BOARD MEETING, MARCH 14, 1882.

The Board met in the University parlor at 4 o'clock P. M.

Present—Messrs. Cobb, McLean, Millard, Pearman, Paden and Scott.

Absent—Governor Cullom, Messrs. Bird, Bennett and Mason.

The record of last meeting was read approved.

The election of officers was postponed until March 15th, 1882.

The Regent read his report, which was received:

To the Trustees of the Illinois Industrial University:

GENTLEMEN: The quarter of the year now ended closes also the first year of my service as Regent of this University. When I accepted the trust you were pleased to commit to me, I came to an institution already organized and officered, and which had made for itself a record for its substantial progress. The situation appeared to me one which called not for work of reconstruction, but of administration; carrying forward, in the main, the existing state of affairs, suggesting changes or improvements only as they seemed required in the continual growth of the enterprise.

A retrospect of the year's work shows reasonable progress. The legislative appropriations were such as provided fairly for most of our present needs. Especially is there reason for thankfulness that the State has admitted the necessity and the propriety of assisting the finances by providing in part for current expenditures, thus supplying a portion of the deficit in income, caused by diminished rates of interest. During the year some improvements have been made, which increase the usefulness and the adornment of the University property. The old dormitory, at once a menace and a blemish, has been removed. A boiler-house with improved facilities for heating the main building has been erected, and other items of less note added. Plain and comfortable furniture has been placed in the class-rooms. Instruments of precision of the best quality have been added to the facilities of the engineering and botanical work. The library, museum and laboratories have received their annual increase.

The attendance of students does not vary materially from that of former years. Our present numbers may be construed as favorable to the institution when we consider the serious depression which the agricultural interests have suffered in some parts of the State, as the results of flood and drouth. The failure in the last harvest prevented many students from coming whose faces had been turned in our direction.

The morale of our students has been commendable, continuing the good name which the University has gained in this respect. Loyalty, order and studious habits are the normal conditions of our young men and women. Violations of order and propriety are the exceptions. A portion, including some of the most earnest and faithful, sought to introduce secret fraternities. In the discussions which followed they presented their wishes in a manner so manly and courteous that if their representations had not been met by the opinions of those of larger experience in these matters, who believed that the young men were in error as to the ultimate results of their plans, they might with much plausibility have secured the object they coveted. To their credit be it written that when the students found that your decision was adverse to them, after a momentary expression of dissatisfaction they yielded kindly and quietly to your wishes and to the authority of the University. They have with good grace abandoned what some of them had very earnestly set their hearts upon. I am confident that their maturer judgment will approve the result, though it is probably too early to expect such an admission at present.

It seems proper that I should take this occasion to review the educational work of the various departments of the University. That I have not done so before has been because I have wished that time would permit me to become more thoroughly familiar with the actual condition of affairs. I preface my review with a table showing, as far as a table can exhibit, the work of each instructor in the class-room and out of it:

Professor or Instructor.	No. classes	No. hours per week.	No. Pupils. Male.	No. Pupils. Fem.	Total.	Remarks.
Selem H. Peabody	2	15	50	12	62	Regent
Thomas J. Burrill	3	21	25	4	29	Vice-President, Supt. of Grounds and Horticulture
Samuel W. Shattuck	3	15	53	11	64	Business Agent
Edward Synder	5	25	120	43	163	Recording Secretary
Don Carlos Taft	3	15	26	20	46	Curator
Joseph C. Pickard	4	20	50	31	81	
N. Clifford Ricker	4	20	18	1	19	
Jas. D. Crawford	4	20	46	21	67	Librarian
Henry A. Weber	2	20	49	14	63	
George E. Morrow	2	10	14	.....	14	Farm Superintendent
Frederick W. Prentice	2	10	16	.....	16	
Peter Roos	3	20	22	20	42	
William T. Wood	2	4	17	.....	17	U. S. Army Officer, Drill Master.
Ira O. Baker	3	20	34	.....	34	
Melville A. Scovell	1	8	14	.....	14	Assistant in Chemical Laboratory
Chas. E. Pickard	5	25	43	15	58	
Cecil H. Peabody	3	17	16	.....	16	Assistant in Physical Laboratory.
Edwin A. Kimball	2	20	22	.....	22	Foreman of Machine Shop
Jerome Sondericker	2	15	57	.....	57	Assistant in Physical Laboratory
Nelson S. Spencer	1	10	6	.....	6	Foreman of Carpenter Shop
Chas. C. Barnes	.....	20	.....	.....	.....	Assistant in Chemical Laboratory
Chas. W. Rolfe	2	10	38	6	44	Assistant in Botany
Jas. E. Armstrong	2	10	37	8	45	Assistant in Natural History

The College of Agriculture steadily maintains a high character under Professors Morrow, Burrill, and Prentice. In addition to their lecture room work, which shows careful and scholarly preparation, each has a large general responsibility. Professor Morrow's duties on the farm involve the ceaseless care demanded in the management of five hundred acres of land and more than two hundred head of stock of all kinds. His work has received the oversight, the counsel, and I understand the approval, of the Farm committee. It exhibits worthy results from both an educational and a financial standpoint. In its farther systemization he will need the assistance of an intelligent foreman whose ideas and methods are in sympathy with his own.

Similar service is required in Professor Burrill's department. Wtth right help and proper development there seems to be no reason why the department of Horticulture may not become self-sustaining without imparing, but rather to the benefit of, its efficiency as a means of instruction. Only his great caution in seeking for a gardener who shall prove in all respects the best man for the place has prevented him from securing already the help he needs.

Professor Prentice's classes in Physiology and Veterinary Science continue to show high appreciation of his qualities as an instructor. It has also been fortunate for the University in various ways that we have in our corps of Professors a skillful and conscientious physician not less able to treat the human system than to work in his chosen field of Veterinary Science. The veterinary clinics are gaining useful notoriety, valuable alike to the farmers and to the departments.

On account of disappointment in securing desired assistance and for other reasons, the annual Farmers' Institute usually held in January was this year omitted. The omission has called forth many inquiries indicating anxiety lest this gathering should be finally suspended, and showing a wider and deeper interest in it than had been supposed to exist. It is possible that a more comprehensive plan, so devised as to interfere less with regular collegiate duties, and which should bring a larger proportion of outside assistance, would make this feature of the work in the College of Agriculture more fruitful of good to attendants, to the State at large, and to the University.

In this connection I may refer to a suggestion which the President of the State Board of Agriculture has twice made in his annual report. It is that the Regent and Professor of Agriculture of this University be requested to prepare a text-book in elementary Agriculture for use in the Public Schools of the State. A useful treatise of this sort might be prepared. Its adoption would be problematical, perhaps doubtful. The preparation of such a book can hardly be deemed part of the duty of the officers mentioned, even if it should appear that they were or ought to be specially qualified for its execution. It would seem necessary, before such work is undertaken, that it should be done with your permission, and with a distinct understanding as to the proprietary interests which might exist in such a work when completed.

THE COLLEGE OF ENGINEERING.

This College is under the special direction of Professors Ricker and Baker, and the Regent as Professor of Mechanical Engineering. By faithful and quiet, but persistent effort Professor Ricker has so developed the school of Architecture that it now ranks with the similar schools in Cornell University, Columbia College, and the Massachusetts Institute of Technology, which are the recognized leaders, if not the only practical schools that teach this specialty in the United States. Its position was conceded by Professor Wm. A. Ware, who may be counted the first of American architectural instructors, after a critical examination of the methods and results of this school, given at a visit in the late vacation. If the course in Architecture should be criticized at all, it would be by saying that it is too full, and too absorbing in its interest—a condition of things which may easily be condoned, and were worthy of imitation in other quarters. Professor Ricker has been fortunate for the last three years in the support of a foreman, Mr. N. S. Spencer, who has been inspired with similar views of the architect's perfection. Inspection of like work done in other shops of instruction has convinced me that the product of our wood shop has no superior in the precision which is attained by the students under the careful supervision they receive.

Professor Baker's work in civil engineering has the same stamp of accurate and clean finish. With easy command of his students, and critical study on his own part, Professor Baker is making, year by year, a valuable record. The late unexampled increase of railroad building has led many students to seek this course, and often to seek some short and easy side-track, by which, with a little experience in the theory of instruments and a minimum of hard work, they could get as they supposed in the Professor's good book, as next in order for a call for assistants in engineering works among the western plains and mountains. While appreciating the eagerness with which young men are looking for paying employment, and anxious to help those who are worthy of aid, Professor Baker has had my approval in his desire to send out only such to represent this school, as could do so with credit—such credit as many of our men are actually earning in the field.

The new instrument for higher geodetic work, a Troughten and Simm's twelve inch theodolite, ordered by you last summer, has been very lately received. We have been fortunate in securing it at a cost much less than our lowest estimate. Such examinations as its brief time of possession allows, indicates that it is every way satisfactory, and a most valuable addition to our engineering facilities.

The efficient aid of Professor Cecil H. Peabody has added life to the instruction in mechanical engineering, while affairs at the shop have been directed by Mr. E. A. Kimball with his well-known faithful care. The class of new students has again to be reported as an increase upon any previous number, so large, indeed, as to make proper attention to them difficult under the present arrangements. This subject has been treated in a special report, to which I ask your attention.

Mr. Jerome Sondericker has improved upon the good quality of his work of last year in engineering and other exact drawing. We shall do well to retain his services as long as possible. In addition to his drawing he has assisted Professor Shattuck in mathematics, Professor Burrill in landscape gardening, and has done service in the Physical laboratory.

The schools of Engineering and Architecture find their chief corner-stone in the pure mathematics, in which instruction has ever been ably given by Professor Shattuck. This department is not one in which any public display can ever be made, nor is it one with which the popular mind will warmly sympathize. But every scholar knows its value, as the vertebral column of an engineering course, and as affording much of the bone and sinew of any valuable instruction. For this work an abler teacher than the present incumbent is rarely found; a proposition rigorously demonstrated by the excellent results secured.

THE COLLEGE OF NATURAL SCIENCE.

The botanical and microscopical work continues its excellent and steady progress under Professor Burrill, who is ever surrounded by an eager company of workers. The new instrument which you ordered for the special researches of the Professor, is received, and is worthy of high praise. It fully illustrates the improvements of the compound microscope, made within late years, and is fitted with all the best devices for precision. We shall look confidently for a good report of its work under Prof. Burrill's manipulation.

Mr. Rolfe has given good assistance to Prof. Burrill in the subjects of botany and entomology.

The quality of the work done in the Chemical department, under Professors Weber and Scovell, has not materially changed since the new laboratory was opened.

A serious criticism rests against the Chemical courses, in one respect. If one examine the records of the University he will find that of the whole number of students who go to the laboratory, about one-fourth take chemistry one term; one-fourth, two terms; one-

fourth, three terms or a year; the remaining fourth more than one year—about five per cent. taking the full course of twelve terms. These fractions do not vary from the fact by more than two or three per cent. in any case, and are sufficiently near to illustrate the point in question. Exidently there are two great divisions of chemical students: one includes those who wish to make chemistry a business, in some of its special applications, as chemists, druggists, metallurgists, manufacturers, etc.; the other, those who desire a knowledge of the general outlines of chemistry, as are important, but not an absorbing part of a general education. The latter class, which is by far the larger in numbers, includes all the students in the courses of literature, science and art, with most of those in engineering, and some in agriculture. At least half, and probably three-fourths of the whole number belong to this class.

It is evident, therefore, that each of these great divisions should be provided for by a special course of chemistry adapted to its peculiar wants. It is farther evident that our admirably complete equipment in room, material and instructors makes such an arrangement eminently convenient and practical. The general student, who may not find time for more than one term of chemistry, amid the other necessary subjects of his course of study, ought to have a course adapted to him, and should not be put off with one-twelfth of a complete course which he can never follow through. There should be a shorter course in general chemistry, covering the outlines of the subject, in one term, say the long fall term. This course should consist of lessons or lectures, illustrated by the experiments of the professor. After that, if the pupil has time he might go into the laboratory and take as many terms of work there as his circumstances will permit.

It is not possible in six weeks of lectures and in eight weeks of laboratory to include enough of either theory or practice as to make any lasting impression. The pulpil learns a few elementary principles and performs a few of the simplest operations and then stops. He can go no farther because of other engagements, and he has failed to secure what he sought, because he has had to do work designed for a very different person and purpose. In evidence of the correctness of my position, I refer to the practice in most first class colleges, and to the judgment of both professors and students in this University, who have suffered either vicariously or personally for want of the facilities I have indicated. I am farther of opinion that such a preliminary term of chemistry would make a very excellent foundation on which to build a superstruction of the most enlarged character, even if, as it sometimes may, it should become the work of a lifetime.

It will be observed, however, that I do not contemplate or desire the curtailment of the very excellent and complete courses of chemistry now operative in the University, for such as seek instruction of that character. With right appreciation of the proper scope of the limited and the extended courses, each might be made to assist and supplement the other.

Your serious attention is called to the Department of Zoology and Geology. Inquiry should be directed to ascertain whether the present condition and administration of this department is such as its importance to the general plan of the University demands, and whether its development during the ten years past is such as it should exhibit, either for its own usefulness, or to keep pace with the progress of other departments of kindred nature.

If it should be found that deficiencies of grave import exist here, farther inquiry should be had as to the remedy which those deficiencies need.

THE COLLEGE OF LITERATURE AND SCIENCE.

This College attracts the larger number of students who come to us for general culture, not expecting to prepare themselves to any specific occupation. From the nature of the subjects taught in it, it is not easy to insist upon such an amount of previous study, as will have developed minds prepared to grapple with work of a university grade. A distinguished gentleman remarked that a certain subject was too hard for his boy, because the boy was too young. It was an admission that the boy was not prepared for the work he had undertaken. It is not easy, often is not possible, to give to youth in rural districts, or even in the higher village schools, the elementary training, the mental power which is needed to attack in a vigorous and effective manner any really solid college work. There is a difficulty here which every experienced educator will recognize. It is to find work that shall not be ephemeral and superficial, and shall yet have power to build the boy. Believing firmly in the efficacy of scientific study later in the education of youth, I am equally confident that science fails in the elementary stages, because the dilution necessary to prepare it for the child's reception makes it too feeble to answer its supposed purpose.

I believe if we could more positively insist on Latin as a prerequisite for admission to the school of English and Modern Languages, the result would be a decided gain. Nothing else seems so well fitted for the discipline and training needed at this preparatory stage. Its problems are such as the student can master. As a vehicle for learning language in general, and the English language in particular, it has no equal; proficiency in it will greatly relieve the subsequent labor of learning the French and German of our courses. No one can be said to have acquired a mastery of his own English tongue who has not somehow, and the more directly the more adequately, become a master of the significances found in the roots from which the dialects of science and literature are full.

The merits of our school of English and Modern Language seem scarcely to be appreciated beyond our own immediate circle. Professor Pickard has arranged a course of English language and literature, which has no superior within my knowledge. Professor Snyder is the rare example of a teacher of foreign birth who can successfully hold and train American students. Professor Crawford has found in history an excellent field, both for research and for instruction, and Mr. Charles E. Pickard is doing thorough work in Latin and Greek. In these courses the sciences cannot take the prominent places which they occupy in the technical courses, yet fill very essential places. In most cases

the instruction in science must be given to the students of this college with a scope and a significance quite different from that exhibited in the technical schools. It is this, more than anything else, that makes the difficulty in combining the work in the several departments of the University.

In concluding this notice of the work of the different colleges of the University, and of the instructors, I respectfully recommend that you refer to a committee the quest on whether any changes in the Faculty of this University are desirable, and that this committee report at the June meeting.

Of the additional schools I may farther say, that in the school of Art, Professor Roos is doing, as he has always done, good elementary work. His ambition to develop his school in the direction of industrial art and design is laudable, and should be fostered. The time is not near when a school of fine art can be supported in connection with this University. Professor Roos should have assistance from time to time in the purchase of models and objects for use in his school.

The school of Military Science has prospered during the year past. The replacing of the Junior class in the ranks will after this year give a larger list from which to select officers, and will give more efficiency to the service. With few exceptions the students take commendable interest in the drill, are punctual in attendance and obedient to authority.

The Preparatory class continues to diminish. New comers work their way from it to the Freshman class as fast as they can, in order to save the extra fees, and without any disparagement to the preparatory teachers, Messrs. Rolfe and Armstrong. The large amount of fees charged to students of this grade prevents increase of numbers. It was urged that the University would be the gainer if this class were discontinued, but as this question has been finally settled, I have no desire to re-open it. If then we are to continue the class, would it not be well to remove a part of the tariff restriction? I recommend that the tuition fee, $10 per term, be reduced to $5, leaving the incidental fee as it now stands. These pupils will then pay $12.50 per term instead of $17.50, or $37.50 per year instead of $52.50.

In this connection I would call your attention to a custom which exists, but which I fail to trace to any law or regulation, by which graduates, either with degrees or certificates, are allowed to continue their studies here without the payment of any fees at all. If this custom is to continue there should be some authority for it, although I fail to see a reason why such students should not pay their share of incidental expenses like others.

The Catalogue should soon be issued. No important changes are required in its matter. Ten classes have now graduated. I suggest that in the next issue the names of graduates be inserted, with their residences and occupations, so far as known. I farther recommend that authority be given to print an edition of 5,000 copies. I also call attention to the fact that the next Commencement is the tenth anniversary of the first graduating class, and that the alumni are preparing to make a general pilgrimage to the shrine of their alma-mater. Will it not be advisable to provide something in addition to the usual Commencement exercises which shall comport with the dignity of the occasion.

I recommend the following appropriations, with the list which will be furnished by the Business Agent:

For the Library, the balance of the State appropriation for the year	$500 00
For the Physical Laboratory, for renewal and repair of apparatus	100 00
For advertising	250 00

Respectfully submitted,

MARCH 14, 1882. S. H. PEABODY.

Adjourned to 7:30 P. M.

EVENING SESSION.

The Board met on time. Present as before.

A letter was received from Hon. T. T. Fountain, announcing his resignation as a member of the Board, and regretting that circumstances compelled such action.

The Regent's report was then taken up for consideration.

The recommendations concerning Departments were referred to a committee consisting of the President of the Board, Messrs. McLean, Millard and Bennett, with directions to report at the June meeting.

The tuition for the Preparatory Department was fixed at $5 per term, to take effect next academic year.

It was ruled that all students attending the University shall pay the regular incidental fees.

Five thousand copies of the Catalogue were ordered to be printed, and the Regent, Messrs Scott and Pearman were appointed a committee to revise and publish the Catalogue.

The following resolution was passed:

Resolved, That the suggestions of the Regent respecting Commencement Exercises next June, be referred to the Executive Committee and the Regent, with power to act.

The Business Agent submitted his report, which was received, and the vouchers were referred to an auditing committee, consisting of Messrs. McLean and Paden:

Current Appropriations.

Six monthts from September 1, 1881.	Appropri't'd	Receipts appro'ed.	Expended.	Balance.
Board expense	$300 00	.....	$189 28	$110 72
Salaries	11,820 00	.....	9,490 45	2,329 55
Fuel and light	2,800 00	$28 20	1,842 86	985 34
Stationery and printing	500 00	.....	424 62	75 36
Buildings and grounds	50 00	205 60	174 55	81 05
Fixtures and furniture	50 00	2 00	48 75	3 25
Military Department	150 00	.....	64 94	85 06
Library and apparatus	50 00	6 75	53 00	3 75
Incidental expense	200 00	.....	104 50	95 50
Mechanical Department	54 79	872 04	724 23	202 60
Architectural "	.....	2,479 06	2,177 31	301 75
Agricultural "	1,710 40	3,940 61	2,757 33	2,893 68
Horticultural "	352 12	139 28	276 03	215 37
Chemical "	140 62	937 52	979 80	98 30
Sundries—				
Physical laboratory	34 89	3 65	2 90	35 64
Students' government	17 75	.....	6 10	11 65
Engineering College	16 45	.....	16 45	.....
Examination of schools	42 43	.....	5 30	37 13
Tuition, Preparatory department	.....	1,330 50	1,230 00	100 50
Washington delegation	200 00	.....	111 15	88 85
New music books for choir	25 00	.....	19 05	5 95
Students' eating room	50 00	.....	46 65	3 35
Cabinets	.....	2 05	2 05	.....
Signal station	.....	.....	93 04	.....
OTHER RECEIPTS.				
Students' fees	.....	5,148 75	.....	.....
Illinois Central freight	.....	1,007 45	.....	.....

State Appropriations.

From July 1, 1881.	Appropri't'd	Received.	Expended.	Balance.
Taxes on lands, ½ per an	$5,000 00	$2,310 37	$2,310 37	.....
Buildings and grounds, ½ per an	5,000 00	2,500 00	2,929 96	.....
Chem., Phys. and Bot. Lab., ½ per an	1,600 00	800 00	326 03	$473 97
Mech. and Arcitect'l shops, ½ per an	3,000 00	1,500 00	1,008 29	491 71
Books and publications, ½ per an	3,000 00	1,500 00	510 90	989 10
Current expenses, ½ per an	11,400 00	5,700 00	5,700 00	.....
Library cases	800 00	800 00	602 52	197 48
Cabinets	1,000 00	1,000 00	454 74	545 26
Engineering instruments	1,000 00	1,000 00	657 45	342 55
Furniture	1,000 00	1,000 00	1,002 68	.....
Boiler House	5,000 00	5,000 00	4,936 82	63 18
Heating and ventilation	2,500 00	2,500 00	2,265 13	234 87
Farm Cottage and Dairy	1,000 00	1,000 00	1,000 08	.....

The following appropriations were made for the six months ending August 31, 1882:

Board expense	$300 00
Salaries	15,695 00
Fuel and light	1,000 00
Stationery and printing	700 00
Buildings and grounds	81 05
Fixtures and furniture	50 00
Library and apparatus	50 00
Incidental expense	200 00
Military department	125 00
Mechanical "	202 60
Architectural "	301 75
Agricultural "	2,894 68
Horticultural "	215 37
Chemical "	98 30
Sundries—Physical laboratory	35 64
Students' government	11 65
Examination of schools	37 13
Band books	5 95
Advertising	250 00
Photographic apparatus for Architectural Department	50 00
	$22,304 12

The following assignments were made from State appropriations: $500 for books and publications, and $100 for purchase of apparatus.

The Regent's report in regard to the better development of the facilities of the Mechanical Department, was referred to the Committee on Buildings and Grounds and the Regent.

To the Trustees of the Illinois Industrial University:

GENTLEMEN: At a meeting of your Executive Committee, held June 17th, 1879, it was resolved that the Professor of Mechanical Engineering be asked to present plans for systematizing and improving the elementary instruction in the Machine Shop. The changes which afterwards occurred in that department and in the University, have hitherto prevented a response to this request. The constantly increasing call for instruction in Mechanical Engineering, emphasizes a request for better facilities in carrying on that work.

It will scarcely be denied that the chief duty of the machine shop, like that of all the laboratories of the University, is to give instruction. Commercial work is mostly cut off from us—first, by the distance of the shop from the business centres of either of the adjacent cities, and, second, by the success of a shop in Champaign, where two of our graduates are building up a successful business. Our only regret at this change in the work of the shop, comes from the fact that we cannot now give to students who wish to support themselves in part by their own labor, as good an opportunity as in former days. It is, however, certain that the University cannot undertake any extensive scheme of manufacturing, even for the purpose of providing labor for the support of indigent students.

The class of beginners in the machine shop number, this term, seventeen persons. These students must work as a class at the same hours, in order that their shop-work may be kept out of the way of other class recitations, drill, etc. It is also evident, from a glance at the nature of the work, that but little of the teaching can be given to them as a class—like those, say, in a language, sitting before the teacher in a body, but the instruction must be brought to each separately, as he stands at his place at the work-bench.

The number of workers and the present supply of tools and distribution of room, necessitates an arrangement of work which is illogical and inconvenient, although it answered the purpose when there were fewer students to be trained. The students cannot all begin at the place which might, from its own nature, be thought most fit for a beginning, but a variety of work must be going on continually. Some begin at the pattern-shop, working on wood; some are put at the vises, chipping or filing; some at the machines, dressing wood or iron; some in the blacksmith's shop. The class is scattered through the works, and several trades are going on at once. Each pupil has a special problem, new to him, on which he needs frequent advice from his teacher, who, if he could be divided into several fragments, each endowed with the intelligence of a good workman, would become none too numerous for the duty required. The slight compensation in that a certain independence and self-reliance is cultivated, is more than over-balanced by waste of material, injury to tools, loss of time, and inculcation of bad methods. There is need, therefore, either of more teachers or of more tools. Ultimately there may be need for both; but increase of tools will meet the present difficulty, and it is evidently cheaper to furnish better facilities in rooms and tools than to undertake to pay more teaching force. It is evident that one teacher can easily and efficiently care for three times as many pupils if he can have them in one room, and employed on one kind of work, than if they were scattered through several apartments and occupied on different jobs. We have now in the pattern shops six sets of bench tools; at the iron-workers' benches eight vises and equipments; in the blacksmith's shop three fires and anvils: and in the machine shop eight machine tools. There should be, in the more elementary parts, at least fifteen sets of tools of the same general character, which might be made twenty at some future day.

That number would equip as large a class as should be taught at one exercise. More machines would also be desirable, but when the class comes to that stage of the work, division of tasks is more easily provided.

More tools require more room. In this respect we are yet fortunate that we have considerable room, now unoccupied, that can be made available, at a small expense for rearrangement. When the shops were first planned the best room, in the northwest corner, was reserved for a class-room. It has not been used for this purpose in several years, or indeed since the opening of more suitable rooms in the main building. It should be made useful as a shop room. To make this room available, and others more convenient, I would recommend the following changes.

1. The west stair-way to the drill hall to be arranged for a landing at the level of the second floor of the tower, and access to be given to the room on that floor by a door through the wall. This will permit the removal of the separate stair-case, which now uses part of the corner-room referred to.

2. The wooden partition at west end of pattern room to be moved up to the stair-case adding to the pattern shop the room now used as hallway. Rearrange the pattern racks by placing them on a gallery in the upper part of the room, and thus leave floor space for benches.

3. Cut a wide arch-way in the south-wall of the class-room; connecting that room with the main shop. This will give more work-room under easy supervision, and will improve the light in the main shop.

These changes, costing but little, may be made to add very much to the convenience of the rooms, and the ease of administration, and can be done from appropriations now in your command.

Professor Ricker thinks they may be done for one hundred dollars ($100.)

I would then inclose with walls and roof the space south of the machine shop to the car-track, as wide as the south-west tower—a space about 32x40 feet—for a blacksmith's shop. This would make room for a series of forge-fires about the wall, with working space in the center, giving as much opportunity for this work as would be needed. The smoke from these fires would be gathered by iron tubes to an iron stack placed against the wall of the drill hall, and extending above the roof. We have the tube which could be used for that purpose. This shop would be covered like the boiler-house with metal shingles, and would be lighted through the roof, and these roof lights may be so arranged that the light in the south end of the machine shop would not be seriously lessened. This extension would cost from $1300 to $2000, and legislative aid would be needed. I do not think the legislature would hesitate to respond to a call for aid of this nature.

I would then ask for the pattern shop nine (9) sets of carpenter's bench tools, at $10 per set, $90; for the machine shop, seven (7) vises with hammers, files, &c., at $10 per set, $70; benches and fixtures sufficient for use of such tools; say $30. I would provide a number of small lathes for wood turning, say six or eight. At the manual training school in the Polytechnic department of Washington University, at St. Louis, I saw such lathes that were thoroughly substantial and useful, furnished without shafting, at a cost of $30 per set. These tools might be made useful also for the woodshop, which is now sadly deficient in machinery of this sort.

The machine shop now needs one or more small engine lathes that would take work not more than 12 inches in diameter and two or three feet in length. The one we have which nearest answers this description is badly worn, and is not capable of doing really good work. We do not need large machines, but rather a multiplicity of smaller ones, which occupy but little room, and yet afford the means for teaching our boys how to use the machines of the most importance in the business they are learning.

I have developed this matter rather at length, not with the expectation that you will wish to pass upon them at this meeting, but to show what ends seem desirable, hoping that in time not far off some or all may be realized.

I am, very respectfully,

SELIM H. PEABODY,
Professor of Mechanical Engineering and Physics.

The following resolution was passed:

WHEREAS, This Board has received a letter from the Hon. T. T. Fountain, a former member of the Board, announcing his resignation; therefore,

Resolved, That this Board regret the action of Mr. Fountain, since his resignation deprives this Board of a genial gentleman and a valuable member, whose counsel and services have been eminently useful not alone to this body, but in the interest of higher education.

The Secretary was instructed to communicate this resolution to the Hon. T. T. Fountain.

The Committees on Rifle Range, Students' By-laws, and Fence and Painting, were continued.

Adjourned to [illegible] o'clock A. M.