5. Papers, December 1878

December 2. 1878

Sir,

I have the honor to inform you that, in conformity with the resolution of the Board of Regents of the Smithsonian Institution of May 17th 1878, as follows,—

"Resolved—that the Executive Committee of the Board of Regents be requested to make arrangements for a public commemoration in honor of the late Secretary of the Institution, of such character and at such time as they may determine"—the Executive Committee, at a recent meeting to arrange for the ceremonies, selected, from a number of distinguished names, three of six gentlemen to be invited to deliver addresses on the occasion,

one

one of these being yourself.

It is proposed that these addresses be of not more than fifteen (15) minutes duration, each, and that the commemorative services be held in the hall of the House of Representatives on the evening of the 16th of January, 1879, provided the use of the same can be had for that date.

In making known to you this action of the Executive Committee, I beg to earnestly hope that you will not decline their invitation, hereby tendered.

I am,

Very respectfully,

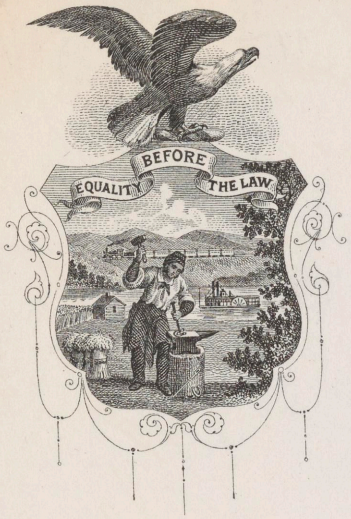
Your obedient Servant,

Spencer T. Baird

Lest. Smith. Inst.

Professor W. B. Rogers, LL.D

Boston.



STATE OF NEBRASKA.

Superintendent Public Instruction

W. J. MORGAN & CO. LITH. CLEVELAND, O.

Lincoln, Dec. 9. 1878.

Dear Sir:

Will you please give me your opinion as to the suitableness of the Enpian system of Art's teaching, for a school for Deaf-Mutes. The question of introducing mechanical instruction into our institute for deaf and dumb, is now under consideration, and I am desirous of having an opinion from your stand-point.

I understand that Prof Runkle is in Europe and I address this at random not knowing into whose hands it may fall.

Yours Truly

S. R. Thompson.

Dec 3. 1878.

X

117 Marlborough St.
Oct. 7. 1878.

Dear Mr Appleton

You were kind enough when I saw you last in Newport to say that you would give some help to our Institute, after you return to the City, and also ~~speak~~ speak to your brother William in its behalf.

I am now giving all my time, not devoted to its other affairs, to the further of the subscription & am beginning with my book to remind our friends of their generous intimations.

Yours very truly

with the understanding that the same
best adapted to promote the full and
right education & instruction of persons
of either sex — who may be admitted
in to the School of the Institute —

— such manner as they may deem
best for promoting the education & instruction of persons
of either sex — admitted to the
School of the Institute — it being
understood by the Board that the
studies of the School are ~~not~~ equally
accessible to women as well
as men — and ~~further~~ (recommended) arrangements
presented by the Corp.

A meeting of the Committee on Subscriptions of the Institute of Technology was held at the office of Mess Kidder Peabody & Co Dec 3d 1878 at 11 am

Present Mr W B Rogers – John M Forbes W P Kidder – J E Sattle – Wm Endicott Jr and Eb

Adjourned to meet at the house of Prof Rogers – on Tuesday Dec 10. 1878 at 7½ PM

E Atkinson
Secy

Comm: Meeting Dec. 3. 1878

15 Chauncy Street
Dec 9. 1878.

Professor W. B. Rogers
117 Marlboro Street

Dear Sir

A positive engagement for to-morrow Evening will prevent my attendance at the Meeting of the Committee on Subscriptions -

I regret to report that the gentlemen whose names were given me

have in each case
declined to subscribe.
Mr. Abbott Lawrence
expressed his interest
in the Institute, but
said that he should
feel obliged to give
to the Lawrence Scientific
School any thing he
had to spare for
such an object —
I find little interest
outside of our own
body which would
secure subscriptions

The reasonableness of "State aid" is admitted by all with whom I talk –

Regretting my inability to attend the meeting I remain

Very Sincerely Yours,

J. P. Mudge

Forest Hills Home

Dec 10th 1878

Prof Rogers

My Dear Sir

The letter accompanying this from Mr Amory Esq. in which he has inclosed a speech made of him before the Social Science association was sent to me last March; I requested him to put me in the way of getting hold of the conditions of the Lawrence will, a copy of which he sent me about a month ago.

From the 1st to the 19 sections of the will; provision is made for primary and spinning connexions. I herewith send you a copy of that part of the will which provides for an Industrial Institution.

I went out to Dorchester yesterday with a letter of introduction from Mayor Peace

to Mr Bispham who is now the only living Trustee under the will. My interview with him was very pleasant. Mayor Pearce told me that he had the impression that the property for the use of the proposed institution is now about $400,000 Mr Bispham in the course of a general conversation said there was $200,000 besides the Real Estate It seems that the Trustees so far are entirely at a loss to know how to carry out the apparent intentions of Mr Livingston, It seems that Mr Amory and Mr Ruggles called on Mr Bispham with a view to establishing or developing School on the Ruggles plan. I got the impression from Mr Bispham that he thought there would not be a disposition on his part to try this experiment. Mr Amory has said to me that he is of the opinion that something may be done in cooperation with the Institute of Technology; I have conferred with our Prof Ordway and others and we have come to the conclusion that it is very possible that our Russian Ship department may be just the thing for the Livingston School of Mechanic Arts

Mr Bispham appeared to be much interested in my representation of what we are doing at the Institute and will go with me soon and see our work shops &c In the course of 3 or 4 weeks the court will confirm the nomination of two new Trustees to fill the vacancies caused by the decease of Mr Wellington & Judge Brigham Mr Bispham says as soon as the new Trustees are appointed he will see to it that

a conference be held with a committee of our government with a view to cooperation. Inasmuch as Mr Amory has taken the initiative in suggesting that which has led me to do what I have done in the premises, and which may possibly lead to giving us financial support I will advise the reading of Mr Amory's speech which contains some information about the early efforts to Establish Technical Schools in Boston. The weather is so disagreeable that I am admonished to keep within doors with my Rheumatic tendencies and will therefore not be at the meeting called at your house this Evening. but send this as my report of our effort to do something towards procuring means. Yours Truly Wm D. Rand

Dec. 10. 1878.

Meeting of Com: on Subscriptions — Amid the heavy Storm, at 7½ P.M. Mess: Little & Forbes appeared — but no others came — & we were without a quorum.

Letters were read from Messrs Atkinson & Rogers, Munger & Cobb stating their inability to attend, & those who were present spent some time in comparing notes & taking memoranda — A letter from Mr Rogers with copy of the will of Thos. Lincoln Esq. was laid on the table, for future reading.

Subscription Comr.

Comr. Meeting Dec. 10. 1878.

December 10th 1878

Dear Sir

It would give me great pleasure to accept your invitation, but I am suffering from a severe cold, and should not like to venture out such a stormy evening.

I look upon the Institute as the most useful establishment

of its kind in the
Country, and shall
be glad to do something
for it when you are
ready —

Yours very truly
W. D. Pickman

W. B. Rogers Esq.

Boston, Dec. 10. 1878.

Dear Prof. Rogers,

I regret that I shall be unable to attend the meeting at your house this evening. I have been about sick for past fortnight with a very heavy cold, and do not think it prudent to go out this evening.

I have been so much occupied in collecting for the City election expenses, that I have not been able to attend to any other matters, since I last saw you. Yours very truly,

Wm. Endicott Jr.

[Dec. 10, 1878]

235 Boylston St.
Tuesday Aft.

My dear Sir:

It is not probable that I shall be able to meet with the "Committee on subscriptions" this eve'g.

I regret that I have no further subscription to report. My engagements have been such of late as have prevented me from going out to make personal solicitations.

With much respect, I remain,
Your obedt. Servt.
Saml. C. Cobb.

Professor Wm. B. Rogers.

Navy Yard, Portsmouth N.H.
12th Dec 1878.

Sir:

Agreeably to request I submit the following as the subjects that may be taught those who desire instruction in Steam Engineering, also, the advantages offered under the law.

1st The details of the construction of various marine boilers in use, together with their attachments. To proportion boilers for a given horse power for simple and compound engines. Decay of boilers its causes and remedies.

2d The manner of putting engines in operation; how to regulate their action and guard against danger from boilers, due to foaming and other causes. Boiler scale; the causes of, the means of preventing its formation, its chemical composition, and how to remove it. The loss by blowing off. The various instruments used for determining the density of sea water their principles, the method of graduating, and manner of using them.

3d Principles, peculiarities, and details of construction of different condensers, and of air and feed pumps and

their connections. Derangements in their operation, with the causes thereof and how to prevent and correct them. Description of the various and most ~~improved~~ steam pumps in use.

4th Practical building and repairing of steam machinery, including the details of moulding and casting.

5th Advantages ~~and~~ disadvantages of the of the different kinds of paddle wheels and screw-propeller engines, (simple and compound) to be able to proportion them for a given vessel, so as to secure a given speed with a given propelling instrument.

6th Theory, laws, and details of construction of the various propelling instruments in use, and the necessary calculations relating to them.

7th Principles, peculiarities and details of construction of the various kinds of steam and expansion valves and valve gears applied to steam machinery.

As I understand Captain Luce the object of having the branch of steam Engineering established is to supplement the 26th section of the act approved July 28th, 1866, which authorizes the President to detail Officers of the Army as Instructors in Military science at any regularly Established college, "for the purpose of promoting a knowledge of military science among the young men of the United States, and thereby afford equal advantages to those young men of the United States who desire to acquire a knowledge of nautical science of any particular branch thereof. Owing to the the proximity of the Institute of Technology to the Navy Yard it is better qualified to take advantage of the provisions of the act than any other School in the Country.

The law gives the Secretary of the Navy power to detail a ship for the instruction of the students in the practical detail of the duties of engineers and firemen, Mr Alexander, Agent of the Cunard Line has repeated his kind offer afford every opportunity to the students in the examination of the machinery of the Company's Ships, I think it possible that Mr Alexander would gladly grant permission to one or two students prior to examination to make a trip across the Atlantic in the fireroom and engineroom with the understanding that they shall render any service that they may be called upon to perform.

Very Respectfully
Robert Tobin
Engineer Corps U.S.N.

Professor W.B. Rogers,
President Mass Institute of Technology.

Jon Smith

Tobin Dec. 12

1878

100 Beacon St.
Dec. 13. 1878

Sir,

Enclosed please find a check for ten thousand dollars ($10.000.00) as a contribution to the funds of the Mass. Institute of Technology, from a fund for benevolent purposes, bequeathed by my father, Mr. Geo. A. Avery.

This sum can be applied in such manner

as the Corporation of the Institute may think best suited to promote the most thorough education of students of both sexes in the Institute.

I am, Sir, &c,

Thomas Hovey

Executrix.

Wm. B. Rogers Esq.

Pres. Mass. Inst. of Technology.

[Dec. 13, 1878]

My dear Prof. Rogers,

I have used your own words in my formal letter to you as President, because they expressed exactly our wishes. I have only left out the limitation "in practical science," but will write my letter over, if you had any special reason for using it.

As our offer was so worded as to include women, it seemed better not to use any ex-clusive phrase.

Nevertheless, our donation was made from appreciation of the great practical, scientific work which the Institute is doing, as well as from admiration for the justice and common sense with which the women students are treated.

Although it was not kept to be great any special endorsement, I hope that more friends of the Institute who have taken the most unselfish pains to avail the education of women, will understand that a great deal of gratitude to them and towards Sara with the particular gift.

If this not seem as though further and common sense might to be rare enough to call out deep gratitude, does it? But they are

I cannot tell you how great a treat your visits have been to me!

With warm regards to Mrs. Rogers, I am

Yrs very sincerely

Marian Howe

100 Beacon St.

Saturday.

Please put our subscription down in your book, as from "Geo. O. Howe's Executors."

117 Marlborough St.
Dec. 13. 1878

Dear Mr. Appleton.

I heartily thank you for your liberal contribution to the Institute, & take fresh courage from the appreciative words by which you have accompanied it —

Yours faithfully
William B Rogers

Thos. G. Appleton Esq.

P. S.

If you have not spoken to your brother Mr. Wm Appleton on the subject of our subs.n, I shall take the liberty of sending the book to him, unless you advise otherwise

C. B. R.

463

Concord, Dec. 21. 1878.

Dear Madam,

Permit me to return my thanks to you for sending me Mr Hillard's Memoir of your Father. I had the pleasure of making his acquaintance more than thirty five years ago, when, (probably from his knowledge of my father), he was kind enough to employ me in some professional work for the Provident Saving Institution, which, to a young lawyer just beginning, was very gratifying. I had a strong respect and regard for him through the rest of his life, though of course I did not meet him often. But he was always friendly, frank, and instructive;

and I liked his sturdy and downright ways immensely. He has left a very impressive as well as honored memory with the generation that knew him -

Very Respectfully & gratefully Yours,

E. R. Hoar.

Mrs. Rogers.

Mass. Inst. of Technology,
Boston, Dec. 23, 1878.

To the Committee on the School of the Massachusetts Institute of Technology,

Gentlemen, —

I have to-day learned for the first time that an action of the Corporation, taken during the past autumn, contemplates the reduction of the remuneration received by myself for instruction given to the class in Physics of the Boston University, this reduction being proportionate to the reduced amount paid by the University.

Allow me to call your attention to the relation in which I stand to this instruction, as I do not think that the action of the Corporation was taken with a full knowledge of the actual facts in the case.

The vote of the Corporation, passed during the winter of 1873-74, allowed the professors of Physics to give instruction to the Boston University

classes. The Institute was to receive for two terms instruction the sum of $2000 ($3000 per school year of three terms) with a bonus of $500 for the first year, if the instruction should prove satisfactory to them. This sum of $2500 was duly paid, of which Professor Pickering and myself received $750 each, this being the amount for which we had severally agreed to give the desired instruction, fifty exercises for each of us. The next year Chemistry was added to the course, $3000 was paid to the Institute, the remuneration of the Professors of Physics being the same as before. This was the state of the case when Professor Pickering resigned his position in connection with the Institute, the verbal agreement between President Runkle and myself, and Dr. Ware and myself, being that I was to give one half of the whole number of exercises on the terms already stated. After Mr. Pickering left us finding the speedy repair of our apparatus very necessary, I voluntarily offered for the year to take the large additional labor thus arising without additional payment, the amount, $750, previously paid for instruction being applied solely to the meeting of our running expenses for apparatus and supplies. No additional assistants were employed, nor was any additional payment made to them, these being the terms of their original engagement. Last year I again voluntarily stated to the President my willingness for that year to continue my whole instruction to the University Classes on the same basis as before, and I had expected to do the same this year.

I am willing for the present, until the Institute is in less straightened circumstances, to do the work that I have done for the past two years, upon the same terms, but I do not feel that I can justly be asked to continue this additional self-imposed work at a less remuneration than I have hitherto received, the more especially when it is considered that the Institute, even at the reduced rate of compensation now given by the University, receives $250 more than when the sum originally agreed upon was paid (for the joint instruction in Physics and Chemistry) there then being

two Professors giving instruction in Physics and receiving equal amounts.

One other matter bearing on this question I may be allowed to state, which is that the cost to the Institute of giving this additional instruction in Physics to the University Classes is certainly under $100 and probably not over half that amount.

Trusting that these statements will receive due consideration, I am

Yours very respectfully,

Chas. R. Cross.

Dec. 23d 1878

President Rogers

Dear Sir

It appears, from the record of the last Government meeting, that a vote was passed reducing the amounts to be paid to Profs. Cross and Nichols for instructing classes of the Boston University. Of course this must be understood as taking effect at the end of the present school year, unless the professors themselves consent to a reduction.

The matter was discussed in the Committee on the School, in September, and nothing more was done than to pass a vote accepting $500 less from the Boston University and allowing Prof. Nichols to employ extra assistance at a cost not exceeding a

certain sum. The professors concerned were accordingly notified that this action had been taken and that no change had been made in the rate of compensation which had been fixed in a former year.

As far as Prof. Nichols is concerned the work of the year is already done and a change now, for the present year, would be in the nature of an unconstitutional ex post facto law.

It would, of course, be a gracious thing for these professors to allow a pro rata reduction, especially as they are spending no more time for the Institute and the Boston University together than some other professors who receive no extra compensation. But they are legally entitled to the same pay as last year.

It certainly is proper to make a new arrangement for the next year, and to have it understood that the Boston University classes are to be taught and that any other reasonable amount of instruction without the chance of a veto by the special professor in charge of the laboratory. It is decidedly for our interest to favor Boston University as far as we can, and no individual professor should be allowed to stand in the way of accommodating their classes. As in the case of the Lowell courses some extra compensation is fair, but it is hardly fair that a professor should be allowed to turn away a class because he does not receive as much extra by $50 as he thinks is just. As to mere instruction it is somewhat different from instruction involving the use of a laboratory. I think the professors should be reengaged with the special understanding that in all such matters their individual will is not to rule, but that they must submit to reasonable arbitration

Respectfully yours

John M. Ordway

Mass. Inst. of Technology,
Boston,
Dec. 23, 1878.

To the President and Corporation
of the
Massachusetts Institute of Technology,

Gentlemen:

I have today been informed, by the Secretary of the Institute, of a vote recently passed by the Corporation, in the following words:

"Whereas the compensation hitherto received from the Boston University for the instruction of their students has been reduced — voted, that the portion of the money so received, which is to be paid to the Professors and others who give such instruction shall be limited to a sum which shall bear the same ratio to the whole sum received as heretofore."

Permit me to call your attention to the following facts. Early in September, as there had been no agreement made with reference to the Boston University Class in Chemistry for the present year, I conferred with the Chairman of the Faculty, and stated to him that I should not be willing to undertake the instruction for any sum less than I had previously received, namely $300. I stated

[12/23/1878]

that I should not begin work with the class until the matter was definitely settled, in order that there might be no question afterwards. The matter was brought before the Committee on the School, and I was informed verbally by the Chairman of the Faculty, who, as I was told was the proper medium of communication, that the Committee had agreed to the disposition of the $1250 which I then proposed. With that assurance, I began my work, and that work was finished last Wednesday.

It is now five days since my work was finished, and I have just received notice of the above vote of the Corporation. I trust that you will see that I began the work in good faith, on official assurance, and now that it is finished I must claim the amount for which I agreed to do the work.

I am, Gentlemen,

Yours very respectfully,

Wm Ripley Nichols

Professor of General Chemistry in the Massachusetts Institute of Technology.

From Prof. W. P. Nichols
Dec. 24. 1878.

Statement in regard to Compensation
for Lectures &c. to Bost. Univ. Class

Massachusetts Institute of Technology.

CHEMICAL LABORATORY.

BOSTON, Dec 24, 1878.

To the President and Committee of the School of the Massachusetts Institute of Technology.

Gentlemen:

I take the liberty of informing you that my assistant, Mr. Thomas F. Stimpson, who was engaged for the entire year, and who is paid $62.50 per month, has received an offer of a situation and I have consented to his leaving on the 15th of January, subject to your approval.

Although his leaving in the middle of the year will be of some inconvenience to me and increase my own work, I have given my consent because I know how anxious the corporation are to economize, and think that a small amount may be saved in this direction. In order to supply his place, I rely upon receiving some aid from one of Professor Wings' assistants, and for the rest of the help which I need I propose to call upon my private assistant, and charge the Institute simply for the time employed.

I would therefore ask that Mr. Stimpson be formally allowed to leave on the 15th of January and be paid to that date; further that I be allowed additional assistance to an amount not exceeding one hundred dollars ($100.)

Yours very respectfully,

Wm. Ripley Nichols

From Prof. W. R. Nichols

Dec. 27. 1878.

Asking that Asst. Storekeeper be allowed to leave Jan. 15. next &c. Granted by vote of Dec. 24. 1878

Mass. Inst. of Technology, Dec. 24, 1878.

Dear Professor Rogers, –

I leave inclosed the statement regarding the Boston University instruction in Physics which I have drawn up for the information of the Committee on the School. It is somewhat long, but I have thought it best to mention the principal "historical facts" so as to make the whole matter clear. I wish that I had not been under the necessity of drawing it up so hastily, and should read it over to you for your consideration and suggestion, were it possible. My formal notification however was not received till this morning.

Hoping that a reconsideration of the action of Nov. 16th may be reached I am as ever

Yours very truly

Chas. R. Cross.

From Prof. Ch. R. Cross
Oct. 24. 1878

Statement regarding Course of Instruction given by him to Bost. Univ. Students.

376

HERBARIUM OF HARVARD UNIVERSITY,
BOTANIC GARDEN, CAMBRIDGE, MASS.

Dec. 26 1878

My Dear Professor.

The Committee at Washington say we shall have the Room I asked for, and are pleased at our conferring on the matter in hand

Garfield – long Chairman of Appropriation Committee of the House will take up Henry's service to Government. This leaves you free to present Henry's

Scientific mind
and work & his
influence as a man
of Science

The others — as far
as I know — I do not
much count on.

Very truly Yours

Abbey

[1878]

Office of Edwd. S. Philbrick, Civil Engineer,
12 West Street,
Boston _____ 187

Dear Mr Philbrick —

Since I wrote to you the Faculty have voted to ask the Committee to reconsider their action of a year and a half ago by which the work-shops were made "primarily" laboratories of the several Departments, and to make them laboratories of the School of Mechanic Arts. This puts the matter plainly before the Committee, and I hope for my own part that the Committee will accede to the request. The only practicable alternative is to restore the scheme on which the shops were carried on last year, which has already virtually been set aside, and which would be satisfactory to everybody.

In thinking over my note I feared I might have appeared in it to desire to retain control of the wood-shops. On the contrary I am glad to be free of them. Only if I ~~am~~ were

to entirely responsible for them & should wish to be continued in control of them. I cannot be answerable for the work of assistants & methods in which I have no confidence.

Yours truly

W. R. Ware.

[1878]

This is to Certify
that
The Government and Faculty of Instruction
of
the Massachusetts Institute of Technology

have awarded to John Smith
the Degree of Civil Engineer, in consideration
of his satisfactory proficiency in the general
& Special Studies & exercises prescribed
~~from~~ by the Institute for said degree.

Given under the seal of the Institute
on this the 4 day of in the year of
our Lord 18 6

Boston

$$\frac{1}{100} \qquad \frac{1}{\sqrt{100.00.45}}$$

$$\frac{1}{\sqrt{100.00}} = \frac{1}{45} = e$$

Committee on Triangulation across the Continent.

Prest. Rogers, ex officio.
Gibbs
Newton
Marsh
Barnard, F. A. P.
Trowbridge
King, Clarence
Newcomb
Meigs
Fairman Rogers
Powell
Joseph Lecontes
Abbot
Warren
~~Humphreys~~
Walker, Francis A.
Rutherfurd

[1878-1882]

Invite to our Receptn of Acad. 19.

× Dr. & Mrs Watson
× Mr. Bancroft & family
× Mr. E. B. Elliott & fam.
× Edmund Powell & fam.
× Genl. Alvord & fam.
× Genl. Hazen
× Dr. G. B. Loring
× Prof. Eastman
Prof. Langsdorf
× Prof. White
× Prof. Harkness
× Dr. Bellows
× Mr. Wilkes
× Mr. Schuyler & family
Mr & Mrs Jacob Rogers
× Judge Gray
× Mr. Silsbee & daughter
× Mr. Corcoran
× Commodore & Mrs Temple
× Prest. Walling & family
~~Prof. & Mrs Graham Bell~~
× Prof. Riley & family
× Revd. Dr. Shipton & fam.
× Mr & Mrs John Dale
Prof. Cayley
Prof. Sylvester
× Adm. & Mrs Raymond Rogers

× Mr. Bliss
× Dr. & Mrs Peter Parker
× Chief Justice Waite
" Lizzie Green
" Mr. Fred. Amory
× Mr. & Mrs J. F. Emmons
~~Dr. & Mrs Peter~~
× Richard Dana
Hon Geo. Hoar
× The Frelinghuysens
× Miss Frothingham
× Mr. & Mrs Carl Dall

Dr. Peter Collier.
Hon. Senator Dawes
" " Hoar.

Pres. & Mrs Gilman
Prof Gildersleeve.

[1878+]

Boston Society of Nat Hist.

Portland City	6	$1000 =	Due Dec 1st 1868	Interest	June 1st & Dec 1st	$30 =
Boston	5	4000 =	" Oct 1st 1878	"	Oct 1 & Apl 1st	100 =
do	5	10,000 =	" Apl 1 1877	"	Oct 1 & Apl 1st	250 =
Massachusetts	6	5000 =	" June 1st 1868	"	June 1st & Dec 1	150 =
Bank of Commerce		2000 =				
Worcester RR		2600 =				
Massachusetts	6	10,000 =	Due June 1st 1870	Interest	June 1st & Dec 1st	300 =
A. Binney's note		1200 "	" Aug 15 1862			
Little Brown & Co		1000 "	" Ap 5 1862			
Estate Bulfinch Street		25,000 ?				
Stephen H Williams' note		3000	" Feb 15. 1862	Interest	Feb 15 & Aug 15	90 =
Curtis Fund		10,000				
		74,800				

1878

Inasmuch as certain of the Ten Courses enumerated in the published Catalogue have never or in very few cases been pursued by students to the extent of graduation, it is proposed that hereafter these Courses be omitted from the Catalogue, the instruction in them being continued as heretofore so far as provided for in the amended scheme of the School. The following would be the revised statement of the

Courses of Instruction.

I. Course in Civil & Topograph^l. Engineering
II " " Mechanical Engineering
III " " Mining Engineering & Metallurgy
IV " " Building & Architecture
V " " Chemistry.
~~VI " " Physics~~
VI " " Science & Literature.

Courses are also arranged in Physics, Geology Metallurgy, Nat. History &c for students who seek more advanced instruction in these branches than is included in the above named schemes of Study and in such cases the special subject is named in the Degree

Pamphlet manuscript

[1878]

(1)

Petition & Memorial of the Mass. Inst. of Technology

To the Honorable, the Senate and House of Representatives of the Commonwealth of Massachusetts, in General Court assembled:

The undersigned, a committee of ~~the Corporation~~ of the Massachusetts Institute of Technology, have been instructed to represent to your Honble Body the present condition & prospects of the School of the Institute, in the hope that, in view of its services in the promotion of Practical education & thereby of the Industrial interests of the Commonwealth, & of its need of additional funds for the prosecution of its work on its present scale of usefulness, you may see fit to consider the expediency of aiding it by a contribution from the State. We beg, therefore, in behalf of the Corporation of the Mass. Institute of Technology to submit for your consideration the subjoined Memorial.

The School of the Institute, having for its object to secure to its students a distinctively practical education, both of a general & a professional or Technical character, has from its foundation endeavored so to organise its instructions as in the fullest manner to connect habits of observation & exercises in graphical work

and in manipulation with the studies of Text-Books & the Lecture-room. To this end it has made large collections of apparatus, objects, drawings, models & other practical appliances, & has established working Laboratories in nearly every department in which they can be made available, so arranging its courses as to introduce the student to these practical exercises on his first entering the School. As prominent among these facilities, we would call attention especially to the extent & variety of the working Laboratories of the Institute, a feature in which it claims in some particulars to have first set an example to other institutions, & which it is believed to have developed with eminent success.

Beside the Laboratories for instruction in Physical manipulation & research, in Chemical analysis, both organic & inorganic, in the processes of Mining & Metallurgy & in Mechanical Engineering, it has recently organised & equipped, either wholly or in part, Laboratories for Industrial Chemistry, for Botany & Natural History, & a Chemical Laboratory especially devoted to the instruction of women; & it has also, within the last year, in connection with the department of Mechanical Engineering, established a series of Work shops, the first in this country, for the systematic training of students in the use of tools, in conformity with the Russian method.

It may here be added, that in aid of the practical studies of the School, & as a means of familiarizing its students with the actual details

of work, they are required, in company with their teachers, during the session to make visits of inspection to Machine shops, engines, mills, furnaces & chemical works, & to important buildings and engineering constructions within convenient reach, & in the vacations to carry out more extended excursions, for the survey of mines, quarries and geological sections, & for the study of metallurgical works & noted specimens of engineering.

These courses of practical training & the studies associated with them, while essential to students preparing for the Technical or Professional employments connected with the applied sciences & industrial arts, are included to a less extent in the curriculum of all who enter the School, & form an important part of that general practical education "founded on the Mathematical & Natural Sciences, English & other modern languages, & Mental and Political Science" which was early proposed ~~as a fitting~~ ~~for~~ by the Institute as "a fitting preparation for the active pursuits of life."

In addition to these systematic & continuous courses of study designed for the students proper of the School, the Institute, in pursuance of its

original plan, has provided courses of lectures & exercises in various scientific & literary subjects, usually of a more elementary character, designed for the benefit of the public in general. This department which from the outset has been sustained by the liberality of the Trustee of the Lowell Institute, embracing in different years from six to ten distinct courses, has attracted large numbers of persons of both sexes desirous in the intervals of their occupation of profiting by these opportunities for instruction.

In evidence of the success with which the Institute has thus far carried out its educational plans, we may be permitted to call attention to the reputation which the School has acquired for the variety & thoroughness of its teachings, as illustrated by the comparative readiness with which its graduates have attained professional & other positions for which their studies furnished a preparation; a result well shown by the fact that out of the entire list of its alumni since 1868, a very large proportion have become connected with important engineering & architectural works, with Mining Metallurgical and

chemical establishments, with machine shops & manufactories, or have found employment as scientific Professors & Teachers in Academies & Colleges in this & other States. Nor should we omit to add, that among their number are some whose original researches have contributed to the reputation of the Institute as a nursery of scientific activity.

In this connection we may properly refer to the influence which the distinctive methods of our school have exerted upon the developement of other institutions in this country, & to the eagerness with which some of its features have been studied & adopted by kindred scientific schools. If we may judge also from the very favorable opinions expressed by distinguished foreign teachers & cultivators of science, who have had opportunities of understanding the actual working of the Institute, we may fairly claim for our school a position on a level with that of the leading similar institutions abroad.

Such is a brief outline of the comprehensive scheme for special & general education which the Institute has thus far succeeded in carrying out & which it is now laboring to maintain, & if practicable still further to develope. But to

secure this result an addition to its resources has become necessary.

A plan embracing so many departments of Technical & general instruction with their associated laboratories, museums & other appliances must of necessity call for a large staff of instructors, & this the more especially because of the great subdivision of classes needed in such a school for carrying out the work of the several departments with the requisite thoroughness & detail. Hence the expenses of the School of the Institute appear to be comparatively large, although in fact they will be found not unduly so, considering the amount & grade of work performed, & bearing in mind the costliness of all organisations for Technical & Scientific instruction, aiming at the same variety and completeness of practical results.

The productive fund of the Institute, derived partly from the appropriation by the State of a portion of the Congressional Land-grant, & partly from the liberality of its friends, has in general yielded an income but little exceeding one fourth of the annual expenses of the School, the remaining income being derived from students fees.

Of late, owing to the prevailing financial depression, the receipts from both these sources have been seriously reduced, so as at present to fall considerably short of the expenses of the School, thus making it imperative, if the Institute is to maintain its scheme of instruction unimpaired, that it shall secure such an addition to its permanent income as will in future protect it from the effects of unavoidable fluctuations in the number of its pupils & in the productiveness of its invested funds. ¶ On the other hand an attempt to meet these deficiencies by an adequate diminution of the expenses of the Institute must involve either a reduction of the salaries of the instructors or a serious curtailment of some of the departments of the School. The former of these expedients would, we feel, be impolitic if not unjust, in as much as, the Professors are already receiving salaries much too small, & some of them in their zeal for the Institute are generously contributing from their private means to the equipment of the departments in their charge. To adopt the latter course (a curtailment of the departments) would, we are satisfied, permanently injure the usefulness and reputation of the school.

In view therefore of the considerations above presented, indicating the important work which the Institute of Technology is doing for the educational & industrial interests of the State, & of the injury which these interests will suffer should it be compelled seriously to curtail its organisation, & considering the fact that this school has not hitherto received any direct pecuniary aid from the Commonwealth, except from the increase made by the State to the National Land Grant fund, ~~although others of her Educational Institutions~~ of which the Institute receives one third of the Income, ~~of like standing have been thus assisted~~, your petitioners entertain the hope that your Honble Body may deem it expedient for the public good, to appropriate towards the maintainance of the Institute of Technology.

1 William B Rogers &c.
3 Jas. L. Little
2 John D Runkle
7 E. S. Philbrick &c.
4 H. B. Rogers
5 H. P. Kidder &c.
6 Edward A Rand &c.
8 Geo. B Emerson
9 R. D. Rogers LL.D. &c.
10 John Cummings
11 E. R. Mudge
12 J. C. Hoadley.

[ca. 1878]

MEMORANDUM FOR A CIRCULAR.

APPEAL.

THE INSTITUTE OF TECHNOLOGY IS NOT LIMITED EITHER TO MASSACHUSETTS OR TO NEW ENGLAND.

IT IS EQUALLY FREE TO ALL AND AIMS TO BE THE LEADING SCHOOL FOR TEACHING THE INDUSTRIAL SCIENCES IN THE COUNTRY.

IT HAS NOW SUFFICIENT BUILDINGS FOR ITS PRESENT USE AND AMPLE LAND GRANTED BY THE CITY FOR EXTENSION WHEN NECESSARY.

THE SHRINKAGE OF ALL VALUES AND THE DEPRESSION OF ALL INDUSTRIES HAVE CRAMPED IT FOR THE PAST FEW YEARS, BUT WITH THE RETURN OF A SOUND STANDARD OF VALUES AND WITH RENEWED CONFIDENCE IN OUR MATERIAL PROGRESS THE TIME SEEMS TO HAVE COME TO PUT THE INSTITUTE UPON A BROAD AND STABLE BASIS.

PROFESSOR ROGERS HAS COME TO THE FRONT ONCE MORE AND IS FOR THE TIME BEING AT HIS OLD POST THOUGH HAMPERED BY HIS WANT OF HEALTH.

IN DOING THIS HE HAS CONTRIBUTED MORE THAN ANY OF US CAN POSSIBLY DO. SHALL WE NOT MEET HIM AT LEAST HALF WAY - PROMISE THE SMALL CONTRIBUTION HE ASKS, AND TRY TO DOUBLE IT ?

THE INSTITUTE UNDER HIS LEAD AND WITH HIS EXPERIENCE, BACKED BY THE NEEDFUL YOUTH AND VIGOR IN ITS ADMINISTRATION, MAY EASILY BE MADE TO RIVAL THE GREAT SCHOOL OF ARTS AND TRADES WHICH HAS MADE PARIS THE RESORT OF ALL WHO SEEK TO LEAD THE INDUSTRIES OF THE WORLD.

THE UNDERSIGNED, A COMMITTEE APPOINTED FOR THAT PURPOSE, NOW

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THE UNDERSIGNED, A COMMITTEE APPOINTED FOR THAT PURPOSE, NOW

APPEAL, NOT ONLY TO NEW ENGLAND BUT TO THE BROAD GAUGE MEN AND WOMEN OF OUR WHOLE COUNTRY TO AID THEM IN PLACING THIS SCHOOL IN THE SAME RANK WITH THE BEST SIMILAR INSTITUTIONS OF THE OLD WORLD.

IN MANY RESPECTS OUR MECHANICS AND INVENTORS NOW SURPASS THOSE OF EUROPE. WITH FINE STEAMERS MAKING THE ATLANTIC A MERE FERRY, WHY SHOULD NOT EUROPE SEND HER YOUTH HERE FOR INDUSTRIAL EDUCATION AS CHINA AND JAPAN ARE ALREADY DOING ?

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[1878]

Whereas the Massachusetts Institute of Technology is now embarrassed by the small floating debt that it has been obliged to incur in bringing its school up to its present condition, and whereas it may need a small annual addition to its income for the next four years in order that it may not be obliged to impair the system of instruction now in force or to decrease the very moderate salaries now paid, therefore we the undersigned agree to pay the sums set against our respective names, two thirds of each subscription to be applied to the payment of the floating debt, and one third to be placed in a reserve to be used to meet any deficiency that may occur during the four years ensuing after Oct. 1. 1878, not more than one fourth part in each year, any balance not required to meet deficiency to be added to the trust funds of the corporation.

1878