MEETING OF THE BOARD OF TRUSTEES, DECEMBER 16, 1879.

The Board met in the University parlor, at 4 o'clock P. M., President E. Cobb in the chair.

Present—Messrs. Cobb, Fountain, Gardner, Mason, Millard and Scott.

Absent—Governor Cullom, Messrs. Byrd, Conkling and McLean.

The Secretary read letters from Messrs. Conkling and McLean, regretting their inability to attend this meeting.

The records of last meeting were read and approved.

Regent J. M. Gregory then presented the following report, which was received:

REGENT'S REPORT.

To the Trustees of the Illinois Industrial University:

GENTLEMEN: I have the honor to present to you my quarterly report of the condition and wants of the University. Absent, by your permission, till the first of November, I found, on my return, the University in the midst of successful work; instructors and students quietly and earnestly pursuing the great work which brings them together.

The figures given you below will show an attendance a little larger than that of any former term, and, if the entries of the winter term shall equal those of former years, the total attendance of the year will be much higher than that ever before enrolled.

We have a large number of students absent, teaching, or at work in other employments, but who are known to have the intention to return, and who may be counted, as they count themselves still, as students of the University; but by our usage they never appear on our rolls or in our catalogues, if not present during the year.

Report of Attendance, Fall Term, 1879.

	Males.	Females.	Total.
Number of students in College of Agriculture	17	.....	17
" " " " " " Engineering	53	.....	53
" " " " " " Natural Science	34	10	44
" " " " " " Literature and Science	66	32	98
Not classified in any college	7	5	12
Post graduates	1	2	3
Students entering before Fall Term, 1879, not yet matriculated	24	6	30
Students entering Fall Term, 1879, matriculated, mentioned above	30	15	45
Students entering Fall Term, 1879, unmatriculated	101	23	124
Total attendance	303	78	381
Attendance by classes.			
Post graduates	1	2	3
Senior class	23	8	30
Junior class	49	14	63
Sophomore class	49	6	55
Freshman class	57	19	75
Non-matriculated and preparatory	125	29	154
Total attendance	303	78	381

Of the non-matriculated students, many are engaged in making up some one or more deficiencies, which will enable them to matriculate at the close of this term. So far as these students have declared their intentions, their proposed courses of study are as follows:

	Males.	Females.	Total.
College of Agriculture	14	.....	14
" " Engineering	26	.....	26
" " Natural Science	14	5	19
" " Literature and Science	20	8	28
Undecided or elective in course	51	16	67
Totals	125	29	154

As you are aware, the organization of the University includes four colleges; the College of Engineers, the College of Agriculture, the College of Natural Science, and the College of Literature, Science and Art. I shall best present to you the present condition and prospective wants of the University by presenting those of each college separately.

COLLEGE OF AGRICULTURE.

This College comprises the two departments or Schools of Agriculture proper, and Horticulture. The school of Agriculture has, as special instructors, G. E. Morrow, Professor of Theory and Practice of Agriculture, Dr. F. W. Prentice, Professor of Veterinary Science, and M. A. Scovell, Assistant Professor of Agricultural Chemistry, together with E. L. Lawrence, Head Farmer.

The department or school of Agriculture has, as special instructors, T. J. Burrill, Professor of Horticulture and Botany, and C. I. Hays, assistant in these branches. Mr. Hays also has charge of the greenhouses, the University grounds and the Botanical garden. As the instructors in each school give aid to the others, it will be seen that the College of Agriculture is well provided with instructors for its various studies. Besides these the other professors of the University give instruction in their special branches, as required by the agricultural students. The College has, for illustration, the two farms, stock and experimental, with the several varieties of stock, the orchards, forest plantations, nurseries, gardens and greenhouses, as well as the collections and apparatus in Agricultural, Horticultural, Veterinary and Botanical science, and a large library of special works in Agricultural science, and Literature which, though not so large as we may deserve, is probably larger than any other library of the kind west of the Alleghany Mountains. This statement of the resources of the Agricultural College will show how fully the Trustees have met one of the main requirements of the law of Congress. These provisions ought to appeal to the agricultural population of the State for a still larger patronage and still more cordial support. Beside the work done in the Colleges by the several teachers in their well filled classes, lectures have been given during the current term to the whole body of Agricultural students, and all others who chose to attend, and Prof. Morrow is completing arrangements for another session of the Annual Agricultural Institute, to be held at the University in the latter part of January. Some of the leading agriculturists of the State have recently expressed their desire for the re-establishment of the Agricultural Institutes formerly held by the professors of the University in different sections of the State. I ventured to assure them of our readiness to resume such work as soon as the Legislature shall make the necessary appropriations, and these gentlemen have expressed the determination to secure, if possible, a renewal of the legislative appropriations formerly made for these institutes. It must be evident that agricultural education has lost none of the importance that it had when the congressional law of 1862 was passed; but every year, with the increase of population and the severer taxing of our soil for food supplies for ourselves and Europe, the necessity increases for the diffusion of those sciences which may increase our harvests without wasting our soil. Steady and persistent efforts to diffuse agricultural knowledge will tell with multiplying effect upon the future prosperity of our State, and may save us from one of those industrial and financial catastrophes which have too often overtaken older States and countries. Although the farmers of the State have not responded as frequently as you may have hoped to the efforts made in their behalf, yet the progress of events will inevitably bring to the Agricultural College the support that it needs, and the high estimation which is its due, if wise and never-ceasing efforts be made to extend its advantages and to increase the sphere of of its influence. This is among our first and permanent duties.

The report of the Head Farmer lays before you some interesting and important facts. I concur w th him and Prof. Morrow in asking that additional representatives of approved breeds of stock shall be added to the collection. The College ought to have the means of exhibiting to its students the great varieties of neat cattle, swine and sheep, that their characteristics may be studied and their qualities well understood.

COLLEGE OF ENGINEERS.

The College of Engineers embraces the four departments or Schools of Mechanical Engineering, Civil Engineering, Mining Engineering and Architecture. It has as special instructors, S. H. Peabody, Professor of Mechanical Engineering, who gives instruction also in Mining Engineering; N. C. Ricker, Professor of Architecture; I. O. Baker, Professor of Civil Engineering; Mr. Hildebrand, Teacher of right-line Drawing together with Mr. E. A. Kimball and Mr. N. S. Spencer, respectively, foremen of the machine shops and wood-working shops. These instructors are assisted in the necessary scientific instruction by the several Professors of cognate departments. The teaching force of this College doubtless needs to be reinforced at the earliest day by additional instructors, but the work done trough the indefatigable energy and industry of the teachers on the ground is probably us good as that in other American institutions of like character, and,

in some respects, surpasses other institutions. The apparatus of the College of Engineering consists of the two shops for wood-working and wire-working, with all their machinery, foundry and blacksmith shop partly under our control, the Physical Laboratory with its rich apparatus and the mechanical, mining, and architectural cabinets of models and and various apparatus, together with the sets of instruments for the practical field work of the Engineers. This College, like that of Agriculture, was especially named in the act of Congress, and experience proves its practical value to the great manufacturing interests of the State, to which it is destined to give important aid in their coming development.

COLLEGE OF NATURAL SCIENCE.

The College of Natural Science includes, as at present organized, the School of Chemistry and that of Natural History. The School of Domestic Science has also been catalogued with this College, though assigned by the by-laws to the College of Literature and Science. The College has as its special instructors T. J. Burrill, Professor of Botany and Entomology; H. A. Weber, Professor of Chemistry; D. C. Taft, Professor of Geology and Zoology; Lou Allen Gregory, Professor of Domestic Science; C. G. Hayes, Assistant in Botany; M. A. Scovell, H. M. Beardsley and C. C. Barnes, Assistants in Chemical Laboratory; and G. A. Wild, Taxidermist. The apparatus of the College includes the several Chemical Laboratories and collections, the botanical and entomological collections, the Natural History Museum and Laboratory and a variety of valuable apparatus, both for investigation and illustration. The Chemical Laboratories are among the best on this Continent, and the different collections are steadily growing in value and importance. These Schools, besides furnishing trainings for special departments of scientific and professional labor, afford indispensable aid to all the other courses of instruction. The Natural History of the State, including as it does the study of its material wealth and resources and the conditions of its material progress and improvement, must always demand the serious attention of both Government and people. All the great civilized countries have from time to time appointed Commissioners for repeated scientific investigations of the resources of the soils, minerals and living growths, and such surveys will, doubtless, demand at an early day the enlightened attention of our own Legislature. In such surveys our College of Natural History will prove a valuable if not indispensable aid. To prepare for this, a more vigorous and active work should be instituted to secure as far as possible good specimens, well classified and properly named, in all the departments of Natural History and Geology, The work already done furnishes an excellent starting point for that yet to come.

The steps now in progress to furnish the School of Domestic Science with illustrative food collections and other appropriate cabinets for the decorative and useful household arts, will give to this important department increased facilities and higher esteem.

COLLEGE OF LITERATURE AND SCIENCE.

This College embraces the two Schools of Ancient Language and Literature and of English and Modern Languages. The special instructors include the Regent, Professor of Philosophy and History; S. W. Shattuck, Professor of Mathematics; E. Snyder, Professor of Modern Languages; J. C. Pickard, Professor of English Language and Literature; J. D. Crawford, Professor of Ancient Languages, and C. E. Pickard, Assistant in English and Ancient Languages. The aim of this College was to meet that requirement of the law of Congress expressed in the words, "Without excluding other classical and scientific studies." It is designed also to give to students in technical courses that literary and scientific instruction, which shall make them better representatives and exponents of their several departments. It affords also to students fitting themselves for the teacher's work, or the service of the press and other literary employments, the instruction that they need, and gives opportunity for general education to that considerable body of students who are not yet prepared to select any special calling. It especially favors female students by affording them fields of education appropriate to their wants and tastes. The Schools of Military Science, of Commercial Science, and of Drawing and Design are special in character and more limited in their course and aim than the regular Schools mentioned as departments under the several Colleges. That of Military Science is required in order to give due efficiency and force to that instruction of Military Tactics required by the law of Congress. The question as to the value and effect of military education in Colleges has long been practically settled for us by the success which has attended this department. With few exceptions the students have met the requirements laid upon them, and the general effect upon their physical development and culture and the discipline and good order of the Institution has abundantly compensated for the small amount of time each student is required to give to the drill. The question of the change of the uniform for one less expensive and more suitable for home use is still agitated and ought to receive attention.

The School of Design would not have been recommended, great as is its practical value and importance, but for the fact that the necessary instructors and apparatus are required also by other Schools. The Teacher of free-hand Drawing, required by the Schools of Architecture and Engineering, as also by the several Schools of Natural Science and Agriculture, has always been able to give the special instruction required in the School of Design. In the development of the finer forms of industry, this branch of instruction is of great importance, as is attested by the great manufacturing peoples of Europe, where Schools of Design are counted as the indispensable conditions of success.

The School of Commerce, although it has less claim to be ranked among the Schools contemplated by the law, has done good service, affording valuable instruction to a large proportion of the students in the important art of accounts. It is true that the large number of so-called Commercial Colleges scattered through the country diminishes somewhat the necessity of such a department here, but it is certainly desirable to maintain it so long as the funds will allow without encroaching on more important and legitimate work.

In making this exposition of the work of the University, I have not stopped to notice specially the points brought to my attention by the reports of the several Professors in charge of schools or departments. I submit these reports to you in connection with my own, with the request that they shall be read and considered by you as their merit demands. I present herewith a summary of the various requests, together with other recommendations suggested by myself.

J. M. GREGORY, *Regent.*

REPORT FROM AGRICULTURAL DEPARTMENT.

Hon. J. M. Gregory, Regent:

SIR: During the term now in progress I have had two classes, one of sixteen and one of thirteen young men, whose work has been quite satisfactory, with very few exceptions. It is worthy of notice that about half the members of the larger class are taking a special course, of from two terms to perhaps two years, and that probably not more than one-third of the class will be able to complete the full four years' course.

Having received letters from nearly all the members of the Board signifying their approval, notice has been given, through a goodly number of agricultural and other papers, of the holding of an Agricultural Institute, or lecture course, at the University, the last week in January. It is recommended that this meeting commence on Tuesday afternoon and continue until Friday evening; that the Presidents of the State Agricultural, Horticultural and Dairymen's Associations or Societies, and editors of leading agricultural papers of the State, be invited to deliver addresses during the Institute; and that such time as can be spared, each day, be assigned for general discussion. The expenses of gentlemen invited to deliver addresses should be paid. It is believed such expenses would not exceed $50.

As an extension of the opportunities for giving some instruction to those who cannot take the larger course, it is recommended that authority be given to announce *free courses* of lectures on agricultural and veterinary topics, during the three weeks preceding the Institute. These lectures can be given by Dr. Prentice and myself, with the aid of other members of the Faculty of the College of Agriculture, without increased cost, or interfering with the regular class work; and it is believed they would prove useful and reasonably popular.

I have felt that my first and chief work was in the class room. This work has now become so systematized, that I shall be able to give more time to plowing and experimental work. Two things which seem to me very desirable, would involve some expenditure, and I would be glad to have an expression from the Board of Trustees as to their views:

1 The work done in sugar manufacture from sorghum, during the present year, gives much ground for encouragement. I would be glad to test some varieties here and in the autumn experiment, in the modes of manufacturing. It seems to me this is the most promising new branch of agriculture for our State.

2. An experiment in grazing and grain-feeding steers, of different breeds, would have value, and would be of general interest. I think it certain that high-grade steers of the Herford, Devon, Ayrshire, Holstein, and, of course, Shorthorn breeds, could be obtained at very reasonable rates, as breeders have expressed an interest in such a trial. The total net cost of such a test would not be large; and the presence of the steers would partly fill another want—that of representative animals of different breeds of cattle, for illustration to students and visitors. This I consider very desirable. The principal extra cost and trouble involved in keeping different breeds would be obviated, by purchasing a good female of each, making crosses, and repurchasing as necessary. Or, a bull of desirable beef breed, as the Herford, might be purchased, and crossed on the grade cows. Of the two plans, I would recommend the steer-feeding experiment, if both be not thought advisable.

Among the Agricultural students, are some who would be much interested in, and profited by, assisting in experimental work. Their labor could not be employed quite so economically as that of regular laborers, but this seems to me not the most important point.

Very respectfully,

G. E. MORROW, *Professor of Agriculture.*

REPORT FROM HEAD FARMER.

To Dr. J. M. Gregory, Regent Illinois Industrial University:

I herewith present my annual report of the operation of the farms for the year just closed:

GRIGGS FARM.

In my report of one year ago I recommended that the Griggs farm be rented to Messrs. Jaques and Hedges, on terms that we had previously agreed to. Mr. Gardner and myself were appointed a committee to rent the farm. Soon after this the bargain was closed and the farm rented. The north eighty acres to be used as a pasture, for which we were to receive $240 00, to be paid November 20, 1879. The south half was to be kept for meadow, and the hay divided in the rick, giving us one half and the other party the benefit of the fall feed. We were also to put the fences in repair, and make a new fence, dividing the farm in halves from east to west. The amount of money to be paid was paid when due, and the hay was put up in good shape, and sold on the ground for $220 00. The cost of the fence will appear hereafter. By the terms, the other party was to have the refusal of the farm for another year; and they have agreed to continue another year on same terms as the past.

STOCK AND EXPERIMENTAL FARMS.

The crops raised on the farms are as follows:

105 acres corn.
14 " wheat, including 4 acres experimental.
110 " timothy meadow.
20 " clover meadow, in orchard.
23 " oats.
210 " pasture.
3 " potatoes.
1¼ " artichokes.

The balance of the farm had Horticultural crops, and is included in the roads, yards, etc. In round numbers the profits have been as follows:

105	acres corn, at $15	$1,575 00
14	" wheat, at $25	350 00
110	" meadow, at $6	660 00
23	" oats	100 00
210	" pasture, at $3	630 00
All other, including hogs and cattle		1,185 00
Total		$4,500 00

85 acres of corn on the stock farm made an average of 70 bushels to the acre. This was all weighed, except 11 acres of shocks; a few of these were shucked and weighed, and an average from this was made.

The corn on the Hort. Farm was all cut and shocked, except 3½ acres in an experiment, and gave from 55 to 90 bushels to the acre.

There were four different fields of wheat, the best yielding 34 bushels per acre.

The oats gave 53 bushels per acre.

Timothy meadow about one ton to the acre.

Of the pasture, 80 acres was seeded last spring, oats and rye being sown with the timothy for feed before the other was grown. On account of the drouth the timothy made a poor stand and no feed till the fall rains, and then none worthy of note. 30 acres of this, as well as 20 acres sown with oats, was re-seeded in the fall, with present good promise. We have seed to sow the balance in the spring. Fifteen acres was sown to clover and made a good stand. For reasons above stated, pastures have not been as good as usual.

Potatoes were a good crop, as well as artichokes. I think we have 1,000 bushels of the latter. The pigs are now rooting them out I am unable to state the value of artichokes, but this is sure, the pigs seem to enjoy gathering them.

For an account of the sales of the year, see paper accompanying this report, and marked "A."

Of the hay sold, $640 00 was of the old crop, $220 00 from the Griggs farm, and a small amount from the farms of the present crop.

The hogs were inventoried at $320 50 at the beginning of the year; 79 head. We now have 144 at $471 00, a gain of $150 50; this added to the sales $103 47, gives $754 97 as the value of the year's crop.

Four car loads of steers were sold in Chicago. For account of purchase and sale of these cattle, see paper marked "B."

The corn sold was all of last year's crop. About 150 bushels was sold for seed at 50 cents, and the balance was sold on the market, in August, for 30 cents.

Nineteen bushels of wheat was sold early for seed at 90 cents, and the balance sold in October for $1 07. Twenty-four acres sown.

The sales of Short-horns and Jerseys are as follows:

December	1—Short-horn bull calf	$50 00
"	1—Jersey " "	44 00
January	1—Short-horn " "	50 00
February	1—Jersey " "	30 00
March	1—Short-horn " yearling	75 00
July—	1—Jersey bull for beef	21 40
November	4—Cows "	148 20
"	1—Short-horn bull calf.	60 00
"	1— " yearling heifer	40 00
Total		$518 60

The item of department credits, Horticultural Department, $415 35, is made as follows: $200 is charged (by agreement) for services of Head Farmer in this department in superintending the work, making sales, etc., and the balance is for work of men and teams. By reference to my report to Prof. Burrill, it will be seen that there is a small balance of profits to the credit of this department in the year's work.

For an account of the expenses of the year, see paper marked "C."

The item for fence-wire and posts was for the Griggs Farm, for the fence.

Aside from the items of repairs here shown, there has been 140 rods of fence made over. The cash expense comes under the head of hardware, which was for barbs, wire, staples, nails, etc. Under the head of repairs, there was a well dug at the stock farm house, costing, with pump, brick, etc., $45. The total cost of repairs in cash and labor is $158 38. We had always been troubled for water for the house on the stock farm, having previously dug two wells that had failed. In the last one dug we had 7 feet of water at the dryest time.

For balance sheet, see paper marked "D."

For cost of permanent improvements, see paper marked "E."

The paving of barn yard was done one year ago this month. I am satisfied with the outlay, and would recommend that two more car loads of stone chips be purchased, to continue this work.

The tile draining was done partly with the tile left over from last year. This accounts for the small cost. We have but little more of this to do till outlets can be obtained on the lands of others.

I discovered, early in the summer, that we were likely to be short of water on the stock farm for the stock there kept, and asked leave of Mr. Gardner to construct another syphon. His reply was: "Go ahead; I like to see the water run." I estimated the cost at $75. We went to work and put it in, the length of pipe being 1,000 feet. This would run about two days and then stop, and required about 15 minutes time to take the air out from the summit. In October we took most of the pipe up, and added 200 feet to it, and laid it around, instead of over the hill. It is now perfect and runs continuously, and I think at this time would supply 500 head of cattle. The last expense amounted to $35, and the whole to $119.28. I think it worth $500 more than a well with wind mill, and costs much less. The well from which the water is taken is practicably inexhaustable. The syphon put in last year, during a part of August and September, on account of the water failing in the well, was useless. Since the rains it is doing good service, and has not required a minute's time in six or more weeks.

For inventory of salable property see paper marked "F."

Cattle and hogs are put in about the same as last year. Timothy hay is counted worth $8—50 tons was sold for that price, to be taken from the barn at no expense to us. The balance could be sold for more. Last year corn was counted worth 25 cents, this being 10 cents below the price of May corn in Chicago. It is now 34 cents, and 13 cents below the price of May corn. Oats at 28 cents; I have been offered 31½ cents. Last year, by instruction from Mr. Pickrell, I put the blooded stock in at cost, with the cost of keep added, and whatever was received from sales, etc., was deducted. I have done the same this year. See paper "G." As far as profits go, the same feed and care given to steers would have produced a better showing. I think it will be apparent to all why this account is kept as it is.

Referring again to the balance sheet "D," the item of teams and tools is made by deducting $100 from the last year's inventory for loss on teams, and $50 for loss on tools, and adding $16 for a new plow added to tools. It is the aim to supply the place of all small tools that may fail, to keep all in good repair, and it is thought that facts can be best shown by estimating the loss on the whole rather than to undertake a new enumeration each year. With the teams the same is true. We have the same teams as one year ago—in fact nearly the same as nine years ago. Last year teams were shrunk $50; this year $100. I ask for leave to dispose of a team now about 25 years old and to purchase something to fill the place. My idea would be to get a good pair of mares that we could breed from when thought desirable. For detailed account of teams and tools see inventory book accompanying this report.

The balance, $4,507.53, shows the profits of the farm for the year.

The balance, $4,791.65, shows the accumulated balance, and is verified by comparison with the books of the Business Agent.

I herewith present (as published in the Champaign County Gazette) the result of an experiment in corn-growing:

CORN-RAISING EXPERIMENT.

The following experiment in corn-growing was conducted by E. L. Lawrence, head farmer at the Illinois Industrial University farm, and as the crop is of the greatest importance to the people of Central Illinois, we hope that the farmers at least will give the article a careful reading:

No.	Variety.	Conditions.	Number of ears.	Weight: pounds.	Bushels per acre.
1	Thomas	Fall-plowed, manure plowed in	1,290	830	85.10
2	"	Fall-plowed, manure on surface in spring	1,383	780	80.00
3	Golddrop	Same as No. 1	1,219	710	72.82
4	"	Same as No. 2	1,171	720	73.84
5	Thomas	Trench-plowed in fall, no manure	1,203	690	70.77
6	"	Common-plowed in fall, no manure	1,250	700	71.79
7	Chester County	Same as No. 5	1,255	690	70.77
8	" "	Same as No. 6	1,255	660	67.69
9	Thomas and Murdock.	Spring-plowed, manure plowed in	1,170	720	73.84
10	" "	Spring-plowed, manure on surface	973	690	70.77
11	Murdock	Same as No. 9	1,099	720	73.84
12	"	Same as No. 10	1,035	630	65.64
13	Thomas and Murdock.	Trench-plowed in spring, no manure	1,242	770	78.96
14	" "	Common-plowed in spring, no manure	1,104	600	61.54
15	Murdock	Same as No. 13	1,295	670	68.72
16	"	Same as No. 14	1,175	550	56.41
17	Thomas, small	Plowed in fall, manure on surface in spring	1,078	550	56.41
18	" large	Same	1,110	600	61.54
19	" small	Plowed in fall, manure on surface in fall	1,188	700	71.79
20	" large	Same	1,300	720	73.84
21	"	Plowed in fall, manure on surface in spring	1,250	740	75.89
22	"	Plowed in fall, no manure	1,250	720	73.84
23	"	Same as No. 21	1,143	710	72.82
24	"	Same as No. 22	1,201	660	67.69
25	"	Replowed in spring, manure on surface	1,211	800	82.00
26	"	Replowed in spring, manure plowed in	1,082	710	72.82
	Average		1,189		71.19

EXPLANATION.

Plats from one to twenty inclusive were timothy sod.

Plats twenty-one to twenty-six, wheat-stubble.

Plats seventeen to nineteen were planted with seed selected, small ears, weighing one-half pound each, on an average.

Plats eighteen and twenty were planted with seed selected, large ears. Twenty-four ears weighed twenty-two pounds.

Plats five and seven, "trench-plowed in fall," were not well trenched. The ground was dry, and the trench did but little good. The plow did not work well.

Plats thirteen and fifteen, "trench-plowed in spring"—the same plow worked well.

On all the spring-plowing of sod, from nine to sixteen, a poor stand was made, and was re-planted May 21 with Murdock corn.

Plats eleven and twelve mode a total failure of first-planting, which was "Chester County Mammoth."

Each plat contained $^{13}/_{100}$ of an acre. The rows were 3 feet 8 inches apart, and a full stand would have been 2 stalks in a hill, and hills 2 feet apart in the row. There should have been 1,456 stalks in each plat and the same number of ears, had each stalk given an ear.

The first planting was May 3. The manure used was common barnyard manure, and 2½ loads to the plat, or at the rate of 10 cords to the acre.

CONCLUSIONS.

The first conclusion arrived at is, that the corn was too thick on the ground. On an average, there were 18 per cent. less ears gathered than there would have been had there would have been, had there been a full stand and one ear to each stalk; and 10 per cent. less ears than stalks. From other experiments and this one, I am satisfied that rows 4 feet apart and 2 stalks every 2 feet, or an equivalent, will give the best results. These rows were 3 feet 8 inches apart.

Fall plowing is shown to be decidedly the best. This arose partly from the fact that a poor stand was obtained on the spring plowing,—but this also should go to the credit of fall plowing, as we are liable to the same trouble another season as the present.

Fall manuring was the best, from the fact that there was not sufficient rain in the spring and summer to place the manure in condition to be taken up by the plant, and much of it applied in the spring may now be seen in the soil.

Comparing 5 and 7 with 6 and 8, gives 1.07 bushels per acre in favor of trench plowing in the fall. As has been seen, this trenching was mostly a failure.

Comparing 13 and 15 with 14 and 16, gives 12.87 bushels per acre in favor of trench plowing in spring. I should expect best results from trench plowing in the fall, and think this result would have shown such, had the plowing been equally good.

The effect of manure is much less than has been shown in former experiments. This is supposed to result from the lack of moisture to make the manure available.

Of varieties, the "Thomas" is shown to be the best; this should be called "Thomas' Improved." It has been raised on the farm for the past nine years. After crossing it with the "Galtra," a large, late, deep-grained variety, and then with great care selecting the seed for three years, it has become, as I think, the best large or medium variety in this section.

It was found that it took 128 ears of this corn to make 75 pounds, the amount taken for a bushel. As showing that this corn was too thick and the ears too small, 75 pounds was taken from the wagon, as it run from a forty-acre field, that gave a yield of 70 bushels to the acre. This 75 pounds counted out 98 ears—30 less than the average of this experiment. The same, after being kiln-dried, was shelled, and gave 57½ pounds of dry corn and 12½ pounds of cobs.

The conclusion of the whole is, that there are many things in the simple operation of corn-raising, not yet understood, as there are results here shown, that, with most careful study, while the corn was growing, and after it was gathered, I am entirely unable to account for.

This experiment was published in the different Agricultural papers and in the Chicago Tribune, and from the number of letters, both congratulatory and inquisitory, that I have received I am lead to believe that it has been well received.

I have made some tests, one of which was to test the productiveness of the sub-soil after the soil is removed. With potatoes, where one foot was removed, about a half a crop was harvested; where two feet were removed there was practically no crop. Where two feet of soil was removed and a thin coating of course, unrotted manure was applied, a full crop was harvested. With wheat where two feet was removed the straw was 14 inches in length and about 7 or 8 bushels was the estimated yield. It was somewhat better where but one foot was taken off. This was on land where the soil had been removed to grade about the Chemical Laboratory.

For cost of experiments see paper marked "H." No account was kept of the extra labor on the corn experiment made by myself, but it is thought that the extra labor, together with the time and thought given it by myself, would amount to the sum charged.

I have commenced with an experiment with wheat on some of the poorest land we have by applying: 1st, well rotted manure; 2d, salt; 3d, super-phosphates of lime. This was done soon after the sowing. Something might be added by applications in the spring, but I consider the point of first importance in wheat growing is to secure a strong and vigorous growth in the fall. Where this has been obtained, so far as my experience goes, the percentage of failures is very small. There has been a constant inquiry, by those who have called on us, for "the experiments," and this has prompted me to do this work, notwithstanding the fact that this is not considered any part of my work.

At the March meeting, in 1878, I presented, by request of Prof. Morrow, a plan for a system of experiments to show the value of rotation of crops. I had at that time given this much thought, and can now see no place where the plan then offered can be materially changed without detracting from its value. I would again ask that this may be considered. It would also seem desirable to repeat the experiment in corn growing, heretofore presented. With this in view I have made a commencement on the stock farm.

To accomplish anything worthy of note in this important branch of our work, will require careful study and close attention, without which more harm than good will be done.

It would seem that there is a grand opening for us in the way of sugar making, But as this would require work in the Chemical Laboratory, and of those higher in authority than myself, I will refrain from further mention.

In the nine years that I have been in the service of the University the wish of the Board of Trustees as to the management of the farms has been very dimly if at all made manifest. By the terms of my first contract, I was given free choice as to management, and the arrangement of details, and was only restricted to a system of rotation that might be designated by the Board (this does not appear in the reports, but may be found in your letter book of January or February, 1871) and in preparing my plans I have reasoned something as follows: The University was established for the benefit of the "industrial classes," who want to know how to make money, rather than for the rich, who may want to know how to spend money. Farming never ends 'till the crop is marketed and the money in the bank. So good farming can't exist without making money. A baker might as well be asked to make a good loaf of bread that would not be fit to eat, as to ask a farmer to do good farming that did'nt prove remunerative. If we expect to illustrate farming, it would seem desirable to make a positive demonstration, rather than a negative—to show how to do it, rather than to show how not to do it. Further, if it is expected to encourage intelligent men to choose the occupation of farming, we can do no better than to prove to them that if they follow their vocation intelligently they will not be sold out by the sheriff. Further, though the farm might blossom "like the rose of Sharon" at the expense of the State Treasury, it would be no credit to us or benefit to any one else. A *model* is something to be followed and not a thing of ornament simply; and a model farm is the one that best fulfils the object of farming.

In the absence of definite instructions the above thoughts have prompted me to the course that has been pursued. I would refer to the adopted report of the Farm Committee, as shown in Univ. Reports 1878, p. 85, and ask for more definite instructions.

Every one who has handled cattle to any extent has learned that at this age of the world, when cattle are not required to defend themselves against wild beasts, horns are not only useless but dangerous to both man and beasts. In view of this fact, and the further fact that this as well as many other things is under the control of the breeder, and believing further that the limit of improvement in domestic animals is far from being reached, and that it is the province of the University to lead rather than to follow in this work, I ask that a systematic effort be made to breed such animals as the circumstances of the case demand. That is, to make a new breed from material now accessible. To carry this out would require the purchase of a Polled Angus bull, to be crossed on such

cows as we may have at hand, and then to breed from the product, selecting only those that have the qualities sought for. The qualities of form, color, etc., can all be arranged to order. The reason for making a new breed rather than accepting the breeds now without horns is, that it appears that these cattle, while they are able to stand our winters, do not thrive when subjected to the hot day atmosphere of our summers. It would require too much space for me to tell here *all* the reasons that might be advanced to prove that this plan would be practical; I therefore submit it for consideration.

If for any reason it is thought not desirable to undertake anything of the nature of what is above outlined, I would suggest that now is a suitable time to replace the Hereford cattle that were disposed of, for reasons then understood, in 1874.

At the time the first purchase of blooded stock was disposed of, $685 of the amount received was turned over to the University without credit to the farm. If it is thought best to keep the original investment intact, this sum should be drawn upon, but not necessarily, as we have a good surplus on hand with no prospect of its permanent decrease. There are matters connected with the Short-horn cattle that will require attention. As I think this well understood, I will refrain from further mention.

The great desideratum in farming, as I understand it, is to keep the soil rich and productive. If this be true, our farming operations have been successful.

In the memorial of the Trustees to the State Legislature of 1869, I find under the head of "*It will pay*," these words:

"If the University shall lead to the discovery of new methods, or diffuse more widely those already known, and thus teach how to raise one bushel of corn more from each acre planted than was raised per acre in 1866, it would, at 40 cents a bushel, add more than $1,000,000 to the annual harvest of the State."

In 1871 the field immediately north of the stock barn was planted to corn. All that could be plowed at that time, 28 acres, was planted. We got a good stand; it had good cultivation, and a favorable season gave 45 bushels per acre on 28 acres. This year the same lot contained 35 acres, and gave 70 bushels per acre—2,450 bushels, in place 1,260 in 1871. Seventy bushels more would have doubled the crop. Three things have wrought this change: Rotation of crops, tile draining, and improved seed. Knowing well that you have always been generous towards the farm, I leave the conclusion with yourselves.

There are 150 acres on the farms designed for corn the coming season, and all as good as the lot just mentioned. It could hardly be in better shape for a bountiful crop. In the last year 600 loads of manure have been hauled from the yards and the city. This has been applied on the thinnest land, so as to make all as good as possible. If the farm should be kept simply as an investment, I believe, with good management, it can be made to pay, on a fair valuation, 6 per cent. on the investment.

In closing this somewhat lengthened report, I wish to disclaim having any policy to enforce against the will of those who employ me. Should what I have recommended, or any other policy, be adopted, and the good of the cause seem to demand that I remain here, I shall, to the best of my ability, faithfully perform the task assigned me.

Respectfully submitted,

E. L. LAWRENCE, *Head Farmer.*

UNIVERSITY FARM, December 9, 1879.

"A."

By cash for hay	$843 37
" " straw	9 80
" " hogs	603 47
" " fat steers	4,172 13
" " fat heifer	18 25
" " corn	650 87
" " cobs	9 00
" " potatoes	110 65
" " artichokes	17 55
" " timothy seed (returned)	5 60
" " vinegar	20 40
" " pasture	38 79
" " apples	48 68
" " rent (Griggs farm)	240 00
" " other rent	4 00
" " corn premium (County Fair)	5 00
" " hides	12 50
" " wheat	430 40
" " grade Jersey cow	45 00
" " gas pipe	16 60
" " bull service	55 50
" " Short-horns and Jerseys	518 60
" " work	34 35
" " old truck (ra ls, iron, etc.)	17 65
" Department Cr., Horticultural Department	415 35
" " " hay, coal, etc., etc	265 77
Total	$8,609 28

"B."

Statement of the Result of Cattle-feeding.

Date.	Number.	How Obtained.	Weight—lbs.		Cost.		Remarks.
			Total.	Av'ge.	Per 100 lbs.	Total.	
1878. Dec. 1.	15	Imported.	24,740	1,650	$3 75	$927 75	
	39	"	44,300	1,135	3 00	1,329 00	
	2	"	720	360	3 00	21 60	
1879. Mar. 5.	18	Purchas'd	15,200	844	3 75	594 00	
Mar. 29.	3	"	3,070	1,020	3 75	115 00	
Apr. 25.	1	"	900	900	3 75	33 75	
Apr. 26.	2	"	1,630	815	3 75	61 12	
Aug. 5.	6	"	6,610	1,101	3 32	219 25	
Aug. 9.	8	"	8,110	1,014	3 75	263 57	
	94		105,640			$3,575 84	

SALES.

Date.	Number.	Where.	At home.		Sold for—		Remarks.
			Total.	Av'ge.	Per 100 lbs.	Gross.	
1879. Jan. 1.	15	Chicago ..	25,120	1,675	$4 60	$1,098 86	Feed, yard'ge, etc., deducted.
May 12.	16	" ..	22,910	.....	4 80	1,056 02	Feed, yard'ge, etc., deducted.
Nov. 25.	30	" ..	44,800	1,491	4 60	1,964 25	Feed, yard'ge, etc., deducted.
Nov. 25.	1	" ..	1,400	1,400	4 00	53 00	Feed, yard'ge, etc., deducted.
Sept. 1.	1	Killed.....	1,000	1,000	.....	.....	Went blind; not fat'd; killed.
Oct. 24.	1	Died.....	1,400	1,400	.....	.....	Fat when taken sick; died.
Dec. 1.	16	Imported.	19,520	1,220	3 50	863 20	
Dec. 1.	14	"	15,870	1,123	3 00	476 10	
		Total....	130,620			$5,511 43	

RECAPITULATION.

Gain, pounds		24,980	$1,935 69
Freight	$90 00		
Other cash expenses	17 87		
			107 87
Total gain		.....	$1,827 82

Steers were kept on the place equal to one steer for 5.80 months, and gained 24,980 lbs., or 43 lbs. for each steer for each month. Last year, the gain was 44¾ lbs. for each steer each month.

"C."

1879. Dec. 1	To paid for fence-wire and posts	$117 02
"	" " lumber	10 78
"	" " advertising	20 15
"	" " shoeing	20 05
"	" " salt	12 35
"	" " hardware	43 82
"	" " grass and other seeds	80 40
"	" " feed	8 00
"	" " threshing	38 76
"	" " Jersey bull	65 20
"	" " pump	12 20
"	" " tile	8 96
"	" " breeding two mares	20 00
"	" " harness repairs	6 80
"	" " hogs	37 00
"	" " stock cattle	1,335 19
"	" " labor	1,701 32
"	" " boarding hands	202 68
"	" " stone for paving yard	8 00
"	" " experiments	1 65
"	" " general repairs	63 50
"	" " gas- ipe	59'80
"	" " incidental expenses	18 75
"	" salary	999 96
"	" mechanical and architectural accounts	21 43
"	" Illinois Central, freight	170 25
	Total	$5,083 99

"D."

Balance Sheet.

1879. Dec. 1	By cash sales	$7,928 16	
"	" department credits	681 12	
"	" permanent improvements	339 89	
"	" inventory, salable property	10,459 24	
"	" " teams and tools	2,135 00	
"	To expenses of the year		$5,083 99
"	" inventory of December 1, 1878 (salable)		9,682 89
"	" " " " " tools and teams		2,269 00
"	Balance, profits of the year		4,507 53
	Total	$21,543 41	$21,543 41
	Balance in treasury December 1, 1878	$1,266 36	
	Receipts and credits of the year	8,609 28	
	Expenses of the year		$5,083 97
	Available means (present balance)		4,791 65
	Total	$9,875 64	$9,875 64

"E."

Permanent Improvements.

Paving back yard—		
Two cars stone	$8 00	
Freight	40 80	
Labor, hauling stone and ashes, etc	18 07	
		$66 87
Tile-draining (93 rods)		38 72
Fence on Griggs farm (160 rods)—		
Paid for wire	$75 32	
" " posts	23 70	
Hauling posts and making fence	16 00	
		115 02
Watering place on stock farm—		
Cost of 1,200 feet gas-pipe	$52 38	
" tank	8 20	
" well brick	3 20	
Work—hauling, grading, digging well, etc	55 50	
		119 28
Total		$339 89

"F."

Inventory Salable Property, December, 1879.

CATTLE.		
16 feeders, 19,520 pounds, average 1,220 pounds, at 3½ cents	$683 20	
14 stockers, 15,870 pounds, average 1,123 pounds, at 3 cents	476 10	
25 cows and		
21 calves, 32,330 pounds, at 3 cents	969 90	
1 yearling heifer, ¾ Jersey	35 00	
1 yearling heifer, ½ Jersey	20 00	
78 head		$2,184 20
HAY.		
110 tons timothy, at $8	$880 00	
35 tons clover, at $5	175 00	
145 tons		1,055 00
CORN.		
4,350 bushels, in crib, at 34 cents	$1,479 00	
100 bushels selected seed, at 60 cents	600 00	
868 bushels in shock (496 1¾-bushel shocks, at 60 cents)	294 00	
50 bushels in shock (50 1-bushel shocks, at 30 cents)	15 00	
5,368 bushels		1,848 00
HOGS.		
16 breeders, at $10	$160 00	
50 shoats, at $4	200 00	
33 pigs, at $2	66 00	
45 pigs, at $1	45 00	
144 hogs and pigs		471 00
COLTS.		
2 yearlings	$100 00	
2 summer colts	60 00	
4 colts		160 00
MISCELLANEOUS.		
900 bushels oats, at 28 cents		252 00
70 bushels potatoes, at 40 cents		28 00
8 bushels timothy seed, cost $2 20		17 60
30 tons straw, at $2 50		75 00
17 acres winter wheat, at $3 00		51 00
11 acres rye, at $2 50		27 50
1¼ acres artichokes, at $20		25 00
Accounts		30 00
35 head Short-horn and Jersey cattle, at cost		4,234 94
Total		$10,459 24

"G."

Blooded Stock Account.

1878.		
December 31.	To 33 head December 1, 1878, at cost	$3,638 01
	" 31 days' feed of meal, 245 pounds daily, at 60 cents	46 07
	" 200 pounds hay daily, at $4	12 40
	" labor	31 00
1879.		
February 28.	To 2 months' feed—16,520 pounds meal, at 60 cents	99 12
	17,700 pounds hay, at $5	44 25
	59 days' labor	59 00
	250 pounds oil meal	2 50
March 31	To 1 month's feed—8,370 pounds meal, at 60 cents	50 22
	8,000 pounds hay, at $5	20 00
	Labor	31 00
April 30	Same as March	101 22
May 31	To 4,000 pounds meal, at 70 cents	28 00
"	" pasture, at $1 per month	35 00
"	" hay, 1¼ tons	6 00
"	" labor	10 00
August 31	" 3 months, at $80	240 00
September 30.	" 1 month	80 00
October 31	" 1 month	80 00
November 31.	" 120 bushels corn, at 35 cents	40 00
"	" 4 tons clover	20 00
"	" pasture	20 00
"	" labor	15 00
"	" extra labor at fair	5 00
"	" 2 halters	1 25
"	" paid for Jersey bull	65 00
"	" paid freight on Jersey bull	10 00
"	" paid for advertising	19 00
	Total	$4,809 04
	By sales	$518 60
	" service of bulls	55 50
	Present inventory (cost)	4,234 94
	Total	$4,809 04

"H."

Experiments—Illinois Industrial University to Agricultural Dept., Dr.

1879.			
May 6	To plowing and harrowing	$1 25	
" 6	" clover seed	2 10	
" 17	" planting corn	2 00	
" 19	" " "	30	
June 2	" cultivating	75	
" 10	" hoeing	40	
" 11	" work	25	
" 12	" "	25	
" 24	" "	25	
" 27	" harvesting wheat	3 00	
July 1	" cultivating corn	40	
" 1	" harvesting wheat	1 50	
" 8	" hoeing corn	63	
" 18	" " "	80	
" 18	" stacking wheat	2 00	
Sept. 2	" Hauling wheat	1 00	
" 2	" threshing 82 bushels wheat	8 20	
" 3	" plowing and harrowing	1 75	
" 4	By 82 bushels wheat, at 85 cents		$69 60
Oct. 1	To cutting corn	2 50	
Nov. 1	" pig experiment	5 00	
" 1	By 45 shocks corn, at 30 cents		13 50
" 1	To corn experiment made by Head Farmer	49 47	
	Total	$83 10	$83 10

REPORT FROM HORTICULTURAL DEPARTMENT.

Dr. J. M. Gregory, Regent Illinois Industrial University:

I respectfully submit the following report for the year 1879 from the Horticultural department:

Upon the whole, the year has been a favorable one, and progress has been made, though it is well known to you that the fruit crops of the vicinity and country were comparatively light. Not more than one-half the amount produced last year in our State was gathered this year. This is the "off" year for the orchards, and the very dry weather in May severely pinched the small fruits. Concord grapes, with us, yielded a full crop, of excellent quality. A number of pear trees fruited, the first produced upon trees planted by the University.

A summary of the record of the

EXPERIMENTAL APPLE ORCHARD

is presented here, believing it to be of interest.

Fruit was gathered, and a record made of four hundred and seven (407) varieties. A few of the earliest kinds were missed, owing to the presure of other labors and the propensity of visitors, etc., to help themselves.

Taken together, the apples were smoother and better than they have been in any preceding year. Though the quantity upon each tree was usually small, the total amount was greater than heretofore in any one year. The trees, too, with one exception, to be hereafter noticed, are apparently in better condition than for several years back.

Whether any one kind not usually cultivated will prove better than those commonly grown in the vicinity cannot yet be determined; but this year's fruiting gave much more promise than heretofore of several valuable new kinds.

South of the avenue, fruit was gathered from 233 kinds. Of these, 109, or 80 per cent., bore but few apples; 19, or 14 per cent., bore what we called an average crop for the size of the tree; and 9, or 6 per cent., were as heavily laden as the trees ought ever to be. Of the above, as a whole, 38, or 25 per cent., ripened their fruit in October or before; while 114, or 75 per cent., were shown to be later varieties. In quality, 3 kinds, or 2 per cent., were accounted worthless; 49, or 36 per cent., were graded only fair (averaging equal to Ben Davis), and 84, or 62 per cent., as good as the average of the popular kinds. A few of these rank very high in flavor and richness. 23, or 10 per cent., were believed not to be true to name.

North of the avenue, records were made of the fruit from 184 varieties. In regard to the amount of fruit produced by these, 121, or 86 per cent., bore only a few apples; 15, or 10 per cent., had average crops; and 5, or 4 per cent, were very full.

In quality, 2 were worthless; 97, or 65 per cent., fair; and 51, or 34 per cent., very good. In season, 33, or 34 per cent., matured in October or earlier, and 62, or 66 per cent., at later times. The very warm weather of October caused good winter fruit to ripen prematurely, so that the test this year as to the very long keepers cannot be satisfactory. Other things have also prevented proper tests in this respect.

In this portion of the orchard, 21, or 9 per cent., are not considered true to the name they bear in the books of record.

Taking the whole orchard together, the following percentages are made from the fruiting trees, the size of the trees being considered:

Bearing only a few apples, 82 per cent.
Bearing an average crop, 12 per cent.
Bearing a large crop, 6 per cent.
Ripening in October or earlier, 29 per cent.
Ripening later than November 1, 71 per cent.

Following the winter of 1876-7, quite a number of trees died or showed signs of severe injury, and the same difficulty has shown itself to a less extent this season. In the country at large, it appears this trouble is much more prevalent than has ever heretofore been reported, and, from my investigations, proves to be the same as witnessed now and previously in the University orchard. Apple trees are subject to very many diseases, and injuries and death or unhealthiness results from many causes, requiring careful examination and accurate knowledge to determine. In this case, the injury is confined to the trunk above the surface of the ground, usually extending upward not more than one foot, but sometimes reaching and even extending over the larger branches. It is not confined to any side, but occurs more often on the Southwest. In early spring, little or no evidence is apparent of injury. The tree puts forth its leaves as usual, and the setting of fruit is not interfered with. But, by the middle of summer the whole tree looks sickly, and often dies with its leaves and fruit attached or not.

The bark of the injured portion is separated from the wood and dies. Sometimes a new bark is formed beneath, and the tree survives. If the part thus affected is not large, little damage is done, and the wound may become entirely covered by a new growth.

The cause is the freezing of the trunk when in peculiar conditions as to the abundance and fluidity of the sap. The injury is thus a mechanical one, and is attended with precisely the same phenomena as when such a wound is made by man. We have noticed that trees of the same variety are usually similarly affected. In the country at large it is the Rawles Genet this year of which there is the most complaint, yet this has usually been considered hardy. So some of the new kinds in the University orchard thus injured need not be discarded on this account.

The committee of the Trustees, to whom was referred the planting of a new orchard of well proved varieties, decided last year that it was not desirable; but there seems to me to be so much need of at least a few of such trees in some convenient location for observation and experiment that I again respectfully ask attention to the subject. There are

several questions relating to culture and management upon which no information can be gained from the present collection of varieties, nor by planting among these. I instance a few of these questions:

The influence of the stock in propagation.
The influence of deep or shallow planting.
The effects of deep or shallow tillage (cultivation).
The effect of seeding to grass.
The effects of different kinds of pruning.
The effects of top grafting in different varieties.

Such questions as these cannot be decided by experiment upon one or two trees of a kind, nor upon those that are not well known as to habit and the special influences of climate. And there are many other experiments of which illustrations would be valuable if they added nothing to the stock of information now possessed by cultivators. The planting need cost nothing beyond the labor.

Numerous seedling, ornamental and forest trees have been grown during the year for the nurseries and plantations, as well as to illustrate the methods of propagation. A shade of brush supported upon a post high enough to work under, was constructed last spring for such seeds as require their protection. Of this it is hoped to make further use the coming year.

The Greenhouse and adjoining grounds have been kept in good order during the year, and have served many practicable purposes. Experiments were made in the garden upon the fertilization of plants, and in the house upon the evaporation and absorption of water by leaves and other processes in vegetable physiology as well as in floriculture proper. The heating apparatus did excellent service last winter, with a very moderate consumption of coal. During the summer there was no trouble with the water pipes, such as occurred the previous year, but the flues of the boiler had to be replaced. This was done by the manufacturer under his guarantee. But he claims that the eating of holes in the wrought iron tubes was due to the coal used, and this seems to be the fact. Hard coal would doubtless cost a little more, but at the prices demanded during this year the additional cost would almost be balanced by the reduction in attendance. There is no question whatever as to the gain in neatness and safety. I would be much pleased, with the authority granted, to try enough hard coal this winter for experiment, one or two tons, with a view of obtaining a full supply next summer should it prove wise to do so.

The department has paid its way during the year, and has a small balance to its credit.

RECAPITULATION.

There has been given, after a general statement, a summarized account of the apple orchard, and attention is again asked to the planting of a small orchard of well proved kinds.

A statement has been made in regard to work done in the Nursery and in the Greenhouse and vicinity, and a request made to be authorized to try one or two tons of hard coal this winter, to determine its advantages over soft coal and the comparative expense.

Very respectfully submitted.

T. J. BURRILL, *Professor of Horticulture.*

MECHANICAL ENGINEERING AND PHYSICS.

Hon. J. M. Gregory, Regent Illinois Industrial University:

DEAR SIR: I have the honor to present the following report upon matters now pertaining to the Mechanical department of the University, with the request that you will communicate so much thereof as your judgment shall dictate, to the Board of Trustees:

THE NEW HEATING APPARATUS.

The situation of the boilers in the basement of the main building being such as to make the consideration of absolute safety paramount to all other questions, with the fact that two of the Root sectional boilers were already in successful use on the University premises, led to the selection of a boiler of that kind, to replace the one removed by order of the Trustees. We have now three boilers of the same kind, though of different sizes; but the pipes and most of the fittings are equally adapted to either, so that fewer extras need be kept in stock against emergencies.

It was deemed advisable to get the largest boiler which the funds at command would secure—one of 100 tubes 4 inches in diameter by 9 feet long; having a nominal power of 75 horses. This boiler is now in place, and fully answers our expectations. Our janitor reports abundance of steam for all wants as yet developed, with a consumption of fuel not greater than that required for each of the old boilers—rated at 35-horse power.

The brick setting of the old east boiler has been thoroughly repaired, and the apparatus is in order for use, but it is kept inactive, as a resort in case of emergency.

RADIATORS AND HEATING COILS.

There were in the Callisthenics and Modeling rooms and under the main corridor, not less than ten large coils, of various capacity, which different changes in the building had put out of use. These were repaired, when repairs were needed, and were used to satisfy the requirements of the new form of ventilation, and where else they could be most useful. The smaller coils which they replaced were substituted for yet smaller ones, successively, until the heating power in most of the rooms on the north front of the University was enlarged, in some degree, though not in all cases as much as could be wished. Aside from this work, much attention was given to refitting of valves and the insertion of new ones, where needed, and to a general simplification and perfection of all arrangements for warming and ventilating.

THE RETURN WATER.

In the old system the returns lead directly to the boiler, and form, essentially, part of it. Hence it follows that throughout the basement story, water constantly stands in the returns, at the same level as in the boiler itself. The greater size of the new boiler places this water level about two feet higher than in the old, and subtracts so much from the scanty fall from all heating coils placed in the basement for warming the first story. This evil is pa ticularly felt in those which warm the chapel, since that floor is depressed two feet below the other floors of the same story. The ordinary height of return water is about on a level with the outlet of these coils. Evidently, this condition of things prevents the proper circulation of steam through these coils, and exposes the return pipes to great danger of freezing, in severe weather, as occurred last winter. It is true, that we have so arranged that, if need be, this water may be allowed to escape into the ground, but at a loss of soft water which should go back to the boiler. To meet these evils, and to perfect our system, it has been thought best to gather all the return water into an adequate iron tank, to be placed in the ground, in the basement, at a level entirely below that of any of the return pipes. This tank will drain them all, will improve the circulation of steam, and will save the condensed soft water, which will be returned to the boiler by the pumps, as wanted. This tank is now daily expected, and will be in place before the beginning of another term.

THE VENTILATING DUCTS

and heating coils in the two series of tower rooms appear to be doing their work satisfactorily. So far, they warm the rooms quickly, and maintain a constant volume of sweet and pure air. If any defects exist, they must be disclosed in the severe weather which may now be at any time expected.

THE SHOP BOILER.

In November, one of the tubes of this boiler began to leak, and, upon examination, it appeared that the lower tier of six tubes should be replaced. The case was pressing, as all work at the shops had to be suspended until the repairs could be made. New tubes, with such fittings as were needed, were obtained from New York, at a cost, with freight, of $61.33. As these repairs are the necessary result of continued use, I respectfully ask that the above amount be passed to the credit of the shop, leaving only the labor and incidentals of setting to be charged to shop expenses.

The Machine Shop has had all the work it could do during the term. The new cylinder for the engine approaches completion, and we hope may be put in during the vacation. The drill-press has served as practice for the Sophomore mechanical engineers, who have shown great interest in both its design and in so much of the execution as they have had time for. We can hardly afford to wait to have it finished by class-practice, as we greatly need the tool.

It seems to me but justice to refer to the skill, energy and patience shown by the foreman, Mr. Kimball, under his multitudinous calls, and to the earnest efforts of Mr. Baker, in his endeavors to make the heating apparatus of the buildings under his charge successful.

I am, very respectfully, your obedient servant,

S. H. PEABODY, *Prof. of Mech. Eng. and Physics.*

PROFESSOR OF ARCHITECTURE.

ILLINOIS INDUSTRIAL UNIVERSITY,
December 15, 1879.

To the Regent and Board of Trustees of the Illinois Industrial University:

GENTLEMEN: I beg leave to report in behalf of the School of Architecture, as follows: The classes have been small this year, but have, I believe, done as good work as usual, and as much. My attention has been largely devoted to the class in Architectural shop practice, and I have taught the class personally, with assistance of the foreman, for one hour daily. The course of study has been revised, much extended and improved, and

now consists of 25 examples of the usual joints and constructions in Carpentry and Joining, employing throughout the Russian system, and furnishing each student full drawings for each piece. It is proposed to revise and also to extend the work of the winter and spring terms, in Cabinet Making, Turning, Metal and Stone Work, making up a more full and complete course in Architectural shop practice than is given, it is believed, elsewhere at present.

But some more facilities for lathe work are urgently needed, as we have now only an old lathe, and a foot lathe. The appropriation of $75.00 for a new lathe, made at your last meeting, has not yet been expended, as it was doubtful if a sufficient balance remained, and the lathe was not so much needed before the winter term.

I find that the old lathe can be fixed up so as to do tolerably well for several years, with new bed plates, new rest, &c., at a cost of $25 or $30. I would recommend that this be authorized, and that the balance of appropriation, with an additional amount of $15, making $90 in all, be expended for two small hand lathes, which can be purchased and fixed up for $60. These can be driven from countershaft of jig-saw, by lengthening it, and would probably furnish room enough so that we can get along this year. No tools are required, as we have enough to furnish the four lathes.

I would therefore respectfully recommend:

1. That the usual appropriation be made of $20 per month for expenses of class in Architectural shop practice.
2. That authority be given to fit up old lathe at a cost of $30.
3. That balance of appropriation of $75, and $15 additional, be used for fitting up two small hand lathes.

Very respectfully submitted.

N. CLIFFORD RICKER, *Professor of Architecture.*

An appropriation of $50 was made for the expenses of a Farmers' Institute to be held at the University in January; and a recommendation from the Regent, that a course of free lectures on Agriculture be given at the University during the three weeks preceding the institute, was also granted.

Board adjourned, to meet at the Doane House at 7:30 P. M.

EVENING SESSION.

The Board met, as per adjournment.

The Regent's report was taken up, and the following appropriations were made:

To be credited to Mechanical department, for boiler pipe and tubes	$61 33
Per month, for expenses of Architectural shop practice	20 00
Additional for fixing up lathe	15 00
For purchase of books for Library (Committee: Regent, Librarian and Business Agent)	500 00
For table and chairs for Library	150 00
For Military department ($5 00 for musket repairs, $83 00 for Gymnasium, and $23 00 for Band instruments)	111 00
For case for food collections, and glasses for same	150 00
For students examinations and lectures (Committee: Regent and Business Agent)	200 00
For frames for plans, etc., in Civil Engineering department	6 00
Case of veterinary dissecting instruments	25 00

The Business Agent then presented his report; which was read and received:

CHAMPAIGN, ILL., December 15, 1879.

Hon. Emory Cobb, President Board of Trustees Illinois Industrial University:

SIR: I hand you herewith the usual financial statement, for the three months ending December 1, 1879.

Paper "A" gives the current appropriations, expenditures and receipts under the same.

Paper "B" gives the condition of the State appropriations, of 1877 and 1879.

Paper "C" is a list of vouchers for warrants drawn in the three months, which are presented for auditing.

The expenditures of the Chemical department have been large; but some $400 to $500 of the overdraw of its appropriation will be met by the deposits in my hands at the end of this term.

The Architectural department purchased lumber to the amount of over $350, which is mostly in stock. Its account will be made good by the end of the next three months.

The overdraw in the Military department account is caused by an expenditure for the Gymnasium. which was considered necessary by the Regent and Prof. Dinwiddie.

Respectfully submitted.

S. W. SHATTUCK, *Business Agent.*

"A"

Current Appropriations and Receipts.

For what expended.	Appropri't'd	Received.	Expended.	Balance.
Board expense	$300 00		$30 10	$269 90
Salaries	16,555 00		7,537 24	9,017 76
Buildings and grounds	100 00	$40 75	43 82	96 93
Fuel and lights	3,000 00	62 78	723 32	2,339 46
Stationery and printing	200 00		158 99	41 04
Fixtures and furniture	100 00		51 86	48 14
Mechanical department	41 40	1,049 31	856 81	233 90
Architectural "	10 64	651 79	736 10	73 77
Agricultural "	1,447 74	4,202 76	839 58	4,810 92
Horticultural "	79 62	169 66	199 16	50 12
Chemical "	55 52	14 99	728 45	657 94
Military "	55 00		53 57	3 57
Library and apparatus	50 00		14 98	35 02
Incidental expense	200 00		64 80	135 20
Sundries—Physical laboratory	102 71		6 80	95 91
Preparatory department		1,143 00	700 00	443 00
Photo room	15 00		9 20	6 70
Cabinets		75 00	11 35	63 65
Engineering department	15 00		13 00	2 00
Protested dratts	400 09		400 09	
Domestic Science	30 00			30 00
Fees and room rents		2,813 50		2,813 50
State appropriations			3,799 06	
Illinois Central Railroad donation		483 85		483 85

"B"

State Appropriations.

July 1, 1877.	Appropri't'd	Received.	Expended.	Balance.
Taxes on lands	$4,306 02	$4,306 02	$4,306 02	
Buildings and grounds	5,000 00	5,000 00	5,000 00	
Chemical and physical laboratories	2,000 00	2,000 00	2,000 00	
Mechanical and architectural shops	3,000 00	3,000 00	3,000 00	
Library cases	1,000 00	1,000 00	1,000 00	
Books and publications	3,000 00	3,000 00	3,000 00	
Cabinet cases	4,500 00	4,500 00	2,700 63	$1,799 37
Cabinets	2,000 00	2,000 00	2,000 00	
Chemical laboratory	40,000 00	40,000 00	40,000 00	
Greenhouse	2,500 00	2,500 00	2,500 00	
July 1, 1879.				
Taxes on lands	$5,000 00	$2,298 52	$2,298 52	
Buildings and grounds	5,000 00	2,500 00	1,735 77	$764 23
Chemical and physical laboratories	2,000 00	1,000 00	613 47	386 53
Mechanical and architectural shops	3,000 00	1,500 00	668 86	831 14
Books and publications	3,000 00	1,500 00	241 84	1,258 16
Cabinets	1,000 00	1,000 00	168 13	831 87
Ventilation and water closets	2,500 00	2,500 00	1,789 83	710 17
Heating apparatus	3,000 00	3,000 00	2,672 07	337 93

"C"—*List of Vouchers.*

No.	To whom.	For what.	Amount.
1	S. M. Millard	Expense to meeting	$18 35
2	J. R. Scott	" "	3 00
3	R. B. Mason	" "	8 75
4	J. W. Bunn	Amount of protested drafts	400 09
5	S. W. Shattuck	Service as Business Agent	300 00
6	J. M. Gregory	Salary, September, 1879	300 00
7	T. J. Burrill	" "	150 00
8	S. W. Shattuck	" "	150 00
9	E. Snyder	" "	150 00
10	D. C. Taft	" "	150 00
11	J. C. Pickard	" "	150 00
12	N. C. Ricker	" "	125 00
13	J. D. Crawford	" "	125 00
14	H. A. Weber	" "	150 00
15	G. E. Morrow	" "	150 00
16	S. H. Peabody	" "	166 66
17	Mrs. J. M. Gregory	" "	100 00
18	F. W. Prentice	" "	100 00
19	E. L. Lawrence	" "	83 33
20	I. O. Bak r	" "	75 00
21	M. A. Scovell	" "	75 00
22	F. A. Parsons	" "	75 00
23	C. I. Hays	" "	75 00
24	Chas. Hildebrand	" "	75 00
25	C. E. Pickard	" "	60 00
26	Geo. A. Wild	" "	60 00
27	E. A. Kimball	" "	100 00
28	H. M. Beardsley	" "	35 00
29	N. S. Spencer	" "	30 00
30	A. B. Baker	" "	40 00
31	C. W. Williams	" "	20 00
32	Mosler Safe and Lock Co	Locks	8 68
33	M. Anderson	Labor	32 50
34	James Lewis	Mason work	36 56
35	Field, Leiter & Co	Window curtains	35 93
36	C. C. Harris	Harris	6 50
37	Moore & Co	"	6 86
38	Jno. Stott	Stationery	49 20
39	C. Weeks	Gravel and sand	6 50
40	Agricultural Department	Expenses Superintendent	165 05
41	Chicago Carpet Co	Mats	17 25
42	N. A. Williams	Cement and clay	9 25
43	R. S. Wilbur	Hauling	6 60
44	Inter-Ocean	Advertising	10 00
45	Fuller & Fuller	Glass	15 36
46	Fuller & Fuller	"	10 00
47	Crane, Breed & Co	1 manifold	3 20
48	W. L. E. Gurley	"	13 00
49	J. C. Pickard	Expenses in examinations	29 30
50	Jno. O'Neil	Plumbing	25 50
51	E. B. Benjamin	Chemicals	305 41
52	H. Peddicord	Lime	11 15
53	Brown & Anderson	Plastering	90 50
54	Chas. Rogers	Mason work	11 25
55	Daniel Murry	Labor	6 25
56	M. McKay	"	6 25
57	Julius Wilskie	"	7 88
58	G. Klingenspor	Planks	3 25
59	Holderness & Co	2 rubber stamps	3 00
60	Jas. Smith	Work	24 00
61	Thos. Wright	Castings	49 49
62	J. C. Lewis	Mason work	12 94
63	Enterprise Coal Co	7 cars coal	79 60
64	Eberback & Sons	Chemicals	32 55
65	J. D. Crawford	Books	2 75
66	J. C. Sedwick	Carpenter work	42 50
67	A. S. Robinson	Work in Armory	5 87
68	Publishers Illini	Printing	5 00
69	Sutton & Sheldon	8 M brick	56 00
70	J. Wilkinson	Ebony wood	7 86
71	H. Paulsen	Brushes	1 10
72	N. C. Ricker	Petty expenses	6 70
73	G. E. Morrow	Cattle pictures	2 40
74	U. S. Patent Office	Binding reports	4 80
75	W. T. Pratt	Carpenter work	38 50
76	I., B. & W. R. R.	Freights	7 76
77	Andrew Barr	Ash lumber	12 42
78	T. W. Christern	Books	1 50

"C"—*List of Vouchers*—Continued.

No.	To whom.	For what.	Amount.
79	Fred Brown	Pots	$45 95
80	Crane Bros. Manufacturing Co.	Hardware	183 53
81	Champaign Gas Co.	Bill July, August and September	88 80
82	J. W. Shuck	Ventilating apparatus	426 90
83	C. Weeks	35 yards gravel	22 75
84	Students' Pay Roll	September, 1879	405 73
85	J. M. Gregory	Salary, October, 1879	300 00
86	T. J. Burrill	" "	150 00
87	S. W. Shattuck	" "	150 00
88	E. Snyder	" "	150 00
89	D. C. Taft	" "	150 00
90	J. C. Pickard	" "	150 00
91	N. C. Ricker	" "	125 00
92	J. D. Crawford	" "	125 00
93	H. A. Weber	" "	150 00
94	G. E. Morrow	" "	150 00
95	S. H. Peabody	" "	166 66
96	Mrs. J. M. Gregory	" "	100 00
97	F. W. Prentice	" "	100 00
98	E. L. Lawrence	" "	83 33
99	I. O. Baker	" "	75 00
100	M. A. Scovell	" "	75 00
101	F. A. Parsons	" "	75 00
102	C. I. Hays	" "	75 00
103	C. Hildebrand	" "	75 00
104	C. E. Pickard	" "	60 00
105	G. A. Wild	" "	60 00
106	E. A. Kimball	" "	100 00
107	H. M. Beardsley	" "	35 00
108	N. S. Spencer	" "	30 00
109	A. B. Baker	" "	40 00
110	Leggatt Bros.	Books	46 36
111	Henry & Karcher	Brooms, etc	4 85
112	Crane Bros. Manufacturing Co	Hardware	13 08
113	Crane Bros. Manufacturing Co	Pump	262 85
114	Crane Bros. Manufacturing Co.	Pipe and fixtures	39 24
115	Agricultural Department	Farm expense, October	172 30
116	Besore Bros	Lime	8 25
117	C. & U. Gas Co.	Bill for October	93 00
118	J. E. Saxton & Co	Stationery	14 55
119	M. E. Lapham	Lumber	21 71
120	J. O'Neil	Plumbing	28 07
121	Luddington, Wells & Van Schick Co.	Lumber	349 46
122	S. Riley	Work	8 50
123	Jno. O'Neil	Work on pipes	39 49
124	Wm. Storey	Books	5 00
125	Abendroth & Root Manufacturing Co.	Tubes and gaskets	58 05
126	Nickel & Strassberger	Level	5 00
127	Publishers Illini	Blanks	6 75
128	E. B. Benjamin	Chemicals	84 06
129	Larrabee & North	Tools	61 06
130	Larrabee & North	Hardware	25 05
131	G. A. Wild	Expense for specimens	20 61
132	J. C. Lewis	Plastering	8 02
133	The Inter Ocean	Advertising	2 50
134	Chas. Berranger	Plating swords	12 80
135	Mosler Safe and Lock Co.	Locks	21 45
136	Yeomans, Shedd & Lassur	Tannate soda	3 00
137	Walter Mulliken	6 cane stools	5 10
138	J. M. Gregory	Purchase of books	28 72
139	Mosler Safe and Lock Co.	Locks	95 00
140	Students' Pay Roll	October, 1879	273 60
141	E. B. Benjamin	Apparatus	12 70
142	J. M. Gregory	Salary, November, 1879	300 00
143	T. J. Burrill	" "	150 00
144	S. W. Shattuck	" "	150 00
145	E. Snyder	" "	150 00
146	D. C. Taft	" "	150 00
147	J. C. Pickard	" "	150 00
148	N. C. Ricker	" "	125 00
149	J. D. Crawford	" "	125 00
150	H. A. Weber	" "	150 00
151	G. E. Morrow	" "	150 00
152	S. H. Peabody	" "	166 66
153	Mrs. J. M. Gregory	" "	100 00
154	F. W. Prentice	" "	100 00
155	E. L. Lawrence	" "	83 33
156	I. O. Baker	" "	75 00

"C"—*List of Vouchers*—Continued.

No.	To whom.	For what.	Amount.
157	M. A. Scovell	Salary, November, 1879	$75 00
158	F. A. Parsons	" "	75 00
159	C. I. Hays	" "	75 00
160	C. Hildebrand	" "	75 00
161	C. E. Pickard	" "	60 00
162	G. A. Wild	" "	60 00
163	E. A. Kimball	" "	100 00
164	H. M. Beardsley	" "	35 00
165	N. S. Spencer	" "	30 00
166	A. B. Baker	" "	40 00
167	Champaign Co. Gazette	Binding	153 85
168	Agricultural Department	Farm expenses, Novémber	204 37
169	A. C. Ricker	Books	5 25
170	Enterprise Coal Co	4 cars coal	44 40
171	I. B. & W. R. W. Co	Freight	8 12
172	W. T. Pratt	Repairs on roof	268 75
173	Trevett & Green	Hardware	$2 00
174	" " "	"	1 60
175	E. B. Benjamin	Chemical apparatus	23 90
176	Champaign Co. Gazette	Printing	19 50
177	J. C. Lewis	Mason work	9 10
178	E. L. Lawrence	Hay	2 50
179	Geo. L. Maxwell	Crockery	6 75
180	Jno. O'Neil	Plumbing	9 60
181	H. Swannell	Chemicals	35 49
182	lliott Stott	Books	33 25
183	Jno. Wheldon	Books	32 85
184	Students' pay-roll	November, 1879	248 26
185	Robinson & Burr	Flues ln boilers	16 59
186	" " "	Work on boilers	7 70
187	" " "	Work and material	11 75
188	H. J. Green	Freight and repairs	6 45
189	A. B. Baker	Pay-roll of workmen	73 75
190	The Illini	Advertising	16 66
191	C. & U. Gas Co	Bill for November	142 20
192	L. F. Allen	2 volumes herd-book	16 50
193	Besore & Co	Lime and plaster	1 95
194	Crane Bros. M'f'g Co	Hardware	46 32
195	" "	"	73 15
196	R. B. Harwell	Work and material	41 30
197	"	Painting and glazing	79 96
198	"	Painting	71 86
199	Horticultural Department	Work and trees	37 08
200	I. C. R. R. Co	Freight, August, Sept. and Oct	483 85
201	Architectural Department	Work and material	524 59
202	" "	Work for departments	40 60
203	Mechanical "	" " "	64 17
204	" "	Work and material	570 55
205	Prof. S. W. Shattuck	Petty expenses, 3 months	59 25
206	E. N. McAllister	Postage, 3 months	25 50
207	Agricultural Department	Work for Horticultural Dep'tm't	66 95
208	" "	Work for other departments	21 75
209	" "	Work and material	7 35
210	" "	" " "	8 10

A request from Prof. Burrill, Horticultural Department, for two tons of hard coal for experimental use in Green-house was granted.

The vouchers and list of warrants laid before the Board with the Business Agent's report were referred to a committee consisting of Messrs. Willard and Fountain.

J. W. Bunn, Treasurer, presented the following report of receipts and expenditures; which was read and received:

ILLINOIS INDUSTRIAL UNIVERSITY

TO JNO. W. BUNN, TREASURER.

	DR.		
1879.			
Nov. 29	To amount paid board expense	$30 10	
	" amount paid of salaries	7,537 24	
	" amount paid on account of buildings and grounds	43 82	
	" amount paid on account of fuel and lights	723 32	
	" amount paid on account of stationery and printing	158 96	
	" amount paid on account of fixtures and furniture	51 86	
	" amount paid on account of Mechanical department	856 81	
	" amount paid on account of Architectural department	736 10	
	" amount paid on account of Agricultural department	839 58	
	" amount paid on account of Horticultural department	199 16	
	" amount paid on account of Chemical department	728 45	
	" amount paid on account of Military department	53 57	
	" amount paid on account of Library and apparatus	14 98	
	" amount paid on account of incidental expense	64 80	
			$12,038 75
	" amount paid on account of Physical laboratory	$6 80	
	" amount paid on account of Preparatory department	700 00	
	" amount paid on account of Photograph room	9 20	
	" amount paid on account of cabinets	11 35	
	" amount paid on account of Engineering department	13 00	
	" amount paid on account of protested drafts	400 09	
			1,140 44
	" amount paid on account of State appropriations—		
	Chemical laboratory	$17 00	
	Cabinets	66 19	
	Mechanical shops	523 17	
	Ventilation and water closets	842 35	
	Buildings and grounds	868 76	
	Cabinet cases	39 39	
	Chemical and Physical laboratories	310 84	
	Books and publications	333 83	
	Heating apparatus	797 53	
			3,799 06
	To balance		13,507 24
			$30,485 49
	CR.		
1879.			
Sept. 10	By balance		$18,076 10
30	" amount received on account of fees and room rents	$2,280 00	
	" amount received on account of tuition in preparatory department	1,000 00	
	" amount received on account of buildings and grounds	29 50	
	" amount received on account of Chemical department	14 99	
	" amount received on account of Mechanical department	15 18	
	" amount received on account of Horticultural departm't.	2 00	
			3,341 67
October 1	" interest on Douglas county School District bonds		450 70
	" " Sangamon county bonds		1,250 00
Nov. 29	" amount received on account of Agricultural department	$4,202 76	
	" amount received on account of Mechanical department	1,034 13	
	" amount received on account of Architectural department	651 79	
	" amount received on account of Horticultural departm't	169 66	
	" amount received on account of buildings and grounds	11 25	
	" amount received on account of fuel and light	62 78	
	" amount received on account of cabinets	75 00	
	" amount received on account of fees and room rents	533 50	
	" amount received on account of tuition in Preparatory department	143 00	
	" amount received on account of Ill. C. R. R. donation	483 85	
			7,367 72
			$30,485 49
1879.	State appropriations	$6,909 60	
Dec. 17	Current expenses	6,597 64	
	By balance	$13,507 24	

URBANA, December 17, 1879.

JOHN W. BUNN, *Treasurer.*

The Board then adjourned, to meet at 8:30 A. M. at the University parlor.

SECOND DAY'S SESSION.

The Board assembled at the time appointed, present as yesterday.

The reports from the Agricultural Department were taken up.

Mr. Willard offered the following resolution:

Resolved, That a committee of three, with Mr. Scott as chairman, be appointed by the President, which shall be known as the Farm Committee; that the duties of the committee shall be to superintend all matters pertaining to the general and experimental farms, under the authority of the Board, and to recommend, from time to time, to the Board such improvements as they shall deem important.

The resolution was carried.

The reports of Prof. Morrow and Mr. Lawrence, on farm matters and experiments, were referred to the Farm Committee.

Prof. Burrill's recommendation for planting an additional experimental orchard, was also referred to the Farm Committee.

Mr. Millard offered the following resolution:

Resolved, That a committee of three, with Mr. Gardner as chairman, be appointed by the President, which shall be known as the Committee on Buildings and Grounds; that the duties of the committee shall be to superintend all matters pertaining to the buildings and grounds (such duties not to interfere with those of the Executive Committee), and to recommend, from time to time, to this Board such improvements as they shall deem important.

The resolution was adopted.

Mr. Jesse Burt's application for position of Head Farmer, was taken up and placed on file.

Mr. Lawrence's request for an increase of salary to $1,200, was read and received.

It was moved and carried that Mr. E. L. Lawrence be re-appointed Head Farmer for the ensuing year.

Mr. Gardner moved that Mr. Lawrence's salary be increased to $1,200.

Not seconded.

Mr. Willard moved that Mr. Lawrence be allowed $1,000, and $200 additional in produce raised on farms.

Amended by Mr. Scott, that the Head Farmer's salary be placed at $1,000, with the perquisites and privileges as heretofore.

Major Dinwiddie's request for $100, for purchase of band instruments, was laid over till next meeting.

The nomination of Miss Jennie Mahan as Instructor in Music, laid over from last meeting, was taken up.

The matter was referred to the Regent and Business Agent, with instructions that they make such arrangements as they deem necessary, and report to the next meeting of the Board.

The Regent's recommendation in regard to free-hand drawing was taken up.

It was moved and carried that Prof. Peter Roos be employed as instructor in free-hand drawing and designing, at $75 per month, with privilege of receiving additional compensation, not to exceed $25 per month, from any extra fees collected in his department; the Faculty to determine the rate of fees, etc., for extra instruction.

Mr. Millard, from committee to examine and compare vouchers and abstract of warrants from the report of the Business Agent, attested the same to be correct.

The report was received.

The Chairman then appointed the following committees, as by resolutions:

Farm Committee—Mr. Scott, Chairman; Messrs. Millard and Fountain.

Committee on Buildings and Grounds—Mr. Gardner, Chairman; Messrs. McLean and Mason.

Mr. Gardner asked for more time to settle with Mr. Percival, which was granted.

The renting of Dormitory, having been referred to Mr. Gardner and Business Agent, was passed over until next meeting.

The resolution to repeal last clause of By-laws, laid over from last meeting, was taken up.

Moved by Mr. Gardner, seconded by Mr. Millard, that the last clause of the IVth By-law be repealed.

Carried, with six affirmative votes.

Moved by Mr. Scott, that the said By-laws be changed so as to read, "one hundred thousand dollars," for Treasurer's bond, instead of "three hundred thousand dollars."

Carried, by six affirmative votes.

Mr. Millard offered the following resolution:

Resolved, That the Farm Committee be authorized to take charge of all the recommendations in the reports of the Head Farmer and the Professor of Agriculture, that they designate their respective duties in conducting experiments, and that they have the management of the two departments with full power to act in the premises.

On motion of Mr. Gardner, the Board adjourned.

EMORY COBB, *President.*

E. SNYDER, *Secretary.*