of the active competition, and a reduction of tariff on a portion of its routes, is a very encouraging and satisfactory exhibit.







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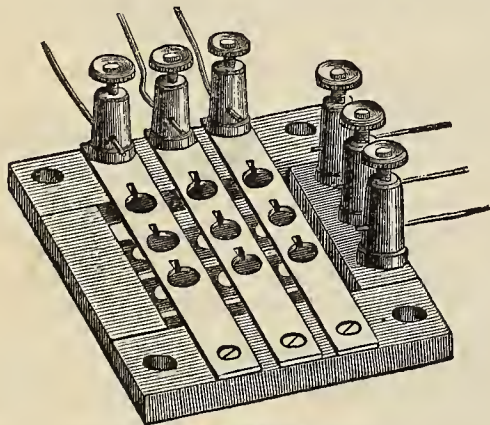
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The simplest and most efficient instrument ever devised for the purpose, for

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The most compact and reliable method of Switch, forming a clean spring-locked connection between any number of wires, in the space of a square inch for each connection, by the aid of plugs, giving every connection desired in any office for changes and test

Manufacture the Genuine ELECTROPOION BATTERY, with Patent Platina Connections, introduced by them eight years since; also, THE ALPHABETICAL OR DIAL TELEGRAPH, now extensively used in this and other cities for private lines. They offer for sale, among other novelties, a "SOUNDER" that will work practically with a single cell, and a BATTERY that does not require to be taken down but once a year; and the very best MAIN LINE SOUNDERS made.

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

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General Manufacturing Electrician,  
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Keeps constantly on hand and manufactures to order, all kinds of  
Telegraphic, Galvanic and Electric Apparatus,  
Of the most approved patterns and cheapest possible rates.  
ALL WORK WARRANTED.

Galvanometers of extreme delicacy, Physicians' Apparatus,  
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Wholesale and Retail Dealer in Telegraph Supplies, etc.

Atlantic and Pacific Telegraph Co.  
CAPITAL, \$5,000,000.  
Lines completed from New York to Cleveland.  
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M. L. WOOD, General Superintendent..... "

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J. W. BROWN, Treasurer..... "  
J. G. SMITH, Superintendent.....New York.

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We are working all Instruments with an ENTIRE NEW MAGNET, excluding thereby all use of Local Batteries. Our Main-Line Registers and Sounders have been put to the SEVEREST TESTS, and are pronounced by competent judges

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We claim to gain more power or effective working force in our Instruments, with ten ounces of wire, than has heretofore been gained by using one pound, as we get rid of the residual magnetism.

We also manufacture a Relay with only ten ounces of wire, thereby putting very little resistance in the line, and doing the work as well, if not better, than those that contain one pound wire, and put a great resistance in the line.

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His relays were awarded the

FIRST PREMIUM

at the late Great Fair of the American Institute, New York, and their superiority is generally acknowledged by operators who use them.

Aside from the advantages apparent upon inspection of these magnets, their acknowledged merits consist in the construction of the helix, which was patented Aug. 15, 1865. This being of naked copper wire, so wound that the convolutions are separated from each other by a regular and uniform space of the 1-800th of an inch, the layers separated by thin paper. In helices of silk insulated wire, the space occupied by the silk is the 1-15th to the 1-300th of an inch; therefore a spool made of a given length and size of naked wire will be smaller and will contain many more convolutions around the core than one of silk insulated wire, and will make a proportionably stronger magnet, while the resistance will be the same.

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Button Repeaters.....	\$ 6 00
Relays, with helices in bone rubber cylinders (very fine).....	19 50
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Same in Rosewood.....	17 00
Medium Box Relays.....	17 00
Same in Rosewood.....	18 00
Large Box Relay.....	18 00
Main Sounders, some as the above, with heavy armature levers without local connections, 75 cents less.	
Pocket Relays, with all the adjustments of the above, and good Lever Keys.....	22 00
Excellent Registers.....	40 00
Pony Sounders.....	6 75
Keys.....	6 50

All other appliances made to order. Extra spools for replacing such as may be spoiled by lightning, furnished at \$1 25 each. Old spools taken at the price of new wire by the pound. Goods sent to all parts of the continent, with bill C. O. D. Or, to save expense of returning funds by express, remittances may be made in advance by certified check, payable in New York, or by Post office order, in which case he will make no charge for package.

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 Recording Sec.....Mr. H. W. WHEELER....Boston, Mass.  
 Corresponding Sec.....Mr. A. H. BLISS.....Chicago, Ill.

The above named officers, *ex-officio*, constitute the EXECUTIVE COMMITTEE of the UNION.

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 August.....P. F. Campbell..... " "  
 Baltimore.....W. H. Stuart.....B. & B. Tel. Office.  
 Boston.....I. A. Sherman.....W. U. Tel. Office.  
 California.....C. P. Hoag.....San Francisco.  
 Chicago.....George C. York.....W. U. Tel. Office.  
 Corry.....W. C. Long.....Hydetown, Pa.  
 Detroit.....T. W. Priest.....W. U. Tel. Office.  
 Greencastle.....J. C. Showerman..... " "  
 Harrisburg.....J. B. Lyndall..... " "  
 Louisville.....W. L. Biggert.....L. C. & L. R. R.  
 Maine.....W. P. Merrill.....Portland.  
 Meadville.....A. S. Hawkins.....W. U. Tel. Office.  
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 New York.....J. W. Stover.....Box 6077.  
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**NATIONAL TELEGRAPHIC UNION**

**Life Insurance Bureau.**

THE NATIONAL TELEGRAPHIC UNION, by authority of its special charter, granted by the State of New York, proposes to insure the lives of all persons connected with the Telegraphic business, under the following rules and regulations:

Applicants for insurance must be connected in some capacity with the Telegraphic business, must be not less than eighteen years of age, in good health, and able to earn a livelihood. Every applicant shall pay an entrance fee of two dollars, one dollar of which shall be reserved for creating a permanent fund, and one dollar towards the amount to be paid the heirs of the first insured person deceased, who will receive as many dollars as there are persons insured.

Whenever a death occurs among those insured, an assessment of one dollar and ten cents will be levied upon all. This dollar goes to the widow, orphans, or heirs of the next insured party deceased, and the ten cents to be applied to the payment of current and necessary expenditures.

Applications must be made to the Actuary, in writing, accompanied by a certificate, signed by not less than two persons in the Telegraphic business, of good character, that they know the applicant is fully qualified under the preceding rules.

A small annual assessment, not to exceed one dollar, may be necessary to cover working expenses after the first year.

This plan of insurance will be conducted under the supervision of the Executive Committee of the N. T. U., and it will be their aim to make it as inexpensive as reliability and security will allow. It is unnecessary to make any extended remarks, or any comparisons of the great advantages this plan affords for the payment of ready money, at the event of death, over Life Insurance Companies.

Parties wishing to insure should write out the following questions with their answers thereto:

- What is your name?
- What is your age?
- Where is your residence?
- What is your occupation?
- Have you any constitutional disease or debility?

Sign the above statement, and forward it to the Actuary, with a certificate signed by two persons connected with the Telegraphic business, that the applicant is well known to them, and that the answers given by him to the above questions are correct?

Applications may be sent to

J. W. STOVER, Actuary,  
 Box 6077, New York.

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Having had over twenty years' experience in the business, and having made many improvements, I am prepared to furnish

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**BISHOP'S ELECTRIC FUSE,**

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**GUTTA PERCHA CAPS;**

ALSO,

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**The Bishop Gutta Percha Company,**

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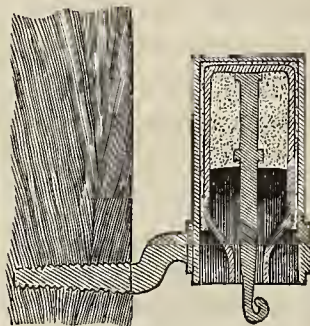
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To establish a claim to either of the premiums, the subscriptions must be from parties whose names are not now upon our books, and must be at the regular rate of Two DOLLARS per year. Two six-months' subscriptions will count as one in calculating for a premium.

We have already had occasion to open accounts with several Telegraphers who have sent in names of new subscribers since we announced our list of premiums last week, and hope to distribute hundreds of dollars' worth of valuable works on Telegraphy and Electrical Science in return for accessions to our subscription list.

The subscription price of two dollars per year must, in all cases, be remitted with the names of the subscribers by parties desiring to avail themselves of our offer.

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For twelve subscribers, "Shaffner's Telegraph Manual," or "Culley's Handbook of Practical Telegraphy," or "Sabine's Electric Telegraph," or "Noad's Student's Text-Book of Electricity." Or, instead of these, any other book or books on the list, of equal value.

We have, also, a few copies of Vol. 3 of THE TELEGRAPHER, very handsomely bound, which, if preferred, we will give instead of the books above named in this class.

For twenty subscribers we will give "Noad's Manual of Electricity," or any other books of equal value on the list, as may be preferred.

To the person who shall, before the expiration of the present volume, obtain the largest number of subscribers, not less than fifty, we will present a splendid copy of "A TREATISE ON ELECTRICITY," by A. DE LA RIVE, in three volumes, 8vo., the lowest price of which is \$36.50.

Persons who desire to avail themselves of the above offer, are requested to notify us of the fact, and they will be credited with the subscriptions forwarded, until they decide which of the above premiums they desire to receive.

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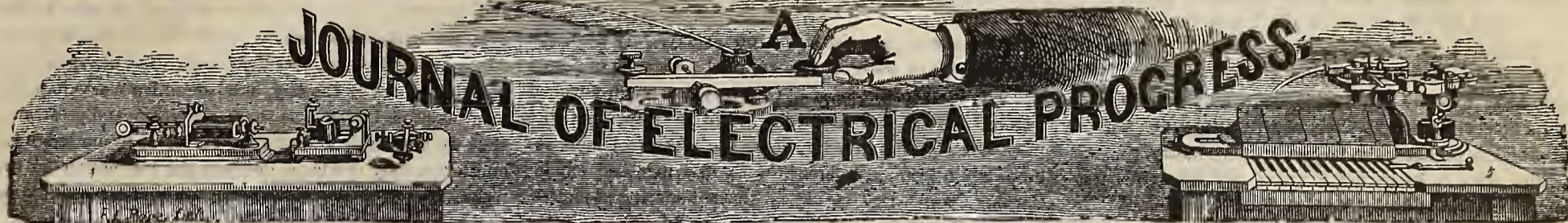
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Master John Lee

# THE TELEGRAPHER.



Vol. IV.—No. 51.

New York, Saturday, August 15, 1868.

Whole No. 109.

[Written for THE TELEGRAPHER.]

## The Manufacture of Electrical Apparatus in Boston.

A DESCRIPTION of the different establishments devoted to the manufacture of electrical and Telegraphic apparatus in Boston will doubtless prove interesting to many readers of THE TELEGRAPHER, especially as that city has obtained an enviable reputation among Telegraphers and electricians for the superior quality and finish of the work turned out by some of its leading manufacturers. One of the principal firms engaged in this business is that of EDMANDS & HAMBLET, at No. 40 Hanover Street, who are well known to the public and Telegraphic fraternity as the manufacturers of the "Magneto-electric Alphabetical Dial Telegraphs," of which a large number are used upon private lines in different parts of the country. This Telegraph is constructed upon the magneto-electrical principle, dispensing entirely with the voltaic battery. The following is a brief description of this admirable apparatus: The transmitter is contained in a small square box, upon which there is a dial plate, with a circle of thirty equidistant keys or buttons radiating from the same centre. Upon the dial plate are marked the alphabet, three points of punctuation and an asterisk; in an inner circle are the numerals. A pointer in the circle revolves in connection with the handle of the rotating armature, and is stopped at any letter by depressing one of the buttons. Four soft iron cores, with their enveloping helices of fine wire, are fixed upon the poles of a compound permanent magnet, these cores being placed at equal distances from each other in the circumference of a circle. On an axis passing through the centre of this circle, in connection with the handle, revolves a soft iron armature, whose breadth is a little greater than the distance between two adjacent cores. When the armature revolves it approaches one pole as it recedes from the one diagonally opposite, and induces simultaneously in the two coils currents having the same polarity. Immediately under the transmitter is an arm, upon the same axis as the pointer above, whose motion is arrested when a button or key is depressed, and the current which would otherwise pass over the wire is "short-circuited."

The face of the indicator is similar to that of the transmitter, having a small pointer, which is thrown around from letter to letter by a very curious and delicate escapement in connection with a polarized magnet, similar to that invented by SIEMENS, and which is actuated by currents of different polarities, generated by the permanent magnets.

The coils of the indicator and permanent magnets are connected in one common circuit. When the armature of the magnets is turned around by means of the handle, if the pointer is free to move round the dial, a current traverses the line at every letter which the pointer passes, and moves the hand of the indicator correspondingly, but as soon as the carrier-arm on the same axis as

the transmitting pointer is stopped, by coming in contact with a depressed key, the currents which would follow are "short-circuited." The pointers of the transmitter and indicator, therefore, stand still upon the same letter until the key is raised and the "short-circuit" removed. Alarm or call bells are also attached in such a manner that when no communication is being sent the indicators are cut out and the call bells put in circuit, and *vice versa*.

In operating this instrument no knowledge of the usual Telegraphic signs or sounds are necessary; the operator simply places his fingers upon the letters of the alphabet which compose the Telegram, and the person receiving simply takes notice of the letters as they are successively pointed out upon the indicator at the other terminus.

Several trials have been made with this instrument over the wires between Boston and New York, to determine their applicability for railroad lines, all of which have proved highly successful. The working of this beautiful instrument, as well as the neatness with which it is constructed, and its advantages over the clumsy apparatus for similar purposes of a foreign manufacture, cannot be too highly spoken of, as it shows that America can successfully compete with Europe in the manufacture of Telegraphic apparatus, even if they are turned out of the shops of a FROMENT or SIEMENS-HALSKE.

This firm also manufacture another piece of curious electrical mechanism, which is called "HAMBLET'S Electro-magnetic Watch-clock," which is in use in nearly all of the fire alarm offices, hospitals, and prisons in the Union, and in a large number of the principal manufacturing establishments of New England.

It is for recording the rounds of a night watchman every hour, or half hour, which it does upon a paper dial, marked with the hours and subdivisions of time similar to the dial of a common time-piece, and which is made to revolve in such a manner as to receive the impress of a lead pencil bearing thereupon, which, as time passes, makes its mark upon the paper.

The electric current being in the quiescent state of the electrical mechanism, open (*i. e.* not actuated at the point of operation), will cause the pencil to make a regular continuous line, which in twelve hours would form a perfect and unbroken circle round the dial.

The instant that the watchman touches a simple piece of mechanism at any point upon his beat—upon which there are several—he causes the circuit to be opened and closed, and the pencil advances a degree towards the centre of the paper dial, leaving its impress as it advances, and then commences its mark on a new concentric parallel, and this action is repeated as often as, and whenever the apparatus is operated upon at different points in the circuit. An angular record is thus produced, which, on comparison of the angles with the marks of subdivision of time, will show not only that watch duty has been done, but will also show the exact time that each point has been visited. When a watchman operates the last

point on his round the pencil falls back to its original level, and is ready for the next round.

If the pencil marks are all regular and similar in the different hours, it is proof that the twelve hours' watch duty have been performed; if, on the contrary, there are irregularities in the angles, they will be evidence that something has occurred requiring investigation.

This apparatus may be seen in nearly every Fire Alarm Telegraph office in this country—where, perhaps, many of our readers have observed it in operation.

In this establishment is also made the "Electric Plural Time Dial," an ingenious contrivance, by which the time indicated by one standard regulator clock is shown upon any number of duplicate time dials or electric clocks, situated at any distance from each other, and all connected in one electric circuit. The most curious part of this system is that the duplicate clocks have neither springs, weights, nor trains of wheels, to produce a movement of the index, but contain a simple though curious escapement, operated by an electro-magnet in the regulating circuit; they, therefore, require no winding up or attention. Another curious piece of electrical mechanism is also manufactured by this firm, called the "Electric Pendulum Gauge," for measuring and recording the varying heights, depths, and quantities of gas or water in reservoirs, but is of too complicated a nature for an accurate description without the aid of drawings. This apparatus has, after a series of severe tests, been adopted by the Boston Gas Co.

Electric Wind Indicators, Astronomical Clocks and Apparatus, Chronographs, Printing Telegraph Instruments, Repeaters, Galvanometers, Electrometers, Philosophical Apparatus, Fire Alarms, and every variety of magneto-electric and electro-magnetic mechanism, are also manufactured by this firm—all of which compare favorably with, if they do not excel any similar mechanism of foreign manufacture. Twelve persons are employed here, among whom are several of the best mechanics in the country. Telegraphers visiting the "Hub" would do well to call at the office of Messrs. EDMANDS & HAMBLET, where all of the apparatus described may be seen in actual operation.

The next on the list is that of CHARLES WILLIAMS, JR. The establishment of Mr. WILLIAMS is located at 109 Court Street, and though but a short time since damaged by fire, is again in full blast. Very little apparatus, except that used for Telegraphic purposes, is manufactured here, and in this particular branch the work is of a most excellent character, consisting of Repeaters, Switch-boards, Relays, Registers, Sounders, Keys, Rheostats, Galvanometers and batteries, all of which are made in large quantities. The most noticeable instrument manufactured here is the well known "Boston Relay," of which an large number are turned out weekly, mostly for use on railroad wires. Ten men are employed here. The office of the well known electrician and Telegraph inventor, MOSES G. FARMER, is also at this establishment.



The next is H. B. & W. O. CHAMBERLAIN, manufacturers, dealers, and importers of Mathematical, Astronomical, Chemical, Electrical and Philosophical Apparatus, at 310 Washington Street. This establishment is probably the largest and best of its kind in the United States. Every conceivable form of experimental apparatus appertaining to the above mentioned sciences can be found here. This firm have recently imported a large number of monster induction coils from the shops of RHUMKOFF, of Paris, one of which is probably the largest in this country.

The next is RITCHIE & SONS, of 149 Tremont Street, manufacturers and importers of Philosophical and Electrical Apparatus, similar to that of the Messrs. CHAMBERLAIN. Mr. RITCHIE is known to the scientific public as the inventor of several important improvements on the original form of the RHUMKOFF, or PAGE Induction Coil, and as the maker of the largest and most powerful induction coil hitherto constructed, now in the possession of M. GASSOIT. A description of this coil may be found in "NOAD'S Manual of Electricity," page 326, and in the "Philosophical Magazine," vol. xv, page 466.

The last is THOMAS HALL.

Very little Telegraphic mechanism is manufactured at this establishment at the present time, it being almost exclusively devoted to the manufacture of Electrical Toys and Medical Electrical Machines.

Mr. HALL'S shop is situated at No. 19 Bromfield St. E.

## 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 Great Telegraph Fight. The P. and A. ahead so far.

INDIANAPOLIS, IND., August 10th.

TO THE EDITOR OF THE TELEGRAPHER.

THE great fight between the Pacific and Atlantic and the Western Union Telegraph Company, for the use of the poles along the Chicago, Columbus and Indiana Central Railway, has caused considerable excitement in Telegraph circles.

The facts in the case appear to be these: The poles in question along the line of the road have been used jointly, under a contract by the railroad and the Western Union Company.

Recently, the Pacific and Atlantic Telegraph Company, in order to facilitate the extension of its lines to Chicago, made an arrangement with the Railroad Company, by which it was to be permitted to place a cross-arm on their poles for the accommodation of its wires. Accordingly, a force was set to work about the first of July, and commenced putting the wires upon these poles, and proceeded without interruption or objection from any source until the line had been put up beyond Logansport, Indiana.

About this time, however, the Western Union officials appear to have become aware of the fact that something inimical to Western Union interests was going on. Then was there hurrying to and fro in hot haste. The wires were kept busy with messages between District and Division Superintendents. STAGER at Cleveland, and WILSON, the District Superintendent, felt that their reputation was at stake, and something must be done. The P. and A. were trespassers upon sacred rights and privileges, and must be made to suffer for their temerity. Legal proceedings were suggested, but decided to be too slow and uncertain. Extermination of the working gangs was next considered, but dismissed as too sanguinary—besides, being dangerous to both sides.

Preliminary to more active operations a manifesto was sent to the audacious intruders, demanding that they

should discontinue their nefarious work. This, of course, was unheeded. The wicked and disrespectful P. and A. continued to string its wires. Patience was then exhausted, and ulterior and vigorous measures were decided upon.

A force was organized, and on Friday, July 31st, the intruding wires were torn down for the distance of fifteen miles and left in the ditch. This was too much for good nature. The P. and A. filed a bill in the Superior Court of Chicago for an injunction upon the Western Union, restraining it from interference with its wires, and enjoining that Company or its employes from hindering or molesting the P. and A. in the construction of its line to Richmond, Indiana. This injunction was granted by IRA SCOTT, Master in Chancery.

The following extract from the *Chicago Republican* of August 7th gives the rest of the story, and the present condition of the affair:

"The Western Union Company then filed an answer to the bill of complaint, and moved to dissolve the injunction granted in favor of the Pacific and Atlantic Telegraph Company, and also filed a cross bill, asking the Court to restrain the Pacific and Atlantic Telegraph Company from putting up its wires on the poles of the Indiana Central Railroad Company. Yesterday the motion to dismiss the first injunction was denied. The motion for the second injunction was also denied. So the original injunction stands, and the Pacific and Atlantic Telegraph Company, so far as the Court can give it at this stage of the proceedings, has a right to put its wires upon the poles along the track of the Indiana Central Railroad Company, according to contract with that Company.

This is the condition of the imbroglio to-day. The contract of the Railroad Company and the Western Union Telegraph Company gives the latter the right to put as many wires on these poles as it chooses. Should it claim and occupy all the space the poles afford, the Pacific and Atlantic Telegraph Company must abandon them; but until it does, the Railway Company claims the right to grant the use of the poles to the last named Telegraph Company; and the latter claims the right to use them, and will continue to stretch their wires upon them."

The result of this conflict will be watched with much interest, especially by parties engaged in establishing competing lines, as a principle is involved likely to prove of great importance in the progress of their work, to wit: To what extent can Railroad Companies control the use of Telegraph poles set upon the line of their roads, and jointly used by the road and some existing Telegraph Company? INJUNCTION.

### Overworking of Operators.

CHICAGO, August 4th.

TO THE EDITOR OF THE TELEGRAPHER.

WE avail ourselves of the good offices of THE TELEGRAPHER to call the attention of the officials of the Western Union Company to what we consider an injustice, and one which we feel confident a statement of the case will be sufficient to insure prompt attention and redress.

The immense and constantly increasing business of the Western Union lines, centering in this city, entail excessively onerous labor upon the present force of operators employed. After performing a hard and exhausting day's work the operators here are required to labor until 9 P. M. every other night, and frequently the exigencies of the business require their services to a much later hour.

We are not disposed to make unreasonable complaints or shirk any of our legitimate duties, but knowing as we do that such excessive and protracted labor is not required at any of the other principal offices of the Company, such as St. Louis, Cincinnati, Louisville, or in the large Eastern cities, we cannot understand why it should be required from us. At Cincinnati, for instance, an operator is only required to work after 6 P. M. about every seventeenth night; and, at St. Louis, a large portion of the afternoon is allowed for rest and recreation when labor is required after that hour. Even common day laborers, who in this section of the country, as a

general thing, receive as much or more compensation than the Western Union employes, are not required to labor after 6 P. M. without extra pay. In one New York office, we understand, when operators perform day and night duty, they receive extra pay. If this be the case, we cannot appreciate the justice of the demands which are made upon operators here. The heavy and exhausting labors of the day, and the extra work imposed upon us at night, leave us so utterly weary and prostrated that we are barely able to drag ourselves to our lodgings, and fortunately, perhaps, destroys the inclination for the recreation which the continuous nature of our occupation denies us.

When this matter has been brought up before, it has been stated that our worthy General Superintendent, Mr. STAGER, said that he had no idea that the operators in the Chicago office were worked so hard. As yet, however, nothing has been done for our relief, and we would again, through the columns of our paper, call the attention of those in authority to the facts, in hopes that the appeal may lead to immediate action for our relief.

OPERATORS.

### Ungentlemanly Conduct.

CHICAGO, August 5.

TO THE EDITOR OF THE TELEGRAPHER.

A FEW days ago the railroad wires running to Chicago were transferred to the manipulation of ladies, and as soon as it became known along the lines, some of the operators began a contemptible system of attempted fast writing, or "splurging," for the purpose of compelling the receiver to "break" as often as possible, and then abusing and sneering at the person who thus breaks. Others have even refused to finish or repeat a message because the receiver broke once or twice, and have gone on to a through wire, where the masculines still hold forth, and sent the same messages to them, adding a complaint that the female operators on the other wire could not take them, when they had purposely sent them in a careless and indistinct manner on the "local" wires. No gentleman or man would attempt to injure an opponent of his own sex, even, in such a contemptible way, and it becomes doubly contemptible when practiced towards the sex less capable of defending themselves. PLUG.

### Election in Maine District.

PORTLAND, Me., August 8.

TO THE EDITOR OF THE TELEGRAPHER.

AT a special meeting of the Maine District N. T. U., held on Friday evening, 7th instant, for the purpose of determining the result of the election for District officers and delegates for the coming year, the sealed ballots were opened, counted, and the result declared by the Committee on elections as follows:

For District Director—W. P. MERRILL. For Secretary and Treasurer—D. C. SHAW. For Delegates—W. P. MERRILL, Portland; C. E. BLISS, Bangor. Substitutes—E. H. SMITH, Portland; C. I. COLLAMORE, Bangor.

The report of the Committee was accepted, and the above named persons declared duly elected to the respective offices named for the coming year.

Whole number of votes thrown, 54. We have 66 members. MAINE.

WASHINGTON, D. C., August 10, 1868.

TO THE EDITOR OF THE TELEGRAPHER.

AT the annual election of the Washington District, August 3, the following officers for the ensuing year were elected:

WM. H. YOUNG, District Director; W. E. KETTLES, Secretary; A. S. ADAMS, Treasurer; T. H. SHERMAN, Delegate. Several propositions in favor of a radical change, giving the several districts more power to regulate dues, relief fund, and other vital questions were recommended to the consideration of our delegate. H.



Progress of the A. and P. Co.—A Fortunate Telegrapher.

CHICAGO, ILL., August 11.

TO THE EDITOR OF THE TELEGRAPHER.

THE Chicagoans are much encouraged, by the distribution of the poles of the Atlantic and Pacific Company down State street, leading into the city, to hope that they are soon to experience the benefits of an active Telegraphic competition. It is understood that the office of the Atlantic and Pacific Company will soon be opened here under the management of Mr. A. H. BLISS, late of the Western Union office here. Mr. BLISS' appointment is an excellent one, and will prove beneficial to the interests of the company and gratifying to the business community.

Mr. EDWARD CREIGHTON, of Omaha, Nebraska, the well-known Telegraph Contractor, and a Director in the Western Union Company, was in Chicago last week.

It is reported that Mr. CREIGHTON'S good fortune still follows him, and that his fortune is likely to be largely increased through the discovery of valuable coal mines on the western end of the Union Pacific Railroad. The story, as told, is that a poor Irish laborer discovered the location of these coal deposits, and sold the secret of their location to CREIGHTON for two hundred dollars.

CENTRE.

TO CORRESPONDENTS.

SUBSCRIBER.—Yes, there has been a city line in New York before that at present in operation. In 1854 or '55, we believe, Mr. RICHARDS, then a manufacturer of House Printing Telegraph Instruments, in connection with other parties, built and operated a city line, but it was never a pecuniary success, and eventually passed into the hands of the American Telegraph Company, and was incorporated into its general system of wires.

The correspondence of QUIEN SABE and ADUX is becoming too personal for the columns of THE TELEGRAPHER. We must decline to publish any more personalities, though we shall always be glad to hear from them on matters of general Telegraphic interest.

SEVERAL interesting and important communications in type, and intended for publication this week, are unavoidably crowded out, and will appear in our next.

PERSONAL.

BILLY BROWN, formerly of Fort Laramie and Adrian, Mich., offices, is now manager of the A. & P., Toledo, O., office.

CHARLEY BLOOMFIELD, formerly of Julesburg and Omaha Offices, is now in Franklin office, New York.

Mr. DE GROVE has been appointed manager of the Southern Telegraph office, Louisville, Ky.

JOHN Q. MASON has taken a position in the Chicago office as night report operator.

CASS G. SHOLES, of the Chicago office, and not Mr. PECK, as previously stated in THE TELEGRAPHER, takes the position vacated by Mr. A. H. BLISS.

GEO. W. NAILE, chief operator of the Omaha office, is off on a visit to Madison, Wis. He means business this time.

Mr. JOHNSON has taken a position in the Chicago office, also Mr. PECK, recently from California.

Mr. F. G. BARLOW has retired from Negaunie, Mich., office, and gone to Amboy, Ill.

Mr. C. W. HAMMOND, the Supt. of the St. Louis Fire Alarm Telegraph, is in this city, inspecting the working of the New York Fire Alarm Telegraph System.

Mr. CHARLES D. IRWIN, formerly of St. Louis, but more recently located at Michigan City, Indiana, has taken the position of agent and operator on the Union Pacific R. R., at Hillsdale, Wyoming Territory.

Mr. GEO. T. MAKLE is recruiting his exhausted energies, and enjoying a season of elegant leisure at Chicago.

Mr. JOHN D. STONE, for several years past the efficient manager of the Western Union office at Syracuse, N. Y., has resigned, and engaged in the insurance business.

Mr. D. L. PIKE, formerly chief operator, succeeds Mr. STONE in the management.

Mr. FERRIS has been promoted to chief operator, at Syracuse, N. Y., vice PIKE, promoted to managership.

Mr. HARRIS, formerly of Crestline, Ohio, has accepted a situation in the Western Union Cincinnati office.

DAVE ANDERSON, of the Chicago office, has gone to Mansfield, Ohio, on a visit.

B. H. JOHNSON, assistant chief operator in Western Union, Cincinnati office, has gone East on a visit.

Mr. FORD, of the Bloomington, Ill., office, is at present absent on a visit to Minnesota.

BURT ALLEN, formerly of the Western Union, New York, office, has taken a place in the Cincinnati office of the same company.

Mr. H. L. BRAY has taken a place in the Milwaukee, Wis., office.

Mr. BRINCK has been added to the force in the W. U. office, Chicago.

Mr. J. J. FLANAGAN has left the Cincinnati Western Union office and accepted an appointment with the Fire Alarm Telegraph, at Louisville, Kentucky.

ED. BUTLER, train despatcher, etc., of the Galveston and Houston, Texas, R. R., is on a trip north.

Mr. J. W. STOVER, now engaged with GAMEWELL & Co. in the Fire Alarm Telegraph business, paid us a flying visit on Wednesday. Joseph is looking well since his extrication from the cellar. Travelling evidently agrees with him.

Mr. LENNERT, who left Indianapolis a few weeks since for the West end of the Union Pacific R. R., has returned home. He says a short residence in that country is enough to satisfy him. The U. P. R. R. pay operators \$75 per month only, while the Western Union Co. are paying double that in their repeating offices in that section.

THE following changes have recently taken place in the Milwaukee office:

E. M. SHAPE has changed from night to day work.

JERRY O'CONNELL takes night situation vacated by Mr. SHAPE.

Mr. M. O'RYAN has resigned.

GEO. BROWN, formerly of Indianapolis, Ind., has taken a situation temporarily in the Milwaukee office.

Miss ATHERTON has gone on a visit to Minnesota.

THE TELEGRAPH.

The New Atlantic Telegraph Cable.

[From the Pall Mall Gazette.]

As the *Moniteur* has now confirmed, in an official manner, a statement of the concession of the right of laying down a Submarine Telegraph Cable from Brest to the United States, it may be worth while to mention a few of the particulars of the enterprise. A corresponding concession has been granted by the State of New York, and the cable will be laid direct from Brest to New York city. This concession is understood to be an exclusive one—on the French side, at any rate—for 20 years. The grounds upon which the projectors have found favor with the French and New York State governments have been, chiefly, that the proposed route will obviate the circuitry and delay incident to the present line, and will also lessen the existing liability to casualties. By the only route we now have not less than four submarine cables have to be employed, while the electric fluid has to perform four land journeys before a message can be sent from

the continent of Europe to New York. There intervene, 1st, the North sea, or the English channel; 2d, the Irish sea; 3d, the Atlantic; 4th, the sea between Newfoundland and the American continent; while the wires have also to be carried across England, Ireland, Newfoundland, and, lastly, from the coast of British America southward to New York. It is, perhaps, surprising that with this circuit messages are sent from Europe to the United States as quickly as they are; but there is no doubt that communications will be very much accelerated, if, as is said, a merchant or broker at Paris will be able literally to speak into New York. It may possibly be a sanguine calculation that messages between those cities may then be sent and answered in half an hour, and that messages may be sent from Berlin or Frankfort to New York and answered within an hour; but the difference of time must obviously be very great. It is thought, also, that the directness and simplicity of this route will very much diminish the chances of communication with America being from time to time put out of gear. Ocean Telegraphy has now been carried to such perfection that there is more fear of mishap by land than by sea; and in point of fact, during the last two winters, when we have several times been alarmed by a stoppage of messages, the explanation has in each case been that storms had blown down the land Telegraphs, sometimes in Newfoundland, sometimes on the American mainland. From this danger, whatever it may amount to, the new line will be exempt. As the capital it will represent will, it is stated, be only £1,000,000, and as the working expenses, with only two stations (at Brest and at New York), ought to be very small, it is probable that this project will bring the luxury of Telegraphing across the Atlantic within the reach of persons of very moderate means. A cable laid across the English channel, from Falmouth to Brest, would also give us the benefit of it. It is understood that the new Atlantic cable will be ready for laying next June.

New Western Union Line.

A NEW line is being constructed from Schenectady to Troy, on the line of the railroad, under the general supervision of S. B. GIFFORD, District Superintendent, and under the immediate supervision of A. B. WAITE, Superintendent of repairs, seventh district, of Western Union Company's eastern division. The best galvanized wire is to be used, and every joint soldered, and when finished it is intended to be a model line.

Telegraph Reconstruction.

THE Florida Legislature rejected a bill, on third reading, which proposed a tax of one dollar per mile upon land lines and fifteen upon cables, and requiring all Telegraph operators in the State to take the "iron-clad" oath.

The Fire Alarm Telegraph in Springfield, Mass.

THE *Springfield Republican* says: "The Fire Alarm Telegraphers have strung nearly all their network about the town, and we shall soon have the thing in operation. This city will not take its cue from other municipalities and elect a Superintendent of the wires, but will leave the oversight of all to Chief Engineer W. W. DAY."

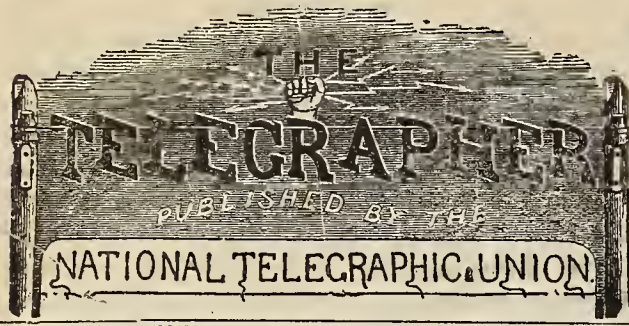
New Office.

THE Western Union Company have opened an office at Clarendon Springs, Vermont.

Telegraph Extension in Peru.

THE *Nacional* says: "On the 1st of the present month the Telegraphic line from Chorrillos to Pisco was commenced; the great activity which the company displays causes us to believe that, in little more than a month, the 185 miles which separated us from the rich province of Ica will be completed."





SATURDAY, AUGUST 15, 1868.

#### OUR NEW VOLUME.

WE would call attention to the Prospectus for the Fifth Volume of THE TELEGRAPHER, which will be found in this paper.

The commencement of a new volume affords an excellent opportunity for new subscriptions, which we hope will not escape the attention of the friends of the Telegraphers' paper. We wish every subscriber would constitute himself an agent of the paper, and secure at least an additional subscriber, and as many more as possible.

A large number of subscriptions expire with the end of the present volume, and we would remind these subscribers of the imperative rule that all papers shall be discontinued unless subscriptions are renewed. We hope that no one of our present subscribers, who approves of the conduct of THE TELEGRAPHER (and that it meets with general approbation from the fraternity we daily receive flattering assurances), will allow his name to disappear from its subscription list. We appeal with confidence to the practical Telegraphers for a continuance of the liberal support which the paper has received during the last year, and assure them that no labor or necessary expense shall be spared to render it worthy of support, and a creditable representative of the Telegraphic profession of the United States.

#### A LITTLE COMMON SENSE NEEDED.

WE propose to do a little plain talking to the parties who are engaged in the establishment of competing Telegraph lines. We do this in the interests of the profession and the public, which require permanent and effective competition in the Telegraph business in this country.

We have consistently favored such competition, and all enterprises which promised to further this desirable object. In so doing we have only had in view what we regarded and still regard as imperatively required by the best interests of the public and the profession. It is impossible that any company shall maintain a monopoly of the business. Only in the hands of the Government, and under the protection of supreme legal enactments, can such a monopoly be permanently established. To this latter measure, also, as the readers of THE TELEGRAPHER are aware, are we determinedly opposed, as antagonistic to the interests of the public, and inimical to further Telegraphic progress and development.

But we fear that those who are engaged in these competitive enterprises, present and prospective, are frittering away their energies and the money of their stockholders in efforts to rival and destroy each other, rather than concentrating them to maintain themselves against their principal opponent—the Western Union Company.

This is all wrong, and unjust to the public and the stockholders, and such a course should at once be abandoned.

The Western Union Company is a rich and powerful corporation. Its managers and leading stockholders regard it as entitled to a monopoly of the Telegraph busi-

ness of the country. It not unnaturally seeks to prevent and destroy competition. To this end it unscrupulously avails itself of every means at its command. It is an opponent which it will not do to underrate, and with whom it will require the best and most economical management to contend. Its competitors must be united if they would be successful. It will not do for them to waste, in contests with each other, the means which should be used to sustain themselves against the common enemy. To pursue such a course is to allow themselves to be defeated and ruined in detail.

Unless a system of competing lines can be established, at least equal to, if not superior to that owned and controlled by the Western Union Company, they cannot afford their patrons advantages which shall secure to them a lucrative business and permanent maintenance. They can never do this by dividing up their forces and seeking to cripple or destroy each other.

To attempt to maintain a number of small organizations with inadequate facilities, and a sub-division of the business over the principal routes, is folly. At the present time we see, for instance, the Atlantic and Pacific, and Pacific and Atlantic Companies seeking to rival and anticipate each other on certain important routes, and, of course, with mutual feelings of antagonism and ill will. The same course is either already commenced, or threatened by other companies, without doubt, to the great gratification of the Western Union and its allies.

Speculators, whose operations heretofore have proved anything but advantageous to the Telegraph interests of the country, are organizing companies for the purpose of realizing profits upon contracts for construction, without regard either to the permanence or pecuniary success of the lines which may be constructed. In this direction only do they look for profit, and, in some instances, they will sacrifice or imperil large stock interests in companies already established, if they can but secure building contracts from new organizations designed to cover, in whole or in part, the territory already provided for, preferring rather the immediate and certain profits to be derived from such contracts to awaiting the development of business in other concerns in which they are already interested.

The stock of these new companies, in some instances, is offered at a ridiculously small per centage on its nominal value, for the sake of securing subscriptions, thus imitating on the start the Western Union policy of inflated capitals—and, as a consequence of these money-making schemes, the lines built are, in some instances, inferior and less reliable than those already in existence. We know that the Western Union Company is composed in great part of an aggregation of companies and lines thus formed and constructed, but there is no possibility of a successful repetition of the process by which that concern has grown to its present proportions. It proved disastrous to most of the *original* stockholders of the lines which have been gradually absorbed into the Western Union organization, and there is no reason to suppose that a persistence in this course will result otherwise than disastrously to the present companies.

Common sense would indicate the propriety and necessity of an immediate abandonment of the present ruinous policy. The managers of competing companies should at once take measures to concentrate, organize, and economize their forces. They should take counsel together, and agree upon some plan by which the construction of new lines shall be so arranged as to make them component parts of a well-balanced system, that shall afford to the public the facilities required, and secure to the stockholders a fair prospect of a return for the money invested.

We have devoted much time and consideration to this subject, and we are satisfied that the only possible chance for permanent competition lies in the course we

have indicated. Those who believe otherwise will find, when too late, that they have been the victims of a delusion, which has already caused the loss of large investments heretofore made, and the ignominious failure of previous attempts.

Under the system heretofore and now being pursued, inferior and badly balanced lines are constructed, and the only parties benefited are the contractors.

The CO-OPERATIVE COMPANY, organized last Fall, adopted the only sensible and properly arranged system of lines ever devised in this country. It proposed to issue its stock at par, so that, when completed, its capital should represent a real and not a fictitious value. It also proposed to construct its own lines, and save the large profits in money and stock usually secured by contractors. In fact, the plan, while it would have ensured success, was too honest to compete with others, which appeared to offer to investors more *immediate* profits.

That corporation is still in existence, and might be made available for the consolidation of the present competing companies upon a fair and equitable basis. These once united could easily carry out its programme, and establish a Telegraph system far superior to any heretofore in existence in the United States, and, we believe, in the world.

We make this suggestion for the consideration of parties interested, confident that, if adopted, the main difficulties which now impede and embarrass the progress of Telegraphic competition will disappear, and the construction of permanent and paying competing lines be assured.

#### Beauties of Government Telegraph Control.

THE only redeeming feature that we have been able to discover in the scheme of a general system of Telegraphs controlled by Government, is the opportunity which will be afforded for the carrying out of a complete and perfect organization and management upon the most approved plan, unembarrassed by the interference of short-sighted directors and stockholders. The arrangements which have been determined upon for the maintenance and working of the British lines under Government control would seem, however, to be anything but calculated to give satisfaction, or to lead to any favorable result in this respect.

The wires running along the railways, it is understood, are to be maintained in working order by the railway companies, for which service they are to be paid by the Government. This is exactly the reverse of the present arrangement, in which the Telegraph Company maintain the railway wires as well as their own, in consideration of the right of way allowed them by the latter, as is usual in this country. The wires along the highways will probably be taken care of by the Government. The latter is also to purchase all the submarine cables, and rent them to the present Submarine Telegraph Company, who are to work them and keep them in repair. In case a cable is damaged beyond repair, the Government are to replace it with a new one.

A special arrangement has been made with the Anglo-American Company, by which they are to lease through lines from the Government, to be maintained in working order by the latter. These lines are to be worked by the company, without being subject to any interference from the Government.

It seems to us that these confused and disjointed arrangements cannot fail to result in endless trouble and dissatisfaction, which will injuriously affect the whole Telegraphic system of Great Britain. The Government undertakes to work wires maintained by a series of different railway companies. In case each of these companies should carry out their own ideas of Telegraphic repairs, and ultimately of construction, the experience heretofore gained in insulation and other similar matters, by nume-





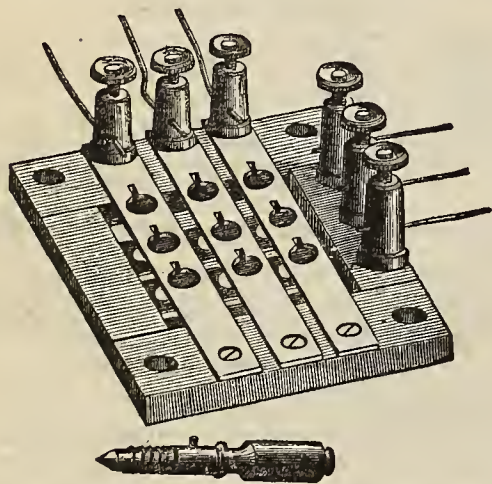


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The most compact and reliable method of Switch, forming a  
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Manufacture the Genuine ELECTROPOION BATTERY, with  
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 since; also, THE ALPHABETICAL OR DIAL TELEGRAPH,  
 now extensively used in this and other cities for private lines.  
 They offer for sale, among other novelties, a "SOUNDER" that  
 will work practically with a single cell, and a BATTERY that  
 does not require to be taken down but once a year; and the very  
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 Galvanometers of extreme delicacy, Physicians' Apparatus,  
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 fully prepared with ample means and materials to furnish all the

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We claim to gain more power or effective working force in our Instruments, with *ten ounces* of wire, than has heretofore been gained by using *one pound*, as we get rid of the residual magnetism.

We also manufacture a Relay with only ten ounces of wire, thereby putting very little resistance in the line, and doing the work as well, if not better, than those that contain one pound wire, and put a great resistance in the line.

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His relays were awarded the

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at the late Great Fair of the American Institute, New York, and their superiority is generally acknowledged by operators who use them.

Aside from the advantages apparent upon inspection of these magnets, their acknowledged merits consist in the construction of the helix, which was patented Aug. 15, 1865. This being of naked copper wire, so wound that the convolutions are separated from each other by a regular and uniform space of the 1-800th of an inch, the layers separated by thin paper. In helices of silk insulated wire, the space occupied by the silk is the 1-150th to the 1-300th of an inch; therefore a spool made of a given length and size of naked wire will be smaller and will contain many more convolutions around the core than one of silk insulated wire, and will make a proportionably stronger magnet, while the resistance will be the same.

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This Wire has already been put up on sections of several Telegraph Lines, and its merits fully tested, and the results show that it combines all the good qualities which are claimed for it, viz.: Economy, Superior Conductivity, and Increased Strength, with Decreased Weight of Metal.

In its composition are used three metals, either of which is a good conductor, Steel, Copper and Tin; and the superiority of Copper as a conductor over other metals is well known, and but for its ductility rendering its permanent suspension in a pure state intact impracticable, it would have always been used exclusively as a Conductor on Telegraph Lines. By combining it with Steel the desired strength and permanence is attained, and the necessary weight of the line wires reduced two thirds, thus obviating the necessity for using a large number of poles to the mile, and by reducing the points of contact, lessening the chances for trouble and escape of the electric fluid.

All other Line Wires must inevitably be superseded by this, and such Telegraph Companies as now adopt it will the sooner realize the advantages to be derived from its use over those whose lines are of the old rotten and rusty iron wire pattern.

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Life Insurance Bureau.

THE NATIONAL TELEGRAPHIC UNION, by authority of its special charter, granted by the State of New York, proposes to insure the lives of all persons connected with the Telegraphic business, under the following rules and regulations:

Applicants for insurance must be connected in some capacity with the Telegraphic business, must be not less than eighteen years of age, in good health, and able to earn a livelihood. Every applicant shall pay an entrance fee of two dollars, one dollar of which shall be reserved for creating a permanent fund, and one dollar towards the amount to be paid the heirs of the first insured person deceased, who will receive as many dollars as there are persons insured.

Whenever a death occurs among those insured, an assessment of one dollar and ten cents will be levied upon all. This dollar goes to the widow, orphans, or heirs of the next insured party deceased, and the ten cents to be applied to the payment of current and necessary expenditures.

Applications must be made to the Actuary, in writing, accompanied by a certificate, signed by not less than two persons in the Telegraphic business, of good character, that they know the applicant is fully qualified under the preceding rules.

A small annual assessment, not to exceed one dollar, may be necessary to cover working expenses after the first year.

This plan of insurance will be conducted under the supervision of the Executive Committee of the N. T. U., and it will be their aim to make it as inexpensive as reliability and security will allow. It is unnecessary to make any extended remarks, or any comparisons of the great advantages this plan affords for the payment of ready money, at the event of death, over Life Insurance Companies.

Parties wishing to insure should write out the following questions with their answers thereto:

- What is your name?
What is your age?
Where is your residence?
What is your occupation?
Have you any constitutional disease or debility?

Sign the above statement, and forward it to the Actuary, with a certificate signed by two persons connected with the Telegraphic business, that the applicant is well known to them, and that the answers given by him to the above questions are correct?

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Lines extending from Boston to Washington.

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On hand and furnished to order with promptness, and

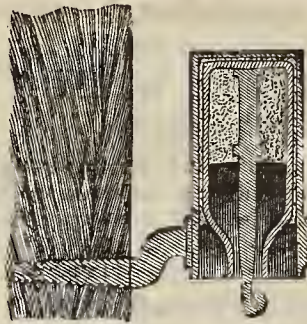
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HANDSOME AND VALUABLE PREMIUMS

to those who may exert themselves for that purpose. This offer will hold good until the end of the present volume, which closes with No. 110.

To establish a claim to either of the premiums, the subscriptions must be from parties whose names are not now upon our books, and must be at the regular rate of Two DOLLARS per year. Two six-months' subscriptions will count as one in calculating for a premium.

We have already had occasion to open accounts with several Telegraphers who have sent in names of new subscribers since we announced our list of premiums last week, and hope to distribute hundreds of dollars' worth of valuable works on Telegraphy and Electrical Science in return for accessions to our subscription list.

The subscription price of two dollars per year must, in all cases, be remitted with the names of the subscribers by parties desiring to avail themselves of our offer.

For five subscribers, new, we will give to the party forwarding the names and money, "Highton's History of the Electric Telegraph," and "Bond's Handbook of the Telegraph," or "Ferguson's Electricity."

For eight subscribers, "Dr. Lardner's Electric Telegraph," or "Prescott's History, Theory and Practice of the Electric Telegraph," or "Turnbull's Electro-Magnetic Telegraph," or any other books on the list of equal value.

For twelve subscribers, "Shaffner's Telegraph Manual," or "Culley's Handbook of Practical Telegraphy," or "Sabine's Electric Telegraph," or "Noad's Student's Text-Book of Electricity." Or, instead of these, any other book or books on the list, of equal value.

We have, also, a few copies of Vol. 3 of THE TELEGRAPHER, very handsomely bound, which, if preferred, we will give instead of the books above named in this class.

For twenty subscribers we will give "Noad's Manual of Electricity," or any other books of equal value on the list, as may be preferred.

To the person who shall, before the expiration of the present volume, obtain the largest number of subscribers, not less than fifty, we will present a splendid copy of "A TREATISE ON ELECTRICITY," by A. DE LA RIVE, in three volumes, 8vo., the lowest price of which is \$36.50.

Persons who desire to avail themselves of the above offer, are requested to notify us of the fact, and they will be credited with the subscriptions forwarded, until they decide which of the above premiums they desire to receive.

It is understood that the last premium is to be in addition to any others that may be received.

WORKS ON ELECTRICITY AND TELEGRAPHY,

FOR SALE BY

D. VAN NOSTRAND,

Publisher and Importer of Scientific Books, 192 BROADWAY, NEW YORK.

SHAFFNER, T. P.—Telegraph Manual.

—A complete History and Description of the Semaphoric, Electric, and Magnetic Telegraphs of Europe, Asia, and Africa, with 625 Illustrations. By Tal. P. Shaffner, of Kentucky. New Edition. 1 vol. 8vo., cloth, 850 pp. .... 6 50

CULLEY, R. S.—A Handbook of Practical

Telegraphy.—Published with the sanction of the Chairman and Directors of the Electric and International Telegraph Company, and adopted by the Department of Telegraphs for India. Second Edition, revised and enlarged. 300 pp., illustrated. London, 1867. .... 5 25

SABIN, ROBT.—The Electric Telegraph.

—Containing a Complete Description of Telegraphs now in use in the U. S. and Europe. 1 vol., 8vo. Illustrated with 200 Engravings. Over 400 pp. London, 1867. .... 6 25

THE ELECTRIC TELEGRAPH, by Dr.

LARDNER.—A new Edition, revised and re-written. By E. B. Bright, F. R. A. S. 1 vol. 12mo., 275 pp., 140 Illustrations. London, 1867. .... 2 50

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institute, arranged by the Professors of "Morse's Telegraph Institute." 1 vol. 12mo. .... 1 25

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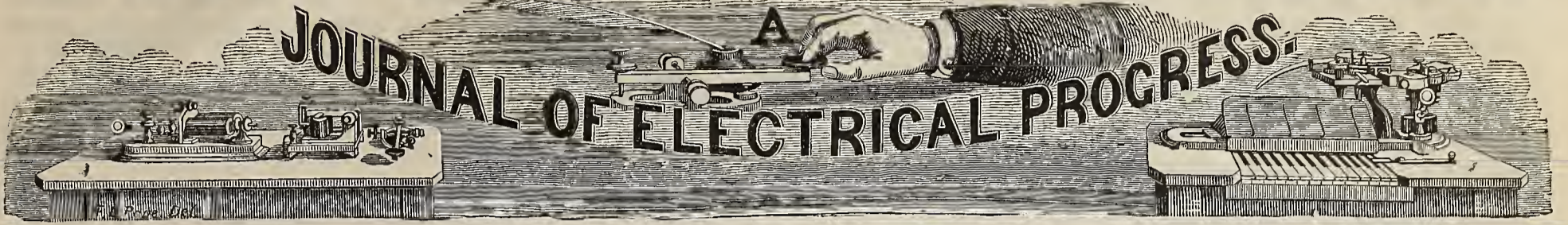
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A New and Revised Catalogue of Scientific Works ready October 1, sent Free on Application. New York, Sept. 15, 1867.



# THE TELEGRAPHER.



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New York, Saturday, August 22, 1868.

Whole No. 110.

## Proceedings of the Scientific Association at Chicago.

At the recent meeting of the American Association for the Advancement of Science, at Chicago, Professor BLANEY mentioned an instance of death by lightning stroke, where there was distinct charring of the parts of the human frame exposed to the force of the discharge.

Professor VAN DER WEYDE remarked that it is a common error that the point of a lightning rod is its important part. He considered the connection with the moist earth as the important point.

Professor STODDARD stated an accident that occurred in his sight about thirty miles east of Indianapolis. The telegraph wire carried the charge five miles with sufficient force to shatter three posts, the wire not being melted.

### ATOMIC VOLUMES.

Professor VAN DER WEYDE then read a paper on "The relation between atomic volumes of different metals, and their paramagnetic and diamagnetic properties." He said he had intended to bring several papers before the association, but perceiving the abundant scientific harvest, he abandoned his intention. Among them was one explaining the key to Kepler's third law. He mentioned this only to show the absurdity of a statement, made yesterday by a certain gentleman, that he ever should have contradicted these laws. The paper he had selected to read was on a new road of inquiry—namely, the relation between the atomic volume of metals and their magnetic properties. When the specific weight of a metal is divided into its atomic weight a quotient is obtained, which is called the atomic volume; and he showed that for the five so-called magnetic metals—cobalt, iron, chromium, nickel and manganese—their atomic volumes were all between three and four; that for the metals palladium, platinum and osmium, discovered by FARADAY to possess the magnetic properties next in intensity to the first five, this quotient or atomic volume was between four and five, and that for all other metals the numbers were larger; and that the metals with larger quotients are indifferent, till finally, when large quotients are reached, they possess properties the very opposite from magnetism—namely, diamagnetism. That antimony and bismuth, of which the quotients are respectively seventeen and twenty-one, the largest obtained from any of the heavy metals, are the most strongly diamagnetic. That heat increases this quotient by decreasing the specific weight, and also diminishes the magnetic properties. That cooling does the very opposite, and decreases the quotient, increasing the magnetism. That heat will even make a magnetic body first neutral and then diamagnetic, as is the case with oxygen. That crystals will show the same properties, as by heat they expand more in one direction than in another, and as this quotient gives the relative distance of the atoms, the crystals also show magnetism when subjected to the influence of strong electro-magnets; that even some, for instance a crystal of kyanite, will be affected by the magnetism of the earth, and may be used for compass needles.

## Testing Iron by Magnetism.

A PAPER was read before a recent meeting of the Institution of Naval Architects, London, by S. M. SAXBY, R. N., on the mode of testing iron, both as to condition and quality, by means of magnetism, the main feature of which is, that articles made of iron can be rapidly tested without damage to them or defacement. The author did not profess to do more than test forged articles or castings, whether of iron or steel; but hollow iron work, with the exception of guns and small-arm barrels, had not as yet been carefully examined. He assumed that the "pure iron" of commerce is that which is best adapted for manufacturing purposes generally, and that a test of its goodness is reasonably supposed to be its capability of being tied up, cold, into a compact knot. Yet the tensile strength, however useful for some purposes, is an insufficient indication of the goodness of iron, inasmuch as it shows strength in one direction, and is not incompatible with brittleness. A mass of iron is an aggregate of distinct particles, each of which has its polarity; the whole is a magnet, inductively so if the iron is pure and soft, and permanently so if in a state of steel or cast iron. The old notion that magnetism existed only on the surface of iron he had proved by experiment to be erroneous. If we interfere with that favorable condition which is the element of strength in iron, viz., north pole to south pole, and so on, we cause weakness in the metal. We derive hence an axiom that "Continuous polarity in iron and steel constitutes strength," while its disruption or solution is weakness—and flaws and faults are examples of such weakness. Now the amount of magnetism in a piece of iron, or rather the amount and peculiarities of polar condition in a piece of iron, are measurable; therefore, if strength in iron is magnetism, so is strength in iron measurable; and as any common compass is a magnetometer, so ought we by the use of the compass to be able to measure the strength of iron, and to detect its weakness by noticing the changes in the position of the needle on being passed along its sides. The author described in detail the manner in which he detected the position of a piece of steel, which had been secretly inclosed by a smith in a bar of iron 14 inches long and 4 in diameter. He carefully ran the compass up and down the side of the bar, which was placed *in* the meridian, *out* of the meridian, in the line of the dip, and until corroboration of compass disturbance near one end advised him of evident local interference with, or disruption of that alternate polar continuity which would have been found in a bar of solid iron. He further discovered by the needle that one end of the steel pin was thoroughly combined with the iron, while the other could not have been properly welded—which, on examination, was proved to be the fact. Various other experiments were mentioned, but we have only space to give some of the more important deductions of the author. To use a magnetic test effectually, a fair knowledge of the main

points of terrestrial magnetism is indispensable. But where, at the present day, is the master smith or his assistants who are equal to a comprehension of it? It would amply remunerate every factory to have a testing room, and an officer for the examination of all important forgings or castings of iron. The want of proper testing has been the source of much weakness, and consequently of waste in iron castings. Customary fractures occurring at particular parts of an article, naturally led to the strengthening of those parts with additional metal, whereas Mr. SAXBY believed that in many cases such weakness arises from the imperfect manner in which the molten metal is run into the mould; for unless the junctions of the surface of the hot metal occur at the same temperature, the molecular condition of the metal is defective. It was not uncommon for him to find opposite polarities occurring in castings within the space of small portions of an inch. Now these are equivalent to flaws in wrought iron; they are absolute weaknesses, and in most cases remediable. Irregularity of cooling causes molecular disruptions. There is but little difficulty in the testing of many articles, such as shafts, spindles, girders, braces, knees, railway wheels, and so on; and especially such articles as revolve in a lathe during manufacture.

It is remarkable that, in general, we know less of the condition of iron than of its quality. The best of iron, when in a bad condition, is virtually bad iron. This point was illustrated by samples of Bowling iron and Chatham iron, both of which are costly, and bear the highest character; several specimens had been proved by the magnet to be defective, and on cutting the bars they were found to be partly crystallized and partly fibrous.

A few noteworthy defects in the common mode of forging iron have been detected by the magnetic test. For instance, the upsetting of a piece of iron should always be done at as near a welding heat as possible. If otherwise done it causes flaws, perceptible by the magnet; and it may be remarked here that many faults in condition might be remedied by annealing. In welding iron it is bad to use the ends beveled, laying pieces of filling-up iron across them. This crossing of fibres, even after a sound weld, is an element of weakness, and it has been proved by the magnet test to be very objectionable.

In conclusion, samples were shown to illustrate the position that as iron is forged in one direction or the other, with reference to the magnetic meridian, so will its strength vary. Hence it may be a reasonable inquiry whether all testing machines should not be placed in a direction east and west, and for chain cables especially, in the iron of which we wish to avoid the destruction of elasticity.

WHAT'S IN A NAME?—There is a firm in Syracuse, N. Y., by the name of SETTLE & BURST.



## 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.*

## Progress of the Telegraph in South America.

LIMA, June 29th, 1868.

TO THE EDITOR OF THE TELEGRAPHER.

ABOUT the close of last year I sent you a brief notice of the progress of Telegraphing in Peru, which you honored with a place in your respectable paper of the 4th January, 1868. Since the date of my letter there has passed over this country a moral hurricane, as ruthless as the physical one that lately visited San Tomas, submerging every thing on the face of society, and upheaving to the surface all that had been sunk by its progenitor.

Amongst the many objects of national advancement already in operation, and some others yet in project, that have become thwarted and ruined by that political cataclysm, is the "Compañía Telegráfica Peruana." This Company's prospects have gone down, evidently to rise no more, while its better supported rival, "The Compañía Nacional Telegráfica," flourishes under the united patronage of the Government and the public. Its principal Director, Mr. CHARLES PAZSOLDAN, is a young gentleman of one of the most wealthy families of the country, who, as well as myself, was educated in the United States, and combines the advantages of intelligence, enterprise and energy, derived from his American education, with those of birth, fortune and family influence here.

Favored by such auspicious circumstances, this National Company, having secured the proprietorship, by purchase, of the line previously established between Lima and Callao, is extending that line to the northward towards Guayaquil, and to the southward toward Arequipa (one hundred and fifty leagues), the second capital of Peru. The northern section is now in operation in Chancay and Huacho, one hundred miles from the capital, and within a few days hence its operation will have reached Truxillo, two hundred miles further onward towards Piura, which is the frontier city of Peru, on the borders of the State of Ecuador.

The southern section, now in operation in Chorrillos, is being constructed under my direction to Lurin, Mala, Canete, Chinchá, Ica and Pisco, our brandy harbor, and thence by submarine cable to the rich Guano Island our great money chest.

I am undertaking here what may be called a Telegraphic campaign, with a little army of workmen, electric artillery, baggage train, &c., in a most dreary district of country, where nature denies every comfort to man, and one is obliged to go provided with the necessaries of life, even water, as though embarked on an ocean.

The whole of this southern line we intend to place in operation within two or three months from this time. On reaching this point the line of Telegraphic communication will, according to the company's plan, be continued to embrace all the principal towns throughout the southern region of the republic. With a capital of two millions of dollars (\$2,000,000), and the energetic impulse of some of the most wealthy citizens, who form a majority of the stockholders, the Company looks forward confidently to the achievement of a work calculated to produce more general good than any yet undertaken since the independence of these countries.

Our system of management is according to the improved plan of the celebrated MORSE, adopted in the United States. Our lines are constructed with solidity, and in a good manner, using the English iron tubular posts, TIEMEN'S Insulators and the English MORSE instruments. The reason why all our material is not American,

which we know to be superior, is simply this, that as by our contract with the Government we are entitled to receive fifty thousand dollars as an auxiliary advancement, to be reimbursed by tolls on Government messages, and that Government having, previously to the organization of this Company, ordered those things from England through agents ignorant of Telegraphing, said material has necessarily come into our hands, and we are employing them for the present until the instruments we have called for from Mr. C. WILLIAMS, Jr.'s, manufactory, in Boston, shall arrive.

Along with the instruments we have sent for, we should be glad to see arrive here also some intelligent and moral young men instructed in the art, and who have some acquaintance with the Spanish language. The natives of this country are not generally endowed by nature with all the qualities proper to form good Telegraphers.

Notwithstanding the severe epidemic that has been raging here during the past hot months, and has now almost totally disappeared, the country is justly considered one of the most healthy in the world, with mild-tempered and amiable inhabitants.

Though living is indeed not so commodious in our chief cities as in the United States, yet here, as in other parts, labor and salary become balanced in kind and amount, so as always to sustain industry and promote the happiness of the industrious.

The rich interior of this country, so completely shut out from the seat of commerce and civilization on the coast by the stupendous Andes and their impassable defiles—as bad if not worse than those of Abyssinia, and which, for a hundred years to come, may still have to hope for a good road communication—can easily be placed in immediate contact with us here by means of the Telegraph, whose wires can travel through the narrowest defile and over the steepest mountain top, and tell in an instant of time the wants and wishes of parties, whom it would take a tedious delay of at least a week or a month to reach through the ordinary postal medium.

Realizing, therefore, the great importance of Telegraphic communication with the interior, the Company is about commencing a line from this capital to the rich mining district of Pasco, distant one hundred and fifty-five miles; which line will pass through or connect with various other towns abounding in mineral and agricultural wealth.

When the Telegraph once becomes established beyond the Andes, its extension throughout all the eastern region of the republic to the ancient capital of the Incas, Cuzco and Caramarca, and their intermediate cities, may be regarded as a necessary result, which will wake up to industry and happiness hundreds of thousands now sleeping in indolence and misery. A rapid communication between the farthest extremes of the republic and this great centre of wealth and power, will give the death-blow to the military tyranny and civil misgovernment that so sorely afflict the land. Thus, in the end, Franklin's kite will have proved a more effectual liberator of nations than the swords of all their boasted heroes.

HENRY J. DINEGRO,

*Supt. of the Compañía Nacional Telegráfica.*

## Proposed Change in the Constitution.

TO THE EDITOR OF THE TELEGRAPHER.

AS THIS will be about my last opportunity for suggestions to the Delegates to the Annual Convention of the UNION, previous to its meeting, I wish to mention one or two desirable changes in the Constitution, which will enable Districts extending over a large territory, and obliged to hold their meetings by Telegraph, to work to better advantage than under the present regulations.

Before proceeding, however, I would like to reply to

BOSTONIAN, but your limited space and lack of time on my part forbid, and therefore I will merely say that I agree with his article as far as it relates to the proper policy to be pursued, but no further.

Under the present regulations, applicants for membership in the UNION must, after filing their applications, wait a month until a Committee can be appointed, and investigate and report upon their eligibility, and the desirability of their connection with the Association. This I regard as unnecessary. As a general thing, the applicants are well known to a majority, if not all the members of the District, and they are as well prepared to act intelligently and discreetly upon the applications at one time as another.

Where Districts meet by Telegraph, it is very difficult to have Committee men meet, much less to go to the applicant's point for investigation. Dispense with this unnecessary form as a generality; but in cases where a candidate is a stranger, as a matter of precaution the Committee can be appointed.

Where a member withdraws, why not permit the District officers to grant the "Card of honorable withdrawal," and avoid the delay of sending to the four winds of Heaven after the President and Corresponding Secretary?

In the election of officers, why not conduct it as in any other Society, in meetings, and not by Committee. Let the Secretary notify every member in the District of the nominations, and have the ballots sent to him; or, let those members who will not be present send to him, and count those ballots with those cast in the meeting. Committees are excellent institutions sometimes, but are terribly abused.

Where a new District is organized, cause the Director of the District to at once get transfer for any members of other Districts within his jurisdiction. Many are very negligent about this important matter, so vital to new and feeble Districts.

Forbid any member of the UNION to teach any person the art without permission of the District or its officers. Plugs are now in greater abundance than bees around a sugar hogshead, and we should endeavor to check further manufacture of the article.

In conclusion, Brothers, reduce the list of general officers, increase the duties and privileges of District officers, and give us a UNION simple in organization, strong in protection, and beneficial to all, and when you have completed your labors, write and have distributed an address to all operators, inviting them to join us. Don't give it to any Executive Committee to do, but do it yourselves, that you may see it finished ere you leave, and then you can return to your constituents happy in knowing that you have done your duty, and be greeted with "Well done, good and faithful servants." TRUE BLUE.

## Extension of the Northwestern Company's Telegraph Lines.

ST. PAUL, Minn., August 13th.

TO THE EDITOR OF THE TELEGRAPHER.

DR. LARDNER'S Electric Telegraph received. I am much pleased therewith.

As an item for THE TELEGRAPHER, I have the very agreeable information to communicate (to us, at least,) that the Northwestern Company will soon add to our communication East a new wire, *via* McGregor, Iowa, to Milwaukee. The line will be completed by the end of the present month, and it is to be hoped that the nomadic life hitherto led by messages to and from St. Paul will "be abated." In addition to this, the N. W. Co. are rapidly extending their wire along Minn. Valley Railway to Mankato. Offices will soon be opened at that place and St. Peter. They also commence building a line along main line of St. Paul and Pacific R. R.

F. B. J.



## Western Virginia District N. T. U.

NEWBURG, W. VA., August 18, 1868.

TO THE EDITOR OF THE TELEGRAPHER.

AT a meeting held on August 9th, to hear the report of the committee on elections, Mr. CASSIDY, the Chairman, reported the following officers elected for the ensuing year:

*District Director*, J. HOPE SUTOR, of Newburg; *Secretary*, THOMAS H. BROOKE, of Glover's Gap; *Treasurer*, M. F. CONNER, of Central Station; *Delegate*, K. D. WALKER, of Fairmont.

The D. D. *elect* chose Messrs. J. L. COURTRIGHT, of Glover's Gap, and JAS. CASSIDY, of Altamont, as his Council:

After the result was known Mr. WALKER addressed the District upon Union matters, handling the subject of "reconstruction" in a masterly manner. Mr. W. is a workingman, and will be an honor, not only to his District but to the Convention.

Several other members made a few remarks in regard to the changes necessary, after which the meeting adjourned.

J. H. S.

## Telegraph Base Ball Club in Cincinnati.

CINCINNATI, August 15th.

TO THE EDITOR OF THE TELEGRAPHER.

THE initiatory game between the NIGHT OWLS and DAYLIGHTS was played at five o'clock yesterday morning. The game was closely contested. After five innings the score stood: OWLS 21, DAYLIGHTS 24, and the OWLS to the bat, when we had to quit.

This morning the members of the Telegraph Club of the day foree played the Merchants' Union Base Ball Club at five o'clock. Five innings were played by the Telegraphers' nine against the MORNING GLORIES of the Merchants' Union Express. Social practice.

At the close of the game the score stood: MORNING GLORIES 25, Telegraphers 11. We were playing against base ballists of two years' practice and experience, and not one of our men ever played more than two games before.

OLD RAPID.

## TO CORRESPONDENTS.

OPERATOR.—Have not seen anything from the A. and S. District. Send along anything you may have.

A DUPED FIFTY DOLLAR STUDENT should have sent us his name. We have no doubt the statement in regard to the Telegraph Collego swindle in this city is true, but we want his name and address, in order to back up the statement.

## PERSONAL.

JOHN McCORMACK, Superintendent of Telegraph on the C. C. and J. C. Railroad, is on a visit to New York.

W. P. BAKER, formerly of the Cincinnati office, was in Wadsworth, Nevada, on the 12th ult.

ED. C. GREENE has taken a place as temporary night operator at Columbia City, Ind.

W. H. BRITNEY has been transferred from Benton, D. T., to Omaha, Union Pacific R. R. office.

J. W. N. GILDS, recently on P. and E. R. R. line, at Renovo, Pa., has accepted his former position again, as an extra agent and operator on the O. C. and A. Railway line.

A. M. COBB, office clerk at the International Telegraph office, Portland, Maine, has been promoted to an operator's position at the Falmouth hotel, the previous operator having resigned.

GEORGE EVERETT, who used to do some of the best Telegraphing in the West, is in Louisville, out of business.

T. T. CHILDS, of the C. and N. W. R. R. office, Chicago, has gone to Geneva, N. Y., it is understood with matrimonial intentions.

NED BEARDSLEY is substituting at Boston.

Mr. JOHN L. JONES, formerly of the A. and P. office, at Troy, N. Y., has accepted a position in the Western Union New York office.

Miss ABBIE HAWES, of Western Union Co.'s Housatonic office, is temporarily in charge of STEWART'S up-town establishment.

Mr. CHARLES H. SAWYER has been appointed Circuit Manager of the Atlantic and Pacific wires at office No. 11 Broad Street.

JOE SEARS, of Corinth, Miss., succeeds KIMBER, at Cheyenne.

A. C. BASSETT, Assistant Superintendent at Salt Lake, was at Omaha this week, *en route* to the East.

HIRAM SIBLEY was at Omaha on Monday, 17th inst.

J. O. LYLE is Superintendent of the Covington and Lexington Railroad Telegraph.

Mr. MUNROE, of Fort Sedgwick, has been transferred to Cheyenne City.

SAM KIMBER is Manager of the Georgetown, Colorado, office.

## THE TELEGRAPH.

## The Fractured Atlantic Cable.

THE following letter from the Chairman of the Anglo-American Telegraph Company will explain the nature and location of the damage to the Atlantic Cable of 1866, and the measures that have been taken to remedy it:

ANGLO-AMERICAN TELEGRAPH Co.,  
26 OLD BROAD STREET, LONDON, Aug. 7th. }

SIR—Since my communication to you of the 3d inst. I have received the official test from the electricians of the Company, who report the recent break in the 1866 cable quite close to the spot at which it was broken in the month of July, last year, being a distance of eighty-eight miles from Heart's Content.

The steamer Hawk, Captain HALPIN, has been ordered by the Telegraph Construction and Maintenance Company to proceed forthwith to repair the damage.

I am, Sir, yours obediently,

R. A. GLASS, *Chairman*.

## Cable Communication with the United States.

THE Paris Union, adverting to the concession lately made by the French Government for an electric cable to the United States, gives the following explanation on the subject:

"The line is to be divided into two sections, the first comprising the part between Brest and St. Pierre-Miquelon, about 2,688 nautical miles, and the second the space between the stations at St. Pierre and New York, or 950 miles. This route has the double advantage over the existing Telegraph of serving for the French fisheries of Newfoundland, and of being less costly in construction. The straight line offers almost insurmountable difficulties, in consequence of the currents and depths to be met with at almost every step, while that adopted by the new company follows almost invariably a line of table land, the known bottom of which affords a certainty of success. The French cable should, according to the terms of the charter, be inaugurated by the first of August, 1869. The concessionists have consequently already placed themselves in a position to fulfil their engagements, by taking into association the most eminent and practical men in England and France in the science of electric Telegraphy. The laying down of the cable will take place in the months of July and August, 1869, the two best in the year for such an operation. The studies of the project are terminated, and an additional guarantee is furnished by the fact that the persons who will invest their capital in this really national work have conducted their examination with equal intelligence and prudence.

The track which has been preferred assures success, whilst the other was full of peril and uncertainty. One of the great defects of the line which unites England and America is the high rate charged, but the new one will not have the same inconveniences. The charter, in fixing the maximum tariff at one hundred francs for twenty words, has established a competition which will be advantageous to the new enterprise."

## The Telegraph Imbroglia.

THE lines of the Pacific and Atlantic Telegraph Company, between Logansport, Indiana, and this city, have recently suffered greatly at the hands of malicious persons. Poles have been destroyed, and the wires have been cut at various points within the limits described from time to time, and not until quite recently were the guilty parties apprehended. The history of the imbroglia between the Western Union and the Pacific and Atlantic Telegraph Companies is generally known and understood. The latter corporation procured permission from the Indiana Central Railway Company to run their line along the track of said railroad, by attaching the wires to the poles in use by the Western Union Telegraph Company. Employés of this Company, upon the attachment of the wires, at once commenced to tear them down, and in various other ways to discommode the operations of the workmen in the employ of the Pacific and Atlantic Company. An injunction was granted to restrain the opposing company from such proceedings, and so the matter now stands.

Nine of the employés of the Western Union Telegraph Company were recently arrested in this city, GEO. HICK, JAMES HICK, SAMUEL JONES, and JOHN DEAN among the number, and were arraigned before Justice Winship. Five others were also arrested in Logansport, Indiana, and were released on bail, for trial, in the sum of \$500 each. Those taken before Justice Winship were discharged, owing to the non-appearance of witnesses for the prosecution.—*Chicago Tribune*, Aug. 13.

CHICAGO, August 14, 1868.

To the Editor of the Chicago Tribune.

IN your paper of this date I notice an article under the above caption. Without going into details, I desire to give the true state of the case, as developed in court to-day:

"The amended bill shows that the Western Union Company are the absolute owners of the poles, and in the exclusive possession of them, and using them as a Telegraph line. That the Pacific and Atlantic Telegraph Company is putting on two wires on the same poles, which will substantially interfere with the working of the Western Union wires, and endanger accuracy in transmission, &c. That they are putting up the wires without leave from the Western Union Telegraph Company, and without authority. The Court said it would not consider the merits of the case, but would, without examining the bill, refuse the injunction and dismiss the bill and amended bill, and allow an appeal to the Supreme Court, so it could be heard at the September term."

An appeal was allowed and taken from this *pro forma* decision.

TELEGRAM.

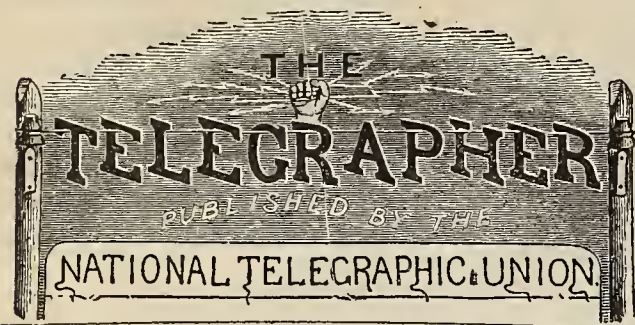
## The Ocean Telegraphy Litigation.

(Before Judge DALY.)

HIDDEN vs. LITTLE.—This was an application to answer the complaint and set aside a judgment in a suit to restrain the defendant from assuming or selling a patent for improvements in Telegraphic apparatus. The plaintiff claimed an interest in the invention called the "floating pen," as acquired by him under an agreement made in England. The maker appeared to be involved in a labyrinth of litigation.

The Court, after hearing EDWIN JAMES for the motion, and Mr. CUMMINGS in opposition, granted the order to deliver an answer to the complaint on Monday following.





SATURDAY, AUGUST 22, 1868.

#### THE END OF THE FOURTH VOLUME.

WITH this number of THE TELEGRAPHER the fourth volume is completed. In closing this volume we may properly consider its history, and be indulged in a brief statement of its experience, and the measure of success which it has attained.

Originally commenced as a monthly publication, the support which it received during its first volume, and the requirements of the profession, necessitated its issue semi-monthly. It was accordingly so issued, and continued to appear in that shape, under the charge of its originator, until the commencement of the present volume. During the latter part of the third volume, however, Mr. L. H. SMITH, its originator and editor up to that time, from ill health, caused by excessive labor, had been obliged to retire from its active control, which was assumed by Mr. FRANK L. POPE, although nominally under Mr. SMITH'S management. As it had become evident to Mr. SMITH that his health would probably necessitate his permanent abandonment of the Telegraph business, he voluntarily resigned his connection with the paper, and Mr. POPE, at the meeting of the last Convention of the NATIONAL TELEGRAPHIC UNION, at St. Louis, was regularly elected its editor and publisher. Mr. POPE, after much consideration and reflection, had come to the conclusion that the interests of THE TELEGRAPHER and the profession required a more frequent appearance of the organ of the UNION, and he accordingly decided to commence the fourth volume with a weekly issue. This, in view of the limited field of patronage of such a paper, and of the failure of similar publications heretofore, was regarded as a hazardous experiment, but the result has vindicated his sagacity, and demonstrated the ability and willingness of the practical Telegraphers of the country to support a weekly organ.

Mr. POPE continued to ably conduct the paper until February last, but, in the meantime, having been tendered and accepted the Superintendence of the Gold Reporting Telegraph, found his new duties so engrossing as to preclude his giving to THE TELEGRAPHER that attention which he felt its proper conduct required, and decided to relinquish its management. After much solicitation the present editor was induced to assume the editorial and business charge of the paper. With how much of general acceptance to the profession it has been conducted since that time he will not undertake to say. Conscious, however, of having done his best in the somewhat arduous and laborious undertaking, he can only say that, in whatever he has come short of the expectations of its patrons, has been from inability rather than inclination to meet them.

The paper was established, and has been continued as the organ of the NATIONAL TELEGRAPHIC UNION. If the association had accomplished nothing more, the fact that it has rendered possible the successful establishment of an organ and advocate of the practical Telegraphers of the country, is, in our opinion, sufficient warrant for the labor and outlay on the part of the profession which it has necessitated.

Until the present volume, THE TELEGRAPHER has not been entirely self-supporting; and, had it not been for the

existence of the UNION, it is probable that it would have shared the fate of similar Telegraphic periodicals, at various times attempted to be established in this country.

It has at last, however, triumphed over all obstacles, and is now fully self-supporting. Its list of paying subscribers has been largely increased during the past six months, as has also its advertising patronage, and its prospects for the future are of the most encouraging nature. It only needs a continuance of the favor and patronage which it has received during the past year to enable us greatly to improve it, and make it even a still more creditable organ and representative of the practical Telegraph talent of the country.

It is the only *independent* Telegraph publication in the country, and the only one which appeals directly and exclusively to the practical Telegraphers for support. We trust, therefore, that these will continue and increase their patronage, and on our part nothing shall be wanting, within our ability, to make it worthy of that support. We hope and expect to make the new volume, in many respects, an improvement on those which have preceded it. It has a corps of able contributors, which is constantly receiving new and valuable accessions.

Mr. POPE, although compelled to surrender the editorial charge, still contributes constantly to its columns, and kindly aids the present editor with his valuable counsel and advice in its management, and we take pleasure in thus publicly acknowledging our indebtedness to him. It has also correspondents in all parts of our own country and abroad, who keep us fully and promptly informed of all matters of Telegraphic interest and importance. In short, its facilities are such as are not now, and never have been equalled by any other similar publication in the world, and those facilities are constantly increasing. We have no hesitation, therefore, in asserting that no practical Telegrapher, who has any ambition to excel in his profession, or desire to know what is going on in the Telegraphic world, CAN AFFORD TO BE WITHOUT IT.

The commencement of a new volume affords an excellent opportunity for new subscriptions, which, we hope, will not be overlooked. Let each of our present subscribers constitute himself or herself an agent to secure and forward to us at least one new subscriber. The larger the subscription list, and the greater the revenue of the paper, the more valuable it can be made—as, not being an individual enterprise, there is not that incentive to make it a money-making concern which there would be otherwise—and the revenues of the paper will be applied to its improvement.

We would also call the attention of *advertisers*, who have anything to dispose of connected with Electrical or Telegraphic interests, to its excellence as an advertising medium. The shrewdest and most successful of those engaged in the manufacture and sale of Electrical and Telegraphic Instruments, Insulators, Wires, and other Telegraphic material, have long patronized this paper, and found ample remuneration in increased business and profits in so doing. We hope our friends in all parts of the country will see to it that this fact is brought to the attention of the proper parties, and additional advertising patronage secured.

With this brief statement we close our labors upon the Fourth Volume of THE TELEGRAPHER, in the confident expectation that the FIFTH VOLUME, to commence with the next number, will be even more satisfactory and successful.

#### Enlarged Accommodations and Increased Facilities.

THE office of the Atlantic and Pacific Company's Produce Exchange office has lately been enlarged and refitted. Another wire to Albany has also been added to the available facilities of the office for the prompt transmission of business.

#### Premiums.

AT the suggestion of friends of THE TELEGRAPHER, and as an incentive to exertion for the increase of its subscription list, we have decided to continue, for the first three months of the Fifth Volume, the liberal offer of premiums which will be found on our last page. We have had the pleasure of forwarding to our friends a large number of valuable Telegraphic works, in return for lists of additional subscribers, and expect to be called on for many more.

The copy of DE LA RIVE'S valuable work, which was offered to the person who should send us the largest number of subscribers, not less than fifty, during the present volume, has been secured by Mr. GEO. A. HAMILTON, of the Pacific and Atlantic Telegraph office, Pittsburg, Pa., who has obtained and forwarded us the money for fifty-six subscribers. This shows what may be accomplished by judicious energy and determination. We renew the offer to the person who shall send us the largest number of new subscribers, not less than fifty, during the next three months.

Parties who are credited with subscriptions on our books on premium account, can complete their lists and receive the premium for the whole number within the time specified.

We hope the friends of THE TELEGRAPHER will go to work energetically, with the determination that before the close of the next volume it shall be a weekly visitant at every city, town, village or railroad station in the United States and British Provinces where a Telegraph instrument is operated.

#### Should be Patronized.

WE would call attention to the new advertisement of Mr. W. E. FACER, of Philadelphia, in our advertising columns. Mr. FACER'S terms, as will be seen by an examination of the price list, are as reasonable as those of any reliable manufacturer of Telegraph apparatus, and we are assured, by parties fully competent to judge, that the work turned out by him is of superior quality in all respects. He should receive a liberal patronage.

#### A Telegraphic Magazinish.

*Putnam's Monthly* contains a readable and interesting article, entitled "Camping out in Siberia," from the pen of one of the Overland Telegraph explorers—GEORGE KENNAN, formerly of Norwalk, Ohio, of which the *Evening Mail* says:

"It reads as though it might have been written by Colonel T. W. KNOX or BAYARD TAYLOR, and describes a people and scenes with which all Americans are only too familiar. The truth is, the subject of travels is pretty well exhausted. Nevertheless, the article in question is full of interest and renews our acquaintance with snow huts, crisp air, Siberian dogs, sledges, villages, people, &c. Mr. KENNAN is a new writer, and it is something of a compliment to say that he resembles BAYARD TAYLOR. If it is his first appearance in print it is not likely to be his last, for he 'knows how to do it,' and has succeeded in giving us a delightful picture of a familiar scene—always a difficult task."

Mr. KENNAN is well known to our Western readers as one of the most accomplished and expert Telegraphers in the profession. He is a young man, of great energy and talent, and greatly distinguished himself in the arduous services incident to the exploration of Kamschatka and Eastern Siberia, undertaken by the Russo-American Telegraph Company during the winter of 1865-66. His many friends will be pleased to greet him in his new role, and will join with us in hoping that the success with which his first literary venture has been met will encourage him to try again.

THE Mexican Government have just given M. VIL-LARTI the concession of a right to construct a line from Leon to the coast, and placing the City of Mexico in communication with the Pacific ports.



**C. T. & J. N. Chester's Illustrated Catalogue.**

WE are in receipt of the fifth edition of Messrs. C. T. & J. N. CHESTER'S Illustrated Catalogue of Telegraphic Instruments and Material. This little book has been successively revised and enlarged until it has almost attained the dignity of a treatise upon the subject. In glancing over its pages, the most casual observer cannot fail to be struck with the great number and variety of the different articles manufactured by this well known firm, many of which they were the first to introduce to the Telegraphers of America. Among the novelties described and illustrated in this edition we notice a pocket magnet of entirely new construction—a perfect beauty—which must be seen to be appreciated. A new style of sounders, brought out within the past year, has met with a very favorable reception among operators. There is nothing particularly new in the way of keys, if we except the well known "CATON," with tumbler circuit closer, which is rapidly superseding the old patterns. The BROOKS Insulator and BUNNELL Repeater are shown, both of which are well known to our readers. Batteries seem to be a specialty—we might almost say a hobby—of the Messrs. CHESTER, therefore we are not surprised to find two or three decided novelties in this line. The air-tight battery, giving the intensity of 100 GROVE cups in a cubic foot of space, and which was recently illustrated in the columns of THE TELEGRAPHER, challenges the admiration of all electricians. For the laboratory or testing room it is unrivalled. A sulphate of copper battery, arranged upon the principle of MIEDINGER, for long continued action, is also shown, which we predict will yet become a general favorite in this country for main circuits. Space forbids us to detail the innumerable other articles embraced in the list, comprising everything required in the construction, maintenance and working of Telegraph lines. The catalogue will be forwarded, on application, to parties wishing to purchase articles in this line.

**Going Home.**

THE British steamship Narva, which has for the last two months been engaged in laying the new Telegraph Cable of the International Ocean Telegraph Co. between Key West and Cuba, arrived here on Friday last, in ballast, to take in a supply of coal, and proceed to England. The Narva, having taken in provisions and coal, sailed for England on Thursday, P. M.

**Personal.**

ON the steamship Narva, from Key West, came as passengers Sir CHARLES BRIGHT, the distinguished English Electrician, who has been engaged in superintending the laying of the second cable of the International Ocean Telegraph Company from Key West to Cuba, and Mr. W. H. HEISS, the General Superintendent of that Company. Sir CHARLES will sail for England to-day on the steamer from this port.

**Election in New York District.**

AT an adjourned meeting of the New York District N. T. U., held Tuesday evening, August 18th, the following gentlemen were declared elected District Officers for the ensuing year:

*District Director.*—W. H. H. CLARK. *Secretary.*—H. W. POPE. *Treasurer.*—W. H. COLLINS. *Delegate to the Convention.*—W. H. H. CLARK. *Alternate.*—W. O. LEWIS.

**A Melon (Telegraph) Station.**

WE have heard of grape-vine Telegraphs, but the Western Union Company has recently developed a melon Telegraph station. It is officially announced that a new office has been opened at Velonia, Ind., to be kept open only during the melon season. Shall we be pardoned if we remark that the above is a melon-choly announcement for the permanent residents.

**New Telegraphic Bureau and Journal.**

THE International Telegraphic Conference, recently in session at Vienna, determined on the establishment of an International Telegraphic Bureau, to be located in Switzerland, and the organization of this Bureau has already been commenced.

It will be the business of this Bureau to collect and publish statistics of Telegraphy; to undertake the preparation and publication of an International Telegraphic Journal, which shall be regarded as authority on all questions of a Telegraphic character, and the practicability of improvements proposed in the administration of Telegraphs and in the art of Telegraphy. It will also be the duty of the Bureau to keep the members of the International Telegraph Conference informed of the establishment of new Telegraph lines and stations, and of changes that may be made in existing lines.

THE nominations of the Democratic Convention in New York were received in San Francisco, California, at 3.30 P. M. on the day they were made, although the nomination of BLAIR for Vice-President was not made until five P. M. That beats Puck.—*Exchange.*

**BORN.**

August 12th, to Mr. G. C. PARKINS, operator, Dixon, Ill., a son. To DIXON F. MARKS, night manager W. U. office, 145 Broadway, a son.

**DIED.**

TALCOTT—In Washington, D. C., August 16th, after a protracted and painful illness, Mrs. MARY B., wife of ALFRED B. TALCOTT.

**W. E. FACER,**

No. 48 SOUTH FOURTH STREET, PHILADELPHIA,  
General Manufacturing Electrician,  
AND DEALER IN ALL KINDS OF

**Telegraphic Instruments and Supplies,**

now offers for Sale, and will Manufacture to order, as will be seen by the following SCHEDULE OF PRICES,

**Telegraph Instruments of all Descriptions,**

of most Superior Pattern and Finish, and WARRANTED PERFECT in all respects:

Register No. 1, of Red Metal, with Weights.....	\$45 00
“ No. 2, “ Brass, “ “ .....	40 00
No. 1, Superior Adjustable Relay.....	22 00
“ 2, “ “ “ .....	19 00
“ 3, Relay, with Stationary Coils.....	18 00
“ 1, Local Sounders.....	9 00
“ “ Pony Size.....	7 00
Tumbler Circuit Closer Key.....	6 50
Straight Lever Key, oval pattern.....	5 00
Improved Plug Switch (complete).....	2 75
Lightning Arresters, per pair.....	2 00

**A NEW AUTOMATIC REPEATER,**

warranted equal in every respect to any Repeater hitherto manufactured or used in this country, \$110.00. Two Cells of Local Battery only are required to work this Instrument.

Is permitted to refer to practical Telegraphers and Electricians of acknowledged standing and ability, as to its merits.

All descriptions of Battery Material will be furnished at the lowest prices.

The above prices are given as an indication of the very reasonable rates at which all other Telegraph Instruments, Materials and Supplies will be furnished.

Complete Lists will be forwarded upon application.

**WANTED,**

Two Men, that understand the CONSTRUCTION of TELEGRAPH LINES, to go to SOUTH AMERICA. Good recommendations required.

For further particulars address

C. WILLIAMS, Jr., 109 Court St., Boston.

**THE TELEGRAPHER:**  
**A Journal of Electrical Progress.**

PUBLISHED EVERY SATURDAY

BY THE

**NATIONAL TELEGRAPHIC UNION**

AT

Nos. 16 & 18 NEW STREET, NEW YORK.

[OVER THE GOLD EXCHANGE.]

VOLUME FIVE.

ON Saturday, August 29th, the publication of the FIFTH VOLUME of THE TELEGRAPHER will commence. It has been sustained against all the adverse interests with which it has had to contend, and triumphing over them all, the Fourth Volume has proved more successful than either of those which preceded it, and the Fifth opens with the most flattering prospects.

It has always been the aim of those to whom its conduct has been committed in the past, as it will be in the future, to make it in every respect

**A FIRST-CLASS TELEGRAPHIC NEWSPAPER.**

In the future, as in the past, thoroughly independent of all Telegraph Companies or combinations, it will advocate, fearlessly and persistently, the just rights of the TELEGRAPHIC FRATERNITY, by whom, and in whose interests it has been established and supported. All matters relating to Telegraphy will be discussed in a progressive, independent and liberal spirit, and it will seek to elevate not only the scientific but the moral and social standard of the Telegraphic profession.

THE TELEGRAPHER will contain numerous original and valuable contributions upon Electrical and Telegraphic science; Correspondence from various parts of the world; Notices of changes of Telegraphic offices; and other incidents and items of personal interest, together with a large and varied selection of Telegraphic News-items, Notes, and Memoranda of every description.

It will continue, as heretofore, to be illustrated with a large number of

**ORIGINAL ENGRAVINGS**

of new and interesting inventions, and other subjects pertaining to Telegraphy, prepared expressly for its columns by able and competent artists. This is a feature possessed by no other Telegraphic journal in the world.

Through its peculiar facilities, and its exchanges with all the Telegraphic publications in foreign countries, its readers will be fully and promptly informed of all matters of Telegraphic interest transpiring throughout the world. In short, its pages will contain a complete record of the progress of Electrical Science, and especially of the Electric Telegraph in all parts of the earth.

Experience, energy, industry and capital will all be combined to make THE TELEGRAPHER what it purports to be—A JOURNAL OF ELECTRICAL PROGRESS, and to render it worthy of the continuance of the liberal support which it has received from the profession and others interested in Electrical Science and Telegraphic Art, and to make it a creditable representative of the practical Telegraphic talent of the United States.

Correspondence, items of news or personal interest, and newspaper extracts relating to Telegraphic matter, are solicited. The co-operation of every person interested in sustaining a first-class Telegraphic newspaper is cordially invited.

THE TELEGRAPHER is the only journal in this country devoted strictly and exclusively to Telegraphic interests.

**TERMS OF SUBSCRIPTION:**

One copy, one year.....	\$2 00
Six copies, one year, to one address.....	10 00
Twelve “ “ “ “ .....	17 00

Single copies, five cents.

Subscribers in the British Provinces must remit 20 cts., Great Britain, France, Italy, Spain and Portugal, \$1.04, Russia, Prussia and the west coast of South America, \$3.12 per annum, in addition to the subscription price, for prepayment of American postage.

THE PAPER WILL ALWAYS BE DISCONTINUED WHEN THE PAID SUBSCRIPTION EXPIRES.

Remittances for subscriptions may be made by mail, in National currency, at our risk—the attention of the Postmaster being called to the mailing of the letters; but Post-office orders or drafts on New York, being safer, are preferable.

**ADVERTISEMENTS. Terms, CASH.**

One insertion, per line.....	15 cents.
Each subsequent insertion, per line.....	10 “

No advertisement inserted for less than one dollar.

Displayed advertisements are charged for the actual space occupied.

District Directors or others who may interest themselves in procuring subscribers at our advertised rates, and remitting us the money, will receive our thanks, and an *Extra Copy for one year for every Club.*

The following persons are authorized to receive subscriptions for THE TELEGRAPHER:

JOSEPH W. STOVER, TRAVELLING AGENT.

A. H. BLISS, A. & P., and M. V. N. Telg. Co., Chicago.

JOHN LENHART, W. U. Telg. Office, Chicago.

L. H. KORTY, “ “ “

W. H. YOUNG, B. & B. Telg. Office, Washington, D. C.

A. L. WHIPPLE, Fire Alarm Telg., Albany, N. Y.

S. C. RICE, Western Union Office, “

R. J. BLACK, Western Union Office, Philadelphia.

J. A. ELMs, Parker House, Boston.

B. FRANK ASHLEY, Standard Office, Bridgeport, Conn.

W. H. WEED, W. U. Telg. Office, Oswego, N. Y.

JAS. M. WARNER, “ “ Aurora, N. Y.

K. MCKENZIE, “ “ St. Louis, Mo.

J. A. TORRENCE, “ “ “

C. P. HOAG, “ “ San Francisco, Cal.

M. RAPHAEL, “ “ Houston, Texas.

All Communications and Letters relating to, or intended for THE TELEGRAPHER, must be addressed to the Editor,

P. O. Box 6077, New York.



CHARLES T. & J. N. CHESTER,

104 Centre Street, N. Y.,

TELEGRAPH ENGINEERS,

AND MANUFACTURERS OF

INSTRUMENTS,

BATTERIES,

AND EVERY DESCRIPTION OF

TELEGRAPH SUPPLIES.



SOLE AGENTS FOR THE UNITED STATES

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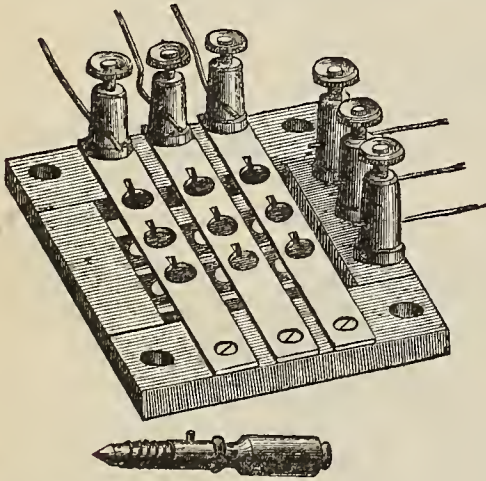
BROOKS' PATENT PARAFFINE INSULATOR,

FOR

BUNNELL'S PATENT REPEATER,

The simplest and most efficient instrument ever devised for  
the purpose, for

JONES' LOCK SWITCH BOARD,



The most compact and reliable method of Switch, forming a clean spring-locked connection between any number of wires, in the space of a square inch for each connection, by the aid of plugs, giving every connection desired in any office for changes and test

Manufacture the Genuine ELECTROPOION BATTERY, with Patent Platina Connections, introduced by them eight years since; also, THE ALPHABETICAL OR DIAL TELEGRAPH, now extensively used in this and other cities for private lines. They offer for sale, among other novelties, a "SOUNDER" that will work practically with a single cell, and a BATTERY that does not require to be taken down but once a year; and the very best MAIN LINE SOUNDERS made.

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

RUSSELLS'  
American Steam Printing House

28, 30 & 32 CENTRE STREET, N. Y.,

EXECUTES ALL DESCRIPTIONS OF

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TELEGRAPH PRINTING A SPECIALTY.

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(SUCCESSOR TO HINDS & WILLIAMS,)

109 COURT STREET (MINOT BUILDINGS),

Boston, Mass.,

MANUFACTURER OF

TELEGRAPH INSTRUMENTS

AND

Galvanic Batteries of all kinds.

Wholesale and Retail Dealer in Telegraph Supplies, etc.

JAMES J. CLARK,

MANUFACTURER OF

TELEGRAPH INSTRUMENTS,

BATTERIES AND MATERIALS,

HARRISBURG, Pa.

Having had over twenty years' experience in the business, and having made many improvements, I am prepared to furnish  
INSTRUMENTS AND MATERIALS  
of the most approved construction.

OFFICE OF THE

BISHOP GUTTA PERCHA COMPANY,

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SAM'L C. BISHOP, General Agent.

INSULATED POLE LINE CORDAGE

AND

OUTSIDE OFFICE CONNECTING WIRES.

We have completed some valuable experiments, and have now the pleasure to offer to TELEGRAPH COMPANIES, and others interested, the best

AIR LINE

AND

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that can be had. Parties using are invited to examine them at our office.

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General Agent.

AMERICAN MANUFACTURES.

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BISHOP GUTTA-PERCHA CO.,

THE ONLY AMERICAN MANUFACTURERS

OF

PURE GUTTA-PERCHA

Insulated Telegraph Wire

FOR

SUBMARINE CABLES,

Office Wire, Electric Cordage, and for Mining and  
Blasting Uses, etc., etc.,

Respectfully inform their American friends and their Customers, the Telegraphic Community of the United States, that they are fully prepared with ample means and materials to furnish all the

SUBMARINE

AND OTHER

TELEGRAPH WIRE,

INSULATED WITH

Pure Gutta-Percha,

That may be required for use in this country, and on terms as reasonable as any foreign manufacturers.

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Apply to

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General Agent of the Bishop Gutta-Percha Co.

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NEW YORK.



REMOVAL OF  
L. G. TILLOTSON & CO.

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Manufacturers of

Telegraph Instruments and Supplies

OF EVERY DESCRIPTION.

Glass Insulators, Brackets, &c.

Zincs, Tumblers, Porous Cups, and all kinds of Battery Material.

Hill's Patent Galvanic Battery.

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Agents for pure Nitric and Sulphuric Acids, manufactured by the Lodi Chemical Works.

" C. F. Varley's Patent Paraffine Insulator.

" Gutta-Percha covered Wire and Cables, American Manufacture.

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" of American Compound Telegraph Wire Co.

Publishers of Prof. J. E. SMITH's Manual of Telegraphy.

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Telegraph Machinery and Supplies.

Instruments repaired at short notice.

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TELEGRAPH INSTRUMENTS  
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BRADLEY'S RELAYS,

and other desirable instruments of Eastern manufacture on hand and for sale. Repairing done promptly.

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(Room No. 7.)

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ESTABLISHED 1842.

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COVERED WIRES,

made from Lake Superior Copper, warranted strictly pure, covered with Hemp, Flax, Linen, Cotton, Silk or other material, for Telegraph Instruments, Electro-magnetic Machines, Philosophical Apparatus, and all kinds of

Electrical Purposes.

Also, PLAIN, WOVEN, BRAIDED, ENAMELED SHELLACED, and all colors and kinds of

TELEGRAPH OFFICE WIRES.

Also, Telegraph Switch Cords,

many Patterns, Plain, Woven and Braided. Parties being partial to any particular kind need only enclose a small specimen in letter, and it can be imitated in every particular.

CONDUCTING CORDS, POLE CORDS, TINSEL.

JOSIAH B. THOMPSON,

29 North 20th Street, Philadelphia, Pa.

BALLSTON SPA TELEGRAPH INSTRUMENT  
MANUFACTORY.

S. F. DAY & CO.,

MANUFACTURERS AND DEALERS IN ALL KINDS OF

MAIN-LINE

TELEGRAPH INSTRUMENTS.

WE would call the attention of all Telegraphers and Telegraph Companies to the fact that we are manufacturing

THE BEST

Telegraph Instruments in the country.

We are working all Instruments with an ENTIRE NEW MAGNET, excluding thereby all use of Local Batteries. Our Main-Line Registers and Sounders have been put to the SEVEREST TESTS, and are pronounced by competent judges

"The Best Now in Use."

We claim to gain more power or effective working force in our Instruments, with ten ounces of wire, than has heretofore been gained by using one pound, as we get rid of the residual magnetism.

We also manufacture a Relay with only ten ounces of wire, thereby putting very little resistance in the line, and doing the work as well, if not better, than those that contain one pound wire, and put a great resistance in the line.

HENRY A. MANN.

SAMUEL F. DAY.

Atlantic and Pacific Telegraph Co.

CAPITAL, \$5,000,000.

Lines completed from New York to Cleveland.

[In progress.]

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C. A. HARPER, Secretary....."

M. L. WOOD, General Superintendent....."

Franklin Telegraph Company.

CAPITAL, \$1,000,000.

Lines extending from Boston to Washington.

J. B. STEARNS, President.....Boston.

J. W. BROWN, Treasurer....."

J. G. SMITH, Superintendent.....New York.

A. S. CHUBBUCK,

UTICA, N. Y.,

Inventor of the "Pony Sounder," Register and Key,

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Batteries, and all kinds of Telegraphic Supplies, constantly on hand.

Switches made to order. All articles used by Telegraphers furnished on most reasonable terms.

DR. L. BRADLEY,

AT No. 7 EXCHANGE PLACE,

Jersey City, N. J.,

Keeps constantly on hand and for sale his

Improved Telegraph Instruments.

Having adopted the use of

OREIDE METAL,

which is much RICHER AND FINER than brass, he now presents his work in a style and of a quality that are unsurpassed.

His relays were awarded the

FIRST PREMIUM

at the late Great Fair of the American Institute, New York, and their superiority is generally acknowledged by operators who use them.

Aside from the advantages apparent upon inspection of these magnets, their acknowledged merits consist in the construction of the helix, which was patented Aug. 15, 1865. This being of naked copper wire, so wound that the convolutions are separated from each other by a regular and uniform space of the 1-800th of an inch, the layers separated by thin paper. In helices of silk insulated wire, the space occupied by the silk is the 1-150th to the 1-300th of an inch; therefore a spool made of a given length and size of naked wire will be smaller and will contain many more convolutions around the core than one of silk insulated wire, and will make a proportionably stronger magnet, while the resistance will be the same.

He is also manufacturing the

IMPROVED BUTTON REPEATER,

the cheapest, most reliable and simple repeater as yet invented.

PRICES.

Button Repeaters.....	\$ 6 00
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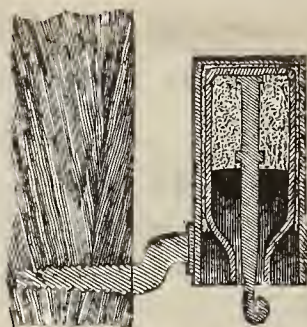
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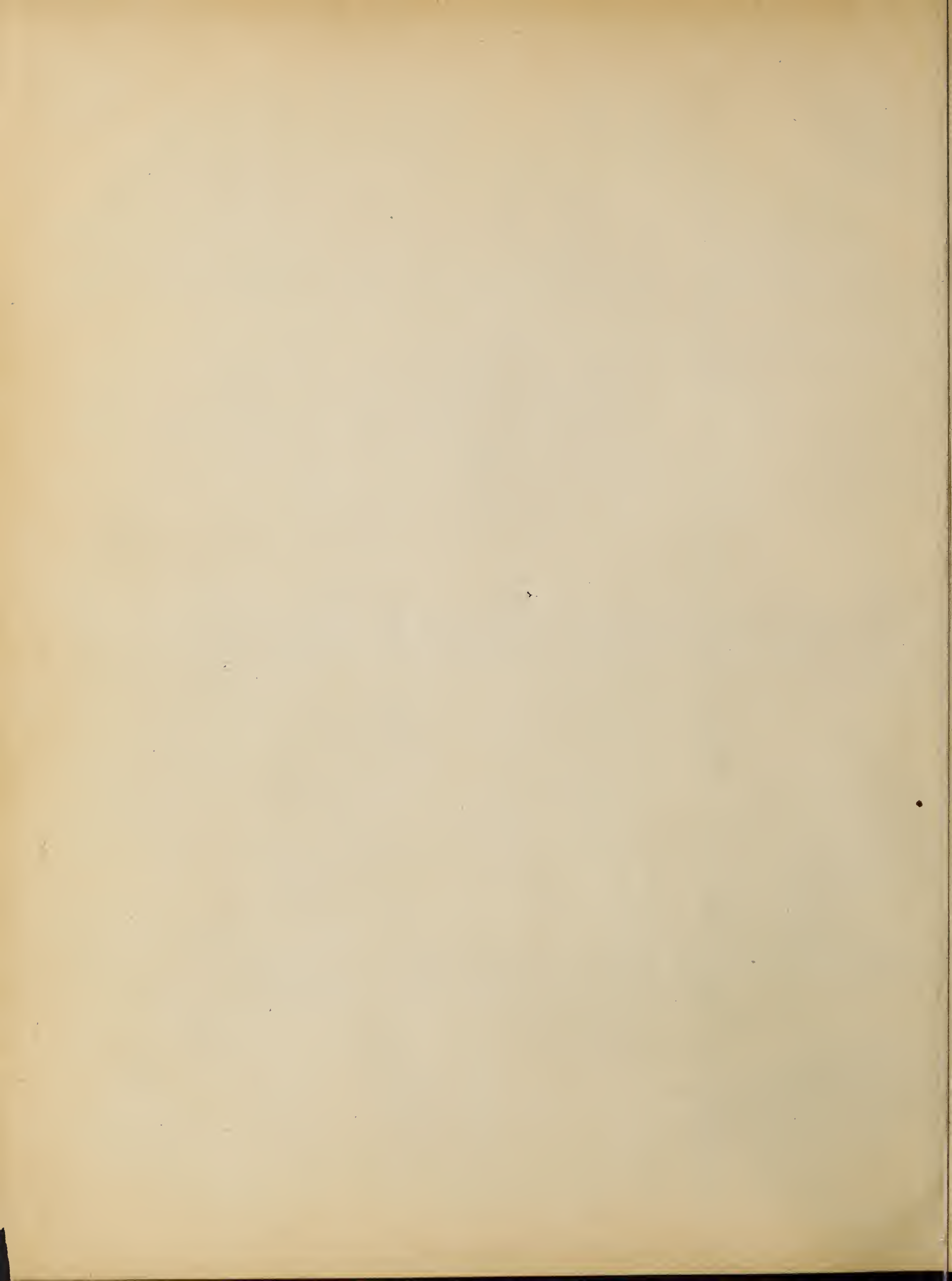
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