

FIFTH BIENNIAL REPORT

[No. 16 IN SERIES

OF

THE BOARD OF REGENTS

OF

THE UNIVERSITY OF MINNESOTA,

TO THE GOVERNOR.

FOR THE

FISCAL YEARS 1887 AND 1888, ENDING JULY 31ST.

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TRANSMITTED TO THE LEGISLATURE AT THE TWENTY-SIXTH (FIFTH BIENNIAL) SESSION, 1889.

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ST. PAUL, MINN.:  
THE PIONEER PRESS COMPANY.  
1889.

### NOTE.

The present university "charter" was enacted by the legislature, Feb. 18, 1868. The first annual report was that for 1868, transmitted to the legislature of 1869. The last annual report was for that of 1878. There have been accordingly eleven annual reports, and this fifth biennial report is No. 16 of the series.

The annual reports of progress of the geological survey of Minnesota will be found in the annual reports of the board of regents, beginning 1872. The annual report of the survey for 1881 was printed separately, no other reports of or to the board being printed in that year.

THE UNIVERSITY OF MINNESOTA, }  
OFFICE OF THE BOARD OF REGENTS, }  
Nov. 1, 1888. }

SIR: In compliance with law, I have the honor to forward  
herewith the fifth biennial report of the Board of Regents for  
the fiscal years 1887 and 1888, ending July 31st.

Very respectfully,

Your obedient servant,

HENRY H. SIBLEY,

*President.*

To the Hon. A. R. MCGILL, *Governor of Minnesota.*

# THE BOARD OF REGENTS.

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The board of regents is composed at this date of the following gentlemen:

The Hon. GREENLEAF CLARK, M. A., St. Paul; term expires in.....1889  
The Hon. CUSHMAN K. DAVIS, St. Paul; term expires in .....1889  
The Hon. KNUTE NELSON, Alexandria; term expires in.....1890  
The Hon. JOHN S. PILLSBURY, Minneapolis; term expires in.....1890  
The Hon. HENRY H. SIBLEY, LL.D., St. Paul; term expires in ..... 1891  
The Hon. GORDON E. COLE, Faribault; term expires in.....1891  
The Hon. W. M. LIGGITT, Benson; term expires in.....1891

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AND EX OFFICIO.

The Hon. A. R. MCGILL, St. Paul, the Governor of the State.

The Hon. DAVID L. KIEHLE, M. A., Minneapolis,

The State Superintendent of Public Instruction.

CYRUS NORTROP, LL.D., Minneapolis,

The President of the University.

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## OFFICERS OF THE BOARD.

H. H. SIBLEY..... *President*  
D. L. KIEHLE..... *Recording Secretary*  
H. P. BROWNE..... *Treasurer*

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### AUDITING COMMITTEE.

GORDON E. COLE,

A. R. MCGILL.

REPORT

OF THE

UNIVERSITY OF MINNESOTA.

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*To His Excellency A. R. McGill, Governor of the State of Minnesota:*

The board of regents has the honor to submit herewith its report of the affairs of the university for the year ending July 31, 1888.

The following is a general statement of the resources of the university:

Amount of university fund July 31, 1888 .....	\$837,361 51
Revenue from the above, 1887 .....	35,296 24
Revenue from the above, 1888 .....	36,713 72
State appropriation, 1887 .....	35,000 00
State appropriation, 1888 .....	40,000 00

For the full history and condition of the several departments and colleges of the university you are respectfully referred to the report of the president, which is made a part of this report.

In presenting this report the board begs to assure your excellency that it has been its purpose both to improve the efficiency of established departments and to extend the organization within the limits of its resources until every demand of every calling is satisfied, affording opportunities of culture necessary to skill in the artisan and to intelligence in the citizen.

In addition to the ample provision for the literary and classical culture demanded by the learned professions, this board has not forgotten the duties laid upon it by the legislature in committing to its administration the fund of what is known as the "agricultural land grant." The design of this grant is very definitely stated as "in order to promote the liberal and practical education of the industrial classes."

The law is, moreover, specific in its requirement that the objects provided for be:

1. Military tactics.
2. Mechanic arts.
3. Agriculture.

Giving attention to the first requirement, the board has caused to be erected a military drill hall, and has made frequent and persistent application to the general government for the detail of an officer to take charge of this department, but until lately without success. Lieut. Glenn, of the twenty-fifth U. S. Infantry, has at length been assigned to duty in the university as professor of military science and tactics. In the meantime such temporary provision was made as was within the reach of the board, until regular and permanent arrangements could be effected.

In the department of mechanic arts we are prepared to report most gratifying progress. With an appropriation granted by the legislature a very fine building has been erected and fully equipped at a cost of about \$45,000.

In this department during the past year were gathered in the aggregate over two hundred of the children of the industrial classes and were taught to work in wood and iron, to design and carve, to draw and execute in carpentry and in machinery. Others were made proficient in surveying and civil engineering. This department is sustained at an annual expenditure of about \$8,000 for current expenses.

Regarding the last requirement of this law, the board has, in good faith, and in its best judgment from the first, made ample provision "to teach such branches of learning as are related to agriculture," and has established a course known as that of the college of agriculture. It is not to be disguised that this course has not been valuable to the industry for which it was intended, but for what reason it is not necessary here to consider.

Yet, while very few have pursued this course and taken its degree, it would be unjust to assume this as the measure of the contribution which this university makes to agriculture as compared with other institutions known only as agricultural colleges, inasmuch as the subjects of English, mathematics, and the natural sciences, which in the latter are accredited to the agricultural course, are in our university pursued as thoroughly in either of its several courses. Hence we may in fairness ask the friends of agriculture to examine the generous provision made for the departments of natural history, botany and geology in the museum and science hall, the last building erected by special appropriation of the legislature.

However, the board has not felt relieved from responsibility in studying the situation and in an honest effort to improve the educational facilities of those who pursue the calling of agriculture. After careful study and a free consultation the board has organized and opened a "school of agriculture," to be located at the experimental farm and provided with its own buildings and equipment.

Its course will cover the subjects of the first two years as usually pursued in agricultural colleges. It is planned to meet the necessities of such as wish practical agricultural education of an academic grade, and, while complete in itself, will be preparatory to the more thorough course of the college.

As this school will receive students upon completing a common school education and will occupy them in school at the most convenient season of the year, it is the hope of the regents that this effort to increase our educational facilities will commend itself to the public and will receive generous support by your excellency and the legislature.

#### EXPERIMENTATION.

The board also reports that under the liberal provisions made by the general government in an annual appropriation of \$15,000 for the promotion of agricultural experimentation it has thoroughly reorganized the work of the experiment station. The work has been separated into divisions, of (1) general farming; (2) stock and dairying; (3) horticulture; (4) entomology; (5) chemistry; (6) veterinary. To these have been assigned experts of special ability with a director at the head, constituting together the "corps of experimentation."

To this corps the regents have turned over without charge, for their use, so much of the entire farm as they desire, its land, buildings, equipment of stock, utensils, etc.

New buildings and equipments have been provided as far as means would allow and every possible facility afforded to render efficient service.

#### DEPARTMENTS OF LAW AND MEDICINE

have also been organized opening with the present scholastic year.

The board has recognized that professional instruction ought not to be at the charge of the state, and has accordingly required a tuition fee of students entering either of these departments sufficient to meet the expenses of instruction. It is proper here to say that excepting the deans of the medical faculty and the law department the services of the eminent gentlemen occupying the several chairs are gratuitously contributed to the university.

The board is gratified to report substantial improvement in the facilities afforded in the university and a large increase in the attendance of students, and therefore with encouragement bespeak of your excellency and the legislature the same generous consideration for the future which in the past has provided the solid foundation upon which it now rests.

It is proper to state, that in consequence of the failure of bills at the last session of the legislature, containing appropriations for the completion of the buildings requisite to furnish the several departments of the university with ample room for some years to come, and for other objects equally indispensable to meet the wants of a first class institution, the board of regents has been prevented from finishing the work which it earnestly hoped to effect during the current year. The necessity for the expenditures embraced in the bills referred to was made so apparent to the members of the two houses that there was no serious objection made to their passage, but unfortunately, the men who had them in charge neglected to bring them forward in time to be acted upon before the adjournment.

The board has also to report that the matter of the third and fourth volumes of the report of the geological survey is now ready for the printer. Indeed, a part has been already printed, as far as the the funds provided have allowed. It is requested



that additional provision be made for the completion of this report in uniform style with the one published, and which has been to the great credit of the state and the satisfaction of our people.

As your excellency has been *ex officio* a member of the board of regents for two years past, attended its meetings, and is therefore fully informed of its operations, the board respectfully urges that you will incorporate in your message a recommendation to the next legislature, to appropriate the sum requisite to erect new buildings and to complete and fully equip the buildings, already begun, which are indispensable to the proper prosecution of the work of the several departments of an institution which is a credit to the state, and will soon take rank among the leading universities of the Union.

For this purpose the board deems an appropriation of \$100,000 necessary for the completion, equipping and heating of the science hall and museum, already begun; also an appropriation of \$100,000 for the erection, equipment and heating of an agricultural building, including a physical and chemical laboratory, the old agricultural building and chemical laboratory having been virtually destroyed by fire, and, moreover, being too small for the present needs of the university; also an appropriation of \$35,000 for the erection and equipment of a building for the law department, for which department there is at present no building and no suitable rooms in existing buildings; also an appropriation of \$15,000 for the purposes of ventilation, repairs and general improvements.

Respectfully submitted,

H. H. SIBLEY,  
*President Board of Regents.*

THE UNIVERSITY OF MINNESOTA,  
MINNEAPOLIS, MINN., NOV. 1, 1888.

*To His Excellency, Hon. A. R. McGill, Governor of the State of  
Minnesota.*

SIR: I have the honor to transmit herewith the fifth biennial report (No. 16 of the series), of the condition and progress of the University for the years 1886-87, and 1887-88.

Very respectfully,

Your obedient servant,

CYRUS NORTHROP,  
*President.*

REPORT  
OF THE  
UNIVERSITY OF MINNESOTA.

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*To His Excellency, Hon. A. R. McGill, Governor of the State of Minnesota.*

The years 1886-87 and 1887-88 have been years of general prosperity in the University of Minnesota, and the latter of these years has been one of notable progress and development. Not only has the work of instruction been carried forward satisfactorily in all the departments which existed at the opening of this period, but the work in some of these departments has been enlarged, new departments have been organized, and the institution in its scope of instruction has been made in reality, what it has heretofore been in theory only, a university. In connection with this statement of facts respecting the establishment of new departments, I can not forbear expressing my hearty thanks to the board of regents for the courage, wisdom, and unselfishness displayed by them in bringing about these results under circumstances which would have deterred a more timid board from taking any action. The gain to the university and to the state in having the actual wants of scholars in the state properly met is incalculable. Some of the results will be apparent in the next report of the president of the university; but it is not too soon even now to say that the evidence is already sufficient to prove the wisdom of the action of the board of regents.

## DEGREES CONFERRED.

Since the last report, degrees have been conferred as follows:

	1887.	1888.
Bachelors of arts.....	7	6
Bachelors of science.....	12	12
Bachelors of literature.....	5	14
Bachelor of civil engineering.....	1	1
Bachelor of mechanical engineering.....	1	2
Bachelor of agriculture.....	1	0
Master of science.....	0	1
Master of arts.....	1	0
Bachelors of medicine.....	2	0
Doctor of philosophy.....	0	1
Civil engineer.....	0	1
	30	38

The names and residences of these graduates are given in Appendix "A."

The following table shows the number and kinds of degrees which have been conferred by this university:

	1873	1874	1875	1876	1877	1878	1879	1880	1881	1882	1883	1884	1885	1886	1887	1888	Total.
B. A.....	2	1	3	3	9	5	8	4	10	11	8	9	3	6	7	6	95
B. S.....		1	2	5	3	8	10	9	10	9	7	9	3	6	12	12	106
B. L. ....			1		4	1	6	4	7	11	7	3	6	6	5	14	75
B. C. E.....			3	3				2			2	3	2		1	1	17
B. M. E.....						1					1		1		1	2	6
B. Arch. ....					1									1			2
B. Agric.....										1			1		1		3
M. A.....								1	1						1		3
M. S.....										1			1			1	3
M. B.....												2	2	3	2		9
Ph. D.....																1	1
C. E.....																1	1
Totals.....	2	2	9	11	17	15	26	18	28	33	25	26	19	22	30	38	321

The whole number of persons graduated is 321, five persons having received degrees both in science and in engineering, one person having received a degree both in arts and in science, and six bachelors having received a master's degree, after passing the required examinations. No honorary degrees are conferred by this university.

The whole number of women who have been graduated is 85, viz.: Bachelors of arts, 13 ; of science, 21 ; of literature, 51 ; of medicine 1 ; one person having received a degree both in arts and in literature.

## ATTENDANCE.

There has been each year an increase in the number of students in attendance as compared with the number in attendance the preceding year. There has also been a great improvement in the promptness with which students have registered at the beginning of the term, and in the regularity of their attendance. In the college of science, literature and arts more than three-fourths of the students registered during the year 1887-88 were registered and in attendance during the first week of the year.

For the enrollment and classification of students during the two years covered by this report, 1886-87 and 1887-88, see appendix "B."

## ADMISSIONS.

The record of admissions to the university is as follows :

*Record for 1886-87.*

	Gentlemen.	Ladies.	Total.
Examined.....	134	65	199
Admitted.....	64	36	100
Rejected.....	70	29	99

*Record for 1887-88.*

	Gentlemen.	Ladies.	Total.
Examined.....	116	35	151
Admitted.....	76	32	108
Rejected.....	40	3	43

The number of high school board certificates presented at the university during the year 1886-87 was two hundred and ninety-two, and during the year 1887-88, three hundred and fourteen.

The different towns represented by the candidates presenting the certificates in 1886-87, and in 1887-88, the number of certificates from each town, the subjects, and the number of candidates presenting certificates, are shown in appendix "C."

## COLLEGE OF SCIENCE, LITERATURE AND THE ARTS.

The work in this college has been carried forward with vigor and with increasing efficiency. The number of students has largely increased, especially in the four college classes in the regular courses leading to degrees. In 1888 Prof. John Dewey, Ph.D., an assistant professor in the University of Michigan, was elected professor of mental and moral philosophy and logic, to fill the chair formerly held by Prof. Ormond, and more recently by Mr. Thomas Peebles as instructor. Prof. Dewey was elected to enter upon his duties at the beginning of the year 1888-89. Mr. Frederick S. Jones, instructor of physics, was absent on leave during the year 1887-88, engaged in study in the University of Berlin, Germany. He will also be absent during the year 1888-89, continuing his studies at the same university. During his absence his place has been and will be filled by Mr. John Whitmore, who has proved himself a very capable and successful instructor. Mr. Conway McMillan was employed during the third term of each of the years embraced in this report as an additional instructor in botany, and has further been engaged to give instruction the coming year in both the first and third terms. Henry F. Nachtrieb, assistant professor of biology, was elected in the spring of 1888 state zoologist, his relations to the university as an instructor not being changed thereby. Mr. Charles F. Sidener, instructor in chemistry, was in 1888 made assistant professor of chemistry.

I note with pleasure in connection with the work of this college the increased number of students who have taken the full preparatory course in Latin and who continue to pursue the subject in the university to the end of the course. The importance of training in Latin is evidently appreciated in all our preparatory schools much better than formerly, and the readiness with which the schools fall into line in the study of the classics is one of the hopeful signs of culture that are so pleasant and numerous in these years of manifest progress.

## THE PREPARATORY CLASS.

In my last report I congratulated the board of regents on the prospect of soon having the university relieved of the preparatory work which properly belongs to the schools. I believe the

time has come when the board may safely decide when the preparatory class shall be discontinued; and I do not think that any wrong would be done if the class were to be abolished at the end of the present year. Its removal will be helpful to the preparatory schools, by making a higher standard of work necessary in order to prepare students for entrance to the university, and will be helpful to the university not only by relieving it from lower grade work, but by promoting the unity of classes and the uniformity of progress among members of the same class, all of them entering the regular college work at the same time, and none of them having an opportunity as at present to fall by the way, inside of the walls of the university but yet outside of the college classes. At the same time I do not urge any immediate or hasty action. Many interests are involved in the question. The preparatory class grows smaller each year and the number of students who enter the freshman class without passing through the preparatory department grows larger each year. From this the inference is inevitable that the necessity for maintaining the preparatory department is constantly diminishing; but whether the time has actually arrived for discontinuing that department is a question to which I ask the regents to give, at an early day, their careful attention.

#### THE COLLEGE OF MECHANIC ARTS.

The college of mechanic arts has prospered during the two years covered by this report, having had a larger number of students than heretofore, and having enlarged its work in several directions. A course in electrical engineering leading to the degree of bachelor of electrical engineering was added at the beginning of the year 1887-88; the artisans' training school was reorganized and named "the school of practical mechanics and design;" a new course in the care and management of engines and boilers was added; also a new course in designing and wood carving. Mr. William R. Hoag, an instructor in civil engineering, was in 1888 elected assistant professor in civil engineering. Mr. Charles G. Trefethan was employed as an additional instructor in metal working during the year 1887-88. Mr. Henry T. Ardley was engaged at the beginning of 1888 to take charge of the carving and free hand drawing. Mr. Ardley has proved a most valuable assistant, and has succeeded in awakening a good degree of interest in the work under his charge, and it is very

evident that a much larger number of ladies and gentlemen will apply for instruction in his special work the coming year. The need of better instruction in free hand drawing had long been felt, and Mr. Ardley, by supplying this need adds very largely to the value of his services. With the work done in the college of mechanic arts, in the shops, and in the new school of agriculture at the farm in which thorough instruction in carpentry and wood work generally is to be given, the regents may rest assured that one object aimed at by congress in its appropriation of public lands for education in agriculture and the mechanic arts not only can be attained, but has been attained, the number of students already pursuing the work in these various places being sufficiently large to insure a complete success, and to indicate a very general popular interest in the various courses of instruction offered. Not the least gratifying feature in the existence of the school of practical mechanics and design is, that not unfrequently students who originally intended to pursue shop work only, are ultimately led to pursue a thorough course in mathematics, and to become engineers.

#### THE COLLEGE OF AGRICULTURE.

The number of students in the college of agriculture has continued to be small, although there have been more in attendance during the last two years than at any previous time. In the regular course the number of students who were candidates for a degree has varied from three to six; and in the school of practical agriculture the number has varied from ten to fifteen. It would seem that every impediment to entrance into the college of agriculture that could be removed had been removed by the action of the regents in establishing the terms of admission by which only the branches of study ordinarily pursued in the common school are required for admission to the sub-freshman class. But the change in the terms of admission has produced little if any effect in increasing the number of students, and the only legitimate conclusion that can be drawn from existing facts is that while a large number of farmers' sons and daughters are eager to secure a collegiate education and are actually securing it at the university, the need of a full four years course of study in agriculture has not yet been very generally felt, and therefore these sons and daughters of the farm have turned their attention to the scientific course, as furnishing



them on the one hand much of the special knowledge they would gain from the agricultural course, and fitting them on the other hand for professional or educational work for which the agricultural course would not so well prepare them. But be the cause what it may, the fact is undoubted that comparatively few students can be induced at present to spend four years on the agricultural course with a view to life on a farm at the conclusion of their studies.

#### THE SCHOOL OF AGRICULTURE.

It is, however, none the less important that young men should be trained to the work of the farm, and it is evident that some school in which they can be thus trained, and can acquire at the same time a good general education while keeping in mind their purpose to become farmers, is very desirable; and such a school the board of regents has accordingly established at the university farm. A commodious building has been erected for the comfort of the students, and for the school work. The course of study extends through only two years, each year embracing two terms of twelve weeks each. The course of study for the first year embraces English, arithmetic, algebra, accounts, physical geography, botany, physics, wood work and mechanical drawing, lectures in farm management, farm architecture, and horticulture. In the second year the course of study embraces algebra, geometry, civil government, political economy, agricultural chemistry, animal physiology, lectures on grains, soils and fertilizers, stock and dairying, horticulture and veterinary. The admission to this school is easy, all applicants who have completed a common school course in English, arithmetic, United States history and geography, being accepted. The school will open Oct. 18, 1888, and close April 17, 1889. Such students as desire to remain at the farm during the summer and engage in practical agriculture under the direction of the professor of agriculture, will be permitted to do so, and will receive reasonable remuneration for their work.

This school of agriculture presents many attractions to farmers' sons. First of all, it offers a good general education, of a much higher character than that which can be obtained at the ordinary school. Second, it costs very little, the tuition being free and the expense being limited to the actual cost of maintaining the table and caring for the house, the amount not ex-

ceeding three dollars a week. Third, opportunity is afforded to earn at least part of a support by labor at the farm. Fourth, in addition to the ordinary advantages of a good school with competent instructors, the students in this agricultural school will receive more or less instruction by lectures from the officers of the experiment station, and will have the opportunity to become familiar with the work of the experiment station and of the farm. Finally, the location of the school is admirable in respect to beauty of scenery, adaptation to study, security of health, and freedom from special temptations to evil. The principal of the school, whom the regents have elected, is W. W. Pendergast, formerly assistant superintendent of public instruction, a gentleman of large experience both in teaching and in agriculture. He will be very efficiently assisted by Henry W. Brewster, B. A., a graduate of the University of Minnesota and an experienced teacher. The present indications are that the advantages which this school offers to the boys of the state will be appreciated by them and by their parents. Already interested inquiries have been received from nearly one hundred students, of whom, it is believed, at least twenty-five have decided to enter the school in October. I congratulate the regents on the wise liberality which they have displayed in establishing and equipping this agricultural school, and I congratulate the farmers of Minnesota on having such a school to which they may send their sons, and be as certain as human infirmity will permit that they will get from it great good and only good.

#### THE AGRICULTURAL EXPERIMENT STATION.

Previous to the last session of Congress no direct appropriation had been made by the general government for the encouragement of experiment work in agriculture although generous appropriations had been made for the support of agricultural colleges. The passage of the Hatch bill appropriating \$15,000 annually to enable the agricultural college of each state to carry on experiments in agriculture, opened a new and more hopeful era for progress in scientific investigation of subjects having an important relation to the farming interests of the country. Immediately after the appropriation was made by Congress the regents of the University of Minnesota turned their attention to the thorough reorganization of the agricultural experiment station. Previous to that time the whole care

of the experiment station, of the university farm, and of the agricultural department of the university had devolved upon Prof. E. D. Porter, with no professional assistants, and aided only by unskilled farm labor. It was impossible that much progress in experiment work should be made so long as the station was in this condition, and it was wholly unreasonable to expect much progress. Excellent and important work was, however, done by Prof. Porter, in the way of preparation, so that no better place for a thoroughly organized corps of experimentation in which to do good work could be found in the country than the university farm as it was when it became possible to organize such a corps. In the organization of the agricultural experiment station in 1888 the board was exceedingly fortunate in their election of officers and in securing the services of all the gentlemen who were elected. Prof. E. D. Porter, being the professor of agriculture in the university, was made director of the station as was required by the law of the State of Minnesota. Otto Lugger, Ph.D. was called from the entomological bureau of the department of agriculture in Washington, to be entomologist and botanist in our experiment station. Samuel B. Green, B. S. of the Amherst Agricultural College was elected horticulturist. Daniel N. Harper, B. S. of Philadelphia, who had been strongly recommended to the board by that veteran in agricultural science, Prof. S. W. Johnson of the Sheffield scientific school, was elected chemist. Willet M. Hays, B. S. A., a graduate of Ames Agricultural College and a gentleman of practical experience in agriculture, was elected assistant in agriculture. Michael J. Treacy, M. R. C. V. S., a graduate of an English veterinary college, was elected veterinarian. Daniel W. Sprague was elected accountant and recorder. Provision was also made for additional labor clerical and manual as might be required—the organization of the corps being finally completed in the summer of 1888. Already much good work has been done at the station and elsewhere in the state, and three bulletins have been issued containing valuable information in reference to silos and ensilage, tests of varieties of corn for feeding values, examination of beets and other roots for sugar and feeding value; also timely and interesting papers respecting horticulture and entomology. In addition to the information disseminated in these bulletins, Dr. Lugger has rendered important service to the state by his personal investigations of the locusts and the chinch bugs, and by his recommendations of methods of obtaining relief from the

depredations of insects. The promise of valuable results to the state from the united efforts and labors of the corps of experimentation is exceedingly good and must be very gratifying to every one who desires to see the agricultural interests of the state promoted.

In order that the work of the experiment station might be done in the best manner, the board of regents has caused to be erected on the farm a new building to be devoted exclusively to the work of the experiment station. The building contains a chemical laboratory, and such other rooms as were deemed necessary for the work of the different members of the corps of experimentation as well as for the meetings of the corps, for the library and the museum. This building is nearly finished. New and greatly improved hot houses have also been erected for the work in horticulture. Further, in order that every possible facility might be furnished for experiments in feeding cattle, important changes and improvements have been made in a part of the large barn specially devoted to experiment work, scales have been provided for most expeditiously and conveniently weighing materials and animals, and everything which could be done to secure accurate and permanent records of results reached by experiments has been done. The board of regents, having thus thoroughly reorganized the experiment station, having elected a corps of experimentation composed of gentlemen of whose ability and fitness there can be no question, and having provided ample accommodations for the work of the station in buildings, in gardens, in the fields and in apparatus, may well be justified in feeling an honorable pride in their work, and in cherishing the confident expectation that the results will justify their expenditures of money, and prove the wisdom of their plans.

The following resolutions passed by the board of regents explain the plan upon which the agricultural experiment station is organized. It is believed that the plan of organization is such as to secure unity of action among the members of the corps of experimentation and at the same time preserve to each officer great freedom of action in promoting the interests of the special science of which he is in charge.

To increase the efficiency of the experiment station it is hereby resolved to define and extend its organization as follows:

1. The officers shall include the following:
  - (a) Farm superintendent.

- (b) Director of station.
- (c) Heads of divisions.

2. The work of the station shall be conducted in the following divisions, to which additions may be made as necessary, and to which responsible heads shall be assigned :

- (a) General field and grain farming.
- (b) Stock and dairying.
- (c) Horticulture.
- (d) Entomology and botany.
- (e) Veterinary.
- (f) Chemistry.

3. Duties. The heads of divisions with the director shall constitute and be known as the "corps of experimentation" to consider and devise in all matters necessary to the ends for which this station is organized. It shall issue quarterly bulletins of work accomplished by divisions and make annual reports to the board of regents.

The director shall be the chairman and corresponding secretary of the corps, and shall attend to issuing all bulletins and reports required from the corps.

The superintendent of the farm shall, under such instructions as may be given him by the board of regents, conduct the farm in the interests of the experiment station and the school of agriculture, and cultivate so much of the farm as is not required for experimentation with a view to economy and profit.

He shall keep an accurate inventory of property, record of expenditures and receipts, the cost and profit of each farm crop, etc., and make annual report to the board on or before the first of December of each year.

The heads of divisions shall each keep a journal of experiments proposed, in progress and completed, which record shall be open to the inspection of the board or its authorized committees.

4. Subordinate assistants.

(a) Farm accountant, whose duty shall be to keep all financial accounts of the farm, experiment station and the school, and to attend to such financial interests as are required by the director, heads of divisions, and the principal of the school, which accountant shall be under the special direction of the board of regents.

- (b) Farm foreman.
- (c) Assistants and help in divisions.

The supervision of the affairs of the station is committed to the executive committee under such instructions as the board may from time to time impose.

#### BUILDINGS.

The most pressing need of the university in respect to buildings in which to prosecute its work will be met whenever the new science hall and museum shall be finished. This building was begun in 1887. It is built of stone and has a front of two hundred and forty-five feet. It will furnish lecture rooms and laboratories for the work in geology, mineralogy, botany, zoology and physiology. It will also furnish accommodations for the officers of the geological survey; and one wing containing 4,000 square feet on each floor will be devoted to the museum. Provision is also made in this building for work in metallurgy and mining whenever the regents shall see fit to establish a school of mines. This building is now enclosed, but will hardly be ready for use the present year. Meanwhile the pressure for rooms large enough to accommodate our increasing classes is great, and shows conclusively that the erection of science hall was not begun a moment too soon. But even when this building shall have been finished there will remain the need of a larger chemical and physical laboratory, of a library building, of a medical college building, of a law college building, and of an observatory. The future prosperity of the university will be very much affected by the promptness or delay attending the erection of these buildings. If provision is made so that they can be erected as fast as they are really needed, the progress of the university is assured. If, however, a wavering policy should be adopted by the state, and the promise of one year be unfulfilled the next year, the progress of the university will thereby be greatly hindered. I do not however anticipate any trouble in this respect. The university is doing good work and is an honor to the state. The people of the state have shown their good will to the university in many ways, and I do not doubt that they will, through their representatives, see that adequate provision is made for prosecuting successfully the work of all departments of the university.

## THE DEPARTMENT OF LAW.

In the original charter of the university it was expressly provided that the colleges of law and of medicine should be established. The necessity for these departments has not, however, appeared to be imperative until the present year. During the last year many inquiries from students desiring to study law were addressed to the president of the university and it was apparent from the correspondence with these students that a law department in the university would meet a real want of the state. Accordingly in the spring of 1888 the regents voted to establish the department of law. Hon. William S. Pattee, of Northfield, a gentleman well known throughout the state, and respected both as an able lawyer and a man of the highest character, was at an early day elected professor of law and dean of the law faculty. Subsequently a number of the ablest lawyers in the state were invited to give courses of lectures in the law school, and all of them with a generous regard for the interests of legal education, consented to become lecturers on special branches of the law assigned to them, practically engaging to give their services to the university and thus to the state. The interest awakened in this department has been great and it will open its courses of study at the beginning of the year 1888-89 under the most encouraging circumstances. Temporary accommodations for the school have been provided in the main building of the university; but larger accommodations will be needed next year, when the number of students in attendance will be larger than in the law departments of some of the older eastern universities. The faculty of the law department as fully organized, is as follows:

Cyrus Northrop, LL.D., president.

Hon. Wm. S. Pattee, M. A., dean and professor of the law of contracts.

Hon. S. J. R. McMillan, lecturer on constitutional law.

Hon. Gordon E. Cole, lecturer on corporations.

Hon. Charles D. Kerr, lecturer on the law of partnership.

G. C. Ripley, B. A., lecturer on equity, jurisprudence and procedure.

Charles A. Willard, lecturer on the law of bailments.

Judge James O. Pierce, lecturer on the law of domestic relations.

- Hon. Charles E. Flandreau, lecturer on the law of torts.  
 Hon. George B. Young, lecturer on the conflict of laws.  
 John B. Atwater, B. A., lecturer on the law of real property.  
 Hon. C. D. O'Brien, lecturer on criminal law and procedure.  
 George N. Baxter, lecturer on common law and code pleading.  
 Hon. W. D. Cornish, lecturer on life and fire insurance.  
 Judge John M. Shaw, lecturer on evidence.  
 Judge P. M. Babcock, lecturer on wills and administration.  
 Charles H. Boardman, M. D., professor of medical jurisprudence.  
 Charles W. Bunn, lecturer on suretyship and mortgages, practice in United States courts.  
 Sumner Ladd, lecturer on the law of taxation.

The regents have adopted the principle of charging fees for instruction in the professional schools. This is as it should be. I remarked in my first biennial report: "There is a limit beyond which free education should not go. In my judgment the line should be drawn at professional education." The regents have so decided. They do not, however, charge such fees as will pay all the expenses of the professional schools, much less erect the necessary buildings and provide the required apparatus. Instruction in law and medicine is necessary in the state; and the state can well afford to erect at once the modest and comparatively inexpensive building which will be required to accommodate the law school. I have the greatest confidence in the success of the law department, and I believe that its establishment will be fully justified not only by the number and character of its students from the first, but also by the general utility to the state of the work that will be done in elevating the character and standing of the coming members of the bar.

#### THE DEPARTMENT OF MEDICINE AND SURGERY.

The old college of medicine, which did not exist as a teaching school, and was therefore but a *simulacrum* of a college, was abolished by the regents in the spring of 1888, and a new department of medicine and surgery was organized. This department embraces the college of medicine and surgery, the college of homeopathic medicine and surgery, and the college of dentistry. Three existing medical colleges, in St. Paul and Minneapolis, voluntarily surrendered their charters in view of the organiza-



tion of the medical department of the university, and from the faculties of these colleges the faculty of the medical department of the university was largely, though not exclusively, selected. The course of instruction covers a period of three years, the instruction each year extending through six months. The department will open Oct. 1, 1888. The requisites for admission are much higher than have heretofore been required for admission to medical colleges in this state, and the result will undoubtedly be that a much smaller number of students will be in attendance the first few years than would be if the requirements were less and the standard of scholarship were lower. But what is lost in the number of students will, it is hoped, be made up in the greater excellence and attainments of those who do attend. But whether the number of students shall be small or great, the department will maintain the standard which it has set up, and will thus not only do something to elevate medical education here at home, but will also strengthen the hands of other institutions that are seeking to improve medical education in other parts of our country.

The faculties of the various medical colleges as elected by the board of regents are as follows:

*The College of Medicine and Surgery.*

Cyrus Northrop, LL.D., president.

A. F. Ritchie, M. D., professor of anatomy.

Richard O. Beard, M. D., professor of physiology.

C. J. Bell, M. A., professor of chemistry.

H. M. Bracken, M. D., L. R. C. S. E., professor of materia medica and therapeutics.

Albert E. Senkler, M. D., professor of theory and practice of medicine.

Charles H. Hunter, A. M., M. D., professor of clinical medicine and pathology.

Everton J. Abbott, A. B., M. D., professor of clinical medicine.

Charles A. Wheaton, M. D., professor of principles and practice of surgery.

Frederick A. Dunsmoor, M. D., professor of clinical and operative surgery.

Perry H. Millard, M. D., dean and professor of clinical surgery.

Parks Ritchie, M. D., professor of obstetrics.

Alex. J. Stone, LL.D., M. D., professor of diseases of women.  
Amos W. Abbott, M. D., clinical professor of diseases of women.

John F. Fulton, Ph. D., M. D., professor of ophthalmology and otology.

Frank Allport, M. D., clinical professor of ophthalmology and otology.

C. Eugene Riggs, A. M., M. D., professor of diseases of the nervous system.

Charles H. Boardman, M. D., professor of medical jurisprudence.

Arthur B. Ancker, M. D., professor of hygiene.

James H. Dunn, M. D., professor of diseases of the genitourinary organs.

Chas. L. Wells, A. M., M. D., professor of diseases of children.

James E. Moore, M. D., professor of orthopædic surgery.

M. P. Vanderhorck, M. D., professor of diseases of the skin.

W. S. Laton, M. D., professor of diseases of the throat and nose.

J. Clark Stewart, B. S., M. D., professor of histology and bacteriology.

J. W. Bell, M. D., professor of physical diagnosis and diseases of the chest.

E. C. Spencer, A. B., M. D., professor of surgical anatomy.

A. B. Cates, A. M., M. D., adjunct professor of obstetrics.

W. A. Jones, M. D., adjunct professor of diseases of the nervous system.

Burnside Foster, M. D., demonstrator of anatomy.

*College of Homeopathic Medicine and Surgery.*

Cyrus Northrop, LL.D., president.

William E. Leonard, A. B., M. D., professor of materia medica and therapeutics.

Henry Hutchinson, M. D., professor of theory and practice of medicine.

George E. Ricker, A. B., M. D., professor of clinical medicine.

Robert D. Matchan, M. D., professor of the principles and practice of surgery.

Warren S. Briggs, B. S., M. D., professor of clinical surgery.

Henry C. Leonard, B. S., M. D., professor of obstetrics.

Albert E. Higbee, M. D., professor of gynecology.

John F. Beaumont, M. D., professor of ophthalmology.

Henry W. Brazie, M. D., professor of paedology.

Salathiel M. Spaulding, M.D., professor of mental and nervous diseases.

Eugene L. Mann, A. B., M. D., professor of physical diagnosis and laryngology.

B. Harvey Ogden, A. M., M. D., professor of genito-urinary diseases.

Henry C. Aldrich, M. D., D. D. S., professor of dermatology.

D. A. Strickler, M. D., professor of otology.

*College of Dentistry.*

Cyrus Northrop, LL.D., president.

Charles M. Bailey, D. M. D., professor of prosthetic dentistry and materia medica.

Thomas E. Weeks, D. D. S., professor of operative and clinical dentistry.

Edward H. Angle, D. D. S., professor of histology and orthodontia.

L. D. Leonard, professor of pathology and therapeutics.

A. F. Ritchie, M. D., professor of anatomy.

Richard O. Beard, M. D., professor of physiology.

C. J. Bell, M. A., professor of chemistry.

The university has acquired by lease the right to use the medical college building in St. Paul, and the hospital college building in Minneapolis, for purposes of medical instruction for a period of five years. I do not think that the needs of the department can possibly be met by these buildings for five years to come. Provision should therefore be made at as early a day as possible for the erection of a building on the university campus, to accommodate all the colleges of the medical department and furnish ample lecture rooms and laboratories. The union of the different parts of the university should be not nominal but vital. And no more sure method of securing such vital union of the medical and literary and scientific departments can be found than to so place the departments as to enable the students of all to reap the benefit of the thorough scientific work done in the non-professional schools, a knowledge of which will be of the greatest value to the student of medicine.

## THE PROFESSORSHIP OF MILITARY SCIENCE AND TACTICS.

The most strenuous efforts have been made for a number of years by the board of regents to secure from the war department the detail of an officer of the regular army to fill the chair of military science and tactics in the university. It is unnecessary to enumerate all the difficulties that have been met during these years of patient waiting for what we had so long and with apparent justice asked for. The end, however, has at last come, and Lieut. Edward F. Glenn, of the twenty-fifth infantry, has been detailed by the president as professor of military science and tactics in the university of Minnesota. He will report for duty at the university at once, and will engage actively in the instruction of the institution as well as in directing the exercises of the students in military drill. What regulations shall be established respecting the instruction in military science—whether it shall be a required or an elective study, whether a uniform shall be required for those who form the military company, what amount of time shall be devoted to drill—these and many kindred questions must ultimately be settled by the regents. I am not disposed to offer any suggestions in reference to them until I have conferred with Lieut. Glenn and have ascertained his views and wishes.

## LADIES' HALL.

I have no doubt that the erection of a ladies' hall near the university, for the accommodation of ladies who desire to attend the university, would be of very great benefit, and would tend to increase the number of female students. Parents who reside outside of Minneapolis, and therefore can not personally care for their daughters in attendance at the university, are naturally anxious that their daughters should be under the care of some proper person, who will watch over their welfare. A ladies' hall under the care of an efficient lady superintendent, would meet the requirements of the case; and if the number of female students in the university is to remain relatively as large as at present, some such provision must be made. I commend the subject to the attention of the board.

## THE LIBRARY.

I submit herewith the biennial report of the librarian of the university. While I am glad to note the increase in the number of volumes in the library and am especially pleased that very valuable additions have been made the past year, I yet feel that in this age of new books and of progress in almost every direction of study, the library of the university does not grow as rapidly as the best interests of the university require. I respectfully call the attention of the regents to some special needs pointed out by the librarian in his last report, and referred to in the report herewith submitted.

I close this, my second biennial report, with a feeling of deep gratitude for the blessings of the past two years—peace, progress, encouragement; and I look forward to the results of the coming year with hope and confidence.

CYRUS NORTHROP,

*President.*

## APPENDIX "A."

At the fifteenth annual commencement, held June 12, 1887, the following persons received degrees:

## COLLEGE OF SCIENCE, LITERATURE AND ARTS.

*Bachelors of Arts.*

Henry Webb Brewster.....	Minneapolis
Joshua Ethan Gilman.....	Wasioja
Alfred Burt Gould.....	Wasioja
George Harry Hammond.....	Lake City
Millard Everett Hinshaw.....	Minneapolis
Ralph Murdoch McKenzie.....	Anoka
Joseph Henry Rosselot.....	Faribault

*Bachelors of Science.*

Franklin Hurley Bassett.....	Glyndon
Norton Murdock Cross.....	Minneapolis
Thomas Henry Crowell.....	St. Paul
Adelbert Orsman Dinsmoor.....	Austin
Christopher Graham.....	Rochester
John Blackstock Hawley.....	Red Wing
Jesse Doddridge Hinshaw.....	Minneapolis
Lowell Andrew Lamoreaux.....	Minneapolis
Milton Sprague Lamoreaux.....	Minneapolis
Edwin Arthur McKinney.....	Crow River
William Patton Milliken.....	Lake City
Ingeval M. Olson.....	St. Peter

*Bachelors of Literature.*

George Edwin Burnell.....	Minneapolis
Elwood Allen Emery.....	Minneapolis
Everson Ryder McKinney.....	Crow River
Mary Isadore Smith.....	Minneapolis
Edward Winterer.....	Le Sueur

*Master of Arts.*

George Briggs Aiton, A. B., '81.....	Minneapolis
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THE COLLEGE OF MECHANIC ARTS.

*Bachelor of Civil Engineering.*

Fremont Crane, V. S., '86.....Mapleton

*Bachelor of Mechanical Engineering.*

George Cutler Andrews.....Minneapolis

COLLEGE OF AGRICULTURE.

*Bachelor of Agriculture.*

Jeremiah Ignatius Donohue, B. S., '84.....

COLLEGE OF MEDICINE.

*Bachelors of Medicine.*

Catherine E. Burns.....Hopkins

E. F. Conynghame.....Minneapolis

At the sixteenth annual commencement, held June 7, 1888,  
the following persons received degrees:

COLLEGE OF SCIENCE, LITERATURE AND ARTS.

*Bachelors of Arts.*

Percival Ramsey Benson.....Anoka

Albert Ernest Fillmore.....Minneapolis

Albert Graber.....Minneapolis

Francis Newton Stacey.....Monticello

Helmus Wells Thompson.....Wells

William Dodsworth Willard.....Mankato

*Bachelors of Science.*

Bruno Bierbauer.....Mankato

Edna Cook.....Minneapolis

Albert Ames Finch.....Hastings

\*Ulysses Sherman Grant.....Minneapolis

Walter Benjamin Holmes.....Faribault

Edwin Bird Johnson.....Marshall

Arthur Teall Mann.....Minneapolis

Sumner Warren Matteson, Jr.....Decorah, Iowa

Melville Emerson Reed.....Hastings

Warren Cogswell Rowell.....Winona

Dow Samuel Smith.....Minneapolis

John Lucius Torrens.....Oakland

\*"Fellow of the University of Minnesota," for the year 1888-'89, by election of the University Fellowship Association.

*Bachelors of Literature.*

Alice Anna Adams.....	Minneapolis
Lucy Lloyd Baker.....	Minneapolis
Mary Lizzie Blanchard.....	Zumbrota
Ina Firkins.....	Minneapolis
Severt Germon.....	Medo
Florence Ellen Gideon.....	Excelsior
Fred. Ezra Hobbs.....	Winona
Susan Hawley Olmstead.....	New Haven, Conn.
Sadie Belle Pillsbury.....	Minneapolis
Olivia Canby Porter.....	Minneapolis
Anna Shillock.....	Minneapolis
Johannes Jens Skördalsvold.....	Minneapolis
Charles Thompson.....	No. Yarmouth, Me.
Ima Caroline Winchell.....	Minneapolis

*Master of Science.*

John Henry Barr, B. M. E., 1883.....	Minneapolis
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*Doctor of Philosophy.*

Charles Burke Elliott, LL.B., 1881 (Iowa State University) .....	Minneapolis
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## COLLEGE OF MECHANIC ARTS.

*Bachelors of Civil Engineering.*

Christian Anderson.....	Spring Valley
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*Bachelors of Mechanical Engineering.*

Eric Halderson Loe.....	Minneapolis
John Morris.....	Bristol

*Civil Engineer.*

William Ricketson Hoag, B. C. E., 1884.....	Minneapolis
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## APPENDIX "B."

The following tables exhibit the enrollment and classification of the students:

## SUMMARY — 1886-87.

DEPARTMENT.	Class.	Gentlemen	Ladies.	Totals.
Graduate Students.....		16	6	22
College of Science, Literature and Arts.....	Senior.....	23	1	24
	Junior.....	21	12	33
College of Mechanic Arts.....	Senior.....	2		2
	Junior.....	4		4
College of Science, Literature and Arts, and Mechanic Arts.....	Sophomore.....	24	9	33
	Freshman.....	77	21	98
	Sub-Freshman.....	69	29	98
	Special.....	24	19	43
School of Practical Mechanics and Design.....	Artisans' A.....	6		6
	Artisans' B.....	15		15
	Artisans' C.....	13		13
	Artisans' D.....	7		7
School of Practical Agriculture.....		14		14
Totals.....		315	97	412

## SUMMARY — 1887-88.

DEPARTMENT.	Class.	Gentlemen.	Ladies.	Totals.
Graduate Students.....		17	4	21
College of Science, Literature and Arts.....	Senior.....	22	11	33
	Junior.....	20	12	32
College of Mechanic Arts.....	Senior.....	3		3
	Junior.....	1		1
College of Science, Literature and Arts, and Mechanic Arts.....	Sophomore.....	59	12	71
	Freshman.....	78	28	106
	Sub-Freshman.....	43	9	52
	Special.....	24	33	57
School of Practical Mechanics and Designs.....	Division A.....	15		15
	Division B.....	4		4
	Division C.....	36		36
	Division D.....	28	30	58
School of Practical Agriculture.....		10		10
		360	139	499
Twice counted.....		3	5	8
Totals.....		357	134	491

## APPENDIX "C."

The following statement shows the towns from which came candidates for admission to the university, who presented certificates of the state high school board—also the number of certificates presented from each town represented—and the subjects upon which the certificates were given.

In the year 1886–87: Alexandria, 2; Austin, 18; Browns Valley, 5; Dodge Centre, 3; Elk River, 12; Farmington, 4; Glencoe, 8; Hastings, 19; Henderson, 16; Howard, 9; Hutchinson, 34; Le Sueur, 10; Mankato, 10; Minneapolis Academy, 11; Ortonville, 9; Rochester, 3; Luverne, 21; Stillwater, 17; St. Peter, 33; Spring Valley, 33; Sauk Centre, 18; Willmar, 4.

In the year 1887–88: Albert Lea, 10; Austin, 11; Alexandria, 25; Cannon Falls, 10; Elk River, 20; Fergus Falls, 10; Glencoe, 10; Faribault, 16; Hutchinson, 16; Monticello, 23; Montevideo, 19; Mantorville, 2; New Ulm, 13; Redwood, 13; Rushford, 8; Rochester, 10; Stillwater, 9; Spring Valley, 36; Kasson, 5; Litchfield, 16; Wadena, 8; Sleepy Eye, 5; Owatonna, 15; Minneapolis Academy, 4.

The certificates presented were as follows :

In 1886–87: Arithmetic, 29; elementary algebra, 21; plane geometry, 22; geography, 2; United States history, 20; general history, 18; physiology, 23; English grammar, 20; Latin grammar, 18; Cæsar, 20; Cicero, 11; Greek grammar, 2; physical geography, 19; natural philosophy, 25; higher algebra, 9; solid geometry, 9; Anabasis, 3; Virgil, 10; chemistry, 11; botany, 7.

In the year 1887–88: English grammar, 22; English composition, 10; arithmetic, 30; elementary algebra, 31; plane geometry, 25; history of Greece and Rome, 16; United States history, 32; physiology, 29; Latin grammar, 15; Cæsar, 11; Cicero, 7; higher algebra, 8; solid geometry, 10; Virgil, 3; chemistry, 11; botany, 6; physical geography, 23; natural philosophy, 15; history of England, 8; Greek grammar, 1; Anabasis, 1.

## TREASURER'S REPORT.

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H. P. BROWNE, TREASURER,

*In Account with the University of Minnesota for the Fiscal Year  
Ending July 31, 1887.*

### CURRENT EXPENSES.

	DR.	CR.
1886.		
Aug. 1. By balance from last statement .....		\$33, 833 42
Aug. 16. By cash from state treasurer on auditor's warrant.....		4,202 79
Aug. 30. By cash from state treasurer on auditor's warrant.....		1,895 41
Oct. 6. By cash from state treasurer on auditor's warrant.....		6,410 33
Oct. 12. By cash from high school board for services		146 74
Oct. 30. By cash from state treasurer on auditor's warrant.....		10,743 46
Dec. 2. By cash from state treasurer on auditor's warrant.....		7,420 80
Dec. 24. By cash from state treasurer on auditor's warrant.....		8,438 48
1887.		
Jan. 31. By cash from state treasurer on auditor's warrant.....		6,516 79
Mar. 9. By cash from state treasurer on auditor's warrant .....		8,397 94
April 7. By cash from state treasurer on auditor's warrant.....		6,594 90
May 10. By cash from state treasurer on auditor's warrant, part of April expenses.....		5,000 00
June 28. By cash from state treasurer on auditor's warrant, balance of April expenses.....		3,032 33
June 28. By cash from state treasurer on auditor's warrant, May and June expenses.....		15,446 94

	DR.	CR.
1887.		
July 28. By paid high school boards for clerical services .....		\$400 00
July 28. By deposit retained from artisans' training school .....		10 25
July 31. By balance transferred from chemical laboratory account .....		245 24
July 31. By balance transferred from student's fees account .....		2,905 00
July 31. By balance transferred from water supply account .....		402 93
1887.		
July 31. To balance transferred from account "campus" .....	\$141 72	
July 31. To balance transferred from account college of agriculture .....	7,457 27	
July 31. To balance transferred from account college of mechanic arts .....	803 60	
July 31. To balance transferred from account employes .....	5,931 92	
July 31. To balance transferred from account farmers institutes .....	1,336 05	
July 31. To balance transferred from account heating and fuel .....	4,023 93	
July 31. To balance transferred from account incidentals .....	3,253 80	
July 31. To balance transferred from account library .....	1,256 52	
July 31. To balance transferred from account laboratory of biology .....	573 93	
July 31. To balance transferred from account laboratory of geology and mineralogy .....	91 20	
July 31. To balance transferred from account physical laboratory .....	1,835 06	
July 31. To balance transferred from account printing and advertising .....	1,039 91	
July 31. To balance transferred from account repairs .....	384 09	
July 31. To balance transferred from account salaries for instruction .....	49,025 00	
July 31. To balance transferred from account stationery and postage .....	568 43	
July 31. To balance transferred from account Prof. Pike's book .....	81 86	
July 31. To balance carried to new account .....	44,289 46	
	<hr/> \$122,093 75	<hr/> \$122,093 75
Aug. 1. By Balance .....		<hr/> <u>\$44,289 46</u>

## APPARATUS FOR COLLEGE OF MECHANIC ARTS BUILDING.

1886.		No. of Voucher.	DR.	CR.
Aug. 14.	C., M. & St. P. Ry. Co., freight on machinery.....	6	\$34 06	
Aug. 16.	M. Electric Light & Cons. Co., lighting fixtures, etc.....	7	176 30	
Aug. 28.	C., M. & St. P. Ry. Co., freight on machinery .....	11	140 86	
Sept. 18.	J. S. McClary, work on benches, etc...	45	91 50	
Sept. 18.	B. F. Sturtevant, two blast gates.....	46	4 13	
Sept. 20.	Robinson & Cary, Bailey drill.....	52	18 00	
Sept. 20.	I. Ross & Co., hasps for desks.....	53	7 00	
Sept. 20.	E. Gould & Eberhardt, shapers and attachments.....	54	251 00	
Sept. 20.	The Egan Co., Eureka planer.....	55	120 25	
Sept. 20.	P. Blaisdell & Co., one 6, 14 lathe.....	56	186 00	
Sept. 20.	Prentice Bros., two lathes, tools, etc...	57	182 25	
Sept. 20.	F. E. Reed, two engine lathes.....	58	318 00	
Sept. 20.	The Pratt & Whitney Co., engine lathes, etc.....	59	436 90	
Sept. 20.	Betts Machinery Co., Crescent flat bar gauges.....	60	63 08	
Sept. 20.	H. B. Smith Machinery Co., one jig saw.....	61	38 50	
Sept. 25.	Clough Bros., material .....	67	27 91	
Oct. 5.	C., M. & St. P. Ry. Co., freight on machinery.....	76	44 05	
Oct. 9.	E. E. Garvin & Co., No. 10 lathe.....	77	51 00	
Oct. 9.	H. J. Green, expressage on barometer.	78	2 75	
Oct. 9.	Springfield Emery Wheel Co., emery tool grinder.....	80	72 00	
Oct. 9.	H. B. Smith Machine Co, knife grinder	81	8 16	
Oct. 9.	New Haven Manufacturing Co., No. 4½ planer.....	82	336 80	
Oct. 9.	Hill, Clark & Co., grindstones and frames.....	84	37 00	
Oct. 9.	Robinson & Cary, power lathes.....	85	124 00	
Oct. 13.	Johnson & Hurd, drawing tables.....	87	275 00	
Oct. 20.	Hill, Clarke & Co, Flather lathe, etc..	91	409 00	
Oct. 20.	Riehle Bro's, testing machine, etc.....	92	118 75	
Oct. 29.	Brown & Sharp Manufacturing Co., milling machine, etc.....	107	559 80	
Nov. 6.	E. S. Grindall, drayage on machinery	117	75 00	
Nov. 11.	C. H. Ermentrout & Co., blackboards	121	275 00	
Dec. 6.	Trainer Bros., engine and boiler, furnace, etc.....	155	432 00	

		No. of	DR.	CR.
		Voucher.		
1886.				
Dec. 6.	W. A. Pike, paid for setting up engine	158	\$25 00	
Dec. 7.	Prentice Bros., slide head and drill....	160	165 00	
Dec. 8.	J. H. Kerrick, wood lathes and drill press.....	165	405 00	
Dec. 8.	Pray Manufacturing Co., bracket stands, etc.....	168	70 84	
Dec. 11.	Lockwood, Upton & Co., material and labor.....	174	7 98	
Dec. 11.	Lockwood, Upton & Co, castings.....	175	17 25	
Dec. 13.	Lodge, Davis & Co., 16 inch lathe, etc.	176	215 00	
Dec. 14.	Miller Bros. & Fletcher, sundry articles furnished.....	178	270 09	
Dec. 23.	C., M. & St. P. Ry. Co., freight on ap- paratus.....	181	42 60	
Dec. 23.	Robiusion & Cary, pulleys, shafts, etc.	182	432 07	
Dec. 23.	Buckeye Engine Co., Buckeye engine complete.....	185	1,400 00	
Dec. 23.	C. D. Hilferty, help putting in shafting	187	6 15	
Dec. 24.	Littlefield & Son, forges, etc., per con- tract.....	199	143 35	
1887.				
Jan. 7.	Ashcroft Manufacturing Co., labor in- dicator.....	214	63 25	
Jan. 8.	W. R. Hoag, paid for moving apparatus	216	17 37	
Jan. 15.	John Buckham, setting up machinery	218	68 75	
Jan. 15.	C. H. Dakin, setting up machinery.....	219	54 00	
Jan. 20.	Robinson & Cary, sundry tools, etc.....	222	106 20	
Jan. 21.	Smith & Wyman, four cases for appa- ratus.....	224	137 00	
Jan. 22.	S. J. McCarthy, tools.....	228	33 24	
Feb. 1.	E. T. Sykes & Co., sundry tools and supplies.....	232	3 08	
Feb. 9.	E. H. Loe, setting up machinery.....	238	18 75	
Feb. 10.	Geo. J. Barnes, Barnes' calorimeter...	240	35 00	
Feb. 10.	F. S. Martin & Co., sundry supplies...	246	2 17	
Feb. 16.	American Express Co., apparatus sent C. O. D.....	258	271 65	
Mar. 3.	E. S. Grindall, drayage on machinery.	269	12 00	
Mar. 17.	C. C. Dennis & Co., belts, pulleys, etc.	273	230 24	
Mar. 19.	S. J. McCarthy, sundry tools, etc.....	276	23 00	
Mar. 21.	Preston & Nott, belting, etc.....	280	127 77	
Mar. 21.	E. T. Sykes & Co., sundry supplies....	283	5 90	
Mar. 26.	Lockwood, Upton & Co., sundry tools, pulleys, etc.....	289	34 26	
Mar. 30.	Minneapolis Electric Light & Con- struction Co., electric lamps, brack- ets, etc.....	290	195 55	

		No. of	DR.	CR.
		Voucher.		
1887.				
April 11.	Miller Bros. & Fletcher, tools and apparatus.....	299	\$150 98	
April 13.	Preston & Nott, belting.....	301	6 53	
April 25.	Ashcroft Manufacturing Co., pyrometer, gauge, etc.....	319	48 75	
April 26.	R. Peet & Co., castings.....	320	7 50	
April 29.	C. C. Dennis & Co., belting.....	322	9 20	
April 30.	Littlefield & Son, iron tanks, lamps, etc.....	326	19 10	
May 16.	Ashcroft Manufacturing Co., testing machine, etc.....	343	102 50	
May 21.	Fairbanks, Morse & Co., scales, etc.....	346	9 60	
May 28.	Chicago, Milwaukee & St. Paul Railway Co., freight on apparatus.....	351	46 00	
July 31.	By balance carried to account of mechanic arts building.....			\$9,955 72
			<u>\$9,955 72</u>	<u>\$9,955 72</u>

## BUILDING ACCOUNT—COLLEGE OF MECHANIC ARTS.

		No. of	DR.	CR.
		Voucher.		
1886.				
Aug. 10.	S. C. Cutter, payment on contract.....	4	\$5,000 00	
Sept. 13.	S. C. Cutter, payment on contract.....	41	4,000 00	
Sept. 22.	R. Lussier, labor on building.....	63	14 44	
Nov. 15.	Wheaton, Reynolds & Co., mouldings, etc.....	135	16 22	
Nov. 16.	Ball & Naylor, oil and waste.....	138	7 50	
Nov. 19.	Simmons & Jamieson, ten cars brick...	141	1,112 50	
Nov. 19.	St. P. M. & M. Ry. Co., freight or switching charges.....	142	25 00	
Dec. 4.	E. T. Sykes & Co., on contract, steam connections, etc.....	151	700 00	
Dec. 7.	Herbert Chalker, stone steps as per contract.....	163	250 00	
Dec. 24.	Walter Babcock, painting rooms in basement.....	189	65 00	
Dec. 24.	Walter Babcock, painting and finishing	191	62 03	
Dec. 24.	F. S. Martin & Co., material and labor	195	16 65	
Dec. 24.	F. S. Martin & Co., material and labor	196	17 17	
Dec. 24.	Littlefield & Son, ventpipe.....	200	17 50	
Dec. 30.	Merriman, Barrows & Co., lumber, etc. furnished.....	208	11 42	
1887.				
Jan. 21.	S. C. Cutter, payment on contract.....	225	3,000 00	
Feb. 1.	E. T. Sykes & Co., balance on contract, steam fitting, etc.....	231	371 12	

## BIENNIAL REPORT

1887.		No. of Voucher.	DR.	CR.
Jan. 8.	Barnard Bros. & Cope, six dozen chairs	215	\$144 00	
Apr. 12.	N. W. Cement & C. P. Co., floor in forge shop.....	300	194 00	
Apr. 29.	S. C. Cutter, balance on contract.....	321	1,462 26	
July 31.	To balance from account apparatus mechanic arts.....		9,955 72	
July 31.	By balance carried to account build- ing fund.....			\$26,442 53
			<u>\$26,442 53</u>	<u>\$26,442 53</u>

## SCIENCE HALL BUILDING.

1887.		No. of Voucher.	DR.	CR.
July 20.	Minneapolis Tribune Co., advertising for bids.....	398	\$6 00	
July 20.	St. Paul Dispatch, advertising for bids	399	2 00	
July 20.	Pioneer Press Co., advertising for bids	400	15 00	
July 23.	Trainor Bros., payment on foundation	405	1,500 00	
July 31.	By balance carried to account building fund.....			\$1,523 00
			<u>\$1,523 00</u>	<u>\$1,523 00</u>

## SEWERAGE.

1886.		No. of Voucher.	DR.	CR.
Sept. 14.	Youngren & Gleason, payment on con- tract.....	42	\$1,000 00	
Oct. 5.	Youngren & Gleason, payment on con- tract.....	75	1,200 00	
Oct. 27.	Minn. Tribune Co, advertising for bids	95	27 00	
Nov. 13.	Youngren & Gleason, payment on con- tract.....	126	2,562 19	
1887.				
May 5.	John Gleason & Co., balance due on contract.....	334	356 22	
July 31.	By balance carried to account building fund.....			\$5,145 41
			<u>\$5,145 41</u>	<u>\$5,145 41</u>



BUILDING FUND ACCOUNT.

	DR.	CR.
1886.		
Aug. 1. By balance from last statement.....		\$19,872 10
Oct. 6. By cash from state treasurer on auditor's warrant.....		10,000 00
Dec. 17. By cash from state treasurer on auditor's warrant.....		8,000 00
1887.		
May 17. By cash from state treasurer on auditor's warrant.....		18,000 00
July 31. By balance from account heating apparatus, more than this amount having been used from building account.....		1,674 80
July 31. To balance brought from sewerage account..	\$5,145 41	
July 31. To balance brought from science hall account	1,523 00	
July 31. To balance brought from college of mechanic arts building.....	26,442 53	
July 31. To balance to new account.....	24,435 96	
	<u>\$57,546 90</u>	<u>\$57,546 90</u>
Aug. 1. By balance.....		\$24,435 96

HEATING APPARATUS.

	DR.	CR.
1886.		
Aug. 1. By balance from last statement.....		\$1,674 80
1887.		
July 31. To balance to account building fund.....	\$1,674 80	
	<u>\$1,674 80</u>	<u>\$1,674 80</u>

CHEMICAL LABORATORY.

	No. of Voucher.	DR.	CR.
1886.			
Sept. 8. James A. Dodge, sundry bills paid by him.....	29	\$257 74	
Sept. 18. Bullock & Crenshaw, supplies for department .....	47	5 69	
Sept. 18. Noyes Bros. & Cutler, supplies for department.....	50	40 02	
Oct. 9. E. B. Benjamin, supplies for department .....	83	288 39	
Oct. 27. J. A. Dodge, freight paid on merchandise .....	98	13 92	
Dec. 24. Geo. Huhn & Co., two barrels gasoline, etc.....	192	26 33	

## BIENNIAL REPORT

		No. of Voucher.	DR.	CR.
1887.				
Mar. 22.	Noyes Bros. & Cutler, supplies for department .....	236	\$9 51	
April 15.	Geo. Huhn & Co., one barrel gasoline..	310	14 18	
June 27.	Geo. Huhn & Co., supplies for department.....	375	1 65	
1886.				
Oct. 5.	By cash from J. A. Dodge, 20 per cent of fees for extra work.....			\$278 00
1887.				
Jan. 3.	By cash from J. A. Dodge, received as students' fees.....			162 00
Mar. 1.	By cash from J. A. Dodge, received as students' fees.....			100 00
April 4.	By cash from J. A. Dodge, 20 per cent of fees for extra work.....			80 00
June 1.	By cash from J. A. Dodge, as students' fees in that department.....			82 67
June 27.	By cash from J. A. Dodge, 20 per cent of fees for extra work.....			200 00
July 31.	To balance carried to current expense account.....		245 24	
			<u>\$902 67</u>	<u>\$902 67</u>

## CAMPUS.

		No. of Voucher.	DR.	CR.
1886.				
April 6.	Chas. Thompson, 246 hours labor at 15 cents .....	25	\$36 90	
April 6.	Chas. Thompson, 270 hours labor at 15 cents .....	26	40 50	
Nov. 5.	C. W. Jackson, labor on campus.....	116	7 42	
Nov. 13.	C. W. Jackson, labor on campus.....	130	7 20	
Dec. 23.	C. W. Jackson, labor on campus.....	186	7 20	
1887.				
May 31.	R. B. Dickey, <i>et al.</i> , trees, etc.....	357	42 50	
July 31.	By balance carried to current expense account.....			\$141 72
			<u>\$141 72</u>	<u>\$141 72</u>

## COLLEGE OF AGRICULTURE, OR EXPERIMENTAL FARM.

		No. of Voucher.	DR.	CR.
1886.				
Sept. 11.	Edward D. Porter, farm pay roll for July.....	39	\$797 04	
Sept. 18.	A. W. Scott, repairs, etc., at farm.....	49	79 55	
Oct. 18.	E. D. Porter, farm pay roll for August	88	619 28	

1886.		No. of Voucher.	DR.	CR.
Oct. 20.	Thompson Harness Co., harness, repairs, etc.....	89	\$58 50	
Oct. 20.	E. D. Porter, farm pay roll for September.....	93	595 01	
Oct. 20.	W. H. Walmsley & Co., merchandise..	94	11 35	
Nov. 13.	Pioneer Press Co, engravings, etc., for catalogues.....	123	91 00	
Nov. 13.	Fairbanks, Morse & Co., repairs. etc., for wind mills.....	124	54 93	
Nov. 15.	Johnson, Smith & Harrison, printing for this department.....	131	18 50	
Nov. 15.	E. D. Porter, farm pay roll for October	132	531 16	
Nov. 15.	Frisk & Howard, repairing machinery, etc.....	133	33 00	
Nov. 15.	Driscoll & Forsyth, repairing machinery, etc.....	134	20 55	
Nov. 15.	Geo. Huhn & Co., merchandise.....	136	41 10	
Nov. 16.	Weiskopf Bros., paints, oils, etc.....	137	26 48	
Nov. 18.	Littlefield & Son, material and labor..	139	6 08	
Dec. 4.	C. C. Lyford, V. S., visits and medicine	150	40 09	
Dec. 8.	E. D. Porter, farm pay roll for November.....	166	480 00	
1887.				
Jan. 10.	E. D. Porter, farm pay roll for December .....	217	350 00	
Feb. 9.	Miller Bros. & Fletcher, sundry hardware bills.....	239	42 59	
Feb. 10.	E. D. Porter, sundry expenses.....	248	244 60	
Feb. 11.	Rugg, Fuller & Co., supplies.....	251	18 19	
Feb. 15.	Minnesota Linseed Oil Co., oil meal for stock.....	256	29 90	
Feb. 16.	E. D. Porter, farm pay roll for January .....	259	415 65	
Mar. 21.	E. D. Porter, farm pay roll for February.....	279	340 00	
Mar. 31.	E. D. Porter, postage for mailing reports .....	291	100 00	
Apr. 13.	D. L. Wellman, expenses on advisory committee .....	303	18 35	
Apr. 13.	D. D. Bunn, expenses on advisory committee.....	304	15 00	
Apr. 13.	G. W. Sprague, expenses on advisory committee .....	305	16 00	
Apr. 13.	L. H. Stanton, expenses on advisory committee .....	306	14 00	
Apr. 16.	E. D. Porter, farm pay roll for March..	313	321 00	
May 14.	E. D. Porter, farm pay roll for April..	341	399 31	
June 28.	Janney, Semple & Co., merchandise...	377	26 07	

## BIENNIAL REPORT

		No. of Voucher.	DR.	CR.
1887.				
June 28.	Janney, Semple & Co., merchandise...	378	\$47 20	
July 14.	E. D. Porter, farm pay roll for May...	393	776 35	
July 21.	E. D. Porter, farm pay roll for June...	401	779 44	
July 31.	By balance carried to current expense account.....			\$7,457 27
			<u>\$7,457 27</u>	<u>\$7,457 27</u>

## COLLEGE OF MECHANIC ARTS.

		No. of Voucher.	DR.	CR.
1886				
Aug. 19.	W. K. Hoag, paid for blanks, etc.....	8	\$2 45	
Sept. 8.	Cyrus Northrop, engraving and ex- pressage .....	33	17 47	
Nov. 13.	W. R. Hoag, petty expenses .....	129	5 54	
Nov. 30.	W. A. Pike, petty expenses.....	145	9 35	
Dec. 3.	Pioneer Press Co., card for artisan's training school.....	149	9 60	
Dec. 6.	Trainer Bros., removing furniture.....	156	2 80	
Dec. 6.	C. P. Stevens & Son, desks, etc.....	157	82 00	
Dec. 7.	Mrs. Miller, cleaning windows, etc....	150	9 00	
Dec. 7.	Journal Printing Co., advertising .....	164	8 00	
Dec. 11.	Minneapolis Tribune Co., advertising..	173	15 00	
Dec. 14.	H. J. Saunders, window shades.....	177	76 19	
Dec. 14.	John T. Lucas, tin cans, etc.....	179	3 50	
Dec. 15.	J. H. Barr, expenses of trip east to look for machinery, etc.....	180	180 80	
Dec. 23.	O. K. Wilson, labor.....	183	3 79	
Dec. 23.	O. K. Wilson, labor, cleaning, etc.....	184	5 25	
Dec. 24.	Minneapolis Electric Construction Co., putting in speaking tube.....	188	15 00	
Dec. 24.	Johnson, Smith & Harrison, printing pamphlets.....	198	25 00	
Dec. 29.	Star Lubricating Oil Works, oil.....	207	6 10	
1887.				
Jan. 22.	Zesbaugh & Burtliff, moldings, etc....	227	11 75	
Feb. 10.	Pray Manufacturing Co., supplies.....	244	1 00	
Feb. 10.	F. S. Martin & Co., material and labor..	245	24 34	
Feb. 14.	W. A. Pike, petty expenses paid.....	253	18 03	
Feb. 16.	Clough Bros., lumber.....	260	6 41	
Feb. 16.	Clough Bros., lumber.....	261	15 53	
Feb. 16.	Gray & Donaldson, hardware.....	262	1 25	
Feb. 19.	C. D. Whitall & Co., one dozen waste baskets .....	263	4 50	
Mar. 19.	E. B. Johnson, printing.....	275	2 00	
Mar. 19.	Chas. Anderson, clerical work.....	277	10 00	

1887.		No. of Voucher.	DR.	CR.
Mar. 21.	Star Lubricating Works, oil, grease, etc.	281	\$19 80	
Mar. 21.	E. T. Sykes & Co., supplies.....	282	79	
Mar. 22.	Ball & Naylor, supplies.....	285	1 90	
April 2.	C. D. Whittall & Co., sundry supplies..	294	1 60	
April 7.	E. C. Cauvet, sundry supplies.....	298	3 50	
April 15.	I. Ross & Co., sundry supplies.....	307	3 00	
April 16.	W. R. Hoag, petty expenses paid.....	315	9 22	
April 30.	O. K. Wilson, cleaning forge shop.....	324	1 50	
May 4.	J. P. Gilmore, sundry supplies.....	333	3 55	
May 5.	Trainor Bros., mason work and ma- terial.....	335	18 00	
May 7.	Clough Bros., lumber.....	336	25 24	
May 16.	T. J. Cornforth, supplies.....	344	6 75	
May 17.	I. Ross & Co, surveying pins.....	345	3 00	
May 30.	Harrison & Smith, envelopes, etc.....	356	10 75	
May 31.	W. A. Pike, sundry petty expenses paid	358	13 64	
May 31.	W. A. Pike, sundry petty expenses paid	359	13 50	
May 31.	Miller Bros. & Fletcher, supplies.....	360	13 60	
May 31.	Miller Bros. & Fletcher, supplies.....	361	9 03	
May 31.	Miller Bros. & Fletcher, supplies.....	362	23 56	
June 28.	Janney, Semple & Co., supplies.....	376	12 29	
July 23.	W. H. Yattaw, extra lumber in me- chanics' building.....	404	16 80	
July 28.	Cyrus Northrop, paid for cleaning building, etc.....	415	20 93	
July 31.	By balance carried to account current expense.....			\$803 60
			<u>\$803 60</u>	<u>\$803 60</u>

FARMER'S INSTITUTE.

1886.		No. of Voucher	DR.	CR.
Aug. 3.	O. C. Gregg, salary and expenses in July.....	1	111 96	
Aug. 28.	E. D. Porter, sundry expenses paid...	10	202 25	
Sept. 3.	O. C. Gregg, salary and expenses in August.....	20	108 33	
Nov. 9.	E. D. Porter, sundry expenses paid....	119	205 19	
1887.				
April 16.	O. C. Gregg, salary and expenses in work.....	316	708 32	
July 31.	By balance carried to account current expense.....			\$1,336 05
			<u>\$1,336 05</u>	<u>\$1,336 05</u>

## EMPLOYES.

1886.		No. of Voucher.	DR.	CR.
Aug 31.	Pay roll for August.....	15	\$251 66	
Sept. 7.	D. L. Kiehle, salary as secretary to September 1.....	38	75 00	
Sept. 30.	Pay roll for September.....	74	351 66	
Oct. 30.	Pay roll for October.....	113	391 66	
Nov. 4.	W. Wegner, salary as engineer to Nov- ember 1.....	115	72 50	
Nov. 30.	Pay roll for November.....	146	416 66	
Dec. 3.	D. L. Kiehle, salary as secretary to De- cember 1, auditing treasurer's ac- count \$10.....	148	85 00	
Dec. 24.	Pay roll for December.....	202	416 66	
1887.				
Jan. 19.	W. W. Dakin, janitor work.....	220	12 00	
Jan. 31.	Pay roll for January.....	230	431 66	
Feb. 28.	Pay roll for February.....	266	431 66	
Mar. 5.	D. L. Kiehle, salary as secretary to March 1.....	271	75 00	
Mar. 31.	Pay roll for March.....	293	431 66	
Apr. 30.	Pay roll for April.....	328	431 66	
May 14.	W. Wegner, one-half month salary as fireman.....	342	22 50	
May 23.	W. W. Folwell, salary as librarian.....	347	500 00	
May 31.	Pay roll for May.....	363	386 66	
June 2.	D. L. Kiehle, salary as secretary to June 1.....	366	75 00	
June 30.	H. P. Browne, salary as treasurer for year.....	383	400 00	
June 30.	Pay roll for June.....	388	371 66	
July 30.	Pay roll for July.....	417	301 66	
July 31.	By balance carried to account current expense.....			\$5,931 92
			<u>\$5,931 92</u>	<u>\$5,931 92</u>

## HEATING AND FUEL.

1886.		No. of Voucher.	DR.	CR.
Oct. 28.	George C. Moore, maple and basswood	105	169 88	
Nov. 13.	D. Fitzgerald, hauling wood.....	122	2 70	
Dec. 9.	George C. Moore, 165½ cords basswood	169	537 88	
Dec. 24.	V. Truesdell, coal and coke.....	194	756 14	
Dec. 31.	George C. Moore, 175½ cords basswood	210	570 38	

1887.		No. of Voucher.	DR.	CR.
Feb. 5.	George C. Moore, 152½ cords basswood	231	\$494 81	
Mar. 11.	George C. Moore, 133½ cords basswood	272	433 06	
Mar. 21.	St. P., M. & M. Ry. Co., freight on wood.....	284	29 52	
April 6.	D. Fitzgerald, hauling wood.....	295	12 00	
April 18.	Geo. C. Moore, 98½ cords basswood....	317	320 94	
April 30.	V. Truesdell, coal.....	323	371 76	
May 3.	V. Truesdell, coal and oak slabs.....	331	203 73	
May 3.	V. Truesdell, coal.....	332	92 25	
May 7.	Lakewood Cemetery Association, 20½ cords wood.....	337	60 75	
June 30.	Stacy, Oakley & Co., 34½ cords wood..	386	68 88	
June 28.	By W. W. Folwell, for wood sold to him .....			\$100 75
July 31.	By balance carried to account current expense .....			4,023 93
			<u>\$4,124 68</u>	<u>\$4,124 68</u>

INCIDENTALS.

1886.		No. of Voucher.	DR.	CR.
Aug. 4.	W. H. Yattaw, for labor, extra.....	2	\$7 00	
Aug. 4.	W. H. Yattaw, cleaning main building	3	50 00	
Aug. 24.	B. C. Riblet, making estimates on Mis- sissippi and Minnesota rivers. ....	9	24 70	
Sept. 1.	E. W. Pyle, merchandise.....	16	9 50	
Sept. 1.	Gray & Donaldson, merchandise.....	17	22 22	
Sept. 4.	Minneapolis Sash and Door Co., ma- terials.....	23	1 64	
Sept. 7.	Ball & Naylor, steam gauges.....	27	6 00	
Sept. 8.	Cyrus Northrop, sundry bills paid by him.....	30	46 74	
Sept. 8.	Cyrus Northrop, sundry bills paid by him.....	31	502 95	
Sept. 13.	James W. Day, ice bill to June 8.....	40	3 75	
Oct. 28.	H. R. Robinson, work and material in gymnasium .....	99	4 50	
Oct. 30.	Jas. W. Queen & Co., models for stere- ometry.....	109	37 65	
Oct. 30.	R. B. Lees, repairing desks, etc.....	111	8 50	
Nov. 6.	Mrs. Miller, cleaning house.....	118	6 00	
Nov. 29.	A. E. Kindervater, instruction in mili- tary exercises .....	144	150 00	
Dec. 1.	A. J. Warren, carpenter work .....	147	88 68	
Dec. 6.	Eastman, Bovey & Co., lumber, etc....	152	178 87	

		No. of Voucher.	DR.	CR.
1886.				
Dec. 6.	Gilfillan, Bidden & Willard, clerk's fees, etc. in N. P. suit.....	154	\$98 12	
Dec. 9.	Erie Telephone Co., bill for month of December.....	170	14 00	
Dec. 24.	Ball & Naylor, flue wire brush.....	197	2 25	
Dec. 28.	Wagner & Hochstatter, writing table..	204	5 50	
Dec. 28.	Wagner & Hochstatter, writing table..	205	5 50	
Dec. 28.	Gray & Donaldson, material furnished.	206	20 88	
Dec. 30.	Folds & Griffiths, carpeting, etc.....	209	26 28	
1887.				
Jan. 4.	Franklin Bazaar, nine dusters.....	211	5 00	
Jan. 5.	Eastman, Bovey & Co, lumber, etc....	212	15 63	
Jan. 7.	A. J. Schumacher, labor on surveying.	213	3 75	
Jan. 21.	James W. Day, ice to December 10....	223	7 48	
Jan. 21.	Erie Telephone Co., bills for October, November and January.....	226	42 00	
Feb. 4.	E. Buftou, plumbing, etc., in main building.....	233	700 00	
Feb. 8.	John Rainville, manual labor.....	235	14 37	
Feb. 9.	John Healey, carpenter work.....	236	14 12	
Feb. 9.	Edward Bug, carpenter work.....	237	12 00	
Feb. 11.	Sullivan & Farnham, basket grate.....	249	2 25	
Feb. 11.	Minneapolis Sash & Door Co., blinds and molding.....	250	11 45	
Feb. 12.	Eastman, Bovey & Co, flooring, ceiling etc.....	252	23 91	
Feb. 14.	Folds & Griffiths, rugs and shades.....	254	9 10	
Feb. 19.	C. D. Whitall & Co., supplies.....	264	48 00	
April 16.	J. S. Pillsbury, paid for dinners of board of regents.....	314	43 30	
April 16.	C. D. Whitall & Co., books for history department.....	314	46 85	
April 23.	Knute Nelson, expenses in attending meeting of board of regents.....	318	8 10	
May 2.	Louis Drake, thirty diplomas.....	329	37 50	
May 2.	Erie Telephone Co., bill for four months.....	330	56 65	
May 10.	F. W. Downs, work on ball grounds..	338	25 00	
June 30.	Erie Telephone Co., bill for two months.....	387	28 00	
July 1.	James W. Day, bill for ice to June 1..	389	6 70	
July 11.	C. D. Whitall & Co., books for history department.....	391	21 94	
July 18.	M. Lara & Co., matting.....	394	16 00	
July 23.	W. H. Yattaw, cleaning main building.....	403	50 00	
July 28.	Cyrus Northrop, sundry bills paid per statement.....	411	683 47	



	No. of Voucher.	DR.	CR.
1887.			
July 31. By balance carried to account current expenses .....			\$3,253 80
		<u>\$3,253 80</u>	<u>\$3,253 80</u>

LIBRARY.

	No. of Voucher.	DR.	CR.
1886.			
Sept. 8. Cyrus Northrop, sundry bills paid by him .....	32	\$332 79	
Sept. 18. Gustav E. Stechert, books.....	48	55 29	
Sept. 20. C. D. Whitall & Co., books.....	51	22 53	
Sept. 24. W. W. Folwell, paid for opening library in vacation.....	66	8 00	
Oct. 27. G. E. Stechert, books.....	96	22 55	
Oct. 27. W. H. Lowdurmik & Co., books.....	97	98 10	
Oct. 27. O. S. Breda, books.....	101	25 00	
Oct. 29. Mrs. Mary Brown, work in library.....	108	15 40	
Oct. 30. W. W. Folwell, freight, etc., paid on books.....	112	6 24	
Nov. 19. C. D. Whitall & Co., books.....	140	40 75	
1887.			
Feb. 10. Gustav E. Stechert, books.....	243	95 73	
Mar. 5. H. F. Nachtrieb, books.....	270	48 00	
Mar. 24. Gustav E. Stechert, books .....	288	69 28	
Mar. 28. Mrs. Mary Bowen, work in library.....	287	12 75	
April 6. J. B. Gilfillan, books.....	296	3 00	
April 30. J. H. Rosselot, work in library.....	325	14 55	
July 20. Gardener's Monthly, subscription.....	397	11 20	
July 28. Cyrus Northrop, sundry bills for books, etc., paid.....	413	381 60	
1886.			
Nov. 1. By W. W. Folwell, for books sold from library.....			\$6 24
1887.			
July 11. By balance carried to current expense...			1,256 52
		<u>\$1,262 76</u>	<u>\$1,262 76</u>

LABORATORY OF BIOLOGY.

	No. of Voucher.	DR.	CR.
1886.			
Oct. 30. W. H. Walmsley & Co., merchandise furnished .....	110	\$8 70	
Nov. 13. James W. Queen & Co., skeletons, etc.	125	495 00	
Nov. 13. C. W. Hall, sundry small expenses.....	127	10 92	
Nov. 13. H. F. Nachtrieb, sundry small expenses	128	11 01	
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## BIENNIAL REPORT

		No. of Voucher.	DR.	CR.
1887.				
April 15.	McCarthy & Courtney, labor and materials.....	308	\$14 57	
April 15.	H. H. Molloy, scalpels used in department.....	309	19 50	
April 16.	C. D. Haven & Co., lumber.....	312	4 02	
June 1.	H. F. Nachtrieb, petty expenses paid..	364	10 21	
July 31.	By balance carried to current expense.			\$573 93
			<u>\$573 93</u>	<u>\$573 93</u>

## LABORATORY OF GEOLOGY AND MINERALOGY.

		No. of Voucher.	DR.	CR.
1886.				
Aug. 12.	Eimer & Ament, material.....	5	\$5 40	
Sept. 23.	C. W. Hall, sundry bills paid.....	65	21 78	
Dec. 6.	Eastman, Bovey & Co., lumber, etc....	153	7 87	
1887.				
May 30.	J. P. Goode, carpenter work.....	353	10 23	
June 2.	A. C. Bausman, printing blanks.....	365	12 00	
June 25.	F. Heywood & Co., museum trays.....	374	5 00	
July 12.	C. W. Hall, petty expenses paid.....	392	6 77	
July 23.	Eastman, Bovey & Co., lumber, etc....	406	22 15	
July 31.	By balance carried to current expense			\$91 20
			<u>\$91 20</u>	<u>\$91 20</u>

## PHYSICAL LABORATORY.

		No. of Voucher.	DR.	CR.
1886.				
Sept. 17.	F. S. Jones, postage, freight, etc.....	44	\$3 12	
Nov. 29.	F. S. Jones, postage, freight, etc.....	143	3 75	
Dec. 7.	James W. Queen & Co., apparatus and materials .....	161	112 41	
Dec. 7.	E. S. Ritchie & Sons, apparatus and materials .....	162	108 93	
Dec. 8.	C. H. Ermentrout & Co., blackboards, etc.....	167	7 82	
Dec. 10.	Miller Bros. & Fletcher, material furnished.....	171	1 02	
Dec. 10.	Church & Graves, tables and screen frames.....	172	102 00	
Dec. 24.	Walter Babcock, repairing cases.....	190	3 82	
Dec. 24.	F. S. Jones, petty expenses.....	201	5 85	

	No. of Voucher.	DR.	CR.
1887.			
Feb. 10. Jas. W. Queen & Co., apparatus and materials .....	241	\$125 17	
Feb. 10. E. S. Ritchie & Sons, apparatus and materials.....	242	269 69	
Feb. 15. F. S. Jones, freight, cartage, etc., paid	257	12 40	
May 30. J. W. Queen & Co., apparatus and materials .....	354	272 97	
May 30. E. S. Ritchie & Sons, apparatus and materials .....	355	116 71	
June 20. Fred S. Jones, petty expenses.....	370	19 00	
July 19. Edison United Mf'g Co., electric light plant.....	395	670 40	
July 31. By balance carried to account current expense.....			\$1,835 06
		<u>\$1,835 06</u>	<u>\$1,835 06</u>

## PRINTING AND ADVERTISING.

	No. of Voucher.	DR.	CR.
1886.			
Aug. 31. Ariel Association, advertising.....	12	\$75 00	
Sept. 3. Chr. Brandt & Co., advertising.....	28	20 00	
Sept. 8. Cyrus Northrop, for sundry bills paid by him.....	34	77 45	
Oct. 20. Volkenbladet Publishing Co., advertising.....	90	20 00	
Dec. 24. Minneapolis Tribune Co., advertising.	193	6 00	
1887.			
Feb. 10. E. B. Johnson, printing slips.....	247	9 00	
April 13. Harrison & Smith, printing.....	302	60 00	
April 30. E. B. Johnson, printing.....	327	2 00	
May 3. Frank S. Lewis, advertising.....	340	20 00	
May 28. E. B. Johnson, printing.....	350	5 25	
June 21. Tribune Job Printing Co., printing calendars.....	372	366 00	
July 1. Sanford Niles, advertising .....	390	15 00	
July 19. Harrison & Smith, diplomas.....	396	32 75	
July 27. Tribune Job Printing Co., printing pamphlets.....	407	61 40	
July 28. W. T. Cole, sundry printing.....	409	27 75	
July 28. E. B. Johnson, sundry printing.....	410	198 35	
July 28. Cyrus Northrop, sundry bills paid by him .....	412	43 96	
July 31. By balance carried to account current expense.....			\$1,039 91
		<u>\$1,039 91</u>	<u>\$1,039 91</u>

## BIENNIAL REPORT

REPAIRS.		No. of Voucher.	DR.	CR.
1886.				
Sept. 1.	Boyson & Rasmussen, plastering and kalsomining.....	18	\$27 45	
Sept. 4.	W. W. Sly Paint Mnfg Co., fifty gallons oil.....	22	25 00	
Sept. 4.	Miller Bros. & Fletcher, hardware.....	24	4 25	
Sept. 14.	Eastman, Bovey & Co., lumber.....	43	6 50	
Sept. 20.	M. Lara & Co., matting, etc., labor....	62	50 75	
Oct. 28.	Gray & Donaldson, glass, putty, etc....	106	11 99	
1887.				
Jan. 20.	Boyson & Rasmussen, papering, painting, etc.....	221	26 75	
Feb. 15.	E. L. Ames & Co., papering, painting etc.....	255	16 30	
Mar. 19.	John Rainville, labor, repairing.....	278	5 00	
April 7.	Eastman, Bovey & Co., lumber for repairs .....	297	17 05	
June 30.	Gray & Donaldson, material and labor	382	169 97	
July 22.	Gray & Donaldson, material and labor	402	22 88	
July 31.	By balance carried to account current expense.....			\$384 09
			\$384 09	\$384 09

### SALARIES FOR INSTRUCTION.

		No. of Voucher.	DR.	CR.
1886.				
Aug. 31.	W. R. Hoag, additional salary for July and August.....	14	\$70 00	
Aug. 10.	Pay roll for August.....	15	405 00	
Sept. 30.	Pay roll for September....	74	4,795 00	
Oct. 30.	Pay roll for October.....	113	4,795 00	
Nov. 30.	Pay roll for November.....	146	4,795 00	
Dec. 24.	Pay roll for December.....	202	4,795 00	
1887.				
Jan. 29.	E. D. Mayo, services in drawing, etc...	229	100 00	
Jan. 31.	Pay roll for January .....	230	4,795 00	
Feb. 28.	Pay roll for February.....	266	4,795 00	
Mar. 31.	Pay roll for March.....	293	4,795 00	
Mar. 31.	C. G. McMillan, services as botanist...	292	100 00	
April 30.	Pay roll for April.....	328	4,895 00	
May 31.	Pay roll for May.....	363	4,895 00	
June 30.	Pay roll for June.....	388	4,795 00	
July 30.	Pay roll for July .....	417	200 00	
July 31.	By balance carried to account current expense.....			\$49,025 00
			\$49,025 00	\$49,025 00

## STATIONERY AND POSTAGE.

	No. of Voucher.	DR.	CR.
1886.			
Aug. 31. W. R. Hoag, paid for postage.....	13	\$6 70	
Sept. 8. Cyrus Northrop, paid sundry bills for postage, etc.....	35	213 65	
1887.			
July 28. Cyrus Northrop, sundry bills paid by him.....	416	348 08	
July 31. By balance carried to account current expense.....			\$568 43
		<u>\$568 43</u>	<u>\$568 43</u>

## STUDENTS' FEES.

	No. of Voucher.	DR.	CR.
1886.			
Sept. 8. By Cyrus Northrop, fees paid in for years 1885 and 1886.....			\$1,305 00
1887.			
July 28. By Cyrus Northrop, fees paid in for years 1886 and 1887.....			1,600 00
July 31. To balance carried to account current expense.....		\$2,905 00	
		<u>\$2,905 00</u>	<u>\$2,905 00</u>

## WATER SUPPLY ACCOUNT.

	No. of Voucher.	DR.	CR.
1886.			
Aug. 1. By balance from last statement.....			\$402 93
1887.			
July 31. To balance carried to account current expense as it will not be used from this account.....		\$402 93	
		<u>\$402 93</u>	<u>\$402 93</u>

## PROF. PIKE'S BOOK.

	No. of Voucher.	DR.	CR.
1886.			
Aug. 1. To balance from last statement.....		\$81 86	
1887.			
July 31. By balance carried to account current expense.....			\$81 86
		<u>\$81 86</u>	<u>\$81 86</u>

## GEOLOGICAL SURVEY.

1886.		No. of Voucher.	DR.	CR.
Aug. 1.	To balance from last statement.....		\$49,925	79
Aug. 31.	To pay roll for August.....	15	275	00
Sept. 2.	James H. Bishop & Co., stationery.....	19	4	60
Sept. 4.	A. C. Bauson, printing plats, etc.....	21	3	44
Sept. 3.	C. H. Oppel & Sons, supplies on field survey.....	36	48	57
Sept. 3.	C. H. Oppel & Sons, supplies on field survey.....	37	7	45
Sept. 22.	L. Paulte, repairing cases.....	64	19	05
Sept. 25.	N. H. Winchell, traveling expenses on field survey.....	68	108	25
Sept. 25.	N. H. Winchell, traveling expenses on field survey.....	69	139	31
Sept. 25.	N. H. Winchell, traveling expenses on field survey.....	70	15	45
Sept. 25.	N. H. Winchell, salary paid assistants on field survey.....	71	246	38
Sept. 25.	N. H. Winchell, salary paid assistants on field survey.....	72	240	15
Sept. 25.	N. H. Winchell, salary paid assistants on field survey.....	73	366	72
Sept. 30.	Pay roll for September.....	74	275	00
Oct. 9.	Empire Distilling Co., one barrel alcohol	79	28	50
Oct. 11.	N. H. Winchell, salaries and expenses on field survey.....	86	727	52
Oct. 27.	J. H. Paul, repairing, etc., of cases.....	100	54	70
Oct. 28.	N. H. Winchell, salaries and expenses on field survey.....	102	816	33
Oct. 28.	N. H. Winchell, salaries and expenses on field survey.....	103	184	89
Oct. 28.	N. H. Winchell, salaries and expenses on field survey.....	104	81	00
Oct. 30.	Pay roll for month of October.....	113	275	00
Nov. 9.	W. Howling, mounting animals.....	120	72	55
Nov. 30.	Pay roll for November.....	146	275	00
Dec. 24.	Pay roll for December.....	202	275	00
Dec. 27.	N. H. Winchell, sundry expenses.....	203	95	61
1887.				
Jan. 31.	Pay roll for January.....	230	275	00
Feb. 28.	Pay roll for February.....	266	275	00
Mar. 1.	J. A. Dodge and C. F. Sidener, analysis of minerals.....	267	142	80
Mar. 1.	N. H. Winchell, sundry expenses.....	268	44	25
Mar. 18.	N. H. Winchell, sundry expenses.....	274	51	07
Mar. 31.	Pay roll for March.....	293	275	00
April 30.	Pay roll for April.....	328	275	00

1887.		No. of Voucher.	DR.	CR.
May 12.	N. H. Winchell, salaries and expenses of assistants.....	339	\$259 11	
May 31.	Pay roll for May.....	363	275 00	
June 4.	James A. Dodge, analysis of minerals..	367	49 60	
June 7.	N. H. Winchell, expenses on survey...	368	65 00	
June 7.	N. H. Winchell, paid assistant on sur- vey.....	369	542 50	
June 21.	L. Paulle, repairing cases.....	371	19 05	
June 30.	N. H. Winchell, expenses on field sur- vey.....	379	65 25	
June 30.	N. H. Winchell, expenses on field sur- vey.....	380	153 17	
June 30.	N. H. Winchell, expenses on field sur- vey.....	381	121 69	
June 30.	Pay roll for June.....	388	275 00	
July 30.	Pay roll for July.....	417	275 00	
July 31.	By transferred from account salt land sales.....			\$15,000 00
July 31.	By balance to new account.....			42,999 75
			<u>\$57,999 75</u>	<u>\$57,999 75</u>
Aug. 1.	To balance.....		\$42,999 75	

SALT LAND SALES.

1886.		No. of Voucher.	DR.	CR.
Aug. 1.	By balance from last statement.....			\$39,208 97
Oct. 20.	By H. G. Stordock, payment and in- terest on Nos. 96 and 97.....			187 20
Oct. 22.	By First National Bank, Fergus Falls, sundry interest payments.....			1,537 09
Nov. 4.	By First National Bank, Fergus Falls, interest on certificate No. 47.....			68 20
Nov. 10.	By First National Bank, Fergus Falls, sundry interest payments.....			194 80
1887.				
April 15.	By Citizens National Bank, Fergus Falls, interest on certificate No. 53...			25 20
June 7.	By B. N. Johnson, payment and inter- est on certificate No. 96.....			68 91
June 21.	By G. W. Cowie, sundry interest pay- ments.....			56 40
June 23.	By B. N. Johnson, payment and in- terest on certificate No. 97.....			152 40
July 8.	By Chas. J. Wright, interest on N. W. 1/4, 19-133-43.....			71 46

		No. of Voucher.	DR.	CR.
1887.				
July 20.	By C. S. Otjen, interest on sundry pieces of land.....			\$476 00
May 27.	To G. Gunderson, payments and interest refunded, (the land being sold to him in error, and not belonging to the university).....	349	\$304 90	
July 31.	To transferred to account geological survey.....		15,000 00	
July 31.	To balance carried to new account.....		26,741 73	
			<u>\$42,046 63</u>	<u>\$42,046 63</u>
Aug. 1.	By balance!.....			\$26,741 73

## INSURANCE.

		No. of Voucher.	DR.	CR.
1886.				
Aug. 1.	To balance from last statement.....		\$153 52	
1887.				
Feb. 24.	Moore & Blaisdell, premium on insurance.....	265	200 00	
May 23.	McMillan & Hastings, premium on insurance.....	348	676 52	
May 30.	Christian & Wagner, premium on insurance.....	352	192 50	
June 30.	Thompson & Worthington, premium on insurance.....	384	35 00	
June 30.	Gale & Co., premium on insurance....	385	35 00	
1886.				
Sept. 18.	By cash from state treasurer on auditor's warrant.....			\$1,600 00
1887.				
July 31.	To balance carried to new account.....		\$307 46	
			<u>\$1,600 00</u>	<u>\$1,600 00</u>
Aug. 1.	By balance.....			\$307 46

## ENLARGEMENT OF CAMPUS.

		No. of Voucher.	DR.	CR.
1886.				
Aug. 1.	By balance from last statement.....			\$1,080 85
1887.				
July 31.	To balance to new account.....		\$1,080 85	
			<u>\$1,080 85</u>	<u>\$1,080 85</u>
Aug. 1.	By balance.....			\$1,080 85



## FURNITURE.

		No. of Voucher.	DR.	CR.
1886.				
Aug. 1.	By balance from last statement.....			\$831 30
Nov. 3.	Glessner & Washburn, book case.....	114	\$35 00	
1887.				
June 22.	Minneapolis Furniture Co., book case..	373	55 00	
July 23.	Minneapolis Sash & Door Co., counter and postoffice cases.....	408	120 00	
July 28.	Cyrus Northrop, sundry petty bills paid.....	414	41 45	
July 31.	To balance carried to new account.....		579 85	
			<u>\$831 30</u>	<u>\$831 30</u>
Aug. 1.	By balance.....			\$579 85

## SUMMARY OF ACCOUNTS, AUG. 1, 1887.

		DR.	CR.
1887.			
Aug. 1.	By balance to account, building fund.....		\$24,435 96
Aug. 1.	By balance to account, current expense.....		44,289 46
Aug. 1.	By balance to account, enlargement of campus.....		1,080 85
Aug. 1.	By balance to account, furniture.....		579 85
Aug. 1.	By balance to account, insurance.....		307 46
Aug. 1.	By balance to account, salt land sales.....		26,741 73
Aug. 1.	To balance to account, geological survey.....	\$42,999 75	
Aug. 1.	To cash on hand.....	54,435 56	
		<u>\$97,435 31</u>	<u>\$97,435 31</u>

## H. P. BROWNE, TREASURER,

*In account with the University of Minnesota, for the Fiscal Year  
ending July 31, 1888.*

## CURRENT EXPENSE.

	DR.	CR.
1887.		
Aug. 1. By balance from last statement .....		\$44,289 46
Aug. 23. Cash from state treasurer on auditor's war- rant.....		5,212 90
Sept. 9. Cash from state treasurer on auditor's war- rant.....		2,035 72
Oct. 6. By cash from state treasurer on auditor's warrant.....		7,367 98
Nov. 11. By cash from state treasurer on auditor's warrant.....		7,792 17
Dec. 5. By cash from state treasurer on auditor's warrant.....		11,870 40
Dec. 30. By cash from state treasurer on auditor's warrant.....		6,709 47
1888.		
Feb. 2. By cash from state treasurer on auditor's warrant.....		6,572 69
Mar. 3. By cash from state treasurer on auditor's warrant.....		7,429 26
July 1. By balance transferred from students' fees account.....		1,700 00
July 31. To balance transferred from account chem- ical laboratory .....	\$86 88	
July 31. To balance transferred from account campus	134 23	
July 31. To balance transferred from account college of agriculture.....	4,295 92	
July 31. To balance transferred from account college of mechanic arts.....	635 14	
July 31. To balance transferred from account em- ployes.....	6,018 91	
July 31. To balance transferred from account farmer's institute.....	87 00	

1887.		No. of Voucher.	DR.	CR.
July 31.	To balance transferred from account heating and fuel.....		\$4,898 14	
July 31.	To balance transferred from account library		2,983 14	
July 31.	To balance transferred from account laboratory of biology.....		156 20	
July 31.	To balance transferred from account laboratory, geology and mineralogy.....		324 75	
July 31.	To balance transferred from account physical laboratory.....		39 10	
July 31.	To balance transferred from account printing and advertising.....		1,502 99	
July 31.	To balance transferred from account repairs		718 70	
July 31.	To balance transferred from account salaries for instruction.....		51,150 00	
July 31.	To balance transferred from account medical department.....		49 15	
July 31.	To balance transferred from account incidentals.....		2,479 93	
July 31.	To balance to new account.....		25,419 87	
			<u>\$100,980 05</u>	<u>\$100,980 05</u>
Aug. 1.	By balance.....			\$25,419 87

APPARATUS FOR MECHANIC ARTS BUILDING.

1887.		No. of Voucher.	DR.	CR.
Nov. 23.	To J. W. Queen & Co., "barometer, compass and level.....	84	\$74 60	
Dec. 14.	To Byram & Co., one Collian cupola...	106	175 00	
1888.				
Feb. 1.	Miller Bros. & Fletcher, surveyors chain, etc.....	148	17 23	
Feb. 29.	W. R. Hoag, paid for levels, chains, etc	174	238 55	
Mar. 6.	Heath & Kimball, atomizer, etc.....	188	3 00	
June 5.	Trainor Bros., labor and material.....	292	107 55	
June 22.	Helley & Brightley, combined transit.	319	279 00	
June 29.	Janney, Semple & Co., sundry items..	323	9 99	
July 31.	By balance transferred to account mechanic arts building.....			\$904 92
			<u>\$904 92</u>	<u>\$904 92</u>

## COLLEGE OF MECHANIC ARTS BUILDING.

		No. of Voucher.	DR.	CR. <sup>1</sup>
1887.				
Dec. 24.	To Trainor Bros., mason work.....	121	\$16 96	
1888.				
Jan. 26.	To Trainor Bros., stone and setting same .....	138	15 00	
Feb. 23.	To S. C. Cutter, labor and material....	170	150 31	
July 31.	To balance from account apparatus, college mechanic arts .....		904 92	
July 31.	By balance to account building fund..			\$1,087 19
			<u>\$1,087 19</u>	<u>\$1,087 19</u>

## SCIENCE HALL BUILDING.

		No. of Voucher.	DR.	CR.
1887.				
Sept. 5.	To Trainor-Bros., payment on founda- tion.....	15	\$1,787 00	
Sept. 12.	To Globe Publishing Co., advertising.	21	7 20	
Nov. 17.	To Trainor Bros., extra work on con- tract.....	81	1,657 00	
Nov. 22.	To L. S. Buffington, services as archi- tect .....	81	1,000 05	
Nov. 25.	W. P. Hoag, staking out and giving grade.....	92	10 00	
Dec. 24.	To F. A. Fisher & Co., payment on contract .....	120	9,000 00	
1888.				
April 21.	To F. A. Fisher & Co., payment on contract.....	218	13,000 00	
June 13.	To F. A. Fisher & Co., payment on contract .....	297	14,000 00	
July 5.	To F. A. Fisher & Co., payment on contract .....	344	12,000 00	
July 17.	To L. S. Buffington, payment as archi- tect .....	358	1,000 00	
July 31.	By balance carried to account building fund.....			\$53,461 20
			<u>\$53,461 20</u>	<u>\$53,461 20</u>

## MILITARY BUILDING.

	No. of Voucher.	DR.	CR.
1888.			
May 10.	To John Hurley, work on porch.....	248	\$12 00
May 31.	To Wheaton, Reynolds & Co., blinds...	263	37 80
June 5.	To John Hurley, painting blinds.....	285	10 00
July 31.	By balance carried to account building fund.....		\$59 80
		<u>\$59 80</u>	<u>\$59 80</u>

## BUILDING FUND ACCOUNT.

	DR.	CR.
1887.		
Aug. 1.	By balance from last statement.....	\$24,435 96
1888.		
Feb. 3.	By cash from state treasurer on auditor's warrant.....	10,000 00
June 13.	By cash from state treasurer on auditor's warrant.....	15,000 00
July 10.	By cash from state treasurer on auditor's warrant.....	15,000 00
July 31.	To balance brought from account mechanic arts building.....	\$1,087 19
July 31.	To balance brought from account science hall building.....	53,461 20
July 31.	To balance brought from account military building.....	59 80
July 31.	To balance carried to new account.....	9,827 77
	<u>\$64,435 96</u>	<u>\$64,435 96</u>
Aug. 1.	By balance.....	\$9,827 77

## ENLARGEMENT OF CAMPUS.

	DR.	CR.
1887.		
Aug. 1.	By balance from last statement.....	\$1,080 85
1888.		
July 31.	To balance to new account.....	\$1,080 85
	<u>\$1,080 85</u>	<u>\$1,080 85</u>

## BIENNIAL REPORT

		CAMPUS.	No. of Voucher.	DR.	CR.
1887.					
Sept. 6.	Charles Thompson, labor in June, July and August.....		16	\$70 80	
Sept. 29.	O. W. Willitts, labor in June, July and August.....		39	29 93	
1888.					
May 1.	H. M. Kemp, street commissioner, sixty-two loads sand at 25 cents.....		225	15 50	
June 11.	O. W. Willitts, labor on campus.....		296	18 00	
July 31.	By balance carried to account current expense.....				\$134 23
				<u>\$134 23</u>	<u>\$134 23</u>

## CHEMICAL LABORATORY.

		No. of Voucher.	DR.	CR.
1887.				
Sept. 12.	Noyes Bros. & Cutler, merchandise.....	19	\$57 31	
Sept. 12.	Noyes Bros. & Cutler, merchandise.....	20	2 34	
Sept. 27.	Eimer & Amend, merchandise.....	28	264 60	
Sept. 30.	Becker Bros., merchandise.....	30	100 00	
Oct. 7.	Northwestern Star Oil Co., two barrels gasoline.....	36	20 70	
Oct. 12.	Eimer & Amend, merchandise.....	48	13 35	
Oct. 12.	Noyes Bros. & Cutler, merchandise.....	50	1 00	
Oct. 15.	Geo. Huhn & Co., merchandise.....	71	2 00	
Nov. 23.	Noyes Bros. & Cutler, merchandise.....	86	5 25	
Dec. 24.	Northwestern Star Oil Co., gasoline.....	118	9 79	
Dec. 24.	Northwestern Star Oil Co., gasoline.....	119	9 50	
1888.				
Jan. 14.	Jas. W. Queen & Co., merchandise.....	133	7 80	
Feb. 3.	Noyes Bros. & Cutler, merchandise.....	158	24 05	
March 7.	Northwestern Star Oil Co., gasoline.....	190	9 69	
April 4.	Northwestern Star Oil Co., gasoline.....	211	9 50	
1887.				
Dec. 29.	By cash from J. A. Dodge, as students fees in chemical laboratory.....			\$180 00
1888.				
June 12.	By cash from J. A. Dodge as students fees in chemical laboratory.....			170 00
June 12.	By cash from J. A. Dodge, 20 per cent of amount received for extra work...			100 00
July 31.	Balance carried to current expense account.....			86 88
			<u>\$536 88</u>	<u>\$536 88</u>

## COLLEGE OF AGRICULTURE OR EXPERIMENTAL FARM.

1887.		No. of Voucher.	DR.	CR.
Aug. 19.	E. D. Porter, farm pay roll for July...	3	\$321 64	
Sept. 12.	E. D. Porter, farm pay roll for August	18	447 78	
Oct. 7.	E. D. Porter, farm pay roll for Sept- ember.....	37	623 64	
Oct. 11.	Northrop, Braslan & Co., seeds and fertilizers.....	45	149 67	
Oct. 12.	Frisk & Howard, wheelwright work...	46	97 10	
Oct. 12.	E. D. Porter, expenses to Chicago and Washington.....	47	200 00	
Oct. 13.	Kennedy, Gebhardt & Co., repairs on steam engine.....	51	10 78	
Oct. 13.	C. Aultman & Co., machine repairs....	52	65 30	
Oct. 13.	Trainor Bros., painting and repairing walls.....	54	20 80	
Oct. 13.	F. A. Fletcher & Co., repairs on house	55	20 15	
Oct. 15.	Janney, Semple & Co., glass and putty, for plant house.....	58	10 09	
Oct. 15.	Janney, Semple & Co., sundry mer- chandise.....	59	40 39	
Oct. 15.	Janney, Semple & Co., sundry mer- chandise.....	60	13 75	
Oct. 15.	Janney, Semple & Co, sundry mer- chandise.....	61	2 91	
Oct. 15.	Janney, Semple & Co, sundry mer- chandise.....	62	40	
Oct. 15.	Janney, Semple & Co., sundry mer- chandise.....	63	9 94	
Oct. 15.	Janney, Semple & Co., sundry mer- chandise.....	64	24 24	
Oct. 15.	Geo. Huhn & Co., sundry merchandise.	70	41 80	
Dec. 3.	Shuman & Co., seeds.....	97	60 63	
Dec. 10.	E. D. Porter, farm pay roll for Oct- ober.....	102	602 15	
Dec. 20.	E. D. Porter, farm pay roll for Nov- ember.....	114	338 63	
Dec. 20.	Thompson Harness Co., harness re- pairs.....	115	66 15	
1888.				
Jan. 10.	E. D. Porter, farm pay roll for Decem- ber.....	126	407 10	
Feb. 1.	C. T. Leonard, blankets and covers....	146	25 96	

1887.		No. of Voucher.	DR.	CR.
Feb. 1.	F. S. Martin, sundry merchandise.....	150	\$51 59	
Feb. 1.	Harrison & Smith, exhibit cards for stock.....	152	16 50	
Feb. 1.	J. M. Kelley, repairs for steam heating	154	11 60	
Feb. 2.	O. D. Wyman, blacksmithing.....	157	25 65	
Feb. 6.	Fairbanks, Morse & Co., supplies and repairs.....	163	27 00	
Feb. 13.	E. D. Porter, farm pay roll for Feb- ary.....	164	404 56	
Mar. 7.	McCarthy & Courtney, repairs on well.....	191	5 90	
Mar. 17.	E. D. Porter, farm pay roll for Feb- uary.....	195	415 90	
April 3.	Frisk & Howard, wheelwrights bill....	209	52 95	
April 5.	O. D. Wyman, blacksmith bill.....	212	13 40	
April 5.	F. A. Fletcher & Co., harness bill.....	223	23 90	
April 13.	C. E. Young & Co., printing cards.....	217	6 00	
Mar. 29.	Herzog Manufacturing Co., fixtures for cistern.....	229	8 42	
Mar. 7.	Weiskopf Bros., paint and oils.....	189	21 54	
April 30.	E. D. Porter, farm pay roll for March.	240	326 64	
May 17.	E. D. Porter, farm pay roll for April...	253	409 19	
June 1.	D. L. Wellman, expenses for advisory board.....	268	36 15	
June 1.	Geo. W. Sprague, expenses for advisory board.....	269	19 00	
June 1.	D. D. Bunn, expenses of advisory board.....	273	15 00	
June 4.	C. H. Dana, labels, etc., for stock.....	277	9 45	
June 5.	Miller Bros. & Fletcher, sundry mer- chandise.....	287	12 00	
June 5.	Miller Bros. & Fletcher, sundry mer- chandise.....	288	46 89	
June 5.	Miller Bros. & Fletcher, nails, etc., for buildings.....	293	21 58	
July 2.	A. H. Bullis, attending advisory board.....	332	15 00	
July 2.	Geo. Huhn, sundry merchandise.....	333	35 15	
July 3.	Frisk & Howard, wheelwright work...	339	31 00	
July 3.	Littlefield & Son, material and labor..	340	7 30	
July 3.	F. S. Martin, material and labor.....	341	19 00	
July 3.	McCarthy & Courtney, material and labor.....	342	34 26	
July 7.	E. D. Porter, farm pay roll for May...	347	461 23	
July 11.	J. B. Chatterton, fencing.....	350	12 72	
July 13.	F. A. Renz, rent of Poden tract.....	352	184 68	
July 13.	E. Allen, V. S., skeleton of horse.....	353	35 00	
July 31.	E. D. Porter, farm pay roll for June....	357	433 70	



1888.		No. of Voucher.	DR.	CR.
July 31.	E. D. Porter, farm pay roll for July...	368	\$648 31	
July 31.	By amount transferred from account experimental station, being its por- tion of the expenses paid from this account to March 1, 1888, as per schedule of E. D. Porter, on file.....			\$3,753 24
July 31.	By balance carried to current expense account.....			4,295 92
			<u>\$8,049 16</u>	<u>\$8,049 16</u>

## COLLEGE OF MECHANIC ARTS.

1887		No. of Voucher.	DR.	CR.
Aug. 5.	Fred Erkel, making transit poles.....	1	\$11 25	
Aug. 25.	E. T. Sykes & Co., labor and material	8	41 13	
Sept. 10.	W. T. Cole, circulars and tickets.....	23	8 75	
Sept. 22.	C. H. Du Bois, advertising training school.....	25	2 00	
Oct. 10.	W. R. Hoag, paid for steel tape .....	42	5 60	
Oct. 11.	C. A. Hoffman, dry plates and paper...	43	2 65	
Oct. 11.	Tribune Job Printing Co., pamphlets and electrotype.....	43½	39 00	
Oct. 15.	Janney, Semple & Co., iron.....	65	10 11	
Oct. 15.	Eastman, Bovey & Co., lumber .....	66	22 88	
Oct. 15.	Eastman, Bovey & Co., lumber .....	67	2 00	
Oct. 15.	Ball & Naylor, waste and packing.....	69	6 50	
Nov. 4.	J. A. Schlener & Co., tracing cloth, etc	79	9 15	
Nov. 23.	W. W. Sykes & Co., merchandise.....	85	55	
Nov. 25.	Miller Bros. & Fletcher, merchandise..	90	1 13	
Dec. 6.	V. Truesdell, blacksmith coal.....	100	7 00	
Dec. 14.	Ball & Naylor, valves, etc .....	109	16 82	
Dec. 14.	Janney, Semple & Co., merchandise...	110	14 79	
Dec. 15.	Star Lubricating Oil Works, oil.....	111	8 55	
Dec. 19.	Crossman & Plummer, brimstone.....	113	70	
Dec. 21.	W. S. Nott & Co, belting, etc.....	116	1 85	
Dec. 29.	O. H. Peck, supplies.....	123	10 09	
1888.				
Jan. 4.	Chas. D. Whitall, 6 boxes crayon.....	124	2 40	
Jan. 11.	J. A. Schlener & Co., merchandise.....	127	3 27	
Jan. 13.	Littlefield & Son, material and labor...	128	16 36	
Jan. 13.	E. C. Cauvet, material and labor.....	130	7 92	
Jan. 16.	C. C. Dennis & Co., material and labor	137	13 10	
Jan. 30.	Northwestern Star Oil Co., oils.....	140	4 00	
Feb. 1.	Merriman, Barrows & Co., lumber for work .....	147	17 15	
Feb. 1.	Miller Bros. & Fletcher, merchandise supplies .....	149	5 77	
Feb. 2.	J. P. Gilmore, merchandise supplies...	155	8 50	

		No. of Voucher.	DR.	CR.
1888.				
Feb. 2.	J. P. Gilmore, merchandise supplies...	156	\$2 70	
Feb. 6.	Ball & Naylor, oiler, etc.....	162	6 65	
Feb. 14.	Janney, Semple & Co., merchandise supplies .....	165	3 49	
Feb. 29.	W. T. Cole, printing.....	172	11 00	
Feb. 29.	Collian Furnace Co., merchandise sup- plies.....	175	20 75	
Mar. 2.	E. W. Pyle, merchandise supplies.....	178	4 11	
Mar. 2.	Hashow, Maish & Davis, oils.....	179	8 75	
Mar. 12.	W. A. Pike, paid sundry expenses.....	192	32 65	
Mar. 12.	Janney, Semple & Co., sundry expenses	193	1 45	
Mar. 12.	H. A. Bennett & Co., hardwood lumber	194	2 88	
Mar. 20.	W. T. Cole, printing.....	197	5 50	
April 28.	Jno. F. Hayden, work on map of cam- pus.....	230	12 60	
April 30.	Ball & Naylor, supplies.....	231	16 40	
May 1.	Appleby, Clark & Co., oil.....	233	5 00	
May 17.	Bradstreet, Thurber & Co., six stools..	236	3 00	
May 23.	Janney, Semple & Co., emery wheels..	237	1 71	
May 23.	Janney, Semple & Co., shovel.....	238	1 00	
May 26.	Lockwood, Upton & Co., castings and couplings .....	239	7 24	
May 31.	Littlefield & Son, labor and material..	258	10 35	
May 31.	North Star Iron Works Co., iron and coke .....	259	56 25	
May 31.	Northwestern Paper Co., paper.....	260	6 90	
May 31.	Naylor & Co., supplies.....	261	7 10	
May 31.	Zesbaugh, Bintliff & Co., picture moulding, etc.....	265	2 56	
June 15.	W. R. Hoag, sundry expenses.....	299	10 80	
June 15.	Henry C. Brandt, printing.. ..	301	16 58	
June 15.	W. R. Hoag, sundry expenses.....	302	21 00	
June 18.	A. S. Huey, sundry merchandise.....	303	18 80	
June 19.	J. H. Bishop & Co., paper.....	304	2 65	
June 20.	W. A. Pike, sundry expenses.....	305	29 72	
June 29.	Janney, Semple & Co., sundry expenses	322	4 58	
July 31.	By balance carried to current expense account.....			\$635 14
			<u>\$635 14</u>	<u>\$635 14</u>

## EMPLOYEES.

		No. of Voucher.	DR.	CR.
1887.				
Aug. 31.	Pay roll for August.....	11	\$301 66	
Sept. 21.	D. L. Kiehle, salary as secretary for three months.....	12	75 00	
Sept. 30.	Pay roll for September.....	31	431 66	

		No. of Voucher.	DR.	CR.
1887.				
Oct. 6.	B. A. Avery, assistant professor of chemistry.....	34	\$12 00	
Oct. 31.	Pay roll for October.....	77	443 66	
Nov. 30.	Pay roll for November.....	95	443 66	
Dec. 2.	D. L. Kiehle, salary as secretary three months.....	96	75 00	
Dec. 23.	W. H. Yattaw, paid assistant fireman.	117	30 00	
Dec. 24.	Pay roll for December.....	122	443 66	
1888.				
Jan. 30.	D. L. Kiehle, salary as secretary to February first.....	139	150 00	
Jan. 31.	Pay roll for January.....	144	443 66	
Feb. 29.	Pay roll for February.....	171	535 32	
Feb. 29.	W. H. Yattaw, paid assistant fireman February .....	176	30 00	
Mar. 31.	W. H. Yattaw, paid assistant fireman March.....	206	30 00	
Mar. 31.	Pay roll for March.....	228	493 66	
April 30.	B. A. Avery, work as assistant.....	224	6 00	
April 30.	Pay roll for April.....	224	493 66	
May 8.	Mary W. Elwell, assistant in library..	227	25 33	
May 31.	Pay roll for May.....	266	537 66	
June 1.	W. W. Folwell, balance salary as librarian.....	275	250 00	
June 9.	W.W. Dakin, janitor work.....	295	4 00	
June 30.	H. P. Browne, salary as treasurer one year.....	324	400 00	
June 30.	Pay roll for June.....	349	421 66	
July 3.	C. H. Whipps, work as engineer.....	453	40 00	
July 31.	Pay roll for July.....	364	301 66	
July 31.	By received for services from high school board.....			\$400 00
July 31.	By balance carried to current expense account.....			6,018 91
			<u>\$6,418 91</u>	<u>\$6,418 91</u>

FARMERS INSTITUTE.

		No. of Voucher.	DR.	CR.
1887.				
Dec. 8.	M. Pearce, expenses attending institute.....	101	\$87 00	
1888.				
July 31.	By balance carried to current expense account.....			\$87 00
			<u>\$87 00</u>	<u>\$87 00</u>

## HEATING AND FUEL.

		No. of Voucher.	DR.	CR.
1887.				
Oct. 12.	North Star Iron Works Co., plates and bars for repairs.....	49	\$91 49	
Nov. 8.	Geo. C. Moore, wood.....	80	270 00	
Nov. 25.	V. Truesdell, coal.....	87	465 52	
Nov. 25.	V. Truesdell, coal.....	88	261 00	
Nov. 25.	V. Truesdell, coal.....	89	1,234 58	
Dec. 16.	Geo. C. Moore, wood.....	112	170 62	
1888.				
Jan. 31.	W. H. Yattaw, paid assistant fireman, January.....	142	30 00	
Mar. 5.	V. Truesdell, coal.....	183	51 00	
Mar. 5.	V. Truesdell, coal.....	184	1,890 65	
Mar. 5.	V. Truesdell, coal.....	185	42 50	
Mar. 5.	V. Truesdell, coal.....	186	233 28	
Mar. 12.	Geo. C. Moore, wood.....	196	157 50	
July 31.	By balance carried to current expense account.....			\$4,898 14
			<u>\$4,898 14</u>	<u>\$4,898 14</u>

## LIBRARY.

		No. of Voucher.	DR.	CR.
1887.				
Aug. 24.	Gustav E. Stechert, books.....	5	\$45 72	
Aug. 25.	Harrison & Smith, binding dictionary..	9	4 00	
Sept. 8.	Mrs. Mary Bowen, work in library.....	17	18 30	
Sept. 30.	Lettie M. Crafts, paid for help.....	32	6 45	
Oct. 14.	Harrison & Smith, binding books.....	57	13 50	
Oct. 31.	Lettie M. Crafts, paid for help.....	76	12 15	
Nov. 3.	G. E. Stechert, books.....	78	373 02	
Dec. 13.	Mary Bowen, work in library.....	103	5 10	
1888.				
Jan. 31.	W. W. Folwell, half year's salary as librarian.....	141	250 00	
Feb. 1.	Harrison & Smith, binding books.....	153	50 65	
Feb. 3.	G. E. Stechert, books.....	159	88 52	
Feb. 16.	O. J. Breda, books.....	166	6 00	
Feb. 21.	R. B. Lees, bookcase.....	167	36 50	
Feb. 29.	G. E. Stechert, books.....	173	24 91	
Mar. 31.	G. Sidney Smith, eleven Annals library	204	42 00	
April 11.	W. W. Folwell, freight on books.....	215	12 28	
April 24.	W. T. Cole, printing slips.....	220	7 75	
April 30.	Harrison & Smith, binding atlas.....	232	1 50	

		No. of Voucher.	DR.	CR.
1888.				
May 9.	G. E. Stechert, books.....	246	\$306 73	
May 11.	C. D. Whitall & Co, maps, etc.....	251	37 25	
May 11.	C. D. Whitall & Co, books.....	252	15 60	
May 16.	Mary Bowen, work in library.....	234	7 20	
May 28.	O. J. Breda, advanced to buy books...	267	300 00	
May 31.	C. H. Hitchcock, journal of science....	256	11 00	
June 15.	M. L. Sanford, books.....	300	200 00	
June 19.	G. E. Stechert, books.....	318	665 65	
June 26.	Geo. Tunnell, work in library.....	321	5 03	
June 30.	Cyrus Northrop, president, freight and drayage for year.....	329	494 30	
1887.				
Oct. 20.	By returned from J. S. Clark, balance after buying books.....			\$35 35
Nov. 16.	By received of W. W. Folwell for books sold.....			22 62
1888.				
July 31.	By balance carried to current expense account.....			2,983 14
			<u>\$3,041 11</u>	<u>\$3,041 11</u>

## LABORATORY OF GEOLOGY AND MINERALOGY.

		No. of Voucher.	DR.	CR.
1887.				
Dec. 14.	Empire Distilling Co., one barrel alco- hol.....	104	\$29 10	
Dec. 14.	W. H. Walmsley & Co., laboratory sup- plies.....	105	11 12	
1888.				
Jan. 10.	C. W. Hall, paid for books for use.....	125	72 35	
Jan. 14.	W. F. & J. Barnes Co., lithological lathe.....	134	38 00	
Feb. 1.	J. H. Paul, specimen cabinet.....	145	45 00	
Feb. 3.	G. L. English & Co., merchandise.....	160	7 90	
Mar. 26.	F. A. White, work in laboratory.....	198	7 50	
April 23.	H. Shufeldt & Co., barrel of alcohol....	219	29 00	
May 2.	E. O. Ulrich, merchandise.....	226	40 00	
May 30.	W. T. Cole, printing.....	255	9 50	
May 31.	F. A. White, work in laboratory.....	257	6 15	
July 19.	W. H. Walmsley, glass slides.....	360	8 25	
July 24.	C. W. Hall, sundry expenses.....	363	16 28	
July 31.	J. P. Goode, sundry expenses.....	366	4 60	
July 31.	By balance carried to current expense account.....			\$324 75
			<u>\$324 75</u>	<u>\$324 75</u>

## BIENNIAL REPORT

## LABORATORY OF BIOLOGY.

		No. of Voucher.	DR.	CR.
1887.				
Sept. 3.	H. F. Nachtrieb, materials for labora- tory.....	14	\$50 00	
1888.				
Mar. 31.	H. F. Nachtrieb, materials for labora- tory.....	203	40 00	
April 28.	Educational Supply Co., microscope...	221	53 20	
May 10.	H. H. Molloy, one-half dozen scalpels	249	3 00	
June 18.	H. F. Nachtrieb, freight and drayage	317	10 00	
July 31.	By balance carried to current expense account.....			\$156 20
			<u>\$156 20</u>	<u>\$156 20</u>

## PHYSICAL LABORATORY.

		No of Voucher.	DR.	CR.
1888.				
Jan. 13.	Miller Bros. & Fletcher, sundry sup- plies.....	129	\$14 75	
April 30.	John Whitmore, sundry supplies.....	223	7 66	
May 9.	J. W. Queen & Co., thermometer.....	247	12 50	
May 31.	Folds & Griffith, enamel cloth .....	262	4 19	
July 31.	By balance carried to current expense account.....			\$39 10
			<u>\$39 10</u>	<u>\$39 10</u>

## PRINTING AND ADVERTISING.

		No. of Voucher.	DR.	CR.
1887.				
Sept. 12.	Fergus Printing and Publishing Co., advertising.....	22	\$6 00	
Nov. 26.	Ariel Association .....	93	75 00	
1888.				
June 4.	O. L. Triggs, advertising.....	280	18 00	
June 14.	F. A. Johnson, advertising in Minne- sota papers.....	298	300 00	
June 25.	Tribune Job Printing Co., catalogues, etc.....	320	580 78	
June 30.	Cyrus Northrop, president, sundry bills for printing and advertising.....	327	395 71	
June 30.	W. T. Cole, printing.....	330	7 00	
July 21.	Tribune Job Printing Co., printing.....	362	120 50	
July 31.	By balance carried to current expense account.....			\$1,502 99
			<u>\$1,502 99</u>	<u>\$1,502 99</u>

REPAIRS.

		No. of	DR.	CR.
		Voucher.		
1887.				
Sept. 24.	R. B. Lees, material and labor.....	26	\$18 80	
Oct. 6.	Boyson & Rasmussen, painting and plastering.....	35	219 25	
Oct. 11.	W. S. Nott & Co., materials.....	44	16 25	
Oct. 13.	Trainor Bros., changing mason work...	53	380 10	
1888.				
July 2.	R. B. Lees, material and labor.....	338	76 35	
July 24.	Bovey, De Laittre & Co., lumber.....	367	7 95	
July 31.	By balance carried to current expense account.....			\$718 70
			<u>\$718 70</u>	<u>\$718 70</u>

SALARIES FOR INSTRUCTION.

		No. of	DR.	CR.
		Voucher.		
1887.				
Aug. 26.	W. W. Folwell, additional salary 1883 and 1884.....	10	\$500 00	
Aug. 31.	E. D. Porter, August salary.....	11	200 00	
Sept. 30.	Pay roll for September.....	31	4,955 00	
Oct. 31.	Pay roll for October.....	77	4,955 00	
Nov. 30.	Pay roll for November.....	95	4,955 00	
Dec. 24.	Pay roll for December.....	122	4,955 00	
1888.				
Jan. 31.	H. T. Ardley, instruction in January..	143	100 00	
Jan. 31.	Pay roll for January.....	144	4,955 00	
Feb. 29.	Pay roll for February.....	171	5,055 00	
Mar. 31.	Pay roll for March.....	228	5,155 00	
Apr. 30.	Pay roll for April.....	244	5,155 00	
May 31.	Pay roll for May.....	266	5,055 00	
June 30.	Pay roll for June.....	349	5,055 00	
July 31.	Pay roll for July.....	364	100 00	
July 31.	By balance carried to current expense account.....			\$51,150 00
			<u>\$51,150 00</u>	<u>\$51,150 00</u>

STUDENTS' FEES.

		DR.	CR.
1888.			
July 1.	By received from Cyrus Northrop for years 1887 and 1888.....		\$1,700 00
July 31.	To balance carried to current expense account.....	\$1,700 00	
		<u>\$1,700 00</u>	<u>\$1,700 00</u>

## BIENNIAL REPORT

## MEDICAL DEPARTMENT.

		No. of Voucher.	DR.	CR.
1887.				
Aug. 24.	G. W. Wood, car fare and salary one day.....	6	\$14 65	
Aug. 24.	P. H. Millard, car fare and salary two days.....	7	34 50	
1888.				
July 31.	By balance carried to current expense account.....			\$49 15
			<u>\$49 15</u>	<u>\$49 15</u>

## INCIDENTALS.

		No. of Voucher.	DR.	CR.
1887.				
Aug. 17.	J. T. Travis, paper.....	2	\$30 80	
Sept. 24.	R. B. Lees, wardrobes per contract.....	27	158 33	
Oct. 1.	McCarthy & Courtney, material and labor.....	33	16 36	
Oct. 14.	Minneapolis Electric Construction Co., bells, batteries, etc.....	56	130 00	
Oct. 15.	Eastman, Bovey & Co., lumber.....	68	52 48	
Oct. 19.	M. Lara & Co., matting, etc.....	73	113 47	
Oct. 19.	M. Lara & Co., shades.....	74	8 00	
Oct. 26.	C. D. Whitall & Co., erasers and dusters.....	75	6 50	
Nov. 23.	Folds & Griffith, linoleum and laying.	83	21 61	
Nov. 25.	R. B. Lees, material and labor.....	91	15 50	
Dec. 6.	Eastman, Bovey & Co., lumber.....	98	18 62	
Dec. 6.	Eastman, Bovey & Co., lumber.....	99	23 11	
1888.				
Jan. 14.	Ball & Naylor, supplies.....	132	5 95	
Jan. 16.	A. H. Cramer, door springs, etc.....	136	12 00	
Feb. 1.	Erie Telegraph & Telephone Co., instrument to January 1.....	151	84 00	
Feb. 6.	Ball & Naylor, oils.....	161	8 03	
Feb. 21.	R. B. Lees, chalk racks, etc.....	168	9 00	
Feb. 23.	S. C. Cutter, work in coliseum building	169	191 94	
Mar. 2.	J. W. Day, ice bill.....	177	11 43	
Mar. 3.	Folds & Griffith, merchandise.....	180	4 19	
Mar. 3.	Craig Bros., merchandise.....	181	8 00	
Mar. 6.	R. B. Lees, making screens, etc.....	187	20 00	
Mar. 20.	U. S. Government, deposit with First National Bank as security for firearms	370	100 00	
April 5.	N. W. Telephone Co., bill for January, February and March.....	214	42 00	



1888.		No. of Voucher.	DR.	CR.
April 12.	B. Brown, hack service.....	216	\$5 00	
May 2.	H. M. Smythe Printing Co., two books	245	9 00	
May 11.	S. J. Snider, cleaning vaults.....	250	21 60	
May 24.	Peter Bushway, cleaning around build- ings .....	254	19 38	
May 31.	Louis Dreka, diplomas.....	264	55 00	
June 6.	Warner Bros., merchandise.....	294	42 26	
June 30.	Cyrus Northrop, president, sundry ex- penses years 1887 and 1888.....	326	914 37	
June 30.	Cyrus Northrop, president, sundry ex- penses years 1887 and 1888.....	328	324 20	
July 2.	W. H. Kingsley, repairing at spring..	334	4 00	
July 2.	W. H. Yattaw, cleaning main building	337	50 00	
July 6.	W. Howling, mounting animal.....	345	4 00	
July 11.	W. S. Nott & Co., one hundred feet of hose.....	351	20 00	
July 19.	Cyrus Northrop, president, stamps for circulars .....	359	45 00	
June 30.	By cash received from C. Northrop, being money advanced for postage and incidentals.....			\$118 00
July 31.	By balance carried to current expense account.....			2,479 93
			<u>\$2,597 93</u>	<u>\$2,597 93</u>

FURNITURE.

1887.		No. of Voucher.	DR.	CR.
Aug. 1.	By balance from last statement.....			\$579 85
1888.				
Jan. 13.	Glessner & Washburn, bookcase, etc....	131	\$19 00	
June 30.	Cyrus Northrop, president, paid for sundry furniture.....	325	92 95	
July 9.	Glessner & Washburn, repairing furni- ture.....	348	8 00	
July 31.	To balance to new account.....		459 90	
			<u>\$579 85</u>	<u>\$579 85</u>
Aug. 1.	By balance.....			\$459 90

## INSURANCE.

		No. of Voucher.	DR.	CR.
1887.				
Aug. 1.	By balance from last statement.....			\$307 46
Sept. 21.	Thompson & Worthington, insurance on drill hall.....	24	\$175 00	
1888.				
June 5.	Gates & Co., insurance on main build- ing.....	286	135 00	
July 31.	By balance to new account.....			2 54
			<u>\$310 00</u>	<u>\$310 00</u>
Aug. 1.	To balance.....		\$2 54	

## H. P. BROWNE, TREASURER,

*In Account with the University of Minnesota for the Fiscal Year  
Ending July 31, 1888, Showing the Expenditures and  
Receipts in the Account of*

THE EXPERIMENTAL STATION OF THE COLLEGE OF AGRICULTURE OF THE  
UNIVERSITY OF MINNESOTA.

1888.		No. of Voucher.	DR.	CR.
Mar. 29.	F. W. Pickard, for postage.....	200	\$31 86	
Mar. 29.	Samuel B. Green, moving expenses...	201	100 00	
Mar. 29.	P. Osander, (error, this should be charged to college of Agriculture)..	202	34 44	
Mar. 31.	Cunningham & Haas, four feeding steers.....	205	169 69	
April 2.	Morgan Envelope Co., envelopes for bulletins.....	207	21 18	
April 2.	Prof. J. L. Budd, trees and plants.....	208	10 05	
April 3.	E. Cooley, feed bills.....	210	89 53	
April 30.	E. D. Porter, pay roll for March.....	241	297 10	
May 17.	E. D. Porter, pay roll for April.....	242	457 99	
May 17.	W. T. Keenan, books for library... ..	243	64 40	
June 1.	Occidental Mills, corn meal for feed...	270	38 80	
June 1.	Fairbanks, Morse & Co, scales, etc., for equipment.....	271	154 40	
June 1.	Littlefield & Son, pails, etc., for equipment.....	272	21 50	
June 1.	C. D. Whittall & Co., merchandise for office equipment .....	274	56 85	
June 4.	D. L. Kiehle, expenses paid in visiting experiment stations in other cities.	276	38 25	
June 4.	Northwestern Fertilizer Co., fertilizers	278	49 00	
June 4.	Harrison & Smith, printing.....	279	111 20	

1888.		No. of Voucher.	DR.	CR.
June 4.	C. P. Stevens & Son, furniture for office equipment.....	281	\$130 00	
June 4.	Ryan Drug Co., fertilizers.....	282	66 06	
June 4.	Pioneer Press Co., sundry printing bills.....	283	152 00	
June 4.	Minnesota Transfer Packing Co., fertilizers.....	284	30 15	
June 5.	Wyckoff, Seamans & Benedict, equipment for office.....	290	21 30	
June 5.	Wyckoff, Seamans & Benedict, equipment for office.....	291	115 50	
June 30.	Minnesota Linseed Oil Co., oil cake for feeding.....	331	23 00	
July 2.	P. Henderson & Co., seeds.....	306	74 22	
July 2.	P. Henderson, plants.....	307	20 71	
July 2.	F. Ford & Son, plants.....	303	7 40	
July 2.	J. T. Lovett & Co., berry plants.....	309	50 25	
July 2.	J. J. H. Gregory, seeds.....	310	23 00	
July 2.	Elwanger & Barry, berry plants.....	311	30 95	
July 2.	I. C. Wood & Bro., plants.....	312	8 75	
July 2.	J. M. Thorburn & Co., seeds.....	313	14 70	
July 2.	Coe & Converse, berry plants.....	314	35 00	
July 2.	O. F. Brand, trees.....	315	13 25	
July 2.	D. L. Kiehle (error, this should be charged to incidental account).....	316	19 77	
July 2.	Geo. Huhn, merchandise for horticulture.....	335	4 05	
July 2.	C. P. Stevens & Son, etymology and botany.....	336	27 00	
July 7.	E. D. Porter, pay roll for May.....	346	1,158 43	
June 30.	Pay roll, salaries for June.....	354	591 66	
July 9.	Dewain Cook, plants.....	355	6 25	
July 16.	E. D. Porter, labor pay roll, June.....	356	605 10	
July 31.	Pay roll, salaries for July.....	365	883 30	
July 31.	E. D. Porter, labor pay roll, July.....	369	461 58	
July 31.	To amount transferred to account of college of agriculture, being its part of expenses paid from that account for the year prior to the opening of this account, as per schedule of E. D. Porter on file.....		3,753 24	
1888.				
Feb. 27.	By cash received from treasurer of U. S. government.....			\$7,500 00
May 15.	By cash received from treasurer of U. S. government.....			3,750 00
July 20.	By cash received from treasurer of U. S. government.....			3,750 00

1888.	No. of Voucher.	DR.	CR.
July 16.	By cash received from E. D. Porter (This is error—should be credited to college of agriculture).....		\$116 65
July 31.	To balance to new statement.....	\$5,043 79	
		<u>\$15,116 65</u>	<u>\$15,116 65</u>
Aug. 1.	By balance.....		\$5,043 79

NOTE.—The errors of entering the vouchers Nos. 202 and 316 and the credit of \$116.65 under date of July 16th were not discovered before the main statement for year 1887-8 was made up, and as there was not then sufficient time to rectify the errors, they will appear as corrected in subsequent statement.

## GEOLOGICAL SURVEY.

1887.	No. of Voucher.	DR.	CR.
Aug. 1.	To balance from last statement.....	\$42,999 75	
Aug. 23.	N. H. Winchell, expenses in field work	4 338 55	
Aug. 31.	Pay roll for August.....	11 275 00	
Sept. 3.	James A. Dodge, analysis of minerals...	13 14 40	
Sept. 30.	Pay roll for September.....	31 275 00	
Oct. 8.	N. H. Winchell, field expenses in sur- vey.....	38 438 09	
Oct. 8.	N. H. Winchell, field expenses in sur- vey.....	39 458 39	
Oct. 8.	N. H. Winchell, field expenses in sur- vey.....	40 1,145 30	
Oct. 8.	N. H. Winchell, field expenses in sur- vey.....	41 608 23	
Oct. 17.	N. H. Winchell, field expenses in sur- vey.....	72 4 60	
Oct. 31.	Pay roll for October.....	77 275 00	
Nov. 30.	N. H. Winchell, sundry office expenses	94 181 37	
Nov. 30.	Pay roll for November.....	95 275 00	
Dec. 14.	N. H. Winchell, sundry office expenses	107 146 30	
Dec. 14.	N. H. Winchell, survey and map of river.....	108 47 00	
Dec. 24.	Pay roll for December.....	122 275 00	
1888.			
Jan. 14.	N. H. Winchell, sundry expenses.....	135 198 58	
Jan. 31.	Pay roll for January.....	144 275 00	
Feb. 29.	Pay roll for February.....	171 275 00	
Mar. 5.	N. H. Winchell, sundry expenses.....	182 161 97	
Mar. 26.	N. H. Winchell, sundry expenses.....	199 98 48	
Mar. 31.	Pay roll for March.....	228 275 00	
April 30.	N. H. Winchell, sundry expenses.....	222 157 49	
April 30.	Pay roll for April.....	244 275 00	
May 17.	N. H. Winchell, sundry expenses.....	235 40 86	

## BIENNIAL REPORT

		No. of	DR.	CR.
		Voucher.		
1888.				
May 31.	Pay roll for May.....	266	\$275 00	
June 5.	N. H. Winchell, sundry expenses.....	289	72 15	
July 7.	Pay roll for June.....	349	275 00	
July 20.	N. H. Winchell, sundry expenses.....	361	150 38	
July 31.	Pay roll for July.....	364	275 00	
July 31.	By balance to new statement.....			\$50,561 89
			<hr/>	<hr/>
			\$50,561 89	\$50,561 89
			<hr/>	<hr/>

## SALT LAND SALES.

		DR.	CR.
1887.			
Aug. 1.	By balance from last statement.....		\$26,741 73
Aug. 18.	By from B. N. Johnson, first payment on certificate No. 98.....		75 38
Oct. 13.	By from B. N. Johnson, interest on certificate No. 54.....		23 28
Oct. 29.	By from First National Bank Fergus Falls, sundry interest payments.....		1,976 98
Nov. 21.	By from First National Bank Fergus Falls, interest on certificate No. 47.....		45 00
1888.			
Jan. 27.	By from Chicago, Milwaukee & St. Paul Railway Co., for W. $\frac{1}{2}$ N. E. $\frac{1}{4}$ section 26-128-47.....		640 00
Jan. 27.	By from Chicago, Milwaukee & St. Paul Railway Co., right of way over sections 10 and 22-128-47.....		172 50
Feb. 27.	By from First National Bank Fergus Falls, interest on W. $\frac{1}{2}$ N. W. $\frac{1}{4}$ section 2-135-45.....		19 33
Feb. 29.	By from First National Bank Fergus Falls, interest on W. $\frac{1}{2}$ N. W. $\frac{1}{4}$ section 1-135-45.....		25 35
Mar. 13.	By from First National Bank Fergus Falls, balance on W. $\frac{1}{2}$ N. W. $\frac{1}{4}$ section 1-135-45.....		1 00
Mar. 22.	By from B. N. Johnson, first payment on certificate No. 99.....		139 20
June 20.	By from B. N. Johnson, interest on certificate No. 88.....		7 00
July 2.	By from B. N. Johnson, payment and interest on certificate No. 98.....		71 69
July 3.	By from Otjen Bros., interest on sundry certificates.....		476 00
July 7.	By from B. N. Johnson, first payment on certificate No. 100.....		75 38
July 3.	By from H. Mathies, interest on certificate No. 5.....		71 46

UNIVERSITY OF MINNESOTA.

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1888.	No. of Voucher.	DR.	CR.
July 14.	By from B. N. Johnson, in full for S. E. $\frac{1}{4}$ N. W. $\frac{1}{4}$ section 28-119-46.....		\$200 00
July 31.	By from G. W. Cowie, interest on N. E. $\frac{1}{4}$ and E. $\frac{1}{2}$ N. W. $\frac{1}{4}$ section 2-135-45.....		56 40
July 31.	To balance to new account.....	\$30,817 68	
		<u>\$30,817 68</u>	<u>\$30,817 68</u>
Aug. 1.	By balance.....		<u>\$30,817 68</u>

SUMMARY OF ACCOUNTS, AUG. 1, 1888.

1888.	DR.	CR.
Aug. 1.	By balance to account building fund.....	\$9,827 77
Aug. 1.	By balance to account current expense.....	25,419 87
Aug. 1.	By balance to account enlargement of camps.....	1,080 85
Aug. 1.	By balance to account furniture.....	459 90
Aug. 1.	By balance to account salt land sales.....	30,817 68
Aug. 1.	To balance to account geological survey.....	\$50,561 89
Aug. 1.	To balance to account insurance.....	2 54
Aug. 1.	To cash on hand.....	17,041 64
	<u>\$67,606 07</u>	<u>\$67,606 07</u>

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