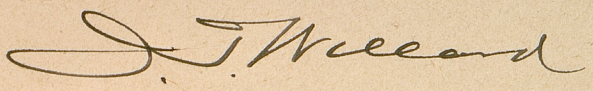
Columbian History.

Kansas State Agricultural College.



MAIN COLLEGE HALL.

COLUMBIAN HISTORY

OF THE

KANSAS STATE AGRICULTURAL COLLEGE,

LOCATED AT MANHATTAN, KANSAS.

By J. D. WALTERS, M. Sc.,

Professor of Industrial Art and Designing.

TOPEKA, KANSAS.
PRESS OF THE HAMILTON PRINTING COMPANY:
Edwin H. Snow, State Printer.

1893.

"*I am telling my friends in Massachusetts a very bitter thing, and I have become bolder and bolder in saying that I am under the impression that the whole system of popular education is superannuated; that what is taught is no longer the food that the rising generations most want; and that the very knowledge that is taught is not the best; so that I would change both the substance and the methods.*"—LOUIS AGASSIZ.

Preface.

On February 19, 1893, it will be 30 years since the Kansas State Agricultural College was founded and located. For a new State, and one that made history as fast as the trans-Missourian countries did, this is a long period. Many of the men to whose energy the people of Kansas owe this magnificent institution of learning — the largest agricultural school in the world — have left to conquer other Territories, some have followed more remunerative or attractive callings than that of the educator of farmers' sons and farmers' daughters, and many have died. The close of the century may find but few of the pioneers in health and vigor. If a history including the valuable element of personal recollection was to be written, the work could not be deferred much longer.

The author believes that the facts related in this history are sufficient to give those who may interest themselves in the College a fairly complete and entirely truthful picture of its development and growth; more than this is not intended. An active participation for over 16 years in the work of the Faculty as one of its members, a persistent effort for over half of this time to obtain the necessary data, and a personal acquaintance with nearly all the men named, ought to give some weight to statements that may conflict with other versions or views.

JOHN DANIEL WALTERS.

Manhattan, Kas., January, 1893.

Contents.

STUDENTS AT WORK IN THE GARDENS.

COLUMBIAN HISTORY OF THE KANSAS STATE AGRICULTURAL COLLEGE.

I.

Bluemont Central College.

THE Kansas State Agricultural College owes its location and initiative momentum to the pioneers of Manhattan. The city was founded in 1855 by the coöperation of two colonies—one from New England, arriving March 24, and one from Cincinnati, arriving June 1. Among the members of the New England colony were several college graduates, and it is stated that the founding of a college was discussed and decided upon during the voyage, long before reaching the objective point of the expedition, the confluence of the Big Blue and Kaw rivers.

From necessity the project had to be deferred for a while, but it was not abandoned. As early as 1857, when the buffaloes were yet numerous in the northern part of Riley county, and less than three summers had bleached the roof of the first house west of the Blue river, an association was formed to build a college in or near Manhattan, to be under control of the Methodist Episcopal Church of Kansas, and to be called "Bluemont Central College."

The charter was approved February 9, 1858. It provided for the establishment of a classical college, but contained the following (in the light of future history) interesting section:

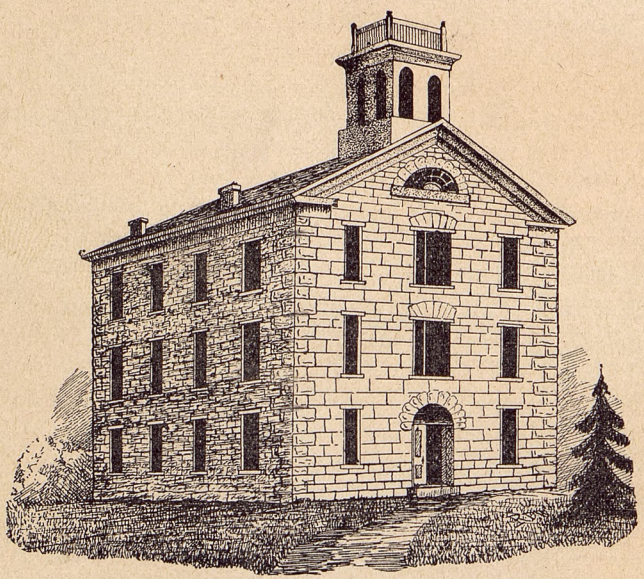
> The said association shall have power and authority to establish, in addition to the literary department of arts and sciences, an agricultural department, with separate professors, to test soils, experiment in the raising of crops, the cultivation of trees, etc., upon a farm set apart for the purpose, so as to bring out to the utmost practical results the agricultural advantages of Kansas, especially the capabilities of the high prairie lands.

The leading members of the association were: Rev. Joseph Denison, D. D., afterwards President of the College; Isaac T. Goodnow, elected State Superintendent in 1862, reëlected in 1864; Rev. W. Marlatt, now a model farmer on College Hill; S. C. Pomeroy, afterwards United States Senator.

A site of 100 acres was selected for the institution upon the rising ground about one mile west from the town, and the title secured by special act of

Congress introduced and fathered by Senator Pomeroy. The Cincinnati Town Company promised liberal aid in town lots and town stock, but coupled their promise with the illiberal clause that the aid should not be delivered until the college association could show property to the amount of $100,000. The New England Town Company gave 50 shares of stock in the north half of Manhattan, representing 100 city lots. I. T. Goodnow, assisted by Doctor Denison, sold these, and by personal solicitation here and in the East obtained funds for a building. Many of the founders must have taxed themselves quite heavily. G. S. Park, S. D. Houston, Joseph Denison, John Kimball, ~~J. S. Goodnow~~, I. T. Goodnow and Washington Marlatt gave $300 each, which were princely gifts when measured by the financial condition of these pioneers. The whole amount of cash collected from all sources at the time amounted to $4,000.

The corner-stone was laid with elaborate ceremony, May 10, 1859, with speeches from General Pomeroy and others, and the institution was opened for the reception of students about one year thereafter. It was a poor time



BLUEMONT BUILDING.

60x44

and place, however, for building up a college. The squatters had nothing to give, the students were scarce, the Methodist Episcopal Church of the Territory had two other educational institutions to support, and the country was disturbed by the bloody preambles of the War of the Rebellion. The first annual report of the institution to the Kansas and Nebraska Methodist Episcopal Conference gives the names of 53 pupils, under the charge of Rev. Washington Marlatt as the principal teacher, and Miss Julia A. Bailey as the

assistant. The salary of Rev. Marlatt for 1860 was $600, and was to be paid in Bluemont City town lots—lots that never had a more than nominal value. No wonder that he complained: "The labor of teaching is great enough for two persons, while the income is barely sufficient to pay the board for one."

Upon the admission of Kansas as a State, January 29, 1861, the founding of a State University became a probability, and the trustees of Bluemont College, represented by Hon. I. T. Goodnow, were nearly successful in locating that institution at Manhattan by offering their building for this purpose. On March 1 the measure passed both Houses of the Legislature, but met with a veto from Gov. Charles Robinson, who was determined that the State University or the State capital should go to Lawrence. He offered to sign the bill at once if the members of the Legislature from Riley county would assist him to get the State capital for his home city. It was the faithfulness of the Manhattanites to their constituents, who wanted the capital as far west as possible, that lost the State University for Bluemont. A little over a year later another chance presented itself for the college to become a State institution. When, on July 2, 1862, the "agricultural college act" was passed by Congress, the trustees offered it once more to the Legislature, and this time the offer, consisting of 100 acres of land, a plain three-story stone building, measuring 44x60 feet, and containing in the third story a chapel with a curved ceiling, a library with several hundred volumes, and some illustrative apparatus, valued all together at about $25,000, was accepted.

The act referred to is "An act donating public lands to the several States and Territories which may provide colleges for the benefit of agriculture and the mechanic arts," giving to each State lands to the amount of 30,000 acres for each Senator and Representative in Congress, for "the endowment, support and maintenance of at least one college" for the benefit of "agriculture and the mechanic arts." The bill was passed by Congress in 1859, but was vetoed by President James Buchanan under the pressure of the States Rights party. In 1862 the act was again passed, and the pen that wrote the proclamation of emancipation—the death warrant of American slavery—approved it.

II.

The Morrill Bill and the Endowment.

THE so-called "Morrill act," to which the Kansas State Agricultural College owes its endowment, was passed in a most critical period of our national life, and its history is interesting to the student of American institutions from more than one point of view.

The annexation of territory, as the result of the war with Mexico, had added millions of acres of wild land to the large public domain of the United States. At the time of the election of James Buchanan to the presidency, the National Government still had at its command, with constitutional right of disposal, nearly a billion and a half acres. It had not yet squandered an empire to scheming railroad companies, though petitions began to pour in begging for grants for various public and private interests. Agricultural societies throughout the Union, seemingly in concerted action, followed the clamoring multitude by asking for the donation of public lands to the States for the purpose of agricultural education. The agitation took formal shape as early as 1852, when the Legislature of Massachusetts passed a resolution asking Congress for a grant of lands for the purpose of promoting a "National Normal College," as they styled it; and similar propositions, urging that the nation should promote scientific instruction in agriculture, in order to preserve the chief industry of the country, soon came from many sides. It was claimed that the prevailing methods of agriculture were rapidly exhausting the soil, while weeds, insect pests, blights and mildews were overrunning gardens, fields, and orchards.

In 1858, memorials were presented in Congress from the Kentucky and New York agricultural societies, and from the Legislatures of New York, California, and Missouri, praying for lands for educational purposes in State agricultural colleges. Hon. Justin A. Morrill, of Vermont, in speaking of this subject before the House of Representatives, on April 20, 1858, said: "There has been no measure for years which has received so much attention in the various parts of the country as the one now under consideration, so far as the fact can be proved by petitions which have been received from various States, north and south, from State societies, county societies, and from individuals. Petitions have come in almost every day from the commencement of the session."

The bill then before Congress, granting land to the States for agricultural colleges, upon which Mr. Morrill spoke these words, was almost identical with the one which became a law four years later. It was introduced and brought to its passage in the House. The main difference between it and the one which finally won success was, that the former granted only 20,000 acres

of land for each Senator and Representative in Congress, instead of 30,000, finally allowed. Temporary loss resulted, as it does so often, in permanent gain. The first bill passed the House April 22, 1858, and was indorsed by the Senate at the following session, but it met the veto of President Buchanan, February 24, 1859.

The veto message adopts the view of the timid school of interpreters of the constitution, and sets forth the obstacles which the friends of national aid to education and the public-school system had to encounter a generation or two ago. It rested mainly, like the well-known veto of the homestead bill a year later, upon constitutional grounds. He urged the minor objections, that such a measure was inexpedient, in cutting off $5,000,000 of revenue at a time when it was difficult to meet the expenses of the Government and to sustain public credit; that it would be injurious to the new States, in enabling speculators who might buy the land scrip to withhold their land from settlement, and thus run up the price to the actual settler; that the Government would have no power to follow into the States to see that it was properly executed; and that such a donation would interfere with the growth of established colleges. "It would be better," says the message, "if such an appropriation of land must be made to institutions of learning, to apply it directly to the establishment of professorships of agriculture and the mechanic arts in existing colleges, without the interference of State legislatures."

Undoubtedly some of the objections were strong ones. The history of several of the agricultural schools, where the land was fooled away to land speculators, and the proceeds given to classical institutions, vindicated a number of them only too well; but they were posed simply to furnish a necessary background. He believed that the proposed grant violated the constitution of the United States. He presumed it "undeniable that Congress does not possess the power to appropriate money in the treasury, raised by taxes on the people of the United States, for the purpose of educating the people of the respective States. This would be to collect taxes for every State purpose which Congress might deem expedient and useful—an actual consolidation of the Federal and State governments." The power specifically given to Congress, "to dispose of the territory and other property of the United States," was to be used only for the objects specifically enumerated in the constitution. At least the public lands could not be "given away." He believed that the previously-made donations of the sixteenth sections, and, later, of the thirty-sixth sections, for common schools, and of townships for universities and seminaries, were safely constitutional; but in these transactions the Government had not "given away" land. It had merely acted as a prudent speculator in "disposing of" some land, in order to enhance the price of the balance. The message "purposely avoided any attempt to define what portions of land may be granted, and for what purpose, to improve the value and promote the sale of the remainder, without violating the constitution."

In speaking of this veto, Prof. James Albert Woodburn says:

> That would, indeed, have been an interesting definition. It would have squared

the circle in a constitutional sense. For nothing has been more impossible in our constitutional history than to limit, by rigid and permanent written definitions, the constitutional powers of the nation. It is now generally accepted as true that, while a written parchment can define broad principles of government which may not be violated, it cannot contain specifically all the necessary and proper powers which, under varying circumstances, may be exercised by the state. These must be determined by progressive national interpretation. In the doctrine of implied powers there was found "a sleeping giant in the constitution," which has been able at numerous times to assert its strength for the common benefit of all the States. This giant power has been forcibly wielded, always in a beneficent way, in the history of national grants in aid of education within the States. In seeking to promote the public welfare under the same written document, another Congress and a new President found it possible for the nation to extend again a helping hand to the States in the establishment of schools and for the promotion of learning.

"Where there is a lack of argument against a measure," said Mr. Morrill, while facing the veto of his bill, "the constitution is fled to as an inexhaustible source of supply." There was nothing left, though, but to re-introduce it in the House of the Thirty-ninth Congress, where it was again unfavorably reported by the Committee on Public Lands.

In the meantime, however, the measure had found a champion in the person of Senator Wade, of Ohio, and on May 5, 1862, this gentleman introduced in the Senate the bill which, after much opposition, finally became a law. It was postponed and delayed in various ways. Even our Kansas Senator, "Jim" Lane, of Leavenworth, objected to it, because it would, as he thought, exhaust all the valuable public land in his State; and in this he was generally supported by the press. The redeeming feature of Senator Lane's opposition was his unflinching belief that Kansas was "the only State with desirable public lands within its borders," and that, in case the bill should become a law, all other States from New Jersey to Illinois would rush to Kansas to take up her beautiful prairies. Mr. Lane finally fell back on the constitutional objection, and warned the Senate against the danger of "giving to sovereign States the right of entering lands within the sovereign States." Unable to defeat the bill, he and his coadjutors made a fight for the amendment that no more than 1,000,000 acres of the land should be located in any one State by assignees of the lands, and in this they were successful.

The bill, as amended by the Kansas Senator, passed the Senate June 10, 1862, the House one week later, and became a law on July 2, 1862, by receiving the signature of President Abraham Lincoln. The act is as follows:

[*Chapter CXXX, United States Laws 1862.*]

AN ACT donating public lands to the several States and Territories which may provide colleges for the benefit of agriculture and the mechanic arts.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled:

That there be granted to the several States, for the purposes hereinafter mentioned, an amount of public land, to be apportioned to each State a quantity equal to 30,000 acres for each Senator and Representative in Congress to which the States are respectively entitled by the apportionment under the census of 1860: *Provided*, That no mineral lands shall be selected or purchased under the provisions of this act.

SECTION 2. *And be it further enacted*, That the land aforesaid, after being surveyed, shall be apportioned to the several States in sections or subdivision of sections not less than one-quarter of a section; and whenever there are public lands in a State subject to sale at private entry at $1.25 per acre, the quantity to which said State shall be entitled shall be selected from such lands within the limits of such State; and the Secretary of the Interior is hereby directed to issue to each of the States in which there is not the quantity of public lands subject to sale at private entry at $1.25 per acre, to which said State may be entitled under the provisions of this act, land scrip to the amount in acres for the deficiency of its distributive share: said scrip to be sold by said States, and the proceeds thereof applied to the uses and purposes prescribed in this act, and for no other use or purpose whatsoever: *Provided*, That in no case shall any State to which land scrip may thus be issued be allowed to locate the same within the limits of any other State or of any Territory of the United States, but their assignees may thus locate said land scrip upon any of the unappropriated lands of the United States subject to sale at private entry at $1.25 or less per acre: *And provided further*, That not more than 1,000,000 acres shall be located by such assignees in any one of the States: *And provided further*, That no such location shall be made before one year from the passage of this act.

SEC. 3. *And be it further enacted*, That all the expenses of management, superintendence and taxes from date of selection of said lands previous to their sales, and all expenses incurred in the management and disbursement of the moneys which may be received therefrom, shall be paid by the States to which they may belong, out of the treasury of said States, so that the entire proceeds of the sale of said lands shall be applied without any diminution whatever to the purpose hereinafter mentioned.

SEC. 4. *And be it further enacted*, That all moneys derived from the sale of the lands aforesaid by the States to which the lands are apportioned, and from the sales of land scrip hereinbefore provided, shall be invested in stocks of the United States or of the State, or some other safe stocks, yielding not less than 5 per centum upon the par value of said stocks; and that the money so invested shall constitute a perpetual fund, the capital of which shall remain forever undiminished, (except so far as may be provided in section 6 of this act,) and the interest of which shall be inviolably appropriated by each State which may take and claim the benefit of this act to the endowment, support and maintenance of at least one college, where the leading object shall be, without excluding other scientific and classical studies, and including military tactics, to teach such branches of learning as are related to agriculture and the mechanic arts, in such manner as the Legislatures of the States may respectively prescribe, in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions in life.

SEC. 5. *And be it further enacted*, That the grant of land and land scrip hereby authorized shall be made on the following conditions, to which, as well as to the provisions hereinbefore contained, the previous assent of the several States shall be signified by legislative acts:

First. If any portion of the fund invested, as provided by the foregoing section, or any portion of the interest thereon, shall, by any action or contingency, be diminished or lost, it shall be replaced by the State to which it belongs, so that the capital of the fund shall remain forever undiminished; and the annual interest shall be regularly applied, without diminution, to the purposes mentioned in the fourth section of this act, except that a sum not exceeding 10 per centum upon the amount received by any State under the provisions of this act may be expended for the purchase of lands for sites or experimental farms, whenever authorized by the respective Legislatures of said States.

Second. No portion of said fund, nor the interest thereon, shall be applied directly or indirectly, under any pretense whatever, to the purchase, erection, preservation or repair of any building or buildings.

Third. Any State which may take and claim the benefit of the provisions of this act shall provide, within five years at least, not less than one college, as described in the fourth section of this act, or the grant to such State shall cease; and said State shall be bound to pay the United States the amount received on any lands previously sold, and that the title to purchasers under the State shall be valid.

Fourth. An annual report shall be made regarding the progress of each college, recording any improvements and experiments made, with their costs and results, and such other matters, including State industrial and economical statistics, as may be supposed useful; one copy of which shall be transmitted by mail free, by each, to all the other colleges which may be endowed under the provisions of this act, and also one copy to the Secretary of the Interior.

Fifth. When lands shall be selected from those which have been raised to double their minimum price, in consequence of railroad grants, they shall be computed to the States at the maximum price, and the number of acres proportionately diminished.

Sixth. No State while in a condition of rebellion or insurrection against the Government of the United States shall be entitled to the benefits of this act.

Seventh. No State shall be entitled to the benefits of this act unless it shall express its acceptance thereof, by its Legislature, within two years from the date of its approval by the President.

SEC. 6. *And be it further enacted*, That land scrip issued under the provisions of this act shall not be subject to location until after the first day of January, one thousand eight hundred and sixty-three.

SEC. 7. *And be it further enacted*, That the land officers shall receive the same fee for locating land scrip issued under the provisions of this act as is now allowed for the location of military bounty land warrants under the existing laws: *Provided*, Their maximum compensation shall not be thereby increased.

SEC. 8. *And be it further enacted*, That the Governors of the several States to which scrip shall be issued under this act shall be required to report annually to Congress all sales made of such scrip until the whole shall be disposed of, the amount received for the same, and what appropriation has been made of the proceeds.

THE ENDOWMENT.

Kansas was among the first of the States to accept the proffered endowment. The resolution of the Legislature to "agree and obligate itself to comply with all the provisions of said act" was approved by Governor Carney February 3, 1863, and the resolution to accept the offer of the trustees of Bluemont Central College in "fee-simple" February 16 of the same year. Thus Manhattan became the seat of the Kansas State Agricultural College. The following are the laws of the State relating to these steps:

JOINT RESOLUTION accepting the provisions of an act of Congress, entitled "An act donating public lands to the several States and Territories which may provide colleges for the benefit of agriculture and the mechanic arts," approved July 2, 1862.

Be it resolved by the Legislature of the State of Kansas:

That the provisions of the act of Congress, entitled "An act donating public lands to the several States and Territories which may provide colleges for the benefit of agriculture and the mechanic arts," approved July 2, 1862, are hereby ac-

cepted by the State of Kansas; and the State hereby agrees and obligates itself to comply with all the provisions of said act.

Resolved, That upon the approval of this act by the Governor, he is hereby instructed to transmit a certified copy of the same to the Secretary of State and Secretary of the Interior of the United States.

AN ACT to locate and establish a college for the benefit of agricultural and the mechanic arts.

WHEREAS, The Congress of the United States, by an act approved July 2, 1862, and entitled "An act donating public lands to the several States and Territories which may provide colleges for the benefit of agriculture and the mechanic arts," granted to the State of Kansas, upon certain conditions, 90,000 acres of public lands for the endowment, support and maintenance of a college, where the leading object shall be, without excluding other scientific and classical studies, and including military tactics, to teach such branches of learning as are related to agriculture and the mechanic arts, in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions in life; and

WHEREAS, The State of Kansas by its Legislature has expressed its acceptance of the benefits of the said act of Congress, and has agreed to fulfill the conditions therein contained: therefore,

Be it enacted by the Legislature of the State of Kansas:

SECTION 1. That the College, in the foregoing preamble mentioned, be and the same is hereby permanently located at and upon a certain tract of land, situated and being in the county of Riley and the State aforesaid, and bounded and described as follows: Commencing at a point 40 rods east of the northeast corner of the southwest quarter of section number 12, in township number 10 south, and range number 7 east of the sixth principal meridian; thence running south, parallel to the east line of said quarter-section, 80 rods; thence west 200 rods, more or less, to the west line of said quarter-section; thence north on the west line of said quarter-section 80 rods, to the north line of said quarter-section; thence east 200 rods, on the north line of said quarter-section, to the point of beginning, containing 100 acres: *Provided, however*, That the location of said college, as aforesaid, is upon this express condition, that the Bluemont Central College Association, in whom the title of said land is now vested, shall within six months from and after the approval of the Governor hereto, cede to the State of Kansas, in fee-simple, the real estate above described, together with all buildings and appurtenances thereunto belonging; and shall, within such time, transfer and deliver to said State the apparatus and library belonging to said Bluemont Central College Association.

SEC. 2. The Governor of the State is hereby authorized to receive the title papers by which the foregoing mentioned property may be transferred to the State, and to cause the same to be duly recorded in the proper office, and to be deposited in the office of the Auditor of State.

SEC. 3. This act shall be published twice in some newspaper printed at Topeka, and shall take effect and be in force from and after such publication.

Took effect February 19, 1863.

AN ACT to provide for the location of lands granted to the State by act of Congress approved July 2, 1862, and making an appropriation therefor.

Be it enacted by the Legislature of the State of Kansas:

SECTION 1. The Governor is hereby authorized to appoint three commissioners to select and locate the lands to which the State is entitled under the act of Congress approved July 2, 1862, entitled "An act donating public lands to the several States

and Territories which may provide colleges for the benefit of agriculture and the mechanic arts;" and such commissioners are hereby authorized and empowered to take any and all steps necessary to the complete location of said lands.

SEC. 2. Each commissioner shall receive the sum of $3 per day for every day's actual service, and his reasonable expenses; and the Auditor is hereby directed to issue warrants on the treasury for the same upon an account, properly verified under oath, being filed in his office. The commissioners shall make a report to the Governor of all their proceedings under this act, to be transmitted by his excellency to the next Legislature.

SEC. 3. This act shall take effect from and after its passage.

Approved March 3, 1863.

Three commissioners were immediately appointed by the Governor to select the lands. The grant gave 90,000 acres; but as a portion of the selected tracts supposed to be within the railroad limits counted double, the College received but 82,313.52 acres. In the fall of 1866, Hon. J. M. Harvey commenced the appraisal of these lands, and July 27, 1867, reported his work completed. Hon. I. T. Goodnow was appointed Land Agent. Hon. S. D. Houston having, as temporary agent, previously sold a few acres. Mr. Goodnow held the office until the reorganization of the College in 1873, and sold about 42,000 acres, for about $180,000. His successor, L. R. Elliott, held the office of Land Agent from 1873 to 1883, and sold over 32,000 acres, for about $240,000. The remainder, some 8,000 acres, was sold for over $30,000 by Mr. J. B. Gifford, who held the office of Land Agent until after all the land was sold, in 1888. The total fund derived from these sales is $502,927.35, all of which, except unpaid land contracts, is invested in Kansas school and municipal bonds, paying 6 per cent. interest. The State has made good losses from this fund by unfortunate investment or fraud to the amount of $3,775.57.

The deficiency of 7,686.48 acres in the amount of land received by the College was closely inquired into, and the still valid claim was presented before the Department of the Interior by Hon. S. J. Crawford, in 1880, and again in 1887, with added proof of its character, afforded by later decisions of the Supreme Court of the United States. When the Secretary of the Interior refused to reopen the case decided adversely in 1880, the matter was brought to the attention of Congress by a joint resolution offered in the House of Representatives by Hon. John A. Anderson, granting to the State the privilege of selecting from public lands still unsold within the limits of the State the amount needed to make up the loss from the original 90,000 acres. The resolution was favorably reported by the Committee on Public Lands, and passed both Houses without objection. President Cleveland, however, vetoed it upon the ground that this State, having selected lands which fell within the limits of the railroad, afterwards located, had received all to which it was rightly entitled.

CONGRESSIONAL APPROPRIATIONS.

In March, 1887, Congress passed the so-called "Hatch bill," which provided for the organization in each State of a station for agricultural experiments, and gave to each station an annual appropriation of $15,000 for this purpose. The Legislature designated this College as the proper place for such experimental work, and the institution has received since April, 1888, when the first payment was made, $82,500 from this source. Further particulars with regard to this appropriation, and the very valuable work which it has enabled the College to do in the interest of western agriculture, will be found in another part of this historical sketch.

On August 30, 1890, another act was passed by Congress, the so-called "College aid bill," an act applying a portion of the proceeds of the public lands to the more complete endowment and support of the colleges for the benefit of agriculture and the mechanic arts established under the provisions of the "Morrill act." It provides for an annual appropriation, beginning with $15,000 for 1890, with an annual increase for 10 years by an additional sum of $1,000 over the preceding year, the annual amount thereafter to each State to be $25,000. A copy of this bill will be found elsewhere in this volume, together with some facts pertaining to its history.

STATE APPROPRIATIONS.

In miscellaneous appropriations, the College has received from the State, since its organization, and including the fiscal year 1892–'93, for which appropriations have been made, about $283,000. The township of Manhattan, in 1871, donated $12,000 in bonds. These appropriations were made partly for permanent improvements and partly for running expenses or canceling debts, and do not include pay of Regents, Land and Loan Agents, or for selecting lands. Those of 1866–'70 were first made in shape of a loan, but were donated again in 1870. It will be seen that the average annual State appropriation has been less than $10,000, while a comparison of the aggregate with the inventory of June, 1892, amounting to $291,419.85, shows a difference in favor of the College of over $8,000.

In other words, the present inventory more than accounts for or compensates for every cent the tax-payers of Kansas have contributed toward the upbuilding of the institution.

III.

THE AGRICULTURAL COLLEGE IN 1863.—PRESIDENT DENISON.—FROM 1863 TO 1873.—PROFESSOR MUDGE.—STATE APPROPRIATIONS AND PERMANENT IMPROVEMENTS DURING THE FIRST DECADE.

IT is natural that the College should have remained for a time, as it did, under the care of its founders and donators, and as a consequence should have conformed to the ideal before their minds. The charter provided for four departments—science and literature, mechanic arts, agriculture, and military tactics. Of these, that of science and literature was put in operation. The course was laid out to cover four years, with an indefinite preparatory, and conformed closely with that of Bluemont Central College. The first catalogue gives the names of 94 students in the preparatory department and 14 in the College proper. Seventy-four were from Riley county. The Faculty consisted of Rev. Joseph Denison, D. D., A. M., President and Professor of Ancient Languages and Mental and Moral Sciences; J. G. Schnebly, A. M., Professor of Natural Science; Rev. N. O. Preston, A. M., Professor of Mathematics and English Literature; Jeremiah Evarts Platt, Principal of Preparatory Department; Miss Belle Haines, assistant teacher in the Preparatory Department; and Mrs. Eliza C. Beckwith, teacher of instrumental music.

PRESIDENT DENISON.

Joseph Denison, D. D., A. M., the first President of the Kansas State Agricultural College, was born in Bernardston, Franklin county, Massachusetts, October 1, 1815. When he was two years old his parents removed to Colerain, in the same county, where they engaged in farming. Here young Denison lived the usual life of the New England farmer boy of those days. In the fall of 1833 he entered Wilbraham Academy to prepare for college, and in 1837 he joined the sophomore class in Wesleyan University, at Middletown, Conn., where he graduated in 1840. In the same year he was elected professor of languages in ~~America~~ Seminary, Dutchess county, New York, and held that position for three years, having for his pupils such men as Alexander Winchell, the renowned geologist, and Albert S. Hunt, the great philanthropist, whose gifts to hospitals and institutions of learning have aggregated $1,000,000 or more. From 1843 to 1855 he was engaged in the work of the ministry in Massachusetts, and in the spring of the latter year he came to Kansas, settling on a tract of Government land near Manhattan, where he became one of the prime movers in the organization of Bluemont College and afterward its ~~third~~ president. The ~~first~~ acting president of Bluemont College was I. T. Goodnow, ~~and the second Rev. R. L. Harford~~. A few ~~years~~ later, when the College became a State institution, he ~~was still~~ its President, holding this

Washington Marlatt was Principal of Bluemont Central College when it opened January 9, 1860.

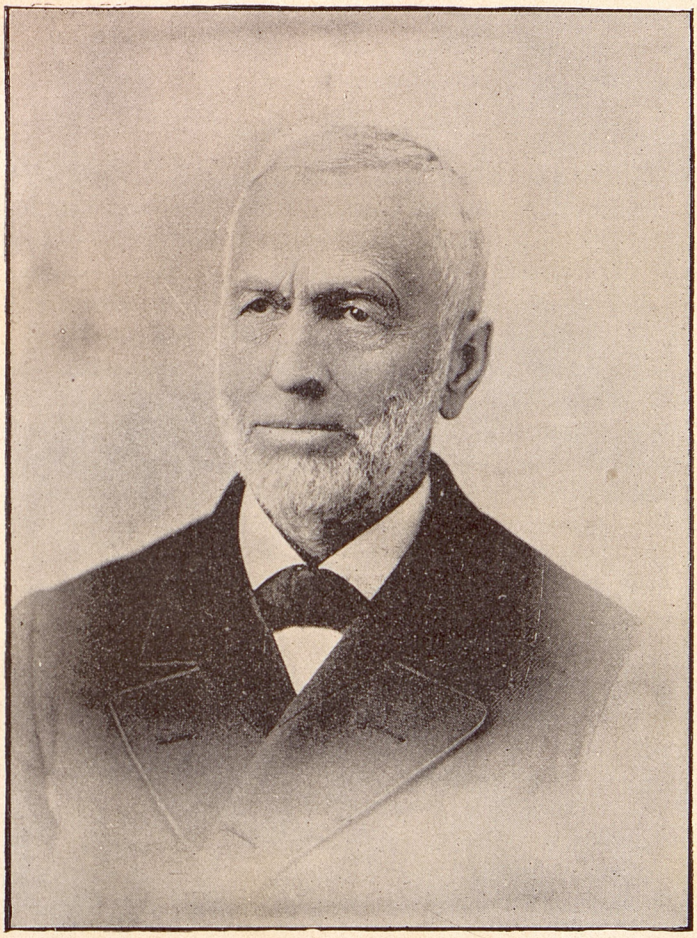
The office of Principal was declared vacant September 11,1861, and I. T. Goodnow elected to that position to serve until April 1, 1862.

By action of the resident trustees acting as a prudential Committee, March 29, 1862, I. T. Goodnow was left in charge of the College with the title of Acting President.

Although the Bluemont building and 100 acres of land had been offered to the State of Kansas by the Bluemont Central College Association, and accepted by the State February 16, 1863, the prudential committee of that Association passed a motion March 5, 1863, requesting the presiding Bishop of the Kansas Methodist Episcopal Conference to be held March 11, 1863, to appoint the Reverend Joseph Denison to the Presidency of Bluemont Central College. The appointments recorded in the minutes of that Conference include this item: "J. Denison, President of Bluemont College, member of Manhattan Quarterly Conference."

The committee on education of the Methodist Episcopal Conference held March 11-16, reported Bluemont Central College as having been in successful operation during the past conference year, under the superintendence of Prof. R. L. Harford, assisted by Misses Hubbard and Bemis. (Minutes of the Conference, March 11-16, 1863.)

The Minutes of the Board of Regents of the Kansas State Agricultural College for July 23, 1863, show that Rev. Joseph Denison was elected President of that College, on that date. He served to August 31, 1873.



REV. JOSEPH DENISON.

responsible position until 1873, when he resigned, and soon after accepted, for a time, the presidency of Baker University, at Baldwin City. At present he is engaged in the work of the ministry of the Methodist Episcopal Church. Doctor Denison is characterized by his collaborators as a man of conservative views with regard to education, politics, and religion—a typical New Englander of the old school. As a financier, for himself as well as for the institution, he did not prove an entire success, but he was warmly devoted to his work, honest to himself and his trust, and unselfish in every one of his acts. Kansas owes Doctor Denison a debt of gratitude which can never be repaid.

FROM 1863 TO 1873.

During the first 10 years the College grew slowly. Up to 1873, only 15 students had graduated, while the number of students in attendance during any one term never reached 125, and these were mostly from Riley and the adjoining counties. Some of the efforts made by the Faculty to populate the empty school benches seem almost incredible at the present time. "At a Board meeting, December 2, 1863, President Denison stated that he had entered into a contract with the board of directors of the district school of the place to have their scholars instructed during the winter in the College—principally in the Preparatory Department of the institution—for the sum of $130. At the same meeting, Mr. Jeremiah Evarts Platt was elected to a professorship in the Preparatory Department and Professor of Vocal Music, at a salary of $600 per annum." (Report of State Commissioners, 1873.)

The catalogue for 1868 gives the number of students present in the winter term as 83, and the report for the fiscal year ending November 30, 1871, states the number of students then present in the different departments as 119—64 gentlemen and 55 ladies. Of the students in the College course proper, in the fall term of 1871, 14 were in the Literary Department and 10 in the Agricultural and Scientific Course. The number of counties of the State represented by students in the three terms of the year 1870 was 22, and the number of other States six. In 1871—*i. e.*, in the common year, not in the school year—27 counties and seven States were represented.

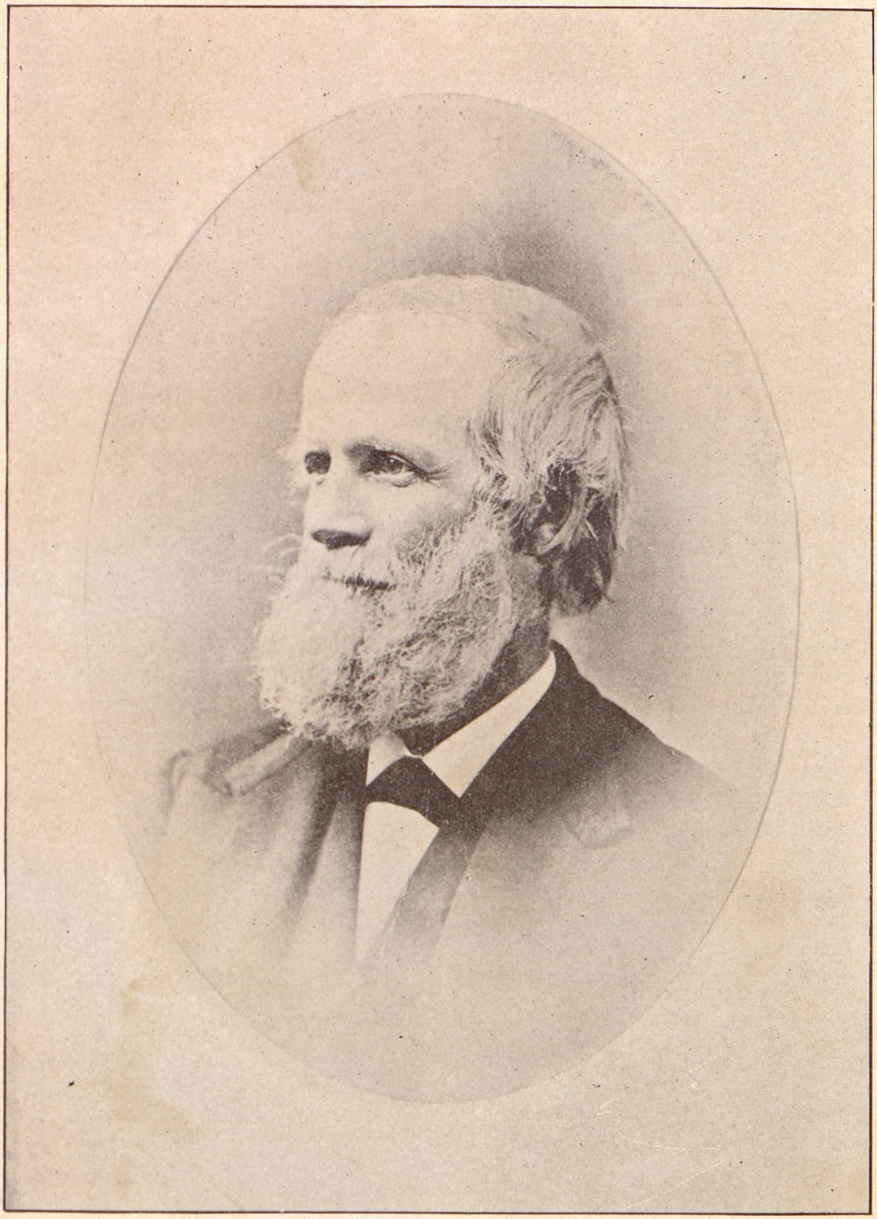
The reasons for this slow growth must be looked for in many directions: The newness of the State, the western location of Manhattan, the inadequacy of means, the founding of rival literary institutions at Lawrence, Baldwin, Topeka, etc., and the fact that industrial education was in its experimental stage. President Denison and a majority of the professors were classic students, and had no faith in the educational results of technical instruction not connected with the classics. They planned to add elective work in practical science and applied mathematics to the "old education," but it was intended to supplement, and not supplant, this. The introduction of obligatory daily manual labor as an educational factor was not attempted. Aside from occasional lectures on general topics, little was done for agriculture and the mechanic arts, and the increasingly frequent demands for an institution that

would educate towards, instead of away from, the farm and the workshop were met with uncertain promises. The Board, largely composed of professional men, must have held similar views, though the report of the State Commissioners of 1873 says that "attempts were made by members of this body at different times to change the curriculum of study, and in other respects to alter the running of the College so as to make it conform more nearly to the demands of the people."

It should not be assumed, however, that the institution failed of doing good work in its class-rooms. The Literary Department was second to no higher school of the kind in the State. The catalogue of 1868–'69 states that up to that time the College had educated at least 80 teachers for the public schools. A considerable number of ministers, especially of the M. E. Church, which still considered the institution as its protégé, and reported it as such at the annual conferences, also received their education here. Nor were the sciences entirely neglected. Benjamin F. Mudge, A.M., called to the chair of natural science in 1865, was an enthusiastic teacher and an untiring explorer. Aided by some of his pupils, one of whom is now professor of geology at the Kansas State University, Professor Mudge made a large collection of geological specimens and donated it to the College, where it formed a nucleus of the present museum. Being the first "take" in the new State, it contained many specimens which could not have been acquired later.

PROF. BENJAMIN FRANKLIN MUDGE.

Prof. Benjamin Franklin Mudge, A. M., was born in Orriton, Me., August 11, 1817, and died at Manhattan, Kas., November 21, 1879. When Benjamin was two years old, his father's family moved to Lynn, Mass., and engaged in the shoe business. In 1840, B. F. Mudge graduated at Wesleyan University, Middletown, Conn. Some years later this institution honored him with the degree of master of arts. During his vacation, and at odd moments, he diligently pursued his studies in natural history; and although after graduating he entered the legal profession, he never relaxed his interest in science, and gathered here the nucleus of the mineralogical collection which he afterwards presented to the Kansas State Agricultural College. After practicing law for 16 years, during which time he was twice honored with the mayoralty of Lynn, he removed to Cloverport, Ky., where he was connected with the Breckinridge Coal Company. On the breaking out of the rebellion, he removed to Wyandotte county, Kansas, and, his love for geology becoming known, he frequently delivered lectures on his favorite study through the State. In 1864, through the influence of Hon. I. T. Goodnow, Superintendent of Public Instruction, he was invited to deliver a course of lectures before the Legislature, whereupon this body conferred upon him the office of State Geologist—an honor entirely unsought, yet thoroughly enjoyed. While the State appropriation provided for the office but a short time, he was subsequently elected geologist under the State Board of Agriculture, which office he held during life.



PROF. BENJAMIN F. MUDGE.

In 1865, he was elected to fill the chair of natural sciences in the Kansas State Agricultural College, to which institution, with a royal munificence, he donated his entire cabinet, valued at $3,000. It was during one of his summer excursions that he discovered *Ichthyornis dispar*, a bird with teeth and bi-concave vertebræ. He severed his connection with the College in February, 1874, on account of a serious disagreement with the new management. Like his collaborators, Pres. Joseph Denison, Land Agent I. T. Goodnow, and Prof. H. J. Detmers, he did not believe in industrial education and manual training, and resisted the efforts in reorganizing the College of the newly-appointed Board of Regents and Pres. John A. Anderson, to the extent of leaving his classes and going to Topeka to interview the Governor on these matters. The new management was victorious, and Professor Mudge left the institution where for eight years he had labored so unselfishly and intensely.

The last years of his life he spent chiefly in making collections for Professor Marsh, of Yale College, and thus brought before the scientific world many new and rare discoveries. On Friday, November 21, 1879, the Professor was engaged with his friend Dr. Blachly, of Manhattan, in geologizing on Bluemont ridge north of the city, exercising himself violently with pick and shovel. Upon his return he sat down to read with his family, when, feeling a pressure in his head, he stepped out-of-doors to take a walk, and died there of apoplexy.

Professor Mudge has been called the prince of collectors in the West. He discovered over 80 new species of the fossil flora, and an equally large number of species of the fossil fauna. In 1871, the eminent naturalist, Professor Lesquereux, said of him: "He is the only truly scientific geologist west of the Mississippi river."

To him the State of Kansas owes its first comprehensive geological map; and it was a proper acknowledgment of her indebtedness to his unselfish life-work, when, after his death, in 1879, his name was engraved in one of the wall panels in the Hall of Representatives at the State Capitol, and the Academy of Science erected a massive granite monument upon his grave, overlooking the College building from a neighboring hill.

APPROPRIATIONS FOR 1863–1873.

During the presidency of Mr. Denison, the College received appropriations by the State to the amount of $77,468.85. There were appropriated, exclusive of pay of Regents, Land and Loan Agents:

For 1864, $2,802.25
For 1865, 3,316.50
For 1867, 18,011.10
For 1868, 6,420.00
For 1869, 8,919.00
For 1872, 15,000.00
For 1873, 23,000.00

In miscellaneous appropriations for 1871, the College was given $2,700, but the amount, for reasons not known to the writer, was never drawn. Quite the reverse seems to have happened in 1866. In the Session Laws of 1867, page 3, section 2, it is seen that there was loaned to the College in 1866 the sum of $5,500, but the Laws of 1866 contain no act making such appropriation. The Auditor's books show that it was for deficiency of professors' salaries for the years 1864, 1865, and part of 1866.

In the appropriation act of 1867 a condition was inserted, viz.: "The said sum to be taken and deemed a loan from the State of Kansas to the State Agricultural College, to be reimbursed to the State after the State shall have been reimbursed for the $5,500 lent to said College for the year 1866."

An act approved March 1, 1870, contains the following:

WHEREAS, The State of Kansas has heretofore advanced as a loan from time to time the several sums necessary to pay the salaries of professors in said College, thus complying with the condition that the institution should go into active operation within a limited time, and securing its benefits to the earlier pioneer settlers in the commonwealth: therefore,

Be it enacted by the Legislature of the State of Kansas:

SECTION 1. That the several sums advanced to pay the professors in the Kansas State Agricultural College from the year 1863 to the year 1869, inclusive, be and the same are hereby donated to said College, together with all interest that may have accrued on said sums: *Provided*, That the amount hereby donated shall be used as the Board of Regents of said College may direct: to purchase additional lands for the College farm; to erect buildings; and to develop the Agricultural Department of said College: *And provided*, That the sum of $1,500 may be appropriated from said donation for the purchase of a proper set of arms and accoutrements for the use of the drill class in the Military Department required by law in said College.

SEC. 2. The Treasurer of the Board of Regents is hereby authorized to pay upon the orders of said Regents an amount equal to the sum donated by this act to said College out of any interest upon the endowment fund that may at any time be in his hands in excess of orders then due for professors' salaries: *Provided*, That if any order drawn upon said Treasurer on account of the donation made by this act shall not be paid on presentation, said Treasurer shall indorse thereon, "Not paid for want of funds;" and any order thus indorsed shall bear interest at the rate of 7 per cent. per annum until paid.

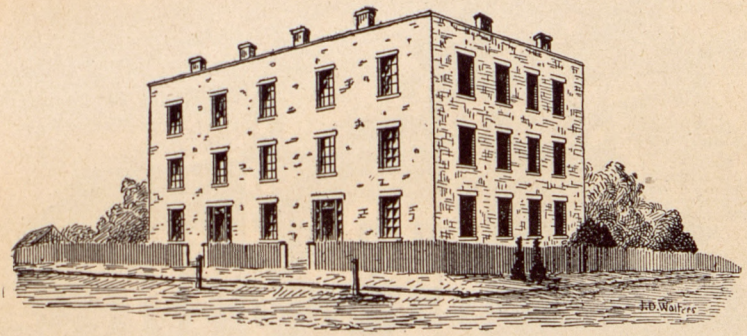
Immediately after the approval of this act, the Board of Regents had engraved or lithographed 364 pieces of scrip, so-called "College greenbacks," of the denomination of $100 each, made payable at different times for a period of eight years, beginning July 1, 1870. These orders were used in purchasing the farm and supplies for the same, for boarding-house repairs, and for improvements of various kinds. On December 22, 1871, the issue of this depreciated paper was stopped by the Board of Regents, but the $33,700 already issued proved a serious burden to the institution for many years, on account of the high rate of interest which prevailed at that time in Kansas. The greater part of this obligation ($28,258.23) was paid in 1874 and 1875 —*i. e.*, after the reorganization—but the remainder drew interest until 1881,

when President Fairchild succeeded in convincing the Legislature that it was their duty to provide for its cancellation.

The Board of State Commissioners, in their reports for 1873 and 1874, intimate that the existence of the College greenback was the result of the incapacity of the management, and the Legislature placed the charge heavily upon the shoulders of President Denison and his associates; but it should be remembered that the State refused to make appropriations to the College for 1866, 1870, and 1871, and that a public institution cannot, like certain orchids, live on Kansas air and rain-water. As a State institution, it ought to have been sustained or abolished.

IMPROVEMENTS MADE IN 1863–1873.

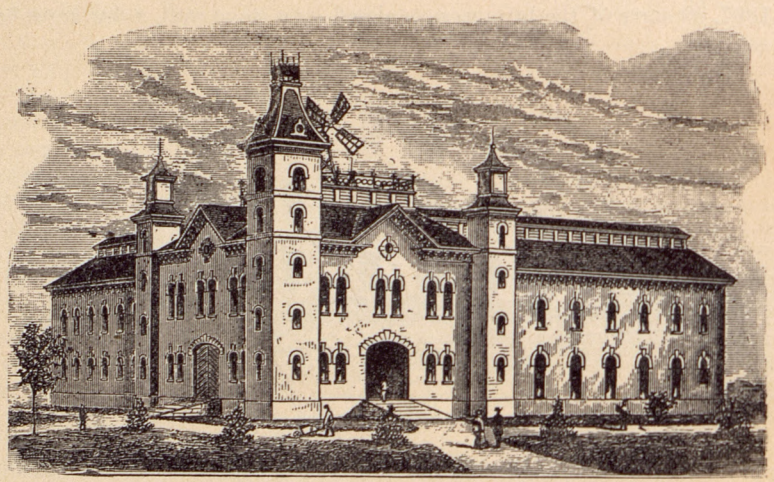
The following is a short synopsis of the material signs of progress and growth during the period: A library of nearly 3,000 volumes was accumulated, chiefly through the efforts of Hon. I. T. Goodnow, who wrote hundreds of soliciting letters to Eastern publishers, philanthropists, and personal friends. In 1867, 80 acres of the farm were enclosed by a stone wall, a few acres having previously been broken. In the same year a capacious student boarding hall was built by resident parties, but, proving a poor financial investment, it was afterwards urged upon the College. At the time of its erection the building met an evident want; but, costing the College over $10,000, at a time when this was financially embarrassed, the purchase was a misfortune. In 1875, when the College was removed to the new farm, the hall became entirely useless, until, in 1889, after having been sold to a private party for $1,000, a fire devoured its rotten floors and roofs and calcined its crumbling walls. In 1868, a forest plantation was commenced and an orchard planted. The former contained some 200 varieties of trees, many of which were entirely new to the prairie country, and have since then proved very valuable. The orchard was planted by Mr. Samuel Cutter, of Vinton, at an expense of 50 cents per tree. In the winter of 1868–'69, the Legislature made its first outright appropria-



BOARDING HALL.

tion, of $200, for the Agricultural Department, restricting its use to the purchase of plants, seeds, and agricultural implements. "As a matter of interest, it may be noted that the same Legislature appropriated $1,400 to furnish tobacco to the convicts in the Penitentiary." In 1869, the broken portions of the farm were rented to Col. Frank Campbell, the steward of the College boarding hall. In 1870, Prof. J. S. Hougham, the first teacher of agriculture and chemistry, planted the first crop, consisting of oats, barley, and corn; but "the oats and barley grew only six to eight inches tall, and the corn was all but destroyed by chinch-bugs." The next crop did much better, though. "In August of the same year the ground was sown to wheat, and in 1871 gave a yield of 43½ bushels per acre."

It had long become apparent to the Board of Regents that the dry and stony piece of upland upon which the College building stood was unsuited for the purpose of conducting agricultural and horticultural experiments. The humus crust was thin and poor, and the subsoil a perfect gravel bed, cemented together by a tough, yellow clay. The final result of many discussions of the



BARN—AS IT WAS TO BE.

matter was, that in July, 1871, two valuable tracts of land were purchased. One of these, the so-called "Ingraham place," consisting of 80 acres of very fine bottom land on the Wildcat creek, about two miles southwest of the College, was never used, but was sold in 1880. The other, adjoining the city of Manhattan, and containing nearly a quarter-section—a beautifully located tract of land—became the site of the present College. Of this, the northwest quarter, about 40 acres, was bought of Mrs. Preston, the widow of Prof. N. O. Preston, who, in February, 1866, had died from apoplexy in the class-room; the northeast quarter, about 40 acres, was bought from Prof. E. Gale; and the south half, about 75 acres, was bought from Mr. Foster. The total cost was $29,832.71 in scrip. The city of Manhattan, frightened over

the repeated attempts of zealous friends of the State University, at Lawrence, to consolidate the Agricultural College with that institution, contributed $12,000, the result of a bond election. A solid stone fence was built around the whole tract, and the erection of a large barn commenced — a broad-corniced, massive-looking stone structure, with numerous wings, towers, stairways, elevators, and offices. The barn was never completed, however, and the finished west wing served its purpose for a short time only. It was afterwards, under Pres. John A. Anderson, turned into a class-room building, and still later, under Pres. Geo. T. Fairchild, into a drill hall and museum.

In 1871, Fred. E. Miller was appointed Professor of Agriculture, and means were provided for the purchase of stock, teams, and implements. The foundation was laid for a herd of Short-horns, which still remains the pride of the College. In the following year a Veterinary Department was organized, and put under the management of Prof. H. J. Detmers, V. S., a German by birth and education, who has since then become an authority on the contagious diseases of the hog. The department was discontinued in 1874, for want of means and patronage. A Military Department, organized some years previously, and provided by the Government with a teacher in the person of Brevet Gen. J. M. Davidson, met with the same fate. The Veterinary Department was not revived until 1888, when a chair of veterinary science and physiology was created. The Military Department fared some better, in dating its revival September 1, 1881.

IV.

THE REORGANIZATION.—JOHN A. ANDERSON ELECTED PRESIDENT.—ANDERSON'S MAXIMS.—THE NEW EDUCATION.—THE INDUSTRIALIST.—CHARACTERISTICS OF ANDERSON.

IN accordance with an act of the Legislature reconstructing the governments of the several State institutions, approved March 6, 1873, Governor Osborn, in the spring of that year, appointed a new Board. Soon afterwards President Denison resigned, and the vacancy was filled by the election of Rev. John A. Anderson, of Junction City. The result was a radical change in the policy of the institution. To this Board, counting among its members such men as Dr. Charles Reynolds, post chaplain at Fort Riley, and J. K. Hudson, the founder of the Topeka *Daily Capital*, and to President Anderson, the State is indebted for the conception and inauguration of the educational policy which has placed the Kansas State Agricultural College near the head of the list of the land-grant institutions of America.

JOHN A. ANDERSON.

John A. Anderson was born in Washington county, Pennsylvania, June 26, 1834; graduated at Miami University in 1853, the room mate of President Benjamin Harrison; studied theology, and preached in Stockton, Cal., from 1857 till 1862. Early in that year he entered the army as chaplain of the Third California Infantry. In 1863, he entered the service of the United States Sanitary Commission, and his first duty was to act as relief agent of the Twelfth Army Corps. He was next transferred to its central office, in New York. When Grant began the movement through the Wilderness, Anderson was made superintendent of transportation, and had under his command half a dozen steamers. Upon completion of this campaign, he served as assistant superintendent of the canvass and supply department, at Philadelphia, and edited a paper called the *Sanitary Commission Bulletin*. At the close of the war he was transferred to the historical bureau of the commission, at Washington, remaining there one year, collecting data and writing a portion of the history of the commission. In 1866, he was appointed statistician of the Citizens' Association of Pennsylvania, an organization for the purpose of relieving the suffering resulting from pauperism, vagrancy and crime in the large cities. In February, 1868, he accepted a call from the Presbyterian Church at Junction City, Kas., and remained its pastor until the fall of 1873, when he became President of the Kansas State Agricultural College, at Manhattan, which position he held until his election to Congress, in 1878. While President of the College, he was ap-

HON. JOHN A. ANDERSON.

pointed one of the jurors on machine tools for wood, metal and stone at the Centennial Exhibition.

The subsequent history of John A. Anderson is equally characteristic of the man. He served as member of Congress from this district until the spring of 1891. During the fall campaign of 1890, the Farmers' Alliance movement had withdrawn from the ranks of the Republican party much of the element which had elected and reëlected him triumphantly in six consecutive elections. Anderson was not renominated, and refused to run "wild." The result was, that the Republican party, as well as its trustworthy leader in this district, lost a seat in Congress. Of the large number of congressional bills which were introduced and advocated by Anderson, may be mentioned the one reducing the postage of letters from 3 to 2 cents, and the one creating an Agricultural Department as a branch of the National Executive Government. In March, 1891, Anderson was appointed consul-general to Cairo, Egypt, and sailed for his new post on April 6; but his already enfeebled constitution could not endure the change of diet and climate. In the following spring he decided to return, and died on his home journey, in Liverpool, England. His remains rest in the cemetery near Junction City, Kas., by the side of his wife and parents.

ANDERSON'S EDUCATIONAL MAXIMS.

In a "Hand-book of the Kansas State Agricultural College," published in 1874, President Anderson fully discussed his reasons for the changes made in the old system, a few of which are epitomized here:

1. It is impossible for most people to find time to study everything that it is important for some men to master.

2. The subjects discarded, in whole or in part, by each separate class of students, should be those that it is supposed will be of least importance to them.

3. Of those retained, prominence should be given to each in proportion to the actual benefit expected to be derived from it.

4. The farmer and mechanic should be as completely educated as the lawyer and minister; but the information that is essential to the one class is often comparatively useless to the other; and it is therefore unjust to compel all classes to pursue the same course of study.

5. Ninety-seven per cent. of the people of Kansas are in the various industrial vocations, and only 3 per cent. in the learned professions; yet prominence is given to the studies that are most useful to the professions instead of those that are most useful to the industrial pursuits. This state of things should be reversed, and the greatest prominence given to the subjects that are the most certain to fit the great majority for the work they should and will pursue.

6. Most young men and young women are unable to go "through" college. Therefore, each year's course of study should, as far as practicable, be complete in itself.

7. The natural effect of exclusive headwork, as contradistinguished from handwork, is to beget a dislike for the latter.

8. The only way to counteract this tendency is to educate the head and the hands at the same time, so that when a young man leaves college he will be prepared to earn his living in a vocation in which he has fitted himself to excel.

THE NEW EDUCATION.

Adopting these views, the Board of Regents discontinued the school of literature and organized those of agriculture and the mechanic arts. Three new professorships were established, namely: Botany and entomology, Prof. J. S. Whitman; chemistry and physics, Prof. W. K. Kedzie; mathematics, Prof. M. L. Ward. In order to provide better accommodations for the students, the departments of instruction were removed from the old farm to the new one, where the finished wing of the barn was fitted up for class-rooms. Workshops in iron and wood, a printing office, a telegraph office, a kitchen laboratory, and a sewing room were equipped and provided with instructors, and 50 minutes of educational manual labor was added to the daily work of every student. Three years later the course of study was reduced to four years—*i. e.*, the preparatory course was abolished, the teaching of Butler's Analogy, Latin, German, and French discontinued, and the requirements for admission lowered so as to connect the institution directly with the better grade of public schools.

In order to fully appreciate the efforts of President Anderson with regard to the reorganization of the work of instruction, it seems necessary to take a glance at the educational reform movement in other parts of the country. It is a fact not generally known, and one of which Kansas and the friends of this institution may well be proud, that the Kansas State Agricultural College was among the very first free schools of college grade in the United States where systematic daily manual work became an obligatory branch of instruction for all male students, and that it was the first institution of any kind in this country which reduced the minimum age of admission to such instruction to 14 years. There had, of course, been numerous attempts to teach such work before, but it had either been made optional or else it was limited to certain departments. In the Worcester Free Institute, founded in 1865, and opened in November, 1868, the shop work was made obligatory only to the students in the course of mechanical engineering, all of whom were above 16 years of age. In the Industrial University of Illinois, shop work was provided only for the students in the architectural department. In Washington University, at St. Louis, the preparatory or manual training school, which, through the writings and enthusiastic work of its dean, C. M. Woodward, has become the pattern for schools of the kind from the Atlantic to the Pacific, and far beyond, and is usually considered as the pioneer institution that provided systematic instruction in wood and iron work for all of its pupils, made the first experiments in this line in 1872. The work, however, was limited to the polytechnic departments, and the age of admission of the pupils to 15 years, while the manual training school was not organized until June 6, 1879. The Massachusetts Institute of Technology, where the "father of American tool instruction," Pres. J. D. Runkle, developed the analytical system of shop work, an improvement upon the Russian system of Professor Della Vos, did

not commence instruction in iron-work until the spring of 1877. The only American institution, in fact, which gave daily shop instruction to all its pupils, previous to the reconstruction of the Kansas State Agricultural College, was the Stevens Institute of Technology, of Hoboken, N. J., created by the munificence of the great philanthropist, S. A. Stevens. It will be seen from these historic statements of the growth of tool instruction, that President Anderson was well in the front among the educators of the country who foresaw the coming educational changes; that he was a leader rather than a follower.

As might be expected, these changes of educational policy created some friction. Several members of the teaching force, disgusted with the reduction of the purely literary branches of instruction, resigned, while others, resisting the reorganization, were discharged. Even the newly-called members were more or less opposed to some of the methods adopted, especially with regard to the reduction of the course of study from six to four years, and the abolishing of all instruction in Latin. The most intense feeling existed for a while. The students, encouraged by the attitude of the retiring professors, held indignation meetings, while the citizens of Manhattan, considering the fight largely their own, were split into irreconcilable factions—"for Latin" and "against Latin." Petitions were sent to the Board requesting a change of policy in order to save the institution from certain ruin. The aid of the Governor was evoked to remove President Anderson, who was described as an educational charlatan, and a man of unrefined habits and manners; but the management remained firm. Gradually the storm subsided. The new members of the Faculty began to assert their influence; the attendance did not fall off as had been predicted; the Legislature was satisfied with the change; and the "new education," though hardly more than an experiment as yet, had scored another victory.

THE "INDUSTRIALIST."

President Anderson was a prolific and vigorous writer. He defended his policy whenever and wherever he was attacked, and gave no quarter. A chief weapon during the struggle was the *Industrialist*, a small weekly, edited by the Faculty and printed by the Printing Department. The first number appeared on April 24, 1875, and the paper has been issued ever since. The salutatory stated that the *Industrialist* was issued in the interest but not at the expense of the Agricultural College; "in part, to afford the members of the printing classes regular drill in the work of printing and publishing a weekly newspaper; in part, to photograph the work of the several departments of the Agricultural College, for the information of its patrons and the people; in part, to discuss the educational system and methods of Kansas from the stand-point of the rights and necessities of the industrial classes; in part, to contribute, so far as it can, such practical facts of science as may increase the profit or pleasure of the farmers, mechanics or business men or women of Kansas."

The *Industrialist* is now completing its 18th volume, and has become the pattern for dozens of educational papers in Kansas, though it has itself undergone a number of changes since it was started, 18 years ago. In 1877, the original three-column page was increased by one column, a change that nearly doubled its capacity. In 1889, it was again transformed into a three-column paper, but the size of the sheet was retained by increasing the width of the column; and in 1891 an arrangement was made by which the students share in the editorial work.

ANDERSON AS A MAN.

Of the hundreds of personal friends whom John A. Anderson had all over Kansas, none was better fitted, perhaps, to draw a vivid pen picture of his character than Noble L. Prentis, who, when the sad news of Anderson's death arrived in his home State, wrote the following in the *Kansas City Star:*

When I knew him first, he was pastor of the Presbyterian Church at Junction City. He was then in the prime of life—that was 18 years ago—living with his wife and children under the roof of his uncle and aunt, Col. John B. Anderson and wife, who had cared for him and his wife, who was a neice of Mrs. Anderson, from childhood. In those days I saw him day and night, and afterward, when he was, in 1878, the first time a candidate for Congress, we made the canvass together, Mr. Anderson, George W. Martin, myself, and other gentlemen, including the late Judge Nathan Price, of the great district comprising all Kansas north of the Kaw and of the Smoky Hill, at the time the most populous congressional district in the United States, and one of the largest in area. Five hundred miles of the country in extreme northwestern Kansas was made in an ambulance hired, with the driver, at Beloit. The prairies were high and wide, and it was in the brown October, and the appointments were far apart and there was plenty of time for conversation and reverie; and it was safe to say that, by the time the ambulance was back at Beloit and the railroad journeying begun, there was very little that any member of the party had ever dreamed of in his philosophy that was not in the possession of his companions. All the facts and experiences of life, and all the theories concerning this life and the life which is to come, were discussed.

In those days John A. Anderson spoke of all his life; of his student days at Miami; of his friendship there with Ben. Harrison, whom he remembered as a wrestler who would never give up or stay thrown; of his early days in California, when he was the Presbyterian pastor at Stockton, and built a church there; of his journeys in his own sail boat from Stockton to 'Frisco; of Starr King and Bret Harte, and the bright, young literary men he knew there; and of his work as a correspondent of the San Francisco *Bulletin.* Then he spoke of the outbreak of the civil war; of the divided state of things in California; of the division of his church, and the exodus of the Southern element from the church when he called, Sunday, on the god of Grant and Halleck and McClellan to bless the Union armies. He spoke of the raising of the "Bear flag" in Stockton, and the speedy cutting down of the same; and of his own enlistment as a soldier of the Lord and of the United States as chaplain of Col. Patrick Conner's Second California Regiment, and the march across the terrible Humboldt desert to Salt Lake and Camp Douglas. On some days the talk would turn on the sanitary commission, and his connection with it as its quartermaster at the "water base," wherever it might be, at City Point or elsewhere, following with his boats, as near as possible, the movements of the Army of the Potomac. More,

however, than any of these things, he dwelt on his coming to Kansas after the cruel war was over; when he could have had an Eastern church and a good, plodding, easy time, and chose instead to come to Junction City, then a wide-open frontier place, marked by a distinct and plainly visible article of ungodliness; and how they built the fine Presbyterian Church; and how he planted about the wall the spreading ampelopsis, which grows there still; and how the work went on in the hands of about the gayest, heartiest lot of Christians, and with the least affectation of piety, that have ever been gathered in this world.

After he went away to Washington, Kansas and his friends in Kansas saw less of him. His health and spirits were affected from the first by the air of Washington, and he got in the way of passing his vacations in a canoe on one of the northern lakes, with his eldest boy for company. He loved the wide waters, and was a sailor.

He stayed long in Congress, but was far from being a regulation Congressman. He was not in the accepted sense a politician; I am not certain he liked politicians or that they liked him. He was not a good, strict, iron-bound party man. He did many things that the Republican party in Kansas never suggested to him. He advocated measures that "reformers" and "labor men" might have advocated; but he never joined any society of laborers. He had theories of a better world even on this terrestial ball. Politicians believe in the life that now is, and do not think of good things in the future, or even of the day of judgment. He did. He was one of the few "anti-monopolists" who have ever lived who really took steps to get anything away from the monopolies — as lands they did not own, and back taxes.

In the year 1885, the first great and crushing affliction of his life fell upon him. In the death of his wife, a most noble woman, he lost his best friend. He had known her all his life. She was his companion in youth, the support of his manhood. He kept on at his work in Congress for five years after, but a changed man. His bodily infirmities increased. He had lost his hearing in one ear in his youth from varioloid, and he became deaf in the other. He became indifferent, evidently, and made no fight to speak of for a renomination in 1890. After his retirement from Congress he went away to Egypt as consul-general at Cairo; perhaps with a sick man's hope of recovery in a change — in any change. In that country of wide, burning sands and dead monuments of the dead, he grew worse; at the last he hoped that life might be persuaded to stay by the air and the breeze of home, and died in the attempt to reach home. He was a remarkable man, in fact he was two men. He passed with the crowd for a rough man, careless of proprieties, sometimes of feelings. He was a clergyman; but he could not be persuaded to look and dress as some people think clergymen should. He hated a white neckcloth, he did not always reverence the men who wore them; but he was a sincere believer, from his mother's knee. None knew how gentle he was save the few who had felt the strong pressure of his great, warm hand, or seen his eyes fill with quick-coming tears.

While Anderson is well characterized in the foregoing, there was one element in the man which Prentis failed to mention — his unflinching courage in meeting men and issues. The writer of this sketch, from his own experience can add the following:

In the spring and summer of 1877, the Board of Regents, at the instigation of Anderson, considered the reduction of the course of study from six years to four years, and finally voted the change. There were several reasons for taking the step. In the first place, the common schools of the State had commenced to furnish much better-prepared candidates for admission.

Secondly, it seemed best to place the possibility of graduation before a large number of students, in order to retain them; and thirdly, there was a discouraging lack of means—of class-rooms, laboratories, apparatus, teachers, and funds. The Faculty had debated the question in meeting and in private, and a majority were bitterly opposed to a reduction. Strong reasons were advanced by these, but a main reason for the opposition was usually left untouched—the teachers of the studies that were to be cut out or pruned were afraid of losing their coveted high-grade work. The dissatisfied teachers, in secret meetings held during the summer vacation, finally prepared a carefully-worded petition to the Board, asking for a reconsideration of the step.

President Anderson had gone to Colorado for a mountain tour when he heard of the opposition of the leading members of the Faculty to what he considered a fixed fact, and returned in all haste. A Faculty meeting was called, and in less than 30 minutes the entire opposition was quashed.

The professors were all in his office when he entered with a firm step, called the meeting to order, and stated its object: a discussion of the new course of study, for the purpose of asking the Board for its reconsideration and possible repeal. He then said that he had been informed that some members of the Faculty had concocted plans to have a Board meeting called behind his back. He wanted to know whether he was right; and if so, why the gentlemen had not stated their objections openly, in the usual manner, and at the proper time. No one spoke. He then asked bluntly whether it meant "fight," and added, "if it means fight, you can have fight; just as much as you wish, collectively or individually." No one spoke. He then asked Prof. W. K. Kedzie for an answer, and the Professor began to apologize for his part in the insurrection. He was very sure that he felt kindly toward the President, and had no idea of doing anything disloyal to the management; he had not been in favor of a reduction of the course of study, but always respected President Anderson's motives, and could see some of his reasons. If he had known that the reduction of the course was an accomplished fact, he would not have signed the document. President Anderson replied that it was a fact, that it had been published, and that every one should have known that. Professor Ward was called next, and he made a similar apology. Professor Shelton, who had no private objections to the reduction, followed in the same strain, and the remaining members of the Faculty were equally certain that they had no objections now. President Anderson then jumped up from his reclining chair, thanked the Faculty for their frankness, assumed that all was settled now, spoke words of hope for the coming school year, told of his delightful fishing expeditions in Colorado, and adjourned the meeting. *

* Professors Shelton and Ward assert that nothing of this sort ever happened. Shelton told me this and Prof. Ward wrote it to Professor Failyer. — L. E. Ward

Editor: Letters from Professor Shelton and A. A. Stewart discredit it. Shelton is very positive.

COPY OF A STATEMENT MADE BY

Professor M. L. Ward
to
Professor C. H. Failyer

President Anderson had his own notions about education. These are setforth in his hand book. He probably, without consulting the faculty to any great extent, formulated his ideas in the course of study which he presented to the Board. The Board supposing that both the President and faculty had prepared this course authorized its publication, I think just after commencement. For some weeks we had had no faculty meetings, the head of each department seemed to be acting each for himself. Very soon after commencement Prest. Anderson and his wife went to Colorado. For myself although I knew a great mistake had been made in thus reducing the course of study I resolved to adopt the laisses-faire policy, feeling confident that something would have to be done. I waited patiently for "something to turn up." I was busy repairing my house. One day Profs Shelton and Kedzie came to me where I was at work, and they asked me what I thought of the new course of study. I cautiously replied, for at that time there was a lamentable lack of confidence among the members of the faculty, in each other. I supposed that Prest. Anderson had conferred with those men in regard to the changes. I learned that he had not. We all agreed that the best interest of the institution required action. None of us had anything but kindly feelings towards the President but we felt that a great mistake ought to be corrected and we called a meeting of the faculty and discussed the situation. There was perfect harmony in all our actions. We asked the Sec. of the Board Maj. Adams to call a meeting of the Board. This he cheerfully did. We went to work to prepare a course of study, which we had ready tp present, when the Board should meet. We all agreed that we would endeavor to so change the recently published course of study that we would not be ashamed to work under it. Unless we could do it we would resign and let the college go.

I do not recollect about the meeting in the office which Walters describes. If we met, there was no such a scene, no such cowardice shown. Personally I told Anderson that we were working for the interests of the college.

At the Board meeting the faculty stood firm. The Board suggested a compromise on the course of study, and it was effective. The yielding was on the part of the President. The Board saw that the faculty was in the right and individually thanked us for the course we pursued.

Gov. Salter told me that his son Lew told him after he reached home that the Board by their actions had greatly injured the college. Hallowell said that when he received the notice of the meeting, he concluded that he would sustain the President in the fight the faculty were making on him, but he found that the faculty had done the right thing. I think that Prest. Anderson was convinced that he had made a mistake. I do not think there was any bitterness afterward.

Now I think that Walters had better either modify his statement very much, or leave it out altogether. It is not true. It is no credit to Prest. Anderson. It is unjust to those whose names he mentions. There was no thought of calling a Board meeting in his absence. I don't think Anderson conferred with any member of the faculty in regard to the course of study he presented to the Board.

There had been no opportunity to present objections to that course of study. On the other hand when the Board learned that the faculty had not been consulted they at once desired to adjust matters so that there should be no rupture, which was done, and done happily, I think.

You may send this to Walters and for his own sake, I would urge him to be careful in his statements.

When I first read his account of the meeting of the faculty with Anderson after his return from Colorado, I was indignant, but Kedzie was gone and Shelton was abroad and I decided to say nothing. It was already

printed, but I am not willing for him to repeat it in what may be considered an authentic history of K.S.A.C. and I want you to tell him so.

As I said I have no recollection of that meeting. I do not know where Walters got his data. At the time I admit that there was some talk about town as it was generally known that the Board held a special meeting & that Prest. Anderson was recalled from Colorado. He may have been present. I do not remember. I should like to talk this matter over with him.

PROF. E. M. SHELTON.

V.

PRESIDENT ANDERSON'S COLLABORATORS.—LEGISLATIVE APPROPRIATIONS AND PERMANENT IMPROVEMENTS, FROM 1874 TO 1879.—PROFESSOR WARD'S VICE-PRESIDENCY.

AMONG the new members of the Faculty, none entered upon the work of reorganization with more zeal and sympathy, and assisted more effectively in bringing its practical work into favor with the farmers of the State, than Prof. E. M. Shelton, M. Sc., elected to the chair of agriculture in 1874.

Edward Mason Shelton was born in Huntingdonshire, England, August 7, 1846, and in 1855 came with his parents to America, settling in New York. In 1860, the family moved to Michigan. He received his education at the Michigan Agricultural College, graduating in 1871, and took a course of special study under Dr. Manly Miles. At this time an agent of the Japanese government was in this country, seeking men for the advancement of the agricultural interests of Japan, and through him Mr. Shelton was appointed superintendent of the government experiment farm at Tokio. He was the first teacher of American agricultural methods and systematic farming in Japan, and although ill health demanded his return to America at the expiration of a year, he left a strong impression upon the farming interests of that country. He next joined the Greeley colony of Colorado, but soon returned to his agricultural studies and investigations at the Michigan college, and from thence was, in 1874, chosen Professor of Agriculture and Superintendent of the Farm at the Kansas State Agricultural College, in which position he remained until the 1st of January, 1890, when he accepted a call by the Governor of Queensland, Australia, to the honorable and responsible position of agricultural adviser to the government. His writings have been widely quoted, and his influence has been marked upon the trend of agricultural education. He was secretary of the State Short-horn Breeders' Association and of the National Association for the Advancement of Agricultural Science.

Of other teachers who were elected during the presidency of Anderson, and are entitled to credit for assistance in the work of reconstruction, should be named Professors W. K. Kedzie, M. Sc., M. L. Ward, A. M., J. D. Walters, M. Sc., and G. H. Failyer, M. Sc. The two last named are still members of the Faculty.

Prof. W. K. Kedzie was the eldest son of the veteran teacher of agricultural chemistry at the Michigan Agricultural College, Prof. R. C. Kedzie. He graduated at that institution in 1879, took a special course at the Sheffield Scientific School of Yale College, and became assistant to his father at Lansing, Mich., until his call to Manhattan, in 1873. Coming to the Agricultural

College of Kansas at the time of its reorganization, he lent valuable assistance in shaping the course of instruction, and giving the branches of chemistry, mineralogy, geology and meteorology the prominent position which they deserve in the curriculum of such an institution. While here he wrote a small text-book, "The Geology of Kansas." In 1878, he accepted a call to Oberlin College, Ohio, and died in 1880, in the prime of his life.

Prof. M. L. Ward was brought up on a farm, without early opportunities in school, but graduated from Hamilton College, N. Y., and afterward was ordained to the ministry in the Baptist Church. For some years he, with the assistance of Mrs. Ward, maintained a successful private academy at Ottawa, Kas., and from that was called, in 1873, to the chair of mathematics in this College. In this position, with many fluctuations of duties, he did faithful, energetic work for 10 years, and often helped to hold together conflicting forces in the Faculty by combining earnest regard for the practical side of the new plans with an abiding faith in mental discipline as the foundation of all true education. During President Anderson's congressional campaign, Professor Ward was made Acting President, and, after leaving this College, in 1883, he was called to the presidency of Ottawa University, where he still remains as a member of the faculty.

Prof. John Daniel Walters was born in the canton of Solothurn, or Soleure, in western Switzerland, in 1848. He received his education in the German communal school of Aetigkofen, the French communal school of Dombresson in Val De Ruz, the high school of the county of Bucheggberg, and the cantonal college of Solothurn. Being the graduate of a county high school (Bezirksschule), he entered the third-year class of the college and completed the six years' course in August, 1867. During the summer of 1865 he taught mathematical branches at Klingenberg, the well-known experiment station of Thurgovia. Two months after his graduation, he landed in New York without money or friends, or a knowledge of the English language. After working for a number of years as decorative painter, architectural draughtsman, newspaper editor, and private teacher, he was appointed to the position of teacher of drawing at this College, entering upon his work in January, 1877. In 1883 he was given the degree of master of science, and two years later he was made Professor of the Department of Industrial Art and Designing. The Professor has taken much interest in the work of the National Educational Association. During the meeting of the association at Topeka, in 1886, he was the acting secretary, and at the meeting the following year, in Chicago, the regular secretary of the industrial section. At the meeting in Nashville, in 1889, he read a paper on industrial education, and served on two different committees. He has also read papers before many of the different scientific and practical societies of the State, and has been for many years the chairman of the standing committee on landscape gardening in the State Horticultural Society. In 1891, he published a text-book on free-hand drawing for mature pupils.

Prof. George H. Failyer was born in December, 1849, on a farm in Mahaska county, Iowa. When he was six years old his father moved to Page county, Iowa, then on the extreme frontier, and settled on a preëmption claim. There he attended the public schools, and afterwards studied at the Amity Academy for two terms. In April, 1868, he accompanied his father to southeast Kansas, and took up a claim in connection with his father on the Cherokee neutral lands. From this time to September, 1873, he was engaged in the usual farm work of a new country. In September, 1873, he entered the third year of the (then) six-year course at this College, and graduated in 1877—having found time during his course for special work in chemistry. After graduation, he taught school for one year in Chautauqua county, Kansas, and was called from there in 1878 to the chair of chemistry of his *alma mater*. In 1879, he received the degree of master of science. From the necessities of the institution, the teaching of various other subjects has at different times fallen to his lot, especially mineralogy, physics, meteorology, and geology. In 1880, he spent a term in special study under Prof. R. C. Kedzie, at the Michigan Agricultural College. He has been one of the chemists of the State Board of Agriculture since 1879, has been president of the Kansas Academy of Science, and is a member of the American Association for the Advancement of Science. At the organization of the State Experiment Station, he was made chemist of the Station. He is the author of a hand-book for students in qualitative analysis, and the inventor of chemical apparatus and methods of some importance in this branch.

STATE APPROPRIATIONS FROM 1874 TO 1879.

During the six years of Mr. Anderson's presidency, the College received appropriations by the State Legislature amounting to $77,832.93, as follows:

For the year 1874,	$28,803.23
For the year 1875,	13,675.24
For the year 1876,	15,300.00
For the year 1877,	7,774.46
For the year 1878,	12,500.00
For the year 1879,	1,500.00

Of this amount, $30,182.92 was received for the purpose of canceling debts and accumulated interest, dating from the administration of President Denison (College greenbacks), and $48,650 for buildings, repairs, and equipments, especially of the farm and the newly-organized departments of woodwork, printing, sewing, and cooking. The endowment fund having reached a total of $100,000 at the time of Anderson's election to the presidency, no appropriations were required for meeting the running expenses. It is a fact of which the College can be proud, that from the time of its reorganization, in 1873, to this day, the management never asked the State to contribute a single dollar, and never received a single dollar, for professors' salaries, or the ordinary expenses connected with instruction.

PERMANENT IMPROVEMENTS FROM 1874 TO 1879.

Of permanent improvements during Mr. Anderson's presidency, may be enumerated the building in 1875 of Mechanics' Hall, and in the year following of Horticultural Hall and the Chemical Laboratory—at the time of its erection the best arranged, largest and most complete chemical workshop west of St. Louis. The laboratory was built after sketches by Prof. William K. Kedzie, who, at his own expense, had visited central Europe and the East to study the arrangement and furnishing of chemical workshops. In 1877, the main part of the present barn was constructed, after directions by Prof. E. M. Shelton. The corner-stone of the north wing of the Main College Hall was laid in 1878, and this part of the building completed in February, 1879.

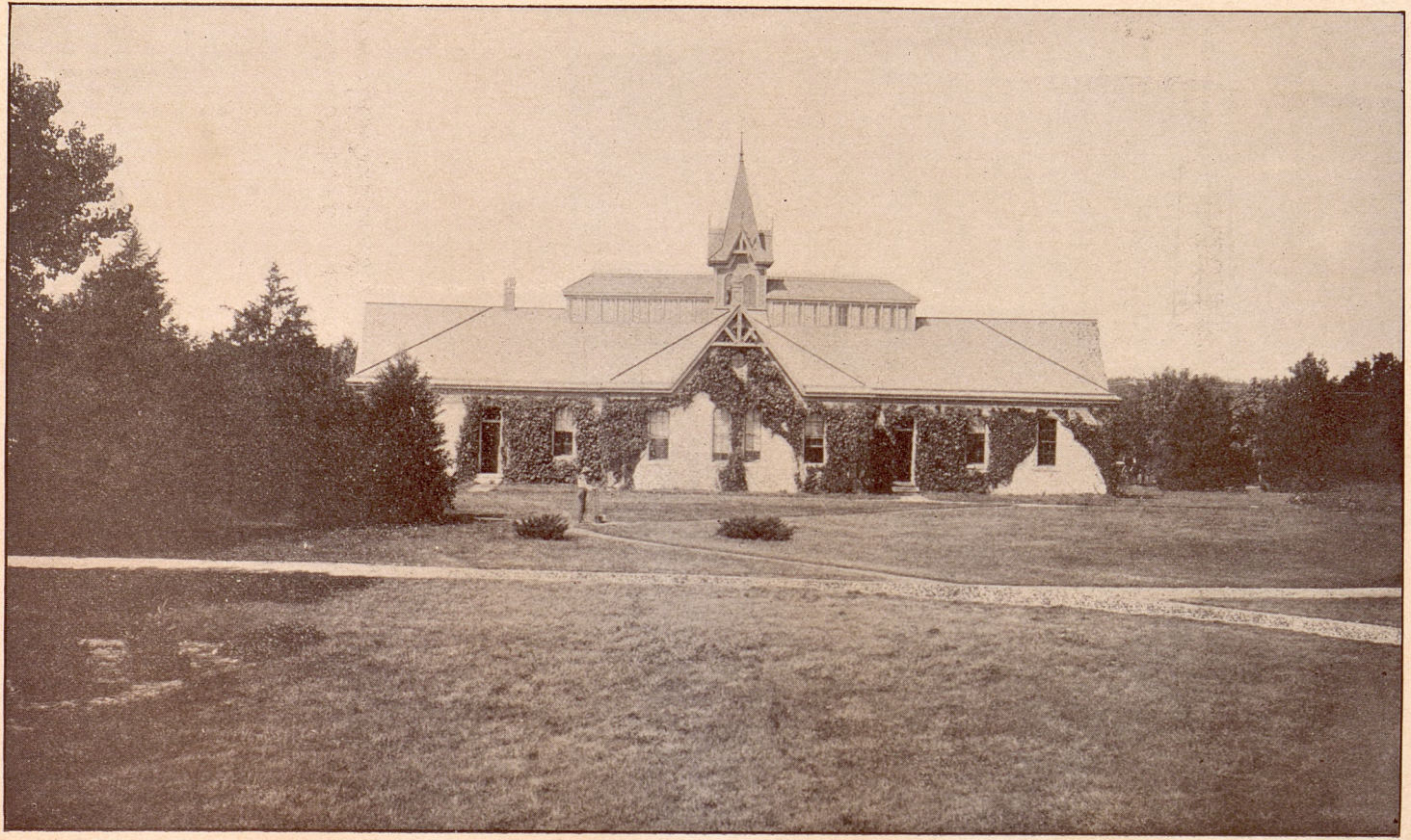
In the summer of 1878, President Anderson was urged by leading Republicans of the (then) First Congressional District to become the candidate of the party for United States Representative. He accepted the honor, feeling that the work at the College requiring his peculiar bent of character, and which, perhaps, but few could have performed, was done. The institution was safe from reaction with regard to its course of study, secure from absorption by the State University, and past the threatening specter of financial ruin. It had no name as yet among the institutions of learning of the land; its attendance was small, its library insignificant, and its apparatus lacked much that was absolutely necessary; but it had found its distinct sphere of usefulness. The debt, which in 1873 had amounted to over $42,000, was reduced to $18,000 endowment and $6,000 current-expense fund. The productive endowment had grown to about $240,000, and the annual income amounted to nearly $20,000. Yet his election to Congress in November, 1878, and consequent resignation in August, placed the Board in a perplexing situation. Where should they find a man whose previous work and training would furnish a guaranty for success? There were plenty of candidates; indeed it seemed as if every defunct county superintendent or worn-out preacher in the State believed himself exactly the man to pilot the newly-rigged vessel

"Through squalls and storms,
O'er rocks and riffs."

But no agreement could be reached until the following September, when a member of the Faculty suggested his former teacher, Prof. Geo. T. Fairchild, of Michigan Agricultural College, as a suitable man. Professor Fairchild was "called," came to Manhattan to make a personal examination of the condition of the College, and accepted the responsible position.

IN 1878 AND 1879.

Before entering upon a discussion of President Fairchild's aims and efforts, it seems proper to say a few words of the history of the period intervening between his election and the resignation of President Anderson.



CHEMICAL LABORATORY.

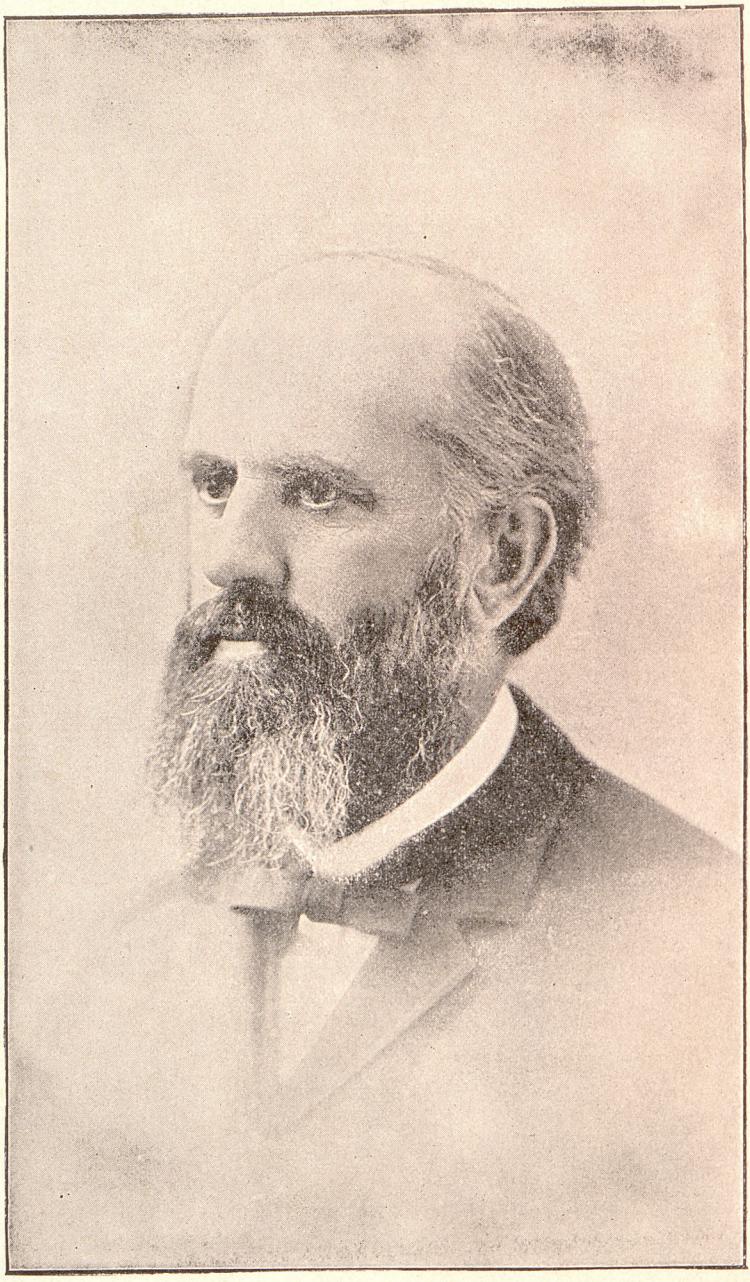
From February to December, 1879, and to some extent from the time of Anderson's nomination for U. S. Representative, the executive work of the College was faithfully performed by the Acting President, Prof. M. L. Ward. It was a trying year for the yet feeble institution. Against Anderson's wishes, the College naturally became the battle ground for much of the usual legitimate and illegitimate campaign work, and the target for his opposition. The Faculty, though loyal to the great trust, was not as harmonious as could have been wished, and there had been changes made in two of the chairs during the summer. All the officers were underpaid and overworked, and there was no chance to increase salaries or the teaching force, for the Legislature of 1877 had decreed "that not over $15,000 of the interest on the endowment fund shall be used to pay instructors or teachers in said College until the debts of said College be paid in full, and until said College shall refund to the State all moneys advanced by the State to pay for instructors and running expenses of said College." In accordance with this "ukase," the salaries of the majority of the members of the Faculty had been reduced, in some cases as much as $400, while the work was constantly increasing in all directions. In his department report for 1878–'79, Professor Ward said: "In the discharge of my duties as a professor, I will simply say that I have done as best I could under the circumstances," and a prominent friend of the institution wrote: "It was a year of drudgery and heroic devotion to the cause and to the College, for which the Acting President and his collaborators received neither proper credit on the part of a wrangling Board, nor proper pay on the part of a rich State."

The two instructors elected in September, 1879, were Prof. E. A. Popenoe, A. M. and Sec. I. D. Graham, B. S., both of whom are still connected with the College.

Prof. Edwin Alonzo Popenoe was born in 1853, in Montgomery county, Ohio, and received his primary education in the common schools and in the village high school in McLean county, Illinois. Removing, in 1869, to Topeka, Kas., he began in the following year a preparatory course in Washburn College, where he studied six years, graduating in the classical course in 1876, and receiving the degree of master of arts from the same institution a few years later. After graduation, he taught a year in the Shawnee county schools, and a second as principal of the Quincy school, in North Topeka, resigning the latter position in 1879, to accept the chair of botany and horticulture in the State Agricultural College, where his duties included the instruction of the classes in zoölogy and entomology, and the superintendence of the orchards, gardens, and grounds. At the division of duties in 1883, he was assigned to the chair of horticulture and entomology, which he still occupies. He is a member of the American Ornithologist's Union, a life member in the Kansas State Horticultural Society and in the American Pomological Society, the vice-president for Kansas in the American Forestry Association, and secretary of the American Horticultural Society. He was for many

years secretary of the Kansas Academy of Science, and is one of the official entomologists to the State Board of Agriculture.

Ira Day Graham was born in Vinton, Iowa, on August 29, 1856. Two years later his parents removed to Knox county, Illinois, where he grew up. He received the usual common-school training, and entered Abington College, Abington, Ill., at the age of 16 years. From this college, he received the degree of bachelor of science, and in 1885, the honorary degree of master of arts, from Eureka College, Eureka, Ill. After leaving college, he served several years as a telegraph operator and railroad agent, and taught several terms in the common schools of Illinois and Kansas. In 1879, he was elected Superintendent of Telegraphy in the Kansas State Agricultural College and held this position until 1890. He was elected Secretary of the Faculty in 1881, and in 1884, when the office of Assistant Secretary of the Board of Regents was created, Mr. Graham was appointed thereto. In 1886, he was made instructor in book-keeping and commercial law, and in 1890, Secretary of the Experiment Station. He was for several years treasurer of the Kansas Academy of Science, and was one of the founders of the Kansas Dairy Association.



PRES. GEO. T. FAIRCHILD.

VI.

President Fairchild.—The Aims, Objects, Methods and Equipments of his Ideal Agricultural School.—A Period of Progress.—Additions to the Faculty.—State Appropriations from 1880 to 1892.—Improvements from 1880 to 1892.—Apparatus and Library.—Farmers' Institutes.

PRESIDENT GEORGE THOMPSON FAIRCHILD, A. M., was born in Brownhelm, Lorain county, Ohio, October 6, 1838. His father was a farmer and teacher. There were four sons and four daughters, of whom George T. was the youngest. He was educated at Oberlin College, graduated in the classical course in 1862, and in the department of theology in 1865, and, though never a pastor, was afterwards ordained to the ministry of the Congregational Church. In the same year he was elected instructor in the Michigan Agricultural College, and the next year was made professor of English literature, which chair he filled until his call to the presidency of the Kansas State Agricultural College, where he entered upon his work December 1, 1879. During a year's absence of the president of the Michigan college, Professor Fairchild had been acting president by choice of the board of regents. President Fairchild is a prominent member of the National Educational Association, and has contributed several valuable papers to the published proceedings of that body. At the session at Saratoga, N. Y., in 1885, he was made a member of the National Council of Education and appointed to the committee of technological education. At the meeting in Chicago, in 1877, he was made president of the industrial section, and in the following year, at San Francisco, he was reëlected to the same position. In 1886, the Faculty of the Kansas State Agricultural College, in order to show him their appreciation of his work, and to give him a fitting token of their esteem, presented him with a life directorship in the National Educational Association. In the American Association of Agricultural Colleges he has twice held the office of vice-president, and his services on important committees have had their directing effect upon that organization. One of his brothers, James H. Fairchild, was for many years president of Oberlin College, and another brother, E. H. Fairchild, president of Berea College, Kentucky.

President Fairchild's views with regard to the "new education" were not as radical as those of Anderson had been. With President Anderson, the Agricultural College had been largely a station for pedagogical experiments, conducted with a view of producing convincing proofs of his theories on the value of manual training. With President Fairchild, the College became a model school for the education of young men and women who were to go back to the farm or workshop, not only to perform manual labor, but to live

complete lives and to develop and honor their calling. In an article on "Our Agricultural Colleges," written for the *Chicago Farmers' Review*, and subsequently published by the Michigan State Board of Agriculture in their annual report, President Fairchild, then professor at the Michigan State Agricultural College, presented his ideal in such a characteristic manner that there could be no doubt in the minds of those who called him to Kansas as to his aims and methods. Other articles and papers, published during the last dozen years, and especially one on "Agricultural Schools: their Aims, Objects, Methods and Equipments," read before the council of the National Educational Association in 1888, show that his subsequent experience as the head of the Kansas institution but corroborated the views of the teacher in the Michigan college. The following is a synopsis of the *Review* article:

THE IDEAL.

In a brief notice of what our agricultural colleges ought to be, it may properly be assumed that they ought to be, first, what the name college implies everywhere now: places for the education of the young. Whatever service they may render in affording models for farming for the public, or in searching for new facts, principles or applications in agriculture, must be secondary. The education which they furnish must be agricultural, in quickening and deepening a young man's regard for a farmer's life, while in every way making him more capable in such life. Learning and labor are to meet in a more profitable life upon the soil. With this understanding, it may be well to consider more specifically

THE AIMS.

Of these there are two classes, closely united: to develop the man in the farmer, and to develop farming through the man engaged in it. The first is to be sought in discipline—the genuine education of the youth. True scientific principles, which underlie all knowledge, are to be taught and enforced by a thorough drill in observation. The eyes must see and the hands handle the very elements of nature, in order to gain proper ideas of nature's use. There must be a definite training to think accurately and connectedly, and intensely if need be. Thinking has made the world's discoveries and inventions, and it will always be the means of progress in any calling. Thinking to a purpose will always distinguish the able man and the efficient work, and our College will have missed its aim if it fails to furnish thorough training to think. Added to this must be the formation of habits of ready action to a purpose. The thinking and doing are so closely united in farming that no one can neglect training in both. Often the only expression of the thought is the act that turns soil and seed, sunshine and shower, into produce. The college must aim at such a combination of thought and action, in its routine of drill for developing the best men for the work of making farming better.

The second is to be sought through information. While this always accompanies discipline and directs the application of ability, it differs from that just as the instruction of a child how to drive a nail differs from the training which enables him to do it successfully. The College must gather and impart the best of instructions in the art of tilling the soil. It must gather from the history of this art, and from the failures and successes of practice and experiment, constantly, such facts as will make the strongest impression. By such means it aims to give higher ideals and stronger ambition to do excellent work. It stimulates discussion and comparison of experiences, and encourages thoughtful consideration of future prospects.

It aims to be a center of information for a farming community through its instruction to learners. So far as is compatible with thorough discipline and accurate information, it aims to be a leader in further improvement of practice by new devices, but consciously preserves the difference between knowledge and supposition, fact and theory. Such aims suggest

THE METHODS.

Most prominent must stand a thorough course of study, long enough to establish principles and habits, severe enough to develop strength of mind, and so associated with agriculture as to cultivate enthusiasm for it. In this there must be systematic instruction by most approved methods in the sciences, training to logical investigation of facts and principles, history and general knowledge of civilization enough to kindle inquiry, and technical training enough to give a general ability.

This involves a drill in manual labor that shall make the hands ready and the eyes quick. That dexterity which comes from long practice in one routine is not desirable at this stage of education, if it were practicable; but a readiness to turn the hand to account in various directions is to be provided for by regular duty in real work, where pay and reputation and responsibility are thought of, and business rules apply, while a zest is given by connection with study and thought under competent oversight. These methods would bear a lengthy study, but we must hasten to connect with them

THE MEANS.

Among these we may place first a permanent endowment sufficient to insure the steady progress of the College through several generations. It should not be subject to the fluctuations of whims from parties or people, but should be an investment for posterity. "Art is long," and the work of education for the art of agriculture must be permanent, in order to be reached by all.

Ample equipment of buildings, furniture and apparatus, farm and tools, is of course necessary. It must even be more ample than in most colleges. Science, to be made practical, must be learned with laboratory practice; technical instruction is worthless without abundant illustration and exercise; and working habits can be formed only by handling the tools.

A competent faculty must handle this machinery. The drill of such a college calls for greater ingenuity, if not for more general culture, on the part of the faculty, than most college courses. This is not mere teaching, but teaching adjusted to a specific want in life. It calls for a practical energy in addition to sound doctrine, for it deals less with authorities than with facts. New applications must keep them fresh in the life of toil which they are to elevate. The best in the land are none too good to hold the professorships in such a college, and should be found and kept if possible.

Over all should preside an efficient and uniform control. The construction of this board should be such as to secure greatest stability with activity. Love for the work must inspire the members, and provident foresight direct them. The whiffling of popular sentiment for pork or mutton, for Short-horns or Jerseys, must only make their course more steady and true to that line of education for farmers' sons which may give taste and ability for an enlightened and progressive agriculture.

A PERIOD OF PROGRESS.

The arrival of Pres. George T. Fairchild gave a new impetus to the teaching force. The wish of the Faculty and the Board, that no radical changes be made in the policy, met with his fullest accord. Yet his rich experience,

the result of similar work at the oldest agricultural school of the land, soon bore fruit in the adoption of improved methods of instruction and a better adjustment of work and existing means. The collegiate year was divided into three nearly equal terms, of 14, 12 and 11 weeks respectively, instead of two unequal terms as before. The course was strengthened by rearrangement of studies to logical connection; by systematic plans for connecting practice with theory; by introduction of stronger courses in place of elementary ones; by more definite classification of students; and by adding a term of psychology to the work of the fourth, and English literature and engineering to the work of the third year. The system of industrial training was broadened by distinct arrangement in shops, farm and garden, kitchen laboratory, dairy, and sewing rooms. The preparatory, or "B" first-year class, which had been organized in 1878 by Acting-President Ward, was maintained only for the benefit of students from the country over 18 years old who could not pass the entering examination. A scheme of Friday afternoon lectures and declamations was inaugurated, and weekly rhetorical exercises were added to the work of all classes. Monday afternoon Faculty meetings for the discussion of ways, means and discipline were organized. Standing committees on grounds and buildings, public exercises, social and literary entertainments, class grades, post-graduate work, farmers' institutes, museum, library, *Industrialist*, physical exercise, etc., were appointed, and a more comprehensive system of accounting adopted—the Secretary of the Faculty, Mr. I. D. Graham, being given direct responsibility for accounts with all funds and all departments.

It is not possible, within the limited space of this sketch, to speak at length of the development of the College during the last 12 years. Many important phases, events or reforms must be overlooked entirely, while many others of a recent date have not had time to produce their intended effects, and can hardly be considered history.

The number of students has increased almost every year, as may be seen from the following schedule:

Year.	*Attendance.*	*Year.*	*Attendance.*	*Year.*	*Attendance.*
1878–'79	207	1883–'84	395	1888–'89	445
1879–'80	276	1884–'85	401	1889–'90	514
1880–'81	267	1885–'86	428	1890–'91	590
1881–'82	312	1886–'87	481	1891–'92	584
1882–'83	347	1887–'88	472		

The senior classes show a similar increase. In 1880, the class numbered 7; in 1888, 22; in 1889, 25; in 1890, 27; in 1891, 52; and in 1892, 36; while the present fourth-year class numbers 42. In other words, since 1879 the number of students has increased nearly 200 per cent., and that of the graduating class has grown over 500 per cent. It is safe to state that there is no educational institution in the United States, no matter how richly endowed, that can show more favorable rate figures with regard to attendance for a period of over 12 successive years.

It is often claimed by the enemies of State institutions for higher education that all such schools are too local in their effect, and do not draw pupils from all parts of the State which is taxed for their support. It is not possible, however, to maintain this charge against the Kansas State Agricultural College. Its students come from all over the State, from nearly every State in the Union, and from many countries abroad. Of the counties, Riley leads, of course, but a large number of students live in Manhattan and vicinity only temporarily, for the sake of college privileges. The following table shows the attendance by counties and States for the last 16 years—*i. e.*, from 1877 to 1892, inclusive:

COUNTIES.	1877....	1878....	1879....	1880....	1881....	1882....	1883....	1884....	1885....	1886....	1887....	1888....	1889....	1890....	1891....	1892....	Total.
Allen	....	1	1	1	1	....	....	3	....	1	....	....	....	2	....	....	10
Anderson	....	....	....	4	3	2	2	....	....	....	1	3	....	4	2	2	23
Atchison	4	6	4	1	....	3	4	4	3	9	5	9	5	5	2	....	64
Barber	....	....	....	....	....	1	....	....	....	....	....	....	....	2	....	....	3
Barton	....	1	....	2	....	1	4	1	1	3	1	2	....	2	....	2	20
Bourbon	....	....	....	....	1	1	....	2	....	1	2	1	....	1	1	1	11
Brown	1	....	....	1	....	2	6	....	2	14	8	11	5	3	3	1	57
Butler	2	5	6	7	6	2	1	1	1	2	4	3	6	6	4	1	57
Chase	1	....	....	3	6	1	2	5	4	3	3	2	3	....	4	3	40
Chautauqua	....	4	4	1	1	2	3	3	4	....	....	1	4	1	....	1	29
Cherokee	10	18	18	13	10	3	3	3	1	2	4	2	....	....	....	2	89
Clark	....	....	....	....	1	....	....	....	....	....	....	....	....	....	....	....	1
Clay	6	10	3	9	10	18	23	26	26	25	21	10	10	10	9	10	226
Cloud	1	1	....	....	....	1	8	3	6	6	11	2	2	1	7	4	53
Coffey	....	3	3	....	1	1	3	2	2	3	4	2	4	3	5	4	40
Cowley	1	3	3	5	6	4	1	9	7	3	2	5	5	7	9	2	72
Crawford	1	2	2	1	....	....	....	....	2	1	2	3	2	....	1	....	17
Decatur	....	....	....	....	....	....	1	1	2	2	....	....	....	1	....	....	7
Dickinson	3	5	3	4	4	3	4	6	5	4	6	4	3	6	4	3	67
Doniphan	....	....	....	....	2	....	1	1	....	....	2	1	3	2	3	1	16
Douglas	....	....	....	1	1	4	....	2	3	3	6	3	1	2	3	2	31
Elk	....	....	....	1	....	1	6	1	4	1	4	4	1	1	3	3	30
Ellis	....	....	....	....	....	....	....	....	....	....	....	1	3	2	1	....	7
Ellsworth	....	2	1	....	2	2	1	1	....	2	2	....	....	2	2	....	17
Finney	....	....	....	....	....	....	....	....	1	....	....	2	....	1	2	3	9
Ford	1	1	1	....	....	....	1	....	....	....	....	....	....	1	1	1	7
Franklin	2	2	...	2	1	4	7	6	6	....	4	3	1	1	5	5	49
Garfield	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	1
Geary	13	5	6	9	9	6	15	16	6	7	5	5	13	8	13	10	146
Gove	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	3	3
Graham	....	....	....	....	....	....	....	....	....	....	3	2	....	3	4	3	15
Grant	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	....	1
Greenwood	3	2	1	7	3	6	2	....	1	1	3	4	1	1	1	3	39
Harper	....	....	....	....	....	....	....	....	....	1	....	....	3	3	2	2	11
Harvey	....	1	1	....	....	....	2	2	1	1	1	1	1	1	1	1	14
Jackson	....	2	2	3	6	6	2	2	1	3	4	10	4	5	2	10	62
Jefferson	3	4	4	6	11	14	2	6	4	7	12	9	12	21	9	16	140
Jewell	2	1	1	2	11	6	10	8	10	7	7	3	....	....	2	2	72
Johnson	3	10	8	11	....	5	2	8	8	5	2	2	6	11	13	13	107
Kingman	....	....	....	....	....	....	....	....	1	2	4	1	....	1	1	2	12
Kiowa	....	....	....	....	....	....	....	....	....	....	....	1	3	....	1	2	7
Labette	5	....	1	....	....	3	....	....	1	....	3	3	2	1	4	2	25
Lane	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	....	1
Leavenworth	3	....	....	....	2	5	4	1	8	4	5	5	4	1	5	5	52
Lincoln	....	1	2	....	2	....	3	....	....	1	1	3	....	1	2	4	20
Linn	1	....	....	1	....	....	....	1	....	8	7	7	5	11	4	2	47
Lyon	6	7	7	4	5	2	....	3	2	3	4	3	4	....	4	2	56
Marion	....	....	....	1	1	2	1	....	....	....	1	1	4	....	2	1	14
Marshall	3	4	2	4	....	3	5	6	7	5	10	9	11	14	9	10	102
McPherson	1	3	....	1	2	3	2	5	4	2	4	4	5	8	8	9	61
Meade	....	....	....	....	....	....	....	....	....	....	3	....	....	....	....	1	4
Miami	....	....	....	1	....	....	....	1	1	3	1	1	3	4	2	1	18
Mitchell	1	4	2	2	4	3	4	3	4	....	3	1	....	....	10	7	48
Montgomery	....	4	3	2	....	1	....	2	....	4	2	1	2	....	....	....	21
Morris	....	....	....	3	....	1	1	8	6	3	6	6	4	9	7	4	58
Nemaha	2	6	6	5	1	2	1	4	2	5	9	4	5	2	4	11	69
Neosho	2	1	2	....	....	....	....	....	....	....	....	1	....	1	3	1	11
Ness	....	....	....	....	....	....	....	....	1	....	1	1	1	....	3	1	8
Norton	....	....	....	1	....	....	....	....	1	....	....	1	1	....	1	2	7
Osage	2	1	2	1	....	2	6	6	18	5	5	6	9	9	7	24	103

COUNTIES.	1877...	1878...	1879...	1880...	1881...	1882...	1883...	1884...	1885...	1886...	1887...	1888...	1889...	1890...	1891...	1892...	Total.
Osborne	1	1	1	1	2	1	2	7	5	7	3	11	7	6	5	5	65
Ottawa	....	3	3	5	6	5	14	12	12	8	12	8	3	....	9	6	106
Pawnee	....	....	....	....	....	1	....	1	1	....	1	1	....	1	1	1	8
Phillips	3	....	....	1	....	1	1	2	1	1	2	1	....	5	2	3	23
Pottawatomie	13	10	6	8	6	7	12	16	15	11	9	22	30	24	26	29	244
Rawlins	....	....	....	....	....	....	....	....	....	....	....	....	....	2	1	1	4
Reno	....	....	....	....	....	....	1	4	2	1	....	1	....	....	....	1	10
Republic	....	1	1	....	....	1	....	2	5	9	12	9	5	6	1	4	56
Rice	2	1	....	....	2	1	....	3	5	5	4	1	3	4	4	4	39
Riley	88	64	65	77	77	90	100	112	99	121	138	147	149	174	198	181	1,877
Rooks	....	....	....	....	....	....	....	....	1	1	1	1	....	....	1	1	6
Rush	....	....	....	1	1	1	....	....	1	....	3	....	1	....	4	4	16
Russell	1	....	....	....	....	....	....	....	1	1	2	1	....	....	5	8	19
Saline	1	2	2	4	5	3	1	3	5	1	....	....	....	1	1	2	31
Sedgwick	3	1	1	2	2	....	3	2	2	....	....	....	....	1	....	4	21
Shawnee	7	7	8	27	13	16	13	11	12	9	12	10	13	21	38	32	249
Sheridan	....	....	....	....	....	....	....	....	....	1	....	....	1	....	....	....	2
Sherman	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	1
Smith	....	....	1	....	1	....	....	....	1	2	2	3	1	....	4	6	21
Stafford	....	....	....	....	....	1	1	....	1	1	1	2	....	....	....	....	7
Stevens	....	....	....	....	....	....	....	....	....	....	1	....	....	....	....	....	1
Sumner	....	2	2	1	1	2	....	6	1	3	3	2	....	5	8	4	40
Thomas	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	2	2
Trego	....	....	....	1	2	3	2	3	1	1	....	....	2	....	1	2	18
Wabaunsee	9	10	6	10	20	16	14	17	13	18	17	16	19	19	23	22	249
Wallace	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	1	2
Washington	....	....	....	1	5	11	2	2	4	4	7	6	10	8	8	6	74
Wilson	....	2	3	2	1	1	....	3	5	7	4	4	5	5	2	3	47
Woodson	....	....	....	....	....	....	....	1	2	1	2	....	....	5	5	6	22
Wyandotte	....	....	....	....	2	1	1	2	....	2	4	10	7	5	7	2	43

STATES.	1877...	1878...	1879...	1880...	1881...	1882...	1883...	1884...	1885...	1886...	1887...	1888...	1889...	1890...	1891...	1892...	Total.
Arizona	....	....	....	....	....	....	....	....	1	1	....	....	....	1	1	....	4
Arkansas	....	....	....	....	....	3	1	....	....	1	....	....	....	1	....	....	6
California	....	....	....	....	....	....	....	....	1	1	1	1	2	1	1	1	9
Colorado	2	....	....	....	....	1	1	....	1	2	3	1	....	....	1	3	15
England	....	....	....	....	....	1	....	4	3	2	....	1	1	1	....	....	13
Germany	....	....	....	....	....	....	....	....	....	....	....	1	....	....	1	2	4
Holland	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	....	1
Illinois	....	1	3	2	1	4	1	1	7	10	3	7	4	2	....	3	49
Iowa	....	1	1	1	....	1	5	3	3	3	3	....	....	5	4	....	30
Indiana	1	3	....	....	1	1	1	1	1	3	1	....	2	....	....	....	15
Kentucky	....	....	....	....	....	....	....	....	....	2	....	....	....	....	....	....	2
Michigan	....	....	....	1	2	1	....	....	....	....	....	....	....	....	....	....	5
Missouri	3	4	1	5	3	3	4	5	10	10	14	7	6	8	9	6	98
Minnesota	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	....	1
Montana	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	1
Massachusetts	....	....	....	2	....	....	....	....	....	....	....	....	....	....	....	....	2
Nebraska	1	....	....	....	....	2	1	4	3	3	2	4	1	3	4	7	35
New Jersey	....	....	....	....	....	....	....	....	....	1	2	2	....	....	....	....	5
New Mexico	1	....	....	1	....	4	5	2	1	1	2	....	1	2	1	1	22
New York	4	2	2	1	....	1	2	....	1	....	2	2	2	....	....	....	19
North Carolina	....	....	....	....	....	....	....	....	....	....	....	....	....	1	1	....	2
Ohio	....	....	....	2	1	1	3	1	1	2	....	....	....	....	1	2	14
Oklahoma	....	....	....	....	....	....	....	....	4	4	3	4	4	2	5	2	28
Pennsylvania	2	1	1	....	....	1	1	2	1	2	3	2	....	....	....	....	16
South Dakota	....	....	....	....	....	....	....	....	....	....	....	....	....	1	2	....	3
Tennessee	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	1	2
Texas	....	....	....	....	....	....	....	....	....	....	....	....	....	1	....	1	2
Utah	....	....	....	....	....	....	....	....	....	1	1	1	1	3	3	....	10
Rhode Island	....	....	....	....	....	....	1	1	....	....	....	....	....	....	....	....	2
Wales	....	....	....	....	....	....	....	....	....	....	....	1	1	1	1	1	5
Washington, D. C.	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	....	1
Wisconsin	....	....	....	....	....	....	1	....	....	....	....	....	....	....	....	....	1
West Virginia	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1
Wyoming	....	1	....	....	....	....	....	....	....	1	1	....	....	....	....	....	3
Vermont	....	1	1	....	....	....	....	....	....	....	....	....	....	....	....	....	2

THE FACULTY.

This phenomenal growth made necessary an increase in the teaching force, and this again made possible the assigning of the work of instruction to specialists. Among the teachers of special sciences or arts who were added to the Faculty during this period, and who have identified themselves with the peculiar work of the College, are: Mrs. Nellie S. Kedzie, M. S., a graduate of the College and its present matron, who took charge of the Department of Household Economy and Hygiene in the fall of 1882; Prof. W. A. Kellerman, Ph. D., who was elected to the chair of botany in the fall of 1883; Prof. David E. Lantz, M. S., who became teacher of mathematics and surveying in the fall of 1883; Prof. Oscar E. Olin, who was called to the chair of English language and literature in 1886; Prof. Alexander B. Brown, A. M., who was elected to take charge of the Music Department in the fall of 1886; Prof. Ozni P. Hood, B. S., who entered upon his work as superintendent of the shops and teacher of mechanics and engineering in 1887; Prof. Francis H. White, A. M., who became instructor of history and constitutional law in the fall of 1888; Prof. Charles C. Georgeson, M. S., who was called to the chair of agriculture in the winter of 1890; Prof. Ernest R. Nichols, A. M., who was made instructor in physics in the fall of 1890; Dr. Nelson S. Mayo, D. V. S., M. S., who was elected Professor of Physiology and Veterinary Science in the fall of 1890; Prof. Julius T. Willard, M. S., a graduate of the College, who became Assistant Professor of Chemistry in 1891; Prof. Albert S. Hitchcock, M. S., who was called to the chair of botany in the fall of 1891; and Prof. Silas C. Mason, M. S., a graduate of the College, who was made Assistant Professor of Horticulture in the summer of 1892.

Much of the success and growth of the College is due to the untiring efforts of these teachers, many of a reputation reaching far beyond the limits of the State or even the country. The annual reports of the several State and national societies for the advancement of pure and applied science give witness to the extended work carried on in the studies and laboratories of the College. Prof. W. A. Kellerman, who left the institution in the fall of 1891 to accept a call by the State University of Ohio, with promise of increased salary, published several books on his special branches while here, as "Elements of Botany," a text-book for schools, treating histology, vegetable and economic botany, and organography. At the time of its publication, in 1884, a critic in *Science* said: "It comes nearer to filling a serious gap in botanical literature than any other thus far published." Also, "Plant Analysis, or Key to the Dichotomal Plan for Identifying Plants East of the Mississippi." Also, "Analytical Flora of Kansas," and a "Kansas School Botany." The general use of these works attests their value. The Professor also prepared numerous papers in various State reports, the two of special importance to Kansas being "The Kansas Forest Trees Identified by Leaves and Fruit"—the first work of the kind ever published in the United States—and the "Native

Grasses of Kansas." Prof. Geo. H. Failyer has published a hand-book for students of analytical chemistry; Prof. Edwin A. Popenoe is the author of several students' hand-books on entomology; Prof. A. B. Brown has published a number of text-books on musical theory, and is the author of "Brown's Chromatic Musical Charts;" Prof. J. D. Walters has published a text-book on free-hand drawing and designing, and Prof. Julius T. Willard is about to publish a text-book on organic chemistry.

STATE APPROPRIATIONS FROM 1880 TO 1892.

During the presidency of Mr. Fairchild, the Kansas State Agricultural College has received appropriations by the Legislature as follows:

For the year ending:			
June 30, 1881	$20,729 09	June 30, 1887	$5,800 00
June 30, 1882	16,000 00	June 30, 1888	17,328 79
June 30, 1883	13,500 00	June 30, 1889	7,975 90
June 30, 1884	6,500 00	June 30, 1890	8,525 28
June 30, 1885	21,113 44	June 30, 1891	11,315 25
June 30, 1886	11,600 00	June 30, 1892	6,824 99
		June 30, 1893	1,950 00

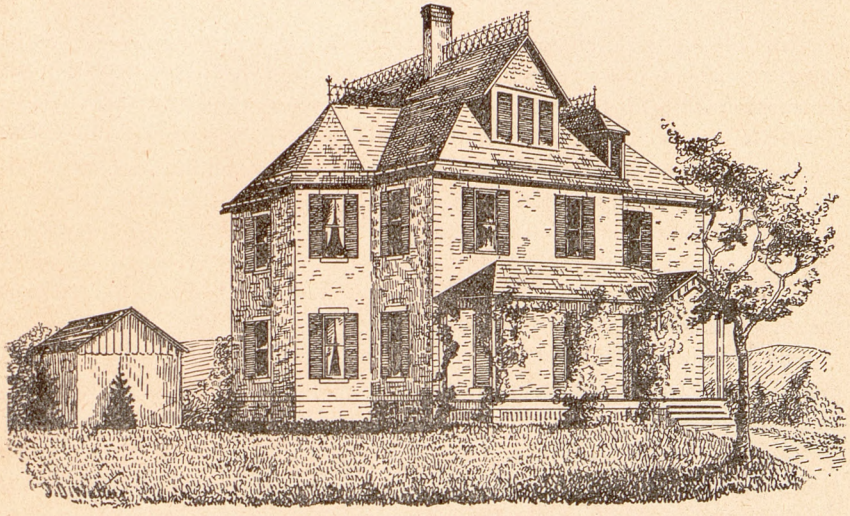
In addition to these cash items, the College has received from the State the necessary printing and binding since 1883, and all needed fuel since 1889—privileges which, for the last few years, have aggregated between $2,000 and $3,000 annually. No appropriations were made for the year ending June 30, 1880, but in the following year the Legislature, in addition to the appropriation stated above, made provisions for the restoration by the State of $17,979.09 of endowment and income which had become lost to the College from various causes during the past 10 years, and which, according to the organic act, and with the agreement of the Legislature, the State was bound to replace, so that the capital of the fund "shall remain forever undiminished." The main part of the appropriations for this period was received for the erection of the main College Hall and the extensive farm buildings. No appropriations were asked or received for teachers' salaries or running expenses.

IMPROVEMENTS FROM 1880 TO 1892.

The most important improvement made under President Fairchild's administration is the finishing of the main College building, *i. e.*, of its central part, in 1882, of its south wing in 1884, and of its chapel addition in 1887. The building was planned by President Anderson in 1877, and owes its peculiar form of three separate wings or parts, connected by lower corridors, to the expected difficulty of obtaining a sufficient appropriation by the Legislature for the entire completion in one fiscal period. The plans and superintendence were furnished for the principal structure by Architect E. T. Carr, of Leavenworth, and for the chapel addition by Prof. J. D. Walters. President Fairchild changed the original designs in several particulars, notably by adding an attic to the central part and a basement to the south wing—additions which, without materially increasing the cost, improved both the

appearance and the capacity. The building as it now stands has cost about $70,000.

Of other permanent improvements, may be named the erection, in 1885, of the President's residence, ultimately to become the residence of the Professor of Horticulture; the construction, in 1885, of the north wing of the barn, and the addition to this of the piggery, in 1886; the rebuilding of Armory Hall, in the same year; the placing in Mechanics' Hall of a steam engine and a number of fine wood-working machines, in 1885–'87; the building of the greenhouse, in 1883; the enlargement of the chapel, in 1887; of the horticultural laboratory, in 1888, and of the horticultural barn, in 1889. The plans and superintendence for these buildings were furnished by Prof. J. D. Walters. In 1883 and 1884, the main roads of the farm were graveled, and in the spring of 1885 the grounds were platted for planting and future improvement in road building by a professional landscape gardener, Max. Kern, of St. Louis. In the same year a tract of 44 acres of land was added to the farm by purchase, 16 acres having been added some years previous. In the spring of 1891, another small tract of about four acres was bought. The College now possesses in two farms a total of 319 acres.



THE PRESIDENT'S HOUSE.

In 1888, the city of Manhattan built a very complete system of waterworks, with a pumping station near Blue river, and a capacious double reservoir on top of Bluemont, a neighboring hill several feet higher than the tower of the main building of the College. In the following winter the Legislature appropriated $3,000 for an extension of the pipe line upon the College campus, and about the 4th of July, 1889, the buildings, greenhouses and lawns were supplied with an abundance of pure water—a considerable factor

in the economy of the scientific and agricultural departments, and a safeguard, in case of fire, for the buildings and other property, much of which could not be easily replaced. Another appropriation of $3,000, made by the Legislature of 1891, for a further extension of the water service, and for water-closets and sewers, has provided the College with a most complete water and drainage system.

The same Legislature appropriated $4,000 for an addition to the mechanical workshops, for the purpose of providing the needed room for the extension of the course in iron work, and Prof. O. P. Hood, with characteristic inventiveness and energy, and doing a large part of the work with his pupils, built a roomy, well-lighted and ventilated shop, mostly of stone and steel, which will be a model for its purpose for a century to come.

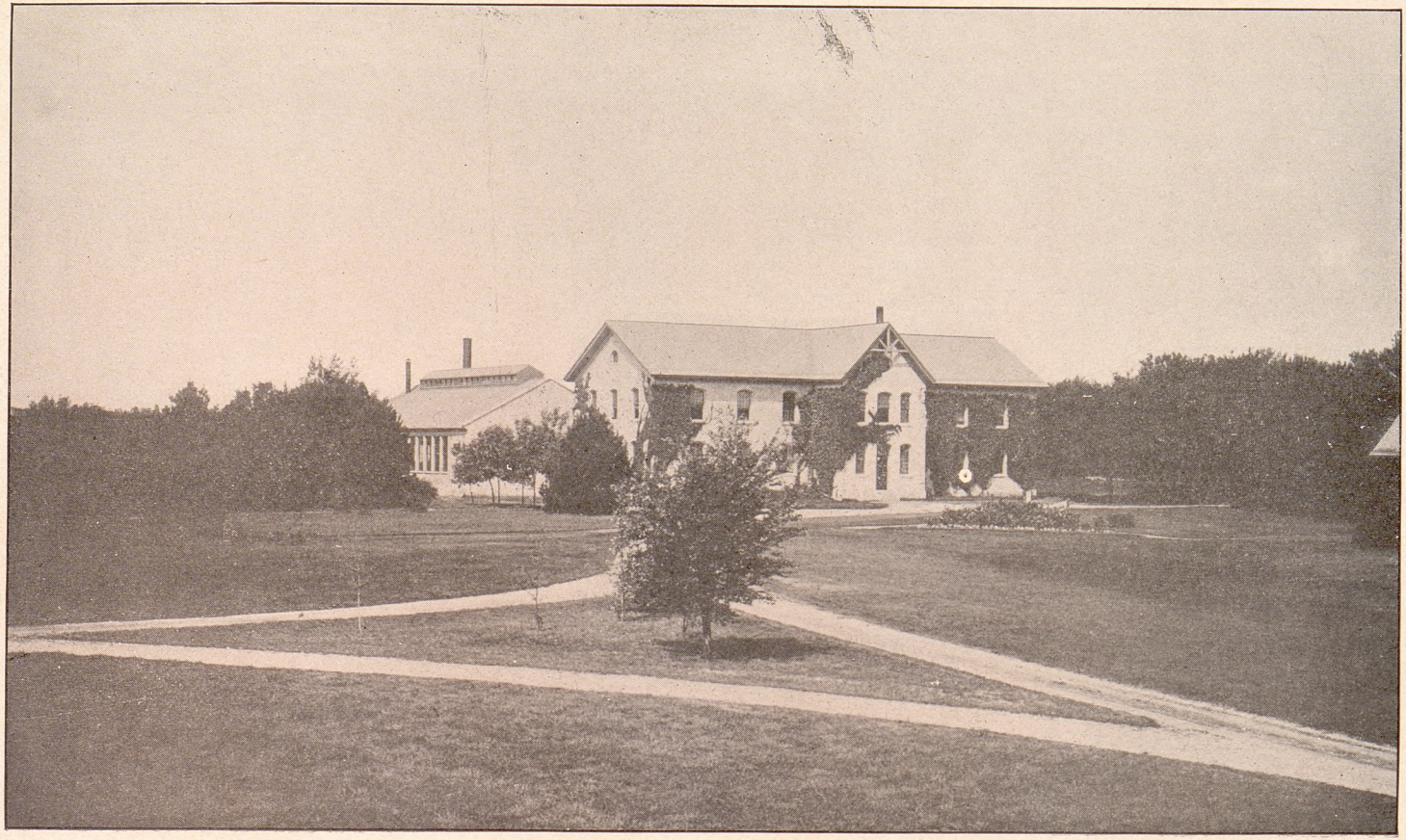
The last inventory of the College enumerates the following lands, buildings, and equipments:

Total number of acres, 319.		Value of farm equipments	$14,396 80
Acres under cultivation, 230.		Value of shops	11,500 00
Acres used for experiments, 180.		Value of shop equipments	13,115 38
Value of lands	$38,700 00	Value of all other buildings	114,350 00
Value of farm buildings	10,760 00	Value of all other equipments	99,137 78

APPARATUS AND LIBRARY.

Carefully-made purchases of scientific apparatus, and untiring efforts in gathering natural-history specimens, have gradually provided the different departments with equipments valued all together at more than $100,000. Much credit for this is due to individual effort of the professors. The rapidly-growing collections from the fields of zoölogy, botany, entomology, mineralogy and geology have cost the College almost nothing. Not even the Board of Regents, perhaps, are aware of the *esprit du corps* existing among the Faculty with regard to this and other matters. The greatest need of a school of pure and applied science is, however, a large and well-selected library, and the establishment of this requires time and funds.

The library is almost wholly the growth of the last 12 years. It was moved to its present quarters in the northeast wing of the main building from the northwest room of the old Bluemont College building, in 1878, by Acting President M. L. Ward, who was the Librarian from 1875 until 1883. It consisted at that time of less than 1,250 valuable and well-preserved books; the remainder, some 800 volumes, were either entirely worn out, or they were works of almost no use or value — old Greek and Latin dictionaries and commentaries, religious monographs, sermons, old and poorly-printed fiction, Government reports, etc.— a state of things not to be wondered at, when it is remembered that the greater part of the growth consisted of donations, solicited in the Eastern States by Pres. Joseph Denison and Agent I. T. Goodnow, and that during Anderson's presidency neither funds nor space were available for this purpose. From that time, however, there was rapid growth. Acting Librarian, Prof. W. H. Cowles, reported the number of books on the



IRON AND WOOD WORK SHOPS.

shelves June 30, 1884, at 5,740 bound volumes, 1,300 pamphlets, and several hundred duplicates. A card catalogue of topics, commenced by Professor Cowles, was completed to date, in 1885, by the acting Librarian, Prof. B. F. Nihart.

Prof. D. E. Lantz took charge of the library in September, 1886. His first report catalogues 6,572 bound volumes, 2,350 pamphlets, and 360 duplicates, valued in the aggregate at $10,358.51. In 1888, the number had grown to 7,453 bound volumes, 2,490 pamphlets, and 352 duplicates, with a total valuation of $12,172.04; and in 1890, to 9,749 bound volumes, 349 duplicate volumes, and 3,126 pamphlets—a total of 13,224. At present the College library consists of over 12,000 bound volumes and about 4,000 pamphlets, and is valued at over $21,000. It has been selected mainly with a view to supplementing the class-room instruction in the various departments and the work of the Experiment Station. One of the main endeavors of the Faculty has been to complete the sets of Government and State reports pertaining to agriculture, horticulture, finance, and education. Hundreds of letters were written to Government officers, in all parts of the country, soliciting such volumes. Sets of leading scientific and literary magazines were also completed by picking up missing numbers or volumes wherever there was a chance. The books are indexed in a card catalogue, so that the resources of the library upon any subject may be readily learned. All students have free acess to the book-shelves, and may draw the books for home use, under simple and most liberal regulations.

The College subscribes for the leading literary, scientific and agricultural journals; while the principal daily and weekly papers of Kansas and many from other States are received in exchange for the College publications. All these are kept on file for the use of students and Faculty.

The College has been designated as the depository of United States public documents for the Fifth Congressional District of Kansas. About 1,000 volumes have already been received on this account.

An approximate estimate of the number of books, including public reports and bound periodicals, by classes, is as follows:

Classes.	*Vols.*	*Classes.*	*Vols.*
Agriculture	1,350	History	550
Horticulture	500	Biography	450
Mechanics and engineering	425	Geography and travels	300
Mathematics and astronomy	250	Dictionaries and cyclopedias	175
Physics and meteorology	325	Philology	100
Chemistry and mineralogy	300	Education	300
Geology	400	Law	80
Botany	400	Administrative reports	540
Zoölogy	300	Public documents on deposit	920
Entomology	125	Fiction, including juveniles	240
Physiology and sanitary science	250	Essays and literary criticism	300
General science, proceedings	500	Poetry	100
Military science	150	Logic and philosophy	200
Domestic science	75	Religion and morals	500
Political science	325	Fine arts	200
Bound magazines	1,250	Miscellaneous	125

The library is in constant use by the students and the members of the Faculty. The report of the Librarian for the school year 1888–'89 gives the total number of books drawn for home reading by students at 6,777, and the total number for the school year 1889–'90 at 7,898 — an average of over 15 books per student. This does not include the books and magazines read in the library or reading-room, nor does it include the current numbers of periodicals of any kind, since these cannot be taken from the reading-room.

The total of all State appropriations received for the library, up to date, is only about $6,000. It is greatly deplored by the friends of the College that the State Legislature of 1891 was not able to find means to appropriate more than $250 annually for the next two fiscal periods for this purpose. A student of science without books is like a mill without water or a stove without fuel. The great need of this College, at this stage of growth, is undoubtedly in the enlargement of its library facilities — it is more books and maps, and a new library building.

FARMERS' INSTITUTES.

The Kansas State Agricultural College has, ever since its foundation, recognized the farmers' institute as one of the best means to disseminate newly-discovered facts and methods pertaining to agriculture and horticulture among those directly interested. Short conventions of the farmers of the vicinity of Manhattan were held at the College every few months as far back as 1864. The first well-organized and widely-advertised farmers' institute under the auspices of the Faculty was held in Manhattan, January 2–10, 1872. It was well attended by representative farmers from all parts of the State. During Anderson's presidency little was done in this direction, chiefly because the newly-organized industrial departments demanded the undivided attention of the teachers; but upon the election of President Fairchild the College at once arranged for the holding every winter of at least six institutes, in as many different counties in the State, and increased the number a few years later to eight, and still later to 10. A permanent Faculty committee was appointed to arrange with parties interested, and there has been a great deal of enthusiasm within and without the institution with regard to this practical work. The farmers' institute has proved a valuable means for strengthening the tie between the College and its patrons, and for bringing the best element of the youth of the State to its class-rooms.

The institutes are usually held during the months of December, January, and February, at such times as may suit the convenience of the several localities; but application is required by the 1st of November, if possible. The plan or programme of these gatherings is very simple. They are meetings of farmers and their families with the representatives from the College for mutual discussion and information upon matters of interest in farm life, including the home. Every interested person becomes a member of the institute by attending, and may share in all the proceedings. The officers are selected

simply to preside in the institute, that the best results may be reached. They are generally men of wide experience and ready suggestion. The institute includes four sessions, beginning Thursday evening and continuing through Friday morning, afternoon, and evening. This is as long a time as farmers can usually arrange to give to meetings, and gives the best results.

The order of exercises is very simple, presenting usually not more than two subjects in each session. This is arranged beforehand by agreement between a local committee and a committee of the Faculty, the one essential being that the community where the institute is held shall furnish one-half the papers or addresses, and be ready to take part in the discussions through questions and experience. The members of the Faculty take part in the discussions as other members of the institute do. The local committee is required to secure a convenient hall, large enough to seat a fair audience, and to take special pains to advertise the institute several weeks in advance. If possible, the local papers are engaged to share in the general interest, both beforehand and during the institute. If reports of the discussions and the local addresses can be published, the profit of the institute is very greatly increased and extended. The local expenses for hall, advertising, etc., are met by the institute. The College sends three or more members of the Faculty, paying all their expenses.

During the last 12 years nearly 100 of such "College extension courses," as these institutes might properly be called, have been conducted under the auspices of the Faculty in different parts of the State. There were held four institutes in each of the counties of Franklin, Jewell, and Wabaunsee; three in each of the counties of Brown, Finney, Marshall, McPherson, Nemaha, Osborne, Johnson, and Rooks; two in each of the counties of Clay, Cloud, Coffey, Cowley, Ellis, Elk, Ellsworth, Ford, Jefferson, Linn, Marion, Osage, Rice, Shawnee, and Trego; one in each of the counties of Atchison, Chautauqua, Cherokee, Geary, Dickinson, Harper, Jackson, Mitchell, Montgomery, Ottawa, Republic, Russell, Sumner, and Washington. Some 15 or more institutes, attended by one or two members of the Faculty, are not enumerated in the statement. In most of the counties where these institutes were held, permanent organizations for effecting such gatherings once a year or oftener have been formed, and the reports from all parts of the State show that the good work has been and is still kept up by local interest. The literary institutions of the State feel elated over their lately achieved or still prospective success in university extension work; the Kansas State Agricultural College rejoices equally in the accomplished success of similar work among the farmers, fruit raisers, and stockmen.

VII.

THE EXPERIMENT STATION.—THE HATCH LAW.—STATION BULLETINS AND REPORTS.

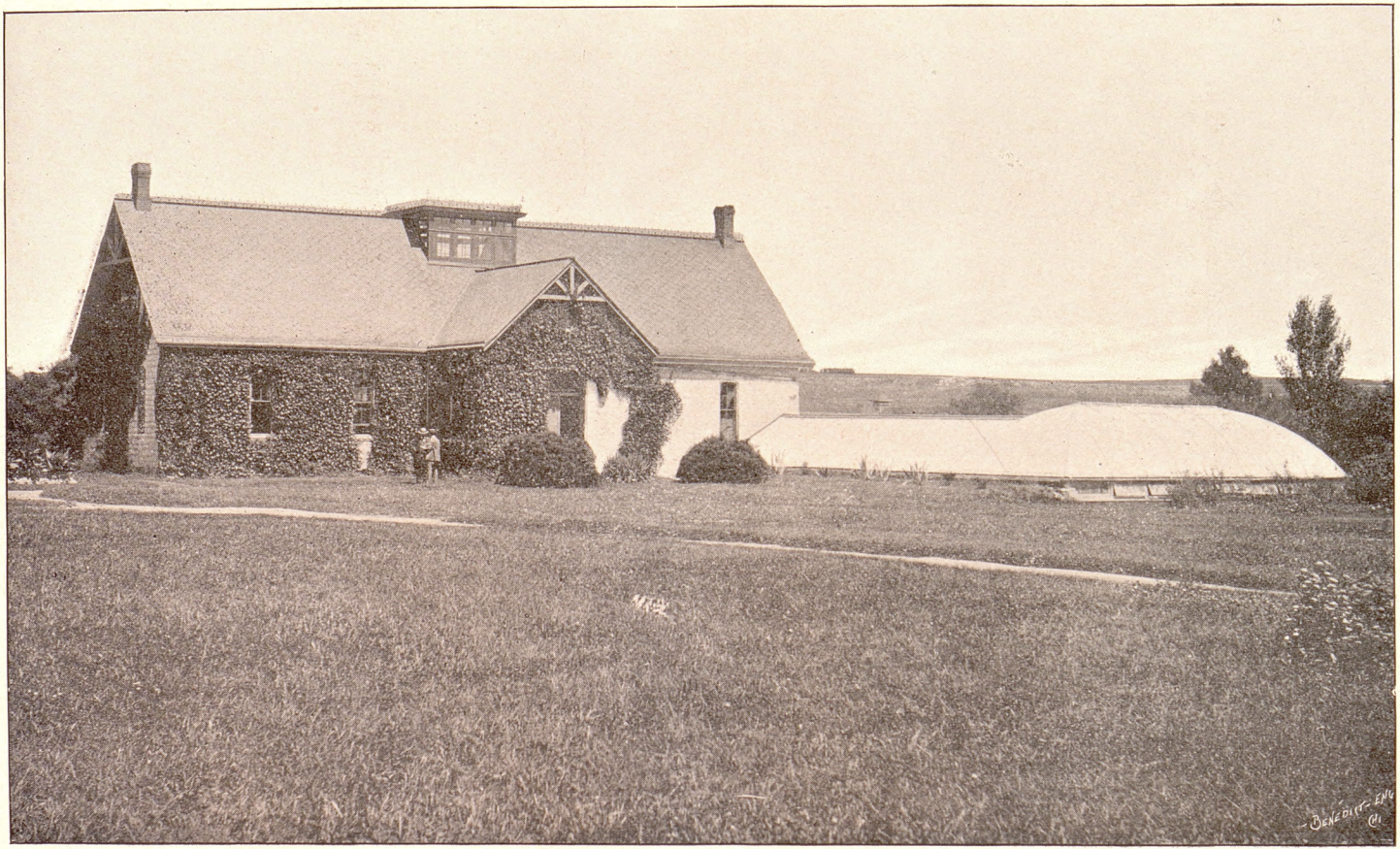
IF there is any section of the country that needs, more than any other, the painstaking assistance of the scientific agriculturist and experimenter, it is the prairie and mountain region of the West, where a climate unlike that of the older part of the United States and the civilized countries of Europe makes the selection of new crop plants and the adoption of new methods of tilling and husbanding an imperative necessity. It is natural that this necessity should have presented itself with great force to the managers of an institution founded for the purpose of educating the youth of the State for the vocation of the farmer. Experimental work in a small way, especially in the important field of forest planting, was commenced as early as 1868, and was continued, as far as the limited means permitted, by Prof. E. Gale, who for many years was the president of the State Horticultural Society. In 1874, Professor Shelton commenced a series of very valuable experiments in the cultivation of tame grasses, continuing his observations of varieties and species under different forms of treatment up to 1889. Later on, experiments were made in subsoiling, listing, feeding, etc. The results were published in the *Industrialist* and in freely-distributed annual reports. Professor Popenoe, following his predecessors in the work of horticulture, made a series of experiments in arboriculture, grape growing, and vegetable gardening. This work was carried on chiefly at the expense of the College, though during the last dozen years the Legislature reluctantly assisted with a few paltry appropriations. In 1888, however, the work gained a new phase by the assistance of the General Government.

The passage by Congress of the "Hatch bill," in March, 1887, provided for the organization in each State of a station for experiments in lines promotive of agriculture. The Legislature at once designated this College as the proper place for the station, and measures were taken for such work. It was found, however, that no appropriation had been made for carrying out the provisions of the bill, and accordingly little could be done until February, 1888, at which time the appropriation was made.

The law, named after Senator Hatch, of Missouri, who was its framer and promoter, is as follows:

AN ACT to establish agricultural experiment stations in connection with the colleges established in the several States under the provisions of an act approved July 2, 1862, and of the acts supplementary thereto.

SECTION 1. *Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled*, That in order to aid in acquiring and diffusing among the people of the United States useful and practical information on



HORTICULTURAL HALL AND GREENHOUSE.

subjects connected with agriculture, and to promote scientfic investigation and experiment respecting the principles and applications of agricultural science, there shall be established, under direction of the college or colleges, or agricultural department of colleges, in each State or Territory established, or which may hereafter be established, in accordance with the provisions of an act approved July 2, 1862, entitled "An act donating public lands to the several States and Territories which may provide colleges for the benefit of agriculture and mechanic arts," or any of the supplements to said act, a department to be known and designated as an "Agricultural Experiment Station:" *Provided*, That in any State or Territory in which two such colleges have been or may be so established, the appropriation hereinafter made to such State or Territory shall be equally divided between such colleges, unless the Legislature of such State or Territory shall otherwise direct.

SEC. 2. That it shall be the object and duty of said experiment stations to conduct original researches or verify experiments on the physiology of plants and animals; the diseases to which they are severally subject, with the remedies for the same; the chemical composition of useful plants at their different stages of growth; the comparative advantages of rotative cropping as pursued under a varying series of crops; the capacity of new plants or trees for acclimation; the analysis of soils and water; the chemical composition of manures, natural or artificial, with experiments designed to test their comparative effects on crops of different kinds; the adaptation and value of grasses and forage plants; the composition and digestibility of the different kinds of food for domestic animals; the scientific and economic questions involved in the production of butter and cheese; and such other researches or experiments bearing directly on the agricultural interests of the United States as may in each case be deemed advisable, having due regard to the varying conditions and needs of the respective States or Territories.

SEC. 3. That in order to secure, as far as practicable, uniformity of methods and results in the work of said stations, it shall be the duty of the United States Commissioner of Agriculture to furnish forms, as far as practicable, for the tabulation of results of investigation or experiments; to indicate from time to time such lines of inquiry as to him shall seem most important; and in general, to furnish such advice and assistance as will best promote the purposes of this act. It shall be the duty of each of said stations, annually, on or before the first day of February, to make to the Governor of the State or Territory in which it is located a full and detailed report of its operations, including a statement of receipts and expenditures, a copy of which report shall be sent to each of said stations, to the Commissioner of Agriculture, and to the Secretary of the Treasury of the United States.

SEC. 4. That bulletins or reports of progress shall be published at said stations at least once in three months, one copy of which shall be sent to each newspaper in the States or Territories in which they are respectively located, and to such individuals actually engaged in farming as may request the same, and as far as the means of the station will permit. Such bulletins or reports, and the annual reports of said stations, shall be transmitted in the mails of the United States free of charge for postage, under such regulations as the Postmaster General may from time to time prescribe.

SEC. 5. That for the purpose of paying the necessary expenses of conducting investigations and experiments, and printing and distributing the results as hereinbefore prescribed, the sum of $15,000 is hereby appropriated to each State, to be specially provided for by Congress in the appropriations from year to year, and to each Territory entitled under the provisions of section 8 of this act, out of any money in the treasury proceeding from the sales of public lands, to be paid in equal quarterly payments on the first day of January, April, July and October in each

year, to the treasurer or other officer duly appointed by the governing boards of said colleges to receive the same, the first payment to be made on the first day of October, 1887: *Provided, however*, That out of the first annual appropriation so received by any station, an amount not exceeding one-fifth may be expended in the erection, enlargement or repair of a building or buildings necessary for carrying on the work of such station; and thereafter an amount not exceding 5 per centum of such annual appropriation may be so expended.

SEC. 6. That whenever it shall appear to the Secretary of the Treasury, from the annual statement of receipts and expenditures of any of said stations, that a portion of the preceding annual appropriation remains unexpended, such amount shall be deducted from the next succeeding annual appropriation to such station, in order that the amount of money appropriated to any station shall not exceed the amount actually and necessarily required for its maintenance and support.

SEC. 7. That nothing in this act shall be construed to impair or modify the legal relation existing between any of the said colleges and the government of the States or Territories in which they are respectively located.

SEC. 8. That in States having colleges entitled under this section to the benefits of this act, and having also agricultural experiment stations established by law separate from said colleges, such States shall be authorized to apply such benefits to experiments at stations so established by such States; and in case any State shall have established, under provisions of said act of July 2d aforesaid, an agricultural department or experimental station in connection with any university, college or institution not distinctively an agricultural college or school, and said States shall have established or shall hereafter establish a separate agricultural college or school, which shall have connected therewith an experimental farm or station, the Legislature of such State may apply in whole or in part the appropriation by this act made to such agricultural college or school; and no Legislature shall, by contract, express or implied, disable itself from so doing.

SEC. 9. That the grants of moneys authorized by this act are made subject to the legislative assent of the several States and Territories to the purposes of said grants: *Provided*, That payments of such installments of the appropriation herein made as shall become due to any State before the adjournment of the regular session of the Legislature meeting next after the passage of this act shall be made upon the assent of the Governor thereof, duly certified to the Secretary of the Treasury.

SEC. 10. Nothing in this act shall be held or construed as binding the United States to continue any payments from the treasury to any or all of the States or institutions mentioned in this act; but Congress may at any time amend, suspend or repeal any or all of the provisions of this act.

Approved March 1, 1887.

As soon as the news came that the President had signed the above bill, the State Legislature passed the following concurrent resolution:

Be it resolved by the Senate of the State of Kansas, the House concurring, That the annual appropriation of fifteen thousand dollars ($15,000), made available to the State of Kansas under the act of Congress for the maintenance of an experiment station for the benefit of agriculture, in connection with each college established under the act of Congress approved July 2, 1862, be and is hereby placed under the control of the Board of Regents of the Kansas State Agricultural College, subject to rules and regulations expressed or implied in the act of Congress above named.

Approved March 4, 1887.

These enactments placed $15,000 in the hands of the Board of Regents

Senate Cuncurrent Resolution No. 27.
Acceptance of the Hatch Act by the state of Kansas

The acceptance of the provisions of the Hatch act by the legislature of Kansas was through Senate Concurrent Resolution No. 27. This resolution is not printed in the Laws of Kansas for 1887 with other legislative resolutions. The journals of the Senate and House show the following facts:

Senate Concurrent Resolution No. 27.

> Resolved by the Senate, the House of Representatives concurring therein,
> That the annual appropriation of $15,000 (fifteen thousand dollars) made available to the state of Kansas under the act of Congress for the maintenance of an experiment station for the benefit of agriculture in connection with each college established under the act of Congress approved July 2, 1862, be and is hereby placed under control of the Board of Regents of the Kansas State Agricultural College, subject to rules and regulations expressed or implied in the act of Congress above named.

Adopted by the Senate under suspension of the rules, March 4, 1887. Senate Journal 1887, p. 846.

The House concurred in this under suspension of the rules, March 4, 1887. House Journal, 1887, p. 1130. This concurrence was reported to the Senate. Senate Journal, page 866.

for use during the year ending June 30, 1888, and an equal sum for the year following. The organization of the Experiment Station was at once completed, and the work was begun. The general executive management of the Station was placed under the control of a Council, consisting of the President, the Professors of Agriculture, Horticulture and Entomology, Chemistry, Botany, and Veterinary Science. The President was made *ex-officio* chairman of the Council, and Prof. E. M. Shelton Director of the Station. The organic act permitted the use of one-fifth of the appropriation of the first year for building purposes. From this source the experimental laboratory, with about 2,400 square feet of propagating pits, was constructed. The Station is now well equipped with men and apparatus, and ranks among the most efficient in the country.

Upon the resignation of Prof. E. M. Shelton, in January, 1890, the office of Director was discontinued, and the clerical duties heretofore connected with that office given to the Assistant Secretary of the Board of Regents. The experimenting force of the Station consists at present of five professors and six assistants. Since its organization there have been issued 36 quarterly bulletins and four annual reports, the former containing current matter of general interest to farmers, horticulturists, and stockmen, while the latter include data of all completed experiments, with brief references to those still in progress. All bulletins and reports are distributed free to those who apply for them. The usual edition of the bulletins is 7,500 copies, but the general demand for information on certain subjects has frequently required much larger editions.

The following is a list of the bulletins issued thus far:

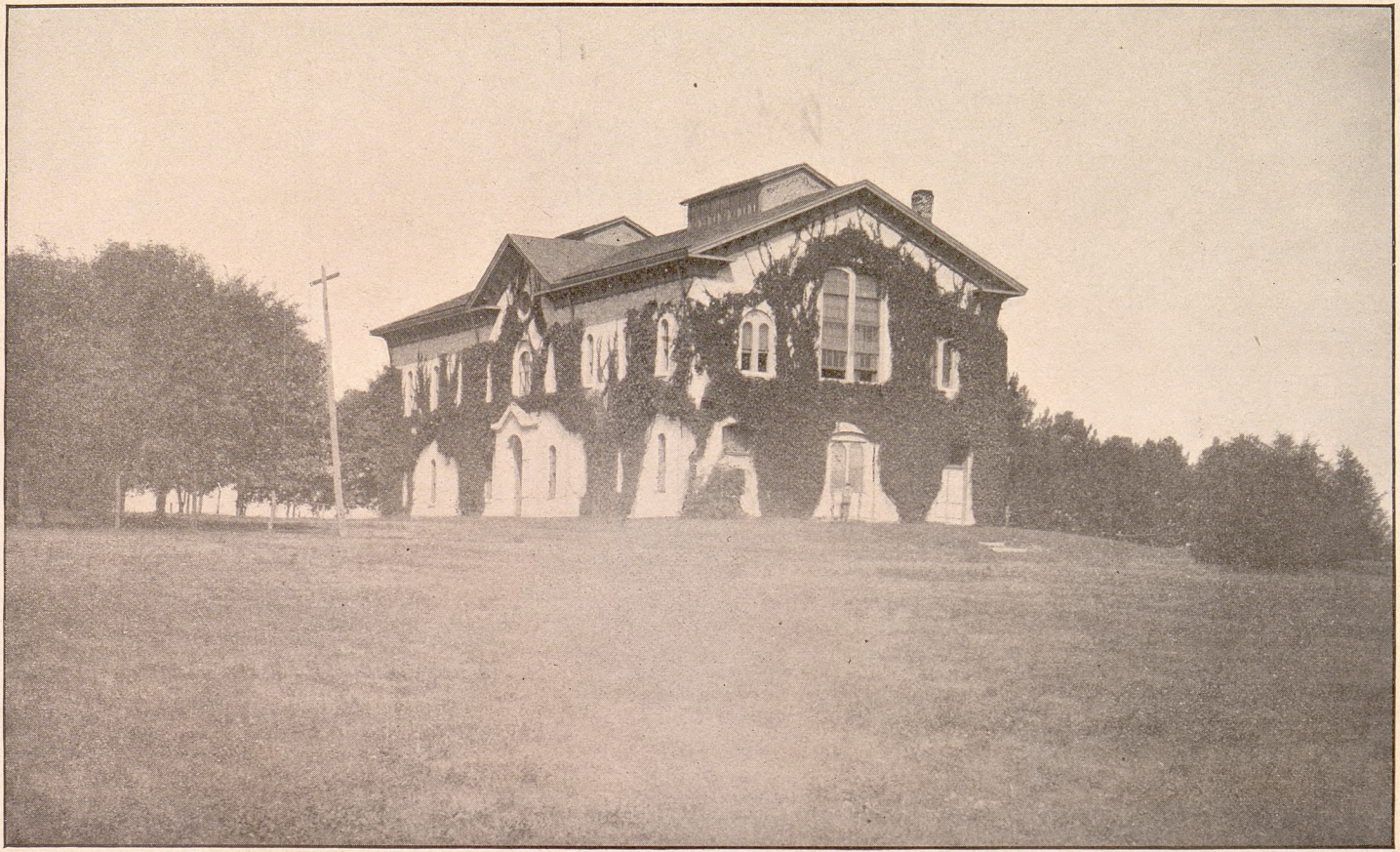
1888—No. 1. Organization, Equipment, and Aims.
No. 2. Experience with Cultivated Grasses and Clovers.
No. 3. Life-History of two Orchard Pests.
No. 4. Experiments with Wheat.
No. 5. Sorghum and Sorghum Blight.

1889—No. 6. Silos and Ensilage.
No. 7. Experiments with Wheat.
No. 8. Preliminary Report on Smut in Oats.
No. 9. Experiments in Pig Feeding.

1890—No. 10. Notes on Conifers for Kansas Planters.
No. 11. Experiments with Wheat.
No. 12. Preliminary Experiments with Fungicides for Stinking Smut of Wheat.
No. 13. Experiments with Oats.
No. 14. Winter Protection of Peach Trees, and Notes on Grapes.
No. 15. Additional Experiments and Observations on Oat Smut, made in 1890.
No. 16. Experiments with Sorghum and Sugar Beets.
No. 17. Crossed Varieties of Corn, Second and Third Years.
No. 18. Experiments with Forage Plants.
No. 19. Germination of Weeviled Peas—Garden Notes on Potatoes, Beans, and Cabbage.

1891—No. 20. Experiments with Wheat.
No. 21. Fungicides for Stinking Smut of Wheat.
No. 22. Smut of Oats in 1891—Fungicides for Loose Smut of Wheat—Spraying to Prevent Wheat Rust.
No. 23. Smut of Sorghum and Corn.
No. 24. Staggers of Horses.
No. 25. Sorghum for Sugar.
No. 26. Varieties of the Strawberry.
No. 27. Crossed Varieties of Corn.
No. 28. The Experimental Vineyard.
No. 29. Oats.
No. 30. Corn.
No. 31. Sugar Beets.
No. 32. Chemical and Farm Departments—Miscellaneous.
1892—No. 33. Experiments with Wheat.
No. 34. Experiments in Feeding Steers.
No. 35. *Actinomycosis bovis*, or "Lump Jaw" of Cattle, and Observations upon Loco.
No. 36. Experiments with Sorghum and Sugar Beets in 1892.

The total number of bulletins and reports distributed by the Experiment Station during the five years of its existence reaches nearly a quarter of a million, and the demand for them is constantly increasing—a fact that speaks as well for the farmers of the State as it does for the work of the College. Yet much of the work of the Station—the greater part—has not been published, because nearly all field or garden experiments require the corroboration of several seasons before the results can be trusted. In a laboratory experiment, the manipulator can control the conditions to such an extent that a single test will usually determine the existence or non-existence of an anticipated fact; but in the field, the ever-varying conditions of rainfall, wind, frost, drouth, insect pests, rust, etc., cannot be controlled or eliminated so as to give in a single season all the required data for the conclusions sought.



VETERINARY LABORATORY AND DRILL HALL.

VIII.

THE COLLEGE-AID BILL.—THE NEW COURSE OF STUDY.—POST-GRADUATE WORK AND DEGREES.—THE INDUSTRIAL DEPARTMENTS.—THE FACULTY AND THE BOARD.—A GLIMPSE INTO THE FUTURE.

ON the 25th day of March, 1890, Senator Justin A. Morrill, of Vermont who in 1859 and 1862 had been the prime mover of the agricultural college land-grant bill, carried out his long-expressed intention of introducing a bill for "the more complete endowment and support of colleges for the advancement of scientific and industrial education, and other purposes." The bill was at once referred to the committee on education and labor of the Senate of the United States. As soon as the welcome news reached the executive committee of the Association of American Agricultural Colleges and Experiment Stations, a meeting was called, in order to take active measures to urge its passage in the Fifty-first Congress. A sub-committee was appointed, consisting of President Alvord, of the Maryland Agricultural College; President Lee, of the Mississippi Agricultural College; President Scott, of the Ohio State University; and President Smart, of the Purdue University, to act on behalf of the association. This committee conferred with the Senate committee, and, after several conferences, succeeded in changing the original bill, which included provisions for aiding a large number of schools, and which in that form could never have become a law, to nearly its ultimate language.

Yielding considerably to their opinion, although the common-school feature was a cherished part of his original plan, Senator Morrill prepared a new bill, and introduced it April 30, 1890, as a substitute for the former measure. On May 17 it was favorably reported, with amendments, from the Senate committee, and accompanied by a report which declared that the land-grant institutions had done as well as could have been expected, and emphasized that —

> Perhaps contrary to the general impression, the proper equipment of one of these colleges is far more expensive, being at least ten times greater than that of an ordinary classical institution. . . . A college of agriculture and the mechanic arts is not a cheap affair. . . . It will and ought to cost something.

After being discussed on three consecutive days, and amended with regard to the clause referring to the equitable division of the appropriation in States where separate colleges for white and colored students had been established, the bill passed the Senate, on June 23d, by a practically unanimous vote.

On the following day it was read in the House of Representatives and referred to the committee on education, the committee returning it on July 24, without amendment and accompanied by a report. On the 19th of Au-

gust, under a special order, the bill was considered and passed, without a roll-call, by a vote of 135 to 39. One amendment, generally agreed upon and made known in advance, was adopted by the House, and in this the Senate concurred on the following day. The Kansas State Agricultural College may well pride itself with the fact that this amendment, limiting the appropriation "only to instruction in agriculture, the mechanic arts, the English language, and the various branches of mathematical, physical, natural and economic science, with special reference to their applications in the industries of life," was unnecessary, since no instruction had been given in its class-rooms for years that did not conform with this definition of the meaning of the original Morrill act.

The report of the House committee on education on the condition of the land-grant colleges, and the general status and educational needs of the industrial classes, contained the following interesting paragraphs:

It is no exaggeration to say that the institutions have more than justified the best anticipation entertained by their best friends. This is not to assert that they have in all cases been perfectly successful; but they have steadily adjusted themselves more and more to the requirements of the new situation. They have gathered about themselves a large body of men whose training and experience have prepared them to give thorough and advanced instruction in modern science and its applications. They have collected laboratories, workshops, farms, and apparatus for illustration, experiment, and research. They have so far commended themselves to the people of their several States that large sums of money have been given to provide buildings and equipments suited to their needs, and they have turned out a body of men who, as teachers, investigators, and leaders of industry, rank well up with the same class of men anywhere in the world. According to recent reports of the United States Bureau of Education, they have now more than 10,000 students under instruction, and their graduates are to be found taking high rank in every department of industry. In many States they have come to be recognized as leaders in scientific education, and have done much to create and mold that public sentiment which is now everywhere demanding that the education given in schools of every grade shall, without lowering its aim, prepare more directly for the actual pursuits of industry. Nor is it too much to say that their influence and example have contributed greatly to bring about the enlargement and reorganization of scientific education in the older institutions of the country, thus bringing them more closely into harmony with the spirit and purpose of the age.

One of the most serious drawbacks to the success of these colleges has been the fact that the grant of 1862 was based upon representative population. The result was that a small State or a new one received only a small grant, thus giving the least aid in places where it was most needed; and the grant was still further diminished by reason of so large a quantity of scrip being thrown upon the market at one time, thus reducing the average price to less than 60 cents per acre. The present bill wisely proposes to rectify this inequality by giving an equal amount to each State.

Notwithstanding the prosperous condition of many of these institutions, the fact remains that almost every one of them is crippled for want of adequate funds. The meagerness of the original endowment has been supplemented, in many cases, as we have seen, by the action of the States, but in the great majority of cases the needs of the institutions have far outrun even the most liberal of such appropriations. The fact is recognized, in a general way, that the cost of maintaining scientific edu-

cation is far greater than that of maintaining literary or classical education. More numerous and larger buildings, more apparatus of every kind, and a larger teaching force, are constantly required, and the loss of apparatus and equipment by wear and tear is immeasurably greater. Moreover, the field of science and the methods of applying it in practical life have so greatly enlarged within the last 25 years that none but the wealthiest institutions in the country have found themselves able even passably to meet the requirements of the time. The government of every leading country outside of the United States has recognized the necessity of providing on a large and generous scale for the establishment and maintenance of scientific instruction of every grade, from the primary to the highest, and it is everywhere regarded as one of the first duties of statesmanship to see that the citizens of the country are not left behind in the race of modern competition for lack of any resource that science can bring to their aid. The margin of profit in the competition of modern industries is so small and so closely calculated that *the best instructed people will be the winning people.* It seems not too much to hope that the Government of the United States will, to the slight amount provided for in the pending bill, strengthen the foundations it has already so wisely laid, and thus place itself abreast of the leading thought of the age.

The act was approved by President Harrison, August 30, 1890, and reads as follows:

AN ACT to apply a portion of the proceeds of the public lands to the more complete endowment and support of the colleges for the benefit of agriculture and the mechanic arts established under the provisions of an act of Congress approved July 2, 1862.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That there shall be, and hereby is, annually appropriated, out of any money in the treasury not otherwise appropriated, arising from the sales of public lands, to be paid as hereinafter provided, to each State and Territory, for the more complete endowment and maintenance of colleges for the benefit of agriculture and the mechanic arts now established, or which may be hereafter established, in accordance with an act of Congress approved July 2, 1862, the sum of $15,000 for the year ending June 30, 1890, and an annual increase of the amount of such appropriation thereafter for 10 years by an additional sum of $1,000 over the preceding year, and the annual amount to be paid thereafter to each State and Territory shall be $25,000, to be applied only to instruction in agriculture, the mechanic arts, the English language, and the various branches of mathematical, physical, natural, and economic science, with especial reference to their applications in the industries of life, and to the facilities for such instruction: *Provided,* That no money shall be paid out under this act to any State or Territory for the support or maintenance of a college where a distinction of race or color is made in the admission of students, but the establishment and maintenance of such colleges separately for white and colored students shall be held to be a compliance with the provisions of this act if the funds received in such State or Territory be equitably divided as hereinafter set forth: *Provided,* That in any State in which there has been one college established in pursuance of the act of July 2, 1862, and also in which an educational institution of like character has been established, or may be hereafter established, and is now aided by such State from its own revenue, for the education of colored students in agriculture and the mechanic arts, however named or styled, or whether or not it has received money heretofore under the act to which this act is an amendment, the Legislature of such State may propose and report to the Secretary of the Interior a just and equitable division of the fund to be received under

this act between one college for white students and one institution for colored students, established as aforesaid, which shall be divided into parts and paid accordingly, and thereupon such institution for colored students shall be entitled to the benefits of this act and subject to its provisions, as much as it would have been if it had been included under the act of 1862, and the fulfillment of the foregoing provisions shall be taken as a compliance with the provision in reference to separate colleges for white and colored students.

SEC. 2. That the sum hereby appropriated to the States and Territories for the further endowment and support of colleges shall be annually paid on or before the 31st day of July of each year by the Secretary of the Treasury, upon the warrant of the Secretary of the Interior, out of the treasury of the United States, to the State or territorial treasurer, or to such officer as shall be designated by the laws of such State or Territory to receive the same, who shall, upon the order of the trustees of the college or institution for colored students, immediately pay over said sums to the treasurers of the respective colleges or other institutions entitled to receive the same, and such treasurers shall be required to report to the Secretary of Agriculture and to the Secretary of the Interior on or before the 1st day of September of each year a detailed statement of the amount so received, and of its disbursement. The grants of moneys authorized by this act are made subject to the legislative assent of the several States and Territories to the purpose of said grants: *Provided*, That payments of such installments of the appropriation herein made as shall become due to any State before the adjournment of the regular session of Legislature meeting next after the passage of this act shall be made upon the assent of the Governor thereof, duly certified to the Secretary of the Treasury.

SEC. 3. That if any portion of the moneys received by the designated officer of the State or Territory for the further and more complete endowment, support and maintenance of colleges or of institutions for colored students, as provided in this act, shall by any action or contingency be diminished or lost, or be misapplied, it shall be replaced by the State or Territory to which it belongs, and until so replaced no subsequent appropriation shall be apportioned or paid to such State or Territory; no portion of said moneys shall be applied, directly or indirectly, under any pretense whatever, to the purchase, erection, preservation or repair of any building or buildings. An annual report by the president of each of said colleges shall be made to the Secretary of Agriculture, as well as to the Secretary of the Interior, regarding the condition and progress of each college, including statistical information in relation to its receipts and expenditures, its library, the number of its students and professors, and also as to any improvements and experiments made under the direction of any experiment stations attached to said colleges, with their costs and results, and such other industrial and economical statistics as may be regarded as useful, one copy of which shall be transmitted by mail free to all other colleges further endowed under this act.

SEC. 4. That on or before the first day of July of each year, after the passage of this act, the Secretary of the Interior shall ascertain and certify to the Secretary of the Treasury as to each State and Territory, whether it is entitled to receive its share of the annual appropriation for colleges, or of institutions for colored students, under this act, and the amount which thereupon each is entitled, respectively, to receive. If the Secretary of the Interior shall withhold a certificate from any State or Territory of its appropriation, the facts and reasons therefor shall be reported to the President, and the amount involved shall be kept separate in the treasury until the close of the next Congress, in order that the State or Territory may, if it should so desire, appeal to Congress from the determination of the Secretary of the Interior. If the next Congress shall not direct such sum to be paid, it shall be covered

into the treasury. And the Secretary of the Interior is hereby charged with the proper administration of this law.

SEC. 5. That the Secretary of the Interior shall annually report to Congress the disbursements which have been made in all the States and Territories, and also whether the appropriation of any State or Territory has been withheld, and if so, the reasons therefor.

SEC. 6. Congress may at any time amend, suspend or repeal any or all of the provisions of this act.

The passage of this bill, which increased the revenue of the College by from $15,000 to $25,000 per year, came just in time. The rate of interest, and with this the income from the endowment fund, had been shrinking for about five years, while the expenses had been constantly growing. In the spring of 1890, it seemed a question of only a short time when the institution would have to do one or the other of three very disagreeable things, viz.: Limit its usefulness in some direction, or collect a tuition fee from the students, or ask the State Legislature for an annual appropriation to meet a part of the current expenses. In the report for 1889–'90, the Board of Regents had said: "By strict economy, even by postponing provisions of urgent necessity, the expenses of the past two years have been kept within the limits of the income." Yet, there had been a small balance against the College for several years, partly due to the delinquency of some of the interest-paying parties, but partly also because the College was unable to keep a sufficient working fund on hand between the dates that are named in the bonds for paying the semi-annual interest. In 1890, however, the College received $15,000 for the current year, and $16,000 for the year 1891, so that the deficit in the treasury could be covered, the most necessary equipments could be procured, and some additional teaching force could be engaged.

NEW EQUIPMENTS.

Among the means which this increase of the revenues of the College procured, may be mentioned the equipment of the new machine shops and foundry, and the renewing of the hand tools of the carpenter shop.

The Legislature of 1887 had added wood-working machinery to the amount of $1,000 to the simple hand tools that had been bought from time to time since the reorganization of the College in 1874. This appropriation was sufficient to procure, in addition to the 10-horse-power engine and 20-horse-power boiler already in the building, a fine double-column circular saw, a 24-inch planer, a single-spindle friezer, a 34-inch band saw, four lathes, and numerous attachments. During 1890 the hand tools were increased to 220 complete sets, placed in separate locked drawers under the work benches, so that now each student has a good kit of tools entirely in his charge. The equipment of the new machine shop and foundry has cost about $4,000. It consists of 16 forges, with a 30-inch exhaust fan, smoke connections, anvils and hand tools, a No. 0 Collian cupola and blower, with ladles, hand ladles, core oven, flasks, etc., for an iron foundry, a brass furnace and 12 moulding

benches, with flasks and hand tools for small brass work. A small upright engine runs the following tools: A 24″x24″x6′ planer, four 14″x6′ engine lathes, a 12″x5′ brass lathe, a speed lathe, a 24″ drill press, a sensitive drill press, a pipe cutter, emery wheels, and grindstone. Fifteen vises with 30 locked drawers, each containing a complete kit of hand tools, are provided for hand work.

Of other equipments bought from this source, may be named a fine collection of samples of minerals, for the use of the classes in chemistry, mineralogy, and geology, a set of adjustable drawing tables for the Industrial Art Department, and a papier-maché horse for the Department of Veterinary Science. The mineralogical collection has cost about $1,100 and is one of the most complete in the country.

THE REVISED COURSE OF STUDY AND THE REQUIREMENTS FOR ADMISSION.

In the spring of 1891, the course of study was strengthened by the addition of one more term in algebra, and broadened by an elective study in the last term of the fourth year. There were also made slight changes in the arrangement of studies. At the same time the requirements for admission were raised, so as to include the passing of an examination in arithmetic complete, and in the ordinary school history of the United States, in addition to the reading, writing, spelling, geography and English grammar required in previous years. Arrangements were also made to receive diplomas and certificates in lieu of entrance examinations, as follows: First, diplomas received on completion of a county course of study which has been approved by the Faculty, when properly signed by the superintendent; second, certificates of passing the grammar grade in any city with a course of study approved by the Faculty, when properly signed by the city superintendent; third, Kansas teachers' certificates issued by the county board of examiners.

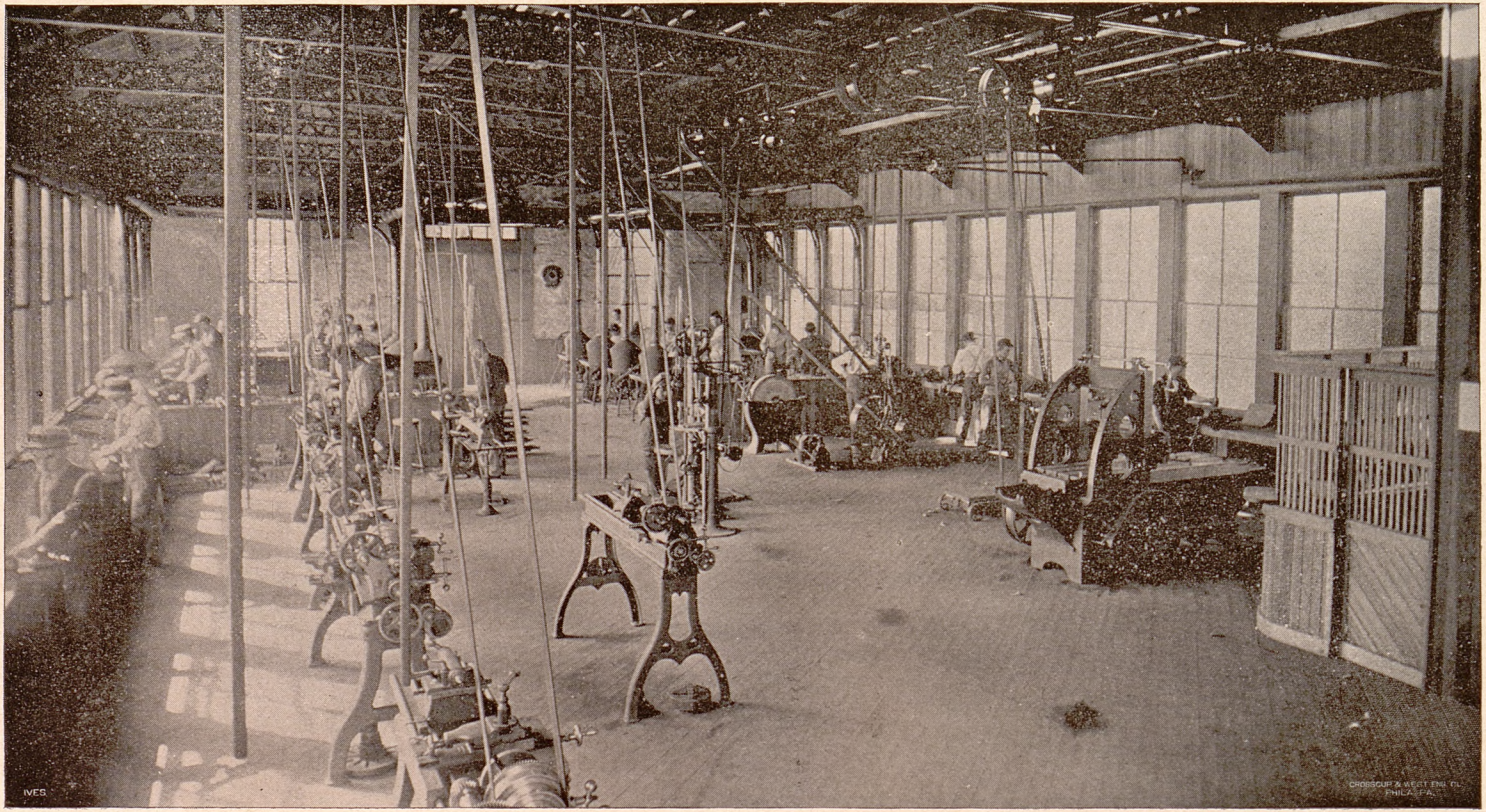
Provisions were also made, as in past years, for special classes in arithmetic, grammar, and geography, suited to the advancement of applicants of mature age who, for lack of advantages, are unable to pass the full examination. Young men over 18 years of age and young women over 16 are included in this provision, the object being to secure to such persons an opportunity to gain an education such as the common schools seldom provide for pupils of such age.

Each student is expected to take three studies, besides one hour's daily practice in an industrial art; and variations from this rule can be made only with the consent of the Faculty.

Parallel courses are offered to both sexes, with such differences as their necessities seem to call for. The following gives the general scope of the two:

FIRST YEAR.

Fall Term.....Algebra.
English Analysis.
Geometrical Drawing.
Industrial.



MACHINE SHOP.

Winter Term...Algebra.
English Composition.
Book-keeping.
Free-hand Drawing three times a week.
Industrial.

Spring Term....Algebra.
English Structure.
Botany.
Industrial (Carpentry or Sewing).

SECOND YEAR.

Fall Term.....Geometry.
Elementary Chemistry.
Horticultural.
Industrial.

Winter Term...Geometry completed, Projection Drawing.
Agriculture (Household Economy for the young women.)
Organic Chemistry and Mineralogy.
Twelve Lectures in Military Science.
Industrial (Cooking).

Spring Term....Anatomy and Physiology.
Entomology.
Analytical Chemistry.
Twenty Lectures in Military Science.
Industrial (Farm and Garden or Dairy).

THIRD YEAR.

Fall Term.....Trigonometry and Surveying.
Agricultural Chemistry.
General History.
Industrial (Farm and Garden).

Winter Term...Mechanics.
Constitutional History and Civil Government.
Rhetoric.
Industrial.

Spring Term....Civil Engineering (Hygiene for the young women).
Physics.
English Literature.
Perspective Drawing two hours a week; Drafting two hours.
Industrial.

FOURTH YEAR.

Fall Term.....Agriculture (Literature for the young women).
Physics and Meteorology.
Psychology.
Industrial.

Winter Term...Logic, Deductive and Inductive.
Zoölogy.
Structural Botany.
Veterinary Science (Floriculture for the young women).
Industrial.

Spring Term....Geology.
Political Economy.
An elective in Agriculture, Horticulture, Mechanics, or related sciences.
Industrial.

A full synopsis of subjects treated and methods followed in all branches of the course may be found in the last annual catalogue.

It will be noticed that the Kansas State Agricultural College is one of the very few liberal institutions of learning where daily educational manual labor forms a part of the programme for every pupil. Many schools have advertised the plan, some have experimented with it, but few have had the pedagogical wisdom, dexterity and energy to execute it on such a scale. They found it impossible to practice what they preached.

Every encouragement is given to habits of daily manual labor during the College course. Only one hour of daily practice in the industrial departments is required; but students are encouraged to make use of other opportunities for adding to their ability and means.

All labor at the College is under the direction of the superintendents of the departments, and offers opportunities for increasing skill and efficiency. In regular weekly statements, the students are required to observe business forms and principles, showing from their daily account when and where the work was performed.

The shops and offices are opened afternoons and Saturdays for the accommodation of skilled students in work for their own advantage. Everywhere the student who works wins respect; and it is a matter of pride to earn one's way as for as possible.

The labor of the students in the industrial departments is principally a part of their education, and is not paid for unless the student is employed upon work for the profit of the College. Students are so employed upon the farm, in the gardens or the shops, and about the buildings. The labor is paid for at rates varying with services rendered, from 8 to 10 cents an hour. The superintendents strive to adjust their work to the necessities of students, and give them the preference in all tasks suitable for their employment. So far as practicable, the work of the shops and offices is turned to account for their benefit; and the increasing extent of the grounds and sample gardens brings more of such labor. The monthly pay-roll of the College for the past year ranges from $250 to $400.

Many students also work in the city or upon neighboring farms.

In order to bring the College still closer to the classes for whose benefit it was founded, arrangements are nearly perfected to teach all branches of the course in every term. A farmer's son or young mechanic may then come to College from one to two or three terms per year, as his farm or business shall permit him, and complete the course before his twentieth or twenty-fifth year without disturbing the logical order of educational development. Another step in the same direction has been the organization of an annual short course

BARN AND SHEDS.

in practical science for farmers, dairymen, stock raisers, horticulturists, nurserymen, and gardeners. The first of these courses, covering about 30 lectures by the Faculty and invited specialists, and lasting two weeks, will be given at the College during the month of February. It bids fair to become a complete success.

THE BOARD AND THE FACULTY.

The government of the College rests with a Board of Regents composed of seven persons, of whom one, the President of the Faculty, is *ex officio*, and the remaining six are members by appointment by the Governor, with advice and consent of the Senate. The term of office is three years. The Board have "full and complete power to adopt and enforce all necessary rules and regulations required under the law. They make all appointments of officers, principals, teachers and employés which may be required for the practical and economical management" of the institution.

The Faculty of Instruction is at present composed of 22 professors and instructors, four of whom are women, and is aided by 14 assistants and foremen. Four of the professors and eight of the assistants are graduates of the institution. All the names may be found in the tables of chapter IX.

STUDENTS, GRADUATES, AND POST-GRADUATES.

During the 29 years of its existence, the College has received over 3,000 students, about a third of whom were young women. Most of them have come from farmers' homes, and, after from three months to three years of study, have gone back to such homes without graduation. The catalogue of 1892 publishes the following statistics: The number of graduates up to 1891 is 284, of whom 95 are women. Graduates previous to 1877 pursued, with two exceptions, a classical course, and received the degree of bachelor of arts. Since 1877, all have received the degree of bachelor of science, after a four-years' course in the sciences, with good English training.

Of the 189 men, 5 are deceased, and the remainder are reported in the following occupations:

Farmers	34
Fruit-growers and nurserymen	5
Stock-raisers	2
Assistants in Agricultural Exp'nt Stations	4
Assistants in U. S. Dept. of Agriculture	3
Editors of agricultural paper	2
Teachers and students of special sciences	10
Veterinary surgeons	3
Mechanics	4
Civil, electrical and mechanical engineers	9
Contractors and builders	3
Architects and draughtsmen	3
General business men	8
Merchants	9
Printers	4
Photographer	1
Superintendents of public schools	11
Teachers of public schools	24
Students in other institutions	5
Officers in army	2
Observers in weather service	2
Physicians and students of medicine	3
Druggist	1
Dentists	3
Editors	9
Ministers	5
Lawyers and students of law	20
Officials and official clerks	17
Total	206
In two occupations	22
	184

Of the 95 women, four are deceased, and the remainder are occupied as follows:

Housewives	34	Clerks or stenographers	4
At home	8	Printer	1
Assistant in Sewing Department	1	Milliner and dressmaker	1
Teachers of household economy	3	Assistant Librarian	1
Teachers in public schools	26	Hospital nurse	1
Teachers and students of special sciences	5	Students in other institutions	2
Teachers of music	2		
Teachers of art	2	Total	91

Before 1880 the College had not had occasion to give the second degree in course, and the conditions under which this academic honor could be obtained, or post-graduate work leading in this direction could be done, had not been formulated and publicly stated. In that year the Faculty adopted a code of rules and published it in the catalogue. Of the 284 students who graduated up to 1891, 68 have pursued post-graduate studies under the adopted scheme, and 29 have been given the second degree.

Arrangements can be made for advanced study in the several departments at any time. Special opportunity for investigation and research is offered at all times to resident graduates in agriculture and agricultural chemistry, physics and chemistry, horticulture and botany, zoölogy and entomology, mathematics, engineering, and drafting. Every facility for advancement in the several arts taught at the College is given such students, though they are not required to pursue industrial training while in such courses.

OBJECT AND AIMS.

The object and aims of the Kansas State Agricultural College cannot be better stated than by quoting from a paper on "Agricultural Schools," presented before the council of the National Educational Association, at San Francisco, July 11, 1888, by Pres. Geo. T. Fairchild:

The subject is one of especial interest now, because the question whether farming must be left to less and less intelligent people as civilization advances is raised in all the older States, where the original type of a farming community is changed for a worse rather than a better. The same state of things in Europe is complained of, and accounted for, in part, by the fact that most of the schools enhance the curiosity and interest as to the gay life of the cities, and add no zest nor interest to the handling of the soil or the feeding of a nation.

Newspapers and books generally present a different ideal of life, and arouse for the plodding of the farm a disrespect and distaste, wholly detrimental to the preservation of our national type. Our people ask, and rightly: "Are the schools doing all that ought to be done for a rural population, the conservatory of national character?" Most of the education given in common schools is purely literary; for the smattering of science interspersed is studied in literary ways. It is knowledge about things, not of them. Hence, as the New York *Evening Post* remarks in a recent number, "It turns the child's thoughts almost wholly toward sedentary pursuits, and to places in which men swarm." In the higher schools this bias is still more potent. Many are avowedly endowed, equipped and maintained as training places for the Christian ministry—all teachers being themselves ministers, and ex-

pected to exalt their calling at every opportunity. Others assume a wider mission, in preparing for the learned professions, including, besides preaching, the practice of law and of medicine, and teaching. Other technical schools, such as those of engineering, civil and mechanical, have had the same drift toward the teeming city and the wealth in trade. If these great intellectual centers have connected with them large elementary schools, as many of them have, in so-called preparatory departments, these are under the same manipulation in tone and trend and kind of information given, so that multitudes drop back into rural life, not simply unsatisfied, but dissatisfied after their taste of learning. If the universities have no elementary schools, they seek to stretch their influence of the same kind over every village high school, and these again must furnish teachers of the same tone to rural neighborhoods. So the conservatism of education is in fact against the conservatism of a well-informed and educated yeomanry.

Now, the presumption is that agricultural schools and colleges have their mission in checking this one-sided tendency. Though in the organization of our land-grant colleges, agriculture and mechanic arts were made coördinate, as the leading interests, I prefer to consider now only their mission to agriculture. They have for their aim, then, the promotion of intelligence in farming, and a fuller appreciation of the ends, means and methods of agriculture as the basis of sound progress.

Shall the higher type of farming and of farmers be sought through training a few experts in scientific agriculture, who, like doctors of physic, may dose to the suffering multitudes the needed potions and lotions and powders for debilitated farms? Or shall the multitudes themselves be inspired from these centers of information and thought, through a widely-extended elementary training in line with improved agriculture? The first thought would make the place of agricultural colleges beside other professional schools in the higher walks of a university, with barely the few students, training themselves for teachers, who are not borne along by the grand tide toward the learned professions. The second would seek to add to this occupation some of the charms of familiar acquaintance with its interesting facts and their relation to the world's work, from the early stages of education up.

I believe in aiming at both the general interest, enthusiasm, and inquiry, and the special information of expert investigators in long and strong courses of technical training. We must build the better agriculture from what we have. To reach the farmers with any applications of science, we must train the coming generations in the elements of science. The youths from the farms must find in our schools of agriculture the stimulant to scientific thoughtfulness that prepares them for better farming. Farmers can never be much benefited by ready-made information till a generation is trained to appreciate it. In fact, the schools can serve the farmers only through the youth.

A second fact stands patent. The results of research and experiment can be accepted and utilized by those only whose training has somehow fitted them for such appreciation and adaptation to present wants. No one has failed to discover how relative to present knowledge all added information is. In agriculture, especially, the judgment needed to adopt, and adapt to varying conditions, any improvement, depends upon previous familiarity with a multitude of relations. For the problems of agriculture are indefinitely varied; similarity rather than identity rules. Until, then, a mass of the youth come under the influence of the fitting process, the range of useful information must be limited, and restrained to the advantage of a few.

A third fact appears: That the moral and material support for thoroughly scientific inquiry can come from no other source than masses of men whose training suggests the need of advanced inquiry. The majority of untrained farmers ask for only the rough experiment that decides whether this or that seed will yield

most; whether this or that method of plowing or cultivation costs least for the crop secured; or, as one who signed himself "A Would-be Farmer," wrote me a few weeks since, "Can I feed pigs on corn so that at six months old they will weigh 300 pounds? If so, what breed of pigs on what kind of corn?" The actual underlying truths which make improvements possible they usually denounce as "fine-spun theories." Only as the leaven of youth awakened to the nature of science pervades the mass, can the means for higher investigations be secured. Experiment stations must be mere bureaus of ready-made information on the merest practical judgments, unless a truly scientific bias among farmers can be secured.

A fourth fact is beyond dispute: That the trained experts now willing and ready for these genuine investigations are largely the offspring of such elementary training. As I run over in mind the corps of able directors and assistants recently organized into the 39 experiment stations provided for by Congress, I am met by this fact in almost every one. With a few notable exceptions among the older men, the multitude have come from the few, relatively, who have had this early training, or something akin to it. Many of the leading authorities in agricultural and horticultural matters have had their interest awakened by early education in the few such schools. For I must admit that the majority of the 39 endowed colleges of agriculture and the mechanic arts have drifted with the tide into university departments or schools of technology. Yet the nation looks to the minority for its real leaders toward a more perfect agricultural knowledge.

Accepting these facts as a foundation of certainty, I have studied the problem of adjustment between a genuine education in no narrow spirit of exclusiveness and such a body of information and thought as must preserve the natural, normal interest in all that pertains to the farm and the development of farm industry. Without a taint of opposition to either the objects or the methods of the high classical training, I have watched the necessities of my problem with constantly-growing confidence in the solution which I try briefly to offer here. In my own mind the conviction is settled, that the true object to which all the forces of such an institution should tend is such discipline of body, mind and sympathies as shall give strength for the task of elevating agriculture, while the every-day surroundings add to the natural curiosity about seeds, soils, moisture, heat, germination and fertilization, variation in plant and animal, adaptation of parts and forces. In all of this there is abundant room for the truest discipline of perceptive powers, of judgment in all the phases of thought—comparison, abstraction, generalization, classification, and abstruse reasoning—and the most natural cultivation of memory and imagination. Above all, the true philanthropy that seeks each man's good in all men's good should pervade the whole with the widest intelligence of the world's wants always at hand. To be more explicit, the object is neither to make a set of trained hands for the farmer, not even to graduate farmers, if you please, nor to follow established rules of discipline which lead the bulk of thoughts and sympathies away from the farm, but to give genuine education in the humanities through those elements of knowledge which touch humanity most.

That such an object is definite enough to be distinctly gained, is proved by the work of several institutions of established fame, whose graduates are men of influence, showing their discipline in just such humanitarian efforts as we seek. Whether farmers, physicians, lawyers, editors, or even preachers, their thoughtful sympathies reach to such work.

To secure this object under the present conditions in most of the States, the following methods are commended, upon the test of experience, verified by extended observation:

First, Students must be able to reach the advantages of such an institution di-

rectly from their rural homes. Whatever preparatory training is needed must be given by the schools at home, if possible; if not, by the institution. Any required examination at admission must be suited to the methods of the rural schools, and in no way is even a seeming advantage to be given to a city grading system as a means of access. Of all things, any form of recognizing preparatory schools which cannot readily apply to the common district school breaks the continuity between the agricultural home and the agricultural college.

Second, The course of study must present essential discipline in lines of most direct interest. The mother-tongue stands first as the key to knowledge, the instrument of clear thought, and the medium of influence. If circumstances indicate that such training can be best given by comparison with another related language, living or dead, it may be used, but always subsidiary to the native language. In general with the common methods of teaching, attention to English in all its simplicity and complexity, its derivations, combinations and growths and associations, within itself will give better results within an ordinary four-years' course than can be given through any mere smattering of other tongues.

Of next importance, and coördinate in time, must be the discipline of perceptive and reasoning faculties through the science of nature, with abundant illustrations from the things which the students themselves have handled. Botany, chemistry, mineralogy, entomology, comparative anatomy, physiology, zoölogy and geology make a series so full of constant adaptations to previous curiosity as to give new zest to the problems of farm life. These applications may be wisely emphasized in special groups where information is given as to practical questions in raising and handling crops and domestic animals, trees, and garden vegetables, with the chemistry of growth and decay, provided these groups are carefully adjusted to the mastery of elementary sciences. Of equal importance in the discipline is a series of lessons in such intuitions as pure and applied mathematics afford, with sufficient introspection to arouse interest in the processes of thinking, feeling, and willing, as well as in the results. With these, and illustrative of their bearing upon human welfare, there must be enough of history, including geography, to show the tendencies of civilization, if not the complex forces promoting it, and the essential principles of national economy and government. The grand essentials in all this are two: The principles shall be truly scientific, as broad as all the facts; the illustrations and applications shall fit into the life of the farmers' sons and daughters who study them.

Third, All these studies should have awakened appetite for further research; but to cultivate this, outlines of study and investigation may be suggested, such as any careful student may follow. If these lead to a second degree, the incentive is stronger and the work more definite and original, therefore more practical as a part of real education. If, in these second, or post-graduate, courses, it is feasible to combine art with science and science with art, we have the best conditions possible for general advancement of agriculture by a truly trained body of workers all along the line.

Fourth, It seems to me essential to such a plan of education that every youth should have his interest in the details of farming kept alive by some responsibility in actual service. Much of these details can be made instructive—illustrative of principles in the art and related sciences; but if it should be only indirectly so, the care and attention required in a few hours each week of ordinary manual labor makes real the lessons in agriculture. Even the friction of such a requirement may be turned to advantage in exalting the importance of a host of details, out of which most interesting problems grow. Such work brings the student into direct contact with improved methods and means, as well as with questions under investigation,

arouses curiosity and develops ingenuity, without which all the information of the cyclopedias is useless on the farm or to the farmers. It stands in the relation of laboratory practice to the chemist.

Fifth, Special opportunities for the development of higher ideals, and better appreciation of the importance of a true agriculture, occur all through the course. The special courses of lectures show that it has a character — a body of principles. General lectures touch it on every side incidentally. Even strangers bear incidental testimony by their interest and enthusiasm. Societies, clubs and institutes find room for discussions of questions pertaining to prevailing practices and false notions. Science is not degraded but exalted by such association with actual, practical illustrations. With such surroundings, any student of fair abilities is fitted by both interest and training to share in the gatherings of farmers and horticulturists with influence.

But to accomplish all this there is required no mean equipment. Unity of purpose must be shown throughout, and unity in execution is equally essential. An essentially continuous board of control must maintain a settled policy, apparent in the whole equipment. Incongruities are as destructive here as in a theological seminary. Let me emphasize a few essentials by distinct enumeration:

First, The location must be a farm in so far as growing farm crops, orchards, vineyards and gardens make a prominent part of the every-day surroundings. If it can be so near a town as to preclude all need of dormitories and consequent abnormal excitement, the gain is evident. For the interest of towns-people in such a farm, with all its possible attractiveness, gives the students a pride in their college, while the worst of gregarious vices and untoward influences are escaped. Moreover, the need of a multitude of regulations which diminish manliness in students is not felt. With homes among the towns-people, home life retains its influence.

Second, The buildings should show their character as made for business. Class-rooms and chapel, library and reading-room, should be so adjusted to laboratories, shops, barns, greenhouses, as to express the combination of thought and labor, and the expectation that students may be called from one to the other as occasion offers. If all are so connected by a system of bells struck by an electric clock that all classes move in and out together, the unity is felt still more.

Third, Every science must vie with every other for the best of apparatus, especially in the lines of investigation and research. The liberal provision for the botanist, chemist, physicist, draftsman and zoölogist must stand beside an equally liberal supply in shop and barn. But they must all be tools, not mere curiosities.

Fourth, The live-stock of the farm must serve the purpose of the farm as a school. It must illustrate the breeds and the principles of breeding, and show that it has that purpose. While the idea of profit and loss can never be separated from good farming, it must here be confined to the handling of a given group of stock, or the manipulation of certain crops. To manage a school for profit would be to forget the object of the school; and such a farm is as truly to be managed for instruction's sake as a chemical laboratory. Economical provision for instruction is the only profit to be thought of.

Fifth, The working cabinets in all of the special sciences must be of the best; but their purpose, too, should appear. The great museum of every conceivable curiosity may serve a useful purpose as a stimulant, but it is also distracting. It, at times, serves for a place of harmless dissipation. The unity of a working cabinet stimulates to thought and entices a student to definite inquiry.

Sixth, Such a school needs a more stable and carefully selected faculty than an ordinary college. With the definite idea of applied science in a school, more instructors are needed; and where one general purpose is to be served the unity of growth

is essential. Such a body of trained workers must have ways of sympathizing with and testing each other's work. Jealousies, if they arise, must be subordinated to the common interest by common responsibilities. The faculty, as a body, must control through their president, not the president over the faculty; for the voice of the least member must be heard for the whole. In this way unity in real interests may be maintained, and a symmetrical growth reached.

Seventh, and Last, Some vital connection with the world of workers on the farms of the State is essential. It must be apparent always that the usefulness of the college to the farming community is of chief importance. Its board of control must be representative men of the class to appreciate the needs and the work. The members of the faculty must be able to show their interest in the same work by meeting the farmers' questions upon their own ground. Farmers' institutes, where farmers and professors may "talk back" to each other in mutual interest, serve the purpose far better than elaborate courses of lectures from a platform controlled by the professors. Yet, beyond the possibility of such work, which, in the nature of the case, must be limited, the college must be a source of general information upon the topics most vital to successful farming. If occasional bulletins will answer such a purpose, let them be provided for, and let the stated reports be full and explicit from all departments of the work. In my own experience, a weekly issue of the college paper, edited by the faculty, and recording every item of growth or interest, has proved of inestimable advantage as a means of communication with patrons and the press of the State. Published at a moderate price to subscribers generally, it is sent free of charge to the parents of all students and to all newspapers, most of which recognize the courtesy by exchange. This has proven the cheapest and the best means yet devised of advertising in the right place, while it keeps the faculty as editors alive to the needs of the people whom they serve.

A glance backward over the requisites named will show that all this provides a general rather than a technical education, but such a one as will best fit for such technical training as our purpose indicates, while one who stops short of the completion of a course has gained in the very line of his best growth on the farm. In such a course, the sons of farmers and mechanics can work side by side to the advantage of both. With a slight variation in illustrative applications, the daughters, too, may have equal education in sympathy with the work of life. With 500 such students, an institution of this kind becomes a power among the people.

IX.

CHRONOLOGICAL TABLES.—BOARD OF REGENTS.—SECRETARIES, TREASURERS, LAND AGENTS, AND LOAN COMMISSIONERS.—FACULTY AND FACULTY OFFICERS.—SUPERINTENDENTS, INSTRUCTORS, FOREMEN, LIBRARIANS, PREPARATORY TEACHERS, LECTURERS.—ANNUAL ADDRESSES.

BOARD OF REGENTS, 1863 TO 1893.

1863	Hon. G. W. Collamore,	1863
1863	Hon. D. P. Lowe, Fort Scott,	1864
1863	Hon. A. Spaulding,	1864
1863	Hon. W. F. Woodworth,	1866
1863	Judge J. Pipher, Manhattan,	1868
1863	Judge L. D. Bailey, Garden City,	1869
1863	Hon. S. D. Houston, Concordia,	1869
1863	Rev. J. G. Reaser,	1869
1863	Hon. T. H. Baker,	1870
1863	Rev. R. Cordley, Lawrence,	1871
1863	Hon. Thos. Carney, Governor of State, *ex officio*, (deceased,)	1865
1863	Hon. W. H. H. Lawrence, Secretary of State, *ex officio*,	1865
1863	Hon. I. T. Goodnow, State Superintendent of Public Instruction, *ex officio*, Manhattan,	1867
1863	Rev. J. Denison, President of the College, *ex officio*,	1873
1865	Rev. E. Gale, Lake Worth, Florida,	1871
1865	Rev. D. Earhart, Atchison,	1871
1865	Hon. S. J. Crawford, Governor of State, *ex officio*, Topeka,	1868
1865	Hon. R. A. Barker, Secretary of State, *ex officio*,	1869
1867	Rev. P. McVicar, State Superintendent of Public Instruction, *ex officio* Topeka,	1871
1868	Hon. E. C. Manning, Winfield,	1870
1868	Rev. Charles Reynolds, (deceased,)	1874
1868	Hon. N. Green, Governor of State, *ex officio*, (deceased,)	1869
1869	Hon. B. J. F. Hanna, Salina,	1873
1869	Hon. John McClenahan, Ottawa,	1873
1869	Hon. O. J. Grover, Savannah,	1873
1869	Hon. J. M. Harvey, Governor of State, *ex officio*, Riley,	1873
1869	Hon. Thomas Moonlight, Secretary of State, *ex officio*, Leavenworth,	1871
1870	Rev. R. D. Parker, Manhattan,	1873
1870	Hon. H. J. Strickler, (deceased,)	1873
1870	Hon. Alfred Gray, (deceased,)	1873
1870	Hon. Geo. W. Higinbotham, Manhattan,	1873
1871	Rev. L. Sternberg, Fort Harker,	1873
1871	Hon. Joshua Wheeler, Nortonville,	1873
1871	Hon. Thos. A. Osborn, Governor of State, *ex officio*, Topeka,	1873
1871	Hon. W. H. Smallwood, Secretary of State, *ex officio*,	1873
1871	Hon. H. D. McCarty, State Superintendent of Public Instruction, *ex officio*, (deceased,)	1873

1873	Hon. N. Green, (deceased,)	1874
1873	Hon. J. K. Hudson, Topeka,	1875
1873	Hon. Josiah Copley, Junction City,	1875
1873	Hon. James Rogers, Burlingame, (deceased,)	1876
1873	Hon. N. A. Adams, Manhattan,	1878
1873	Rev. Jno. A. Anderson, President of the College, *ex officio*, Manhattan, (deceased,)	1879
1874	Hon. Charles E. Bates, Marysville,	1874
1874	Hon. J. H. Folks, Wellington,	1877
1874	Hon. B. L. Kingsbury, Burlington,	1879
1875	Hon. M. J. Salter, Thayer,	1877
1876	Rev. J. Lawrence, Manhattan,	1878
1876	Hon. A. H. Horton, Topeka,	1877
1877	Hon. J. R. Hallowell, Wichita,	1879
1877	Hon. T. C. Henry, Denver, Colo.,	1880
1877	Hon. Stephen M. Wood, Elmdale,	1883
1878	Hon. L. J. Best, Beloit,	1878
1878	Hon. W. L. Challiss, Atchison,	1881
1879	Hon. E. B. Purcell, Manhattan,	1881
1879	Hon. D. C. McKay, Ames, (deceased,)	1883
1879	Hon. A. L. Redden, El Dorado,	1883
1879	Rev. Geo. T. Fairchild, President of the College, *ex officio*,	——
1880	Hon. A. J. Hoisington, Kansas City, Mo.,	1883
1881	Hon. John Elliot, Manhattan,	1883
1881	Hon. V. V. Adamson, Holton,	1883
1883	Hon. F. D. Coburn, Kansas City, Kas.,	1885
1883	Hon. H. C. Kellerman, Burlington,	1885
1883	Rev. Philip Krohn, Atchison,	1885
1883	Hon. C. E. Gifford, Clay Centre,	1885
1883	Hon. C. A. Leland, El Dorado,	1886
1883	Hon. J. T. Ellicott, Kansas City, Mo.,	1886
1885	Hon. Thos. Henshall, Kansas City, Kas.,	1890
1885	Hon. T. P. Moore, Holton,	——
1885	Hon. A. B. Lemmon, Santa Rosa, Cal.,	1888
1885	Hon. A. P. Forsyth, Liberty,	——
1886	Hon. Jno. E. Hessin, Manhattan,	1892
1886	Hon. J. H. Fullinwider, El Dorado,	1887
1887	Hon. E. N. Smith, El Dorado,	1889
1888	Hon. Joshua Wheeler, Nortonville,	——
1889	Hon. Morgan Caraway, Great Bend,	1892
1890	Hon. R. W. Finley, Oberlin,	——
1892	Hon. F. M. Chaffee, Wyckoff,	——
1892	Hon. R. P. Kelley, Eureka,	——

SECRETARIES OF THE BOARD.

1863	Regent T. H. Baker,	1870
1870	Regent R. D. Parker,	1873
1873	Prof. E. Gale,	1873
1873	Wm. Burgoyne,	1874
1874	Regent N. A. Adams,	1878
1878	Pres. Jno. A. Anderson,	1879
1879	Regent T. C. Henry,	1879

1879	Pres. Geo. T. Fairchild,	——
1884	I. D. Graham, (Assistant,)	——

TREASURERS OF THE BOARD.

1863	J. Pipher,	1870
1870	E. B. Purcell,	1882
1882	D. C. McKay,	1883
1883	J. T. Ellicott,	1886
1886	Jno. E. Hessin,	1892
1892	Joshua Wheeler,	——

LAND AGENTS.

1866	I. T. Goodnow,	1873
1873	L. R. Elliott,	1883
1883	J. B. Gifford,	1889

LOAN COMMISSIONERS.

1870	E. Gale,	1878
1878	M. L. Ward,	1883
1883	J. T. Ellicott,	1886
1886	T. P. Moore,	1889
1889	Jno. E. Hessin,	1890
1890	T. P. Moore,	——

FACULTY, 1863 TO 1893.

PRESIDENTS.

1863	Joseph Denison,	1873
1873	John A. Anderson,	1879
1879	George T. Fairchild,	——

SECRETARIES.

1864	J. E. Platt,	1871
1871	Mrs. Lizzie J. Williams *Champney*,	1873
1873	J. E. Platt,	1881
1881	I. D. Graham,	——

PROFESSORS.

1863	Joseph Denison, '63–'66, Ancient Languages, and Mental and Moral Science; '66–'69, Mental and Moral Science, and the Greek Language; '69–'70, Mental and Moral Science, and Political Economy; '70–'73, History, Political Economy, and Mental and Moral Philosophy,	1873
1863	J. G. Schnebly, Natural History, and Lecturer on Agricultural Chemistry,	1865
1863	N. O. Preston, Mathematics, and English Literature, (deceased,)	1866
1864	C. Hubschman, Instrumental Music, (deceased,)	1866
1865	B. F. Mudge, '65–'70, Natural Science and Higher Mathematics; '70–'74, Natural Sciences, (deceased,)	1874
1866	Gen. J. H. Davidson, '66–'68, Military Science and Tactics; '68–'69, Military Science and Tactics, and Teacher of French and Spanish; '69–'70, Military Science and Tactics and Civil Engineering, and Teacher of French and Spanish, (deceased,)	1870

1866	J. H. Lee, '66–'69, Latin Language and Literature; '69–'70, Latin and Greek Languages and Literature; '70–'71, Agricultural Classics; '71–'74, Latin and English Literature; '74–'75, English and History,	1875
1866	J. W. Hougham, '66–'69, Agricultural Science; '69–'70, Agricultural and Commercial Science; '70–'72, Agricultural Chemistry, Mechanic Arts, and Commercial Science,	1872
1866	J. E. Platt, '66–'74, Mathematics and Vocal Music; '74–'83, Elementary English and Mathematics,	1883
1869	Miss Mary F. Hovey, '69–'70, German Language and Literature; '70–'72, German Language and English Literature,	1872
1870	Fred. E. Miller, Practical Agriculture,	1874
1870	E. Gale, '70–'75, Horticulture ('70–'71, Instructor); '75–'78, Botany and Practical Horticulture,	1878
1872	H. J. Detmers, Veterinary Science and Animal Husbandry,	1874
1873	M. L. Ward, '73–'75, Mathematics; '75–'82, Mathematics and English; '82–'83, Mathematics and Engineering,	1883
1874	Wm. K. Kedzie, Chemistry and Physics,	1878
1874	E. M. Shelton, '74–'82, Practical Agriculture; '82–'89, Agriculture,	1889
1874	J. S. Whitman, Botany, Entomology, and Geology,	1876
1877	John D. Walters, '77–'85, Instructor in Industrial Drawing; '85–, Industrial Art and Designing,	——
1878	George H. Failyer, '78–'85, Chemistry and Physics; '85–, Chemistry and Mineralogy,	——
1878	H. E. Van Deman, Botany and Horticulture,	1879
1878	Wm. L. Hofer, Music,	1886
1879	Edwin A. Popenoe, '79–'80, Botany and Horticulture; '80–'83, Botany and Zoölogy; '83–, Horticulture and Entomology,	——
1879	George T. Fairchild, '79–'80, Political Economy; '80–, Logic and Political Economy,	——
1881	Lieut. Albert Todd, Military Science and Tactics,	1884
1882	Mrs. N. S. Kedzie, Household Economy and Hygiene ('82–'87, Instructor),	——
1882	W. H. Cowles, English and History ('82–'84, Instructor),	1885
1883	William A. Kellerman, '83–'87, Botany and Zoölogy; '87–'91, Botany,	1891
1883	David E. Lantz, Mathematics,	——
1883	B. F. Nihart, '83–'85, Mechanics and Engineering; '85–'86, Instructor in Book-keeping,	1886
1884	Lieut. W. J. Nicholson, Military Science and Tactics,	1887
1885	Elias B. Cowgill, Mechanics, Physics, and Engineering ('85–'86, Instructor),	1887
1885	Oscar E. Olin, '85–'88, English and History ('85–'86, Instructor); '88–, English Language and Literature,	——
1886	Alexander B. Brown, Music,	——
1887	Ozni P. Hood, Mechanics and Engineering ('87–'89, Instructor),	——
1887	Lieut. John F. Morrison, Military Science and Tactics,	1890
1888	Robert F. Burleigh, Physiology and Veterinary Science,	1889
1888	Francis H. White, History and Constitutional Law ('88–'89, Instructor),	——
1890	Charles C. Georgeson, Agriculture,	——
1890	Captain Edwin B. Bolton, Military Science and Tactics,	——
1890	Ernest R. Nichols, Physics,	——
1890	Nelson S. Mayo, Physiology and Veterinary Science,	——

1891	Julius T. Willard, Assistant Professor of Chemistry ('83–'91, Laboratory Assistant),	——
1891	Albert S. Hitchcock, Botany,	——
1892	Silas C. Mason, Assistant Professor of Horticulture ('88–'92, foreman of Gardens and Orchards),	——

SUPERINTENDENTS.

Farm.

1870	Fred. E. Miller,	1874
1874	Edward M. Shelton,	1889
1889	Charles C. Georgeson,	——

Gardens, Orchards, etc.

1870	E. Gale,	1878
1878	H. E. Van Deman,	1879
1879	Edwin A. Popenoe,	——

Shops.

1871	Ambrose Todd (deceased),	1878
1878	T. T. Hawkes,	1882
1882	M. A. Reeve (acting),	1883
1883	T. T. Hawkes,	1886
1886	O. P. Hood,	——

Printing.

1874	A. A. Stewart,	1881
1881	Geo. F. Thompson (acting, '81–'82),	1887
1887	John S. C. Thompson,	——

Telegraphy.

1873	Frank C. Jackson,	1874
1874	Walter C. Stewart,	1879
1879	I. D. Graham,	1891
1891	Department abolished.	

Sewing.

1874	Mrs. H. C. Cheseldine,	1875
1875	Mrs. M. E. Cripps,	1882
1882	Mrs. N. S. Kedzie,	1884
1884	Mrs. E. E. Winchip,	——

INSTRUCTORS.

1863	Mrs. Ella C. Beckwith, Instrumental Music,	1864
1866	Mrs. Laura C. Lee, Instrumental Music,	1868
1868	Miss Emily M. Campbell, Instrumental Music,	1869
1869	Mrs. Hattie V. Werden, Instrumental Music,	1877
1870	Mrs. Lizzie J. Williams *Champney*, Drawing,	1876
1872	Miss Jennie Detmers, Chemistry and German,	1873
1875	Mrs. M. E. Cripps, Household Economy,	1882
1875	Mrs. M. L. Ward, French and German,	1876
1876	Mrs. Ella M. Kedzie, Drawing,	1877
1876	Harry F. McFarland, Meteorology,	1876
1877	Miss Carrie Steele, Instrumental Music,	1878
1886	Ira D. Graham, Book-keeping and Commercial Law,	——

1887	Frederick J. Rogers,	1889
1891	James W. Rain, English Language,	1892
1892	Miss Josie C. Harper, Mathematics,	——
1892	Miss Alice Rupp, English,	——

FOREMEN.

Farm.

1872	J. C. Mayos,	1875
1875	T. B. Morgan,	1882
1882	W. S. Myers,	1883
1883	E. Gregory,	1883
1883	W. Whitney,	1886
1886	George R. Wilson,	1887
1887	W. Shelton,	1893

Gardens, Orchards, etc.

1881	A. Winder,	1883
1883	G. E. Hopper,	1887
1883	W. Baxter (greenhouse),	——
1887	C. L. Marlatt,	1888
1892	F. C. Sears,	——

Blacksmith Shop.

1878	S. A. Hayes,	1879
1879	J. Linder (student, acting),	1883
1883	J. Lund,	1886
1886	Charles A. Gundaker,	1891
1891	Blacksmith shop transformed into workshop in iron.	

Workshop in Wood.

1887	Geo. N. Thompson,	1888
1888	William L. House,	——

Workshop in Iron.

1891	E. Harrold,	——

LIBRARIANS.

1867	J. H. Lee.	1869
1869	J. S. Hougham,	1871
1871	J. H. Lee,	1873
1873	J. S. Whitman,	1875
1875	M. L. Ward,	1882
1882	W. H. Cowles,	1885
1885	B. F. Nihart,	1886
1886	D. E. Lantz,	——

PREPARATORY DEPARTMENT.

1864	J. E. Platt, Principal,	1866
1864	Miss Belle M. Haines, Assistant,	1864

LECTURERS.

	Dr. John A. Warder, Horticulture and Pomology,	1871
	Joseph Rushman, Veterinary Science,	1871
	Charles V. Riley, Economic Entomology,	1876

D. J. Brewer, Practical Law, ... 1875-'77
Dr. Paul Pagnin, Veterinary Science, ... 1887

ANNUAL ADDRESSES.

John J. Ingalls, Atchison, ... 1873
T. Dwight Thacher, Lawrence, ... 1874
Noble L. Prentis, Atchison, ... 1875
J. K. Hudson, Topeka, ... 1876
J. R. Hallowell, Columbus, ... 1878
S. O. Thacher, Lawrence, ... 1880
S. S. Benedict, Guilford, ... 1881
James Humphrey, Junction City, ... 1883
George R. Peck, Topeka, ... 1884
Rev. A. D. Mayo, Boston, Mass., ... 1885
T. Dwight Thacher, Topeka, ... 1886
Edwin Willits, Lansing, Mich., ... 1887
H. A. Burrill, Washington, Iowa, ... 1888
N. C. McFarland, Topeka, ... 1889
E. E. White, Cincinnati, Ohio, ... 1890
J. M. Greenwood, Kansas City, Mo., ... 1891
C. G. Luce, Coldwater, Mich., ... 1892

ASSISTANTS IN EXPERIMENT STATION.

1888	Henry M. Cottrell, Agriculture, ...	1892
1888	Charles L. Marlatt, Horticulture, ...	1889
1888	Walter T. Swingle, Botany, ...	1891
1888	Silas C. Mason, Horticulture, ...	——
1888	Julius T. Willard, Chemistry, ...	——
1889	Fredric A. Marlatt, Entomology, ...	——
1891	Emma Allen (deceased), Botany, ...	1891
1892	M. A. Carleton, Botany, ...	——
1892	F. C. Burtis, Agriculture, ...	——


W.A. Harris.