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Institutes.

HOWELL.

Much interest was shown in Mr. Shawver's paper on building and using silos, and his plans for construction were examined and approved. The discussion, however, drifted into questions as to the value of ensilage, and much time was wasted on points settled beyond all reasonable doubt years ago.

The desirability of a change in the road system brought out some strong opinions, mainly unfavorable to any change of plan, but advocating more careful supervision of details. Incidentally, some disagreeable personalities were exchanged, leaving an unpleasant feeling pervading the remainder of the session. Mr. Wells' paper on the question "How far is the Credit System Beneficial to the Farmer?" was timely and suggestive, and will be printed in full in the RECORD. It brought out an animated discussion, in which Robert Gibbons, Hon. Wm. Ball, Secy. Filkins and others took part.

The business meeting was a stormy one, owing to the introduction of resolutions, one of which declared the institute fund to be an example of "class legislation" and cast reflections on its management. For the good name of Livingston county it should be stated that the "kickers" were mainly not members of the Institute Society, some of them not even residents of the county, and when, after a somewhat protracted and heated debate, the question was finally put, the resolutions were rejected by an overwhelming majority.

W. B. B.

FREMONT.

At Fremont, Newaygo county, we found the largest attendance of any place on the trip. At no session were all of the people able to obtain seats. Evidently Prof. Smith and the others who conducted the institute at this place last year gave good satisfaction, for the attendance this year was much greater than last; in fact, last year the first session was omitted owing to the slim attendance, while this year the house was crowded from the start. All the topics were well received, but the lecture of Mr. Morrill on "Business Methods in Farming" was especially well liked. Fremont is situated in the midst of an excellent farming section and the "hard times" have apparently not pressed as heavily here as elsewhere. Among the evidences of prosperity here are an excellent Grange and a successful creamery. Apples here are grown to perfection and peach growing is also becoming an important industry. The people here intend to make an effort at St. Louis to secure the next annual round up at this place.

A. A. C.

ARMADA.

This institute opened with an attendance of about 100, which was doubled at subsequent sessions, the average being upwards of 175.

The usual interest was shown in the papers presented by the State speakers, but the discussions on almost every subject were unusually full and good, and regret was expressed repeatedly that the full program cut them short.

Mr. R. J. Crawford, speaking on

"Apple Culture," deprecated the prominence given to the West Michigan fruit belt, stating that there was an East Michigan fruit belt which was at least as good for apples, plums, and some other fruits.

Jas. S. Lawson gave a practical and strong talk on drainage, dealing with the surface geology of the county, the physical conditions actually present, and the difficulties to be overcome.

The evening session was given up to an anniversary meeting, Armada being the first town to apply for a Farmers' Institute twenty-one years ago.

Hon. C. W. Garfield, who was present at the meeting held in response to this request, was expected to give an address at this time, but being unable to come, his place was acceptably filled by Dr. Wm. J. Beal of the College, whose address will be printed in the RECORD. Geo. W. Phillips, chairman of the meeting 21 years ago, was kept away by illness, but his son George and daughter Minnie were present, and gave a very effective cornet and piano duet. Members of the original choir of the church, and under the same leader, also sang one of the same songs sung 21 years before.

Remarks were made by several who attended the first meeting, and a letter from John E. Day, full of interesting reminiscences, was read.

C. B. Kidder of Almont presented a delightful paper comparing the condition of American and European farmers, and abounding in scenic descriptions and sharp contrasts.

Wednesday's sessions were marked by a good paper on making sheep husbandry profitable under present conditions, a paper which we hope to print later.

Mr. John L. Shawver gave two most valuable talks, one on the farm dairy and the other on clovers, manures and fertilizers, and the discussions following were of a spirited and helpful kind.

Prof. Barrows discussed harmful insects and animal parasites of various kinds, and was closely questioned in regard to a score or more of these enemies of the farmer. Some little anxiety was expressed about the San José scale, which had been reported as present near Pontiac, but no fear seemed to be entertained of the numerous other scale insects which are already at work in hosts on their orchards and shade trees.

H. S. Ewell's paper on "High Taxation and its Causes" brought out a most vigorous protest from Bert C. Preston, who showed the farmers in a clear and conclusive manner how imperfectly the writer of the paper understood the situation, and how easy it was to lay the blame where it did not belong. An average tax-bill for the past year, taken from the assessor's books in Armada, was carefully analyzed by Mr. Preston, and the items, separately considered, yielded food for a large amount of reflection. It appeared that of a total tax of about \$5.50, only \$1.20 was State tax, while \$1 of the remainder was tax on a single dog. This taxpayer unwillingly contributed 8 cents toward the support of the University of Michigan, 4 cents to the Soldiers Home at Grand Rapids, and one-half of one cent for the Agricultural College.

The meeting added one more to the already long list of successful insti-

tutes in Macomb county, and closed with enthusiasm and goodwill all round.

W. B. B.

CHELSEA.

The Farmers' State Institute held at Chelsea under the auspices of the Washtenaw County Institute Society, was well attended and a great deal of interest was manifested by the farmers and citizens. It closed leaving a good impression on the people, it being evident that they had learned something new along the lines of farming.

R. M. Kellogg of Three Rivers was conductor of the institute. The intelligent manner in which he treated the various subjects that came up was appreciated. The woman's section held a meeting at the Chelsea Congregational church under Mrs. Mary A. Mayo.

MT. PLEASANT.

"A regular jam" all the time and many turned away from the last session, is the record of attendance at Mt. Pleasant. Prof. Charles McKenney, '81, principal of the Mt. Pleasant Normal school, took an active part in the institute. Mt. Pleasant people and the farmers of Isabella county are proud of their farmers' institute and the Normal school. Some of the best farming land in the State lies in this county, and the farmers are among the most intelligent and progressive.

CHESANING.

Great interest was shown in the institute for Saginaw county, held at Chesaning. Dr. Eldred, in his welcoming address, said he considered it the most important meeting ever held in Chesaning.

An Hour in "Vet."

What a place! Here is the skeleton of a headless horse, and near it stands the well-picked framework of a cow. Across the room stands the osseous remains of a hog and a ram, staring at each other through empty sockets. Bones, bones, everywhere! The room is "alive with bones!" A large table is strewn with skulls of various sorts and sizes, with horns and hoofs, jawbones with great grinning teeth, straight bones and crooked bones, diseased bones and fractured bones. Near by stands the complete model of a horse, a "horsikin" it might be called, and scattered around are models of various parts of animal anatomy. A lecture is about to begin, so I go to the back part of the room, take off my coat and drop it on a pile of rattling bones and models and sit down with the special-course students in live stock and dairy husbandry.

Dr. Grange, the veterinarian, has been lecturing to them on diseases of the milk gland, and has already told them about *mammitis*, or what is commonly known as "caked bag." This morning he begins with *agalactea*, a condition of the milk gland by which it does not secrete milk. This most often occurs after the first calf is born. In some cases it is only an extended case of *mammitis*, in others it is the result of debility. When this condition arises from the latter cause the udder is soft and flabby and there is no milk, except, perhaps, a few drops of thin, watery stuff.

In most cases proper food is the best

remedy; in spring, grass; in winter, the best of hay, a little ground oats, some bran and some corn. In addition, it may be necessary to give a vegetable tonic, among the best of which are fenugreek and anise seed—a teaspoonful of either three times a day for a week or ten days. In case it is a large cow, give more.

"Injuries to the udder" is the next subject, and first under this the doctor tells us about chapped teats. This condition is the result of careless milking or of the presence of too much moisture, and may become very troublesome. The injury is aggravated by the presence of germs found in cow stables. The first thing to be done in treatment is to keep the teat cleanly washed with warm water and some antiseptic solution. One part of corrosive sublimate to 1,000 parts of water is good. By way of change, a mixture of equal parts of Friar's balsam (compound tincture of benzoin) and oil of tar may be used. This should be applied once a day for a few days with a swab or camel's-hair brush in such a way as to fill the cracks clear to the bottom. The secret of success is to get at the root of the disease, else the germs will go on doing their work.

When to use and how to make a milking tube; how to remove the membrane that sometimes grows across the milk cistern; how to remove obstructions in the teats, with or without an operation, and what to do in case an operation is necessary, were subjects treated in this lecture. An excellent diagram of one-quarter of the udder and one teat hung before the class and was frequently referred to by Dr. Grange.

Taking up the subject of wounds, Dr. Grange defined mechanical and constitutional wounds, cuts, bruises and punctures; described the processes of healing—by first intention, by granulation, and from the bottom,—and prescribed treatment, both local and constitutional. All through the lecture questions were freely asked and as freely answered.

This can hardly be taken as a fair sample of what the regular students in the agricultural course get in veterinary science; their course is both broader and deeper, and they spend a whole year on the subject—185 lectures, besides laboratory work in dissection and bacteriology. They study the anatomy of domestic animals in the dissecting room and by means of models and diagrams; are given a course of lectures on the nature, causes, symptoms, treatment and prevention of diseases, and upon the action, uses and abuses, and doses of medicines used in veterinary practice; and learn practical surgery by having operations performed before them.

D. J. C.

A Correction.

There are a few typographical errors in the articles on printing, the most important of which makes me say that the *Public Ledger* of Philadelphia overcame the difficulty of holding type to revolving cylinders. The improvements, by which this difficulty was overcome, should be credited to R. Hoe & Co.

W. S. LEONARD.

The mercury went 17½° below zero Sunday night.

At the College.

E. A. Calkins' father has been spending a week with him.

Prof. Weil has gone to Detroit on business for the College.

M. W. Fulton has returned from an extensive institute trip.

The experimental room of the physical laboratory is being painted.

Mr. Theodore has several special students to instruct in the blacksmith's art.

Miss LueLa Driggs is assisting her sister in the Secretary's office for a few days.

H. Platts of Armada was the guest of C. H. Adams, '99, several days last week.

Mr. Ewen McLellan of Lapeer was a visitor at the College one day last week.

E. S. Good and P. M. Lyman were the latest victims of the "stacking fiend."

We have present with us a nephew of the celebrated John Brown of southern fame.

Deputy Auditor General Wilkinson spent a few hours on the campus Wednesday last.

The senior mechanicals visited the School for the Blind Friday for the purpose of testing their engine.

During the past week the horticultural laboratory has been rewired and is now lighted with electric lights.

Mrs. I. H. Butterfield, who has been spending the past week with her sister at Milford, returned home Saturday.

Mr. J. S. Conway of the agricultural department made a business trip to Owosso and Bennington last Thursday.

The mechanical department has had a system of call bells installed. Each department is connected with the office.

Mr. F. B. Johnson, steward and book-keeper of the Home for Feeble Minded at Lapeer, was a visitor last Wednesday.

Lost—By A. S. [redacted] an Eclectic Society pin. Finder will please return to room 22, Williams Hall and receive reward.

Mr. Gagnier wishes the faculty and students to pronounce his name correctly. It is pronounced as if spelled Gong-yer.

Prof. Woodworth is lecturing to the special-course students every afternoon at 4 o'clock on the water in the air and soil.

Chas. D. Sage, of North Brookfield, Mass., a well-to-do farmer of that place, was the guest of Prof. Taft one day last week.

Mr. G. F. Bristol, an engineer on the C. & W. M. railway, visited at the College while attending the annual meeting of the Engineering Society.

A special heat was taken off at the foundry Saturday. Castings were made for the new crematory, which is to be placed in the veterinary laboratory.

The King's Daughters will hold a prayer meeting during the half hour preceding the regular services (2 to 2:35 p. m.) next Thursday at the home of Mrs. Beal.

Three new books have been added to the mechanical department library, viz: "Steel and Working of Steel," Metcalf; "Gas Analysis," Gill; "Mechanisms," Robinson.

The special-course students in live stock and dairy husbandry visited the Turner stock farm Saturday afternoon,

Jan. 16, and the condensed milk factory in Lansing last Thursday afternoon.

Prof. Crozier became so much interested in the institute at Mt. Pleasant that he forgot his bunch of keys and umbrella when he left, and was obliged to have them expressed to him here at the College.

The farm department has just concluded an experiment in the feeding of sorghum silage to milch cows. The results indicate that sorghum is not as good a silage crop as corn because of the woody stems.

The House committee on the Agricultural College, consisting of Messrs. Graham, Fuller, Campbell, Babcock and Oberdorffer, visited the College Thursday afternoon and inspected the various departments.

The Botanical Club has reorganized under a new constitution. It will meet every Monday evening at 6:30 in the botanical laboratory. Any one interested in advanced botany is invited to investigate and be present.

A. S. Eldridge, '99m, spent Saturday and Sunday, Jan. 16 and 17, in Flint with his parents, who left the following day for Coos Bay, Oregon. Mr. Eldridge is in charge of the government improvement works at Coos Bay.

Our noted cow, Belle Sarcastic, has in 10 months and 11 days given 20,850 pounds of milk and 647 pounds of fat, which is equivalent to over 750 pounds of butter. This is more butter than she gave during the whole of last year.

Some of the students are wondering why it would not be a good plan to have an ice park, where skating could be enjoyed. Skating is a good exercise and there are several places where a good park could be constructed at a small expense.

The Y. W. C. A. extends an urgent invitation to the King's Daughters and all other ladies on the campus to meet with them this evening (Tuesday) at 7:15 for a special service in preparation for the day of prayer for colleges, which will be observed on Thursday.

Several of the faculty and students heard the lecture at the Baptist church last Thursday evening on "Making the World Better," by W. N. Ferris of Big Rapids. Mr. Ferris was a guest of Mr. and Mrs. F. C. Kenney Thursday night. Mr. Kenney is a graduate of the Big Rapids industrial school.

On his recent institute trip, President Snyder went out with the boys at Morley for half a day's hunting. He bagged one rabbit, the only game secured by the entire party of seven. It is said that the President had its left hind foot carefully preserved and proposes to take no chances on his luck hereafter.

The persistence of the special-course students is not better shown than by the special horticultural student who is studying as much of the day and night as he can keep awake. At present he is borrowing books and studying the different chemical and physiological changes that take place within the plant cells.

The Michigan Engineering Society, at their session on Thursday evening, passed a resolution indorsing the work done in the technical schools of the State, and recommended that the young men who desired to follow any of the engineering professions should attend one of our State institutions—the Agricultural College, the University, or the Mining School.

Prof. Taft will attend a conference of representatives from different states which meets in Chicago Jan. 29 to dis-

cuss matters regarding the extermination of the San José scale and other insects and diseases injurious to fruits. Hon. R. D. Graham, chairman of the house committee on the College, will also attend this meeting, as he contemplates framing a bill regarding it.

Why cannot we have ashes, salt or sand put on the steps leading from the various buildings? Last Friday night as G. P. Wing was coming from College Hall he slipped on the icy steps and fell on the stone walk below. Mr. Wing lay senseless for about five minutes, and when he recovered had to be carried to his room. This is the second accident resulting from icy steps, and surely there should not be another.

The next regular meeting of the Natural History Society will be held Feb. 2 in the chapel. The program will consist of a debate between this society and the Lansing Science Club. The question for debate will be "Resolved, That Darwin did more than Agassiz for the promotion of natural science." The Lansing Science Club has the affirmative and the Natural History Society has the negative. The judges have not been selected as yet.

There is a movement on foot to change the military uniform of our cadets, as was recently suggested by Lieut. Bandholtz. The cost of the change is not to exceed \$2. Instead of the nameless collar we have now, a standing military collar is suggested; the cold array of brass buttons will be replaced by a braided fly-front. The cadets are pleased with the idea of a change, and we doubt not that the appearance of the uniform would be greatly improved.

Special course students have been of late treated to several lectures by eminently successful farmers. To the Live-stock husbandry boys F. Hart Smith, of Somerset, spoke on "Cattle Feeding," and H. B. Cannon, '88, of Washington, Mich., on "Poultry on the farm." Saturday R. M. Kellogg, of Three Rivers, spoke to the "Fruit culturists" on "Small Fruits," and yesterday morning J. L. Shawver, of Bellefontaine, O., spoke to both "Live stock" and "Dairy" students on "Barn Plans."

Lansing U. and I. Club.

THEY EXPERIMENTED WITH X RAYS AT THE COLLEGE.

About forty members of the U and I Club met at the physical laboratory one evening last week. The Roentgen ray apparatus had been arranged to give an exhibition. Four different patterns of Cookes' tubes were shown. The value of the vacuum was demonstrated by the use of a special tube in which the degree of exhaustion could be varied while the tube was in operation. With the regular American pattern tube an exposure was made of a photographic dry plate while the Rev. C. F. Swift held his hand between the tube and the plate so that the shadow of his hand fell on the plate. A fairly good negative was obtained, which was exhibited a few minutes later.

Then a piece of cardboard eight by ten inches, with one side covered with tungstate of calcium, was held between the tube and the audience. The tungstate of calcium screen began to glow, appearing itself to become the source of light. Prof. Woodworth then placed his hand between the tube and the card so that a shadow of the hand showing each bone in detail was visible to every one in the darkened room.

Next a sheet of aluminum one-sixteenth of an inch thick was placed be-

tween the hand and the screen, and the outlines were still visible. Repeating the experiment with a sheet of lead of the same thickness, the light was completely shut off. By the same methods coins in pocketbooks and metals in books of 500 pages were made visible to every one. A one-inch thick wood blackboard was placed between the audience and the Crookes' tube. Through the blackboard the bones of the wrist and forearm were plainly seen. The blackboard was replaced by a piece of plate-glass, which almost entirely shut off all effects. Later individuals examined their own hands and heads, using the tungstate of calcium screens. The entertainment ended with an examination of a complete set of bones firmly encased in a neat-fitting shoe owned by Mrs. Geo. J. Jenks of Sand Beach.

A Hydrographic Survey of the Harbor at Yaquina Bay, Oregon.

(Read before the Eclectic Society by A. S. ELDRIDGE, '99.)

Yaquina bay is located about 150 miles south of the Columbia river, and is directly connected with the ocean. The bay is about twelve miles long by two miles wide, bordered on the north by high mountains and on the south by white sand hills. The main channel of the bay is wide and deep, and ships entering the harbor go to the upper part of the bay to load.

Since 1878 the government has been expending thousands of dollars annually for the improvement of this harbor. Up to July, 1895, over \$700,000 had been expended. At this time, the United States engineer in charge of harbor improvements on the Pacific coast made a report on the condition of the harbor, and in the report stated that in his estimation the harbor and surrounding country would not justify further improvement. A committee of five army engineers were appointed to look into the matter of further improvement and report. This committee made an examination and reported in favor of further improvement. The chief of engineers then ordered the United States engineer in charge to make a complete hydrographic survey of the harbor, that is, to find the depth of water in the bay and in the ocean about the entrance, to locate all reefs of rock, to find the amount of sand, if any, on the rocky bottom, and to determine the direction of currents at different stages of the tide.

The assistant engineer, under whom I was working, received orders on June 1, 1895, to commence the survey at once.

Our first work was to repair the old beacons erected for previous surveys, build new ones where they were needed and get them properly located on our maps. This work took about two weeks, there being 14 beacons to repair and build on the ocean beach and about the same number on the bay beach. The beacons were built of plank in the shape of pyramids, about 20 feet high, after which they were painted white so as to be easily distinguished from the objects about them.

As soon as the beacons were properly located, the work of surveying the bay commenced. This was done with a large surf boat, from which soundings were taken, and with two transits on shore. The transits were stationed at different points on the beach and the boat was pulled back and forth across the bay. A flagman was stationed in the bow of the boat and

every minute and a half he would wave his flag, and the two transit observers would take an angle on the boat at that time. The leadsman would take three soundings between the observations. By this method the survey of the bay was quickly and accurately completed.

While this was going on the United States engineer in charge had ordered one of the government survey boats to Yaquina bay to aid in the ocean survey. She was a fine boat, about 80 feet long, drew 8 feet of water, was equipped with the latest machinery, and had a speed of 10 knots per hour. There was a draughting room and cabin on deck aft, and a pilot house forward. The men required to make the survey on the ocean consisted of two sextant observers, a draughtsman, a recorder, two leadsmen, and the crew to run the boat.

We started to survey on the ocean June 15. Our first lines were run directly west out of the bay and across the bar, a distance of three miles. In running lines the two observers stand on top of the cabin, the leadsmen are stationed one on each side of the boat, a little forward of midships, in a cage built out on the side of the boat, the recorder stands on deck where he can be heard by all. Five seconds before the time for the observation the recorder gives the signal to get ready, the observers get their two beacons in line, then when the word heave is given one of the leadsmen heaves his lead, the observers read their angles and the recorder puts them down with the time and sounding, the draughtsman plots the angles and instructs the captain of the boat what direction to take. We continued this work every-day, including Sunday, when the ocean was not too rough. After completing the lines east and west, we commenced to run lines north and south. At this time a little incident happened which might be of interest.

The young people of the bay, especially the young ladies, frequently came down to the dock when we were going outside to work and expressed their desire to go. They did it so often that the assistant engineer finally told them that if it were a good day the next Sunday they might go. It happened to be a lovely day overhead but was quite rough on the ocean. But they all wanted to go, so at 9 a. m. eight young ladies came down to the boat, bringing several novels and a large basket of lunch, prepared to enjoy the day's trip. When we started out all were feeling in the best of spirits. They were sitting out on deck talking, laughing and generally enjoying themselves. As we approached the bar the seas seemed to increase in size, and just as we reached the bar a terrible sea broke over the boat and drenched all the young ladies. The water was between three and four feet deep on deck. One young lady was carried half the length of the boat and nearly thrown overboard.

As soon as we got outside we started north, running obliquely to the seas. The girls, one by one, decided they did not care to read and laid their novels aside; some sought the couches in the cabin; others went below to enjoy the comforts of a soft berth; and still others, who did not care for such luxuries, sat down on the deck near the rail, and—you know the rest. We stayed out about an hour and then went in. The books were sadly neglected and the elegant lunch prepared was not touched. The girls never wanted to go again.

After completing the work of sound-

ing, which took us nearly two months, during which time we took over 8,000 observations and 24,000 soundings, we commenced the work of boring on the bar, to ascertain how much sand was on the rock. This was carried on by pumping a pipe down to the rock and then sounding the depth of water to the sand. The difference would be the amount of sand on the rock.

One morning, when the tide was very low, we went out at 5 o'clock. We were running along at a good rate, a little out of the channel, but thinking there was nothing to hinder, as we had 25 feet of water. All at once we ran on an immense rock and the boat rolled over on her beam's end.

I was sure she was going completely over, but the next sea rolled her back and she went over on the other side until the masts touched the water. Every man was frightened nearly out of his wits, as the life boat was on that side and under water, and if she went down there was no possible way to escape. We were about one mile from shore and the tide going out. But finally she rolled off the rock and righted up, to the joy of every one on board. We found our machinery would not work and that we were fast drifting on the sand beach. We let go anchor, but the sand would not hold the anchor. We finally discovered that we could back our engine a little, and in this way we got back in the channel, where we could anchor. We then waited for the tide to turn, and as the wind came in with the tide, we hoisted sail and went in.

It was found that at low tide there was only four feet of water on the rock. It was a pinnacle about four feet across at the top by 40 at the base. A buoy was at once placed near the rock, and our discovery will no doubt save many of the ships that enter this harbor from being wrecked on this rock.

The current observations were made with floats, which were made of pine rods about two inches in diameter and from 10 to 30 feet long. On one end of each rod was placed a tin signal, so painted as to indicate the depth of the other end of the rod, which was weighted so as to bring the signal down to within about four feet of the surface of the water. These floats were placed in the bay and out in the ocean, at different places and at different stages of the tide. The boat would then follow them around and take observations on them about every half hour. In this way we could get the path of the float and determine the direction of the current.

Our work was completed by spending about two weeks in finishing our maps and copying our notes, which were sent to the United States engineer at Portland, Oregon.

Relics of Indian Belief.

A. J. WEEKS, '99, OF THE COLUMBIAN LITERARY SOCIETY.

One bright September day, with a company of friends, I visited that beautiful, historic island of which our state is so justly proud. Many others have done the same, and have told in glowing terms of the matchless, wild beauty of Mackinac.

But the old traditions and legends, handed down through generations of Indians and whites, are today related to eager listeners. Thus we heard of them.

On reaching the island our company parted, some going around it on board the Algomah, others preferring a drive about the place. We obtained a driver,

a native of the town, who, as he took us through one of Nature's museums, told us a legend. I will relate it as I remember it.

An old Indian in the north had ten daughters of exquisite beauty, especially the youngest, Owenee, who loved romantic places and cared not for the many suitors who flocked to her father's lodge. Her sisters were given to young warriors, while she chose an old man, whom we will call Osseo. Her sisters jeered, but she remained constant.

Being invited to a feast, as they went along the others, pitying Owenee because of her old husband, noticed that often he stopped short in the way and gazed upward, saying, "Pity me, my father." Suddenly he plunged into a large hollow log and reappeared a handsome young warrior; but his wife was old, bent and feeble. He tenderly cared for her, and always spoke of her as "sweetheart."

As they sat at the feast, Osseo seemed to hear a voice which the others thought distant music. It was the voice of the Great Spirit. It told him of the sorrows, dangers, and trouble of earth, of the enemies of man there, ever calling on the Power of Evil; that though he had long been their victim, he was now free. "Rise, my son," said the voice, "to the skies where is the feast prepared for you and those you love." The spirit then told him of the happiness of the new life, where all should be beautiful as the starlight, and free from care and labor. "Come, Osseo, my son, dwell no longer up on the earth. Doubt not, it is the voice of the Spirit of the Stars."

Even as the last words were uttered, the lodge shook and arose, everything within except the youngest sister being changed. The dishes became golden, the tent poles silver, and the nine sisters birds of beautiful plumage. Then the lodge shook again, and they were in the Evening Star, with Osseo's father. Then, at Osseo's request, his wife was changed to a beautiful young woman, while her sisters in a cage were placed near the door of the lodge.

Soon a son was born to Osseo. The boy grew and became strong. His father made a bow for him and released the birds, so as to let him try his skill. Soon an arrow pierced one of them, and when the boy would have picked it up a young woman lay be-

fore him with an arrow piercing her breast. It was one of his aunts. No sooner had her blood stained the pure planet than he felt himself sinking. He soon found that his uncles and aunts, and his parents in their lodge with silver poles, were descending with him. They all lit upon the highest rocks of the island, where they were given the forms of maidens and warriors, but were the size of fairies.

There they still live, and, as they never forget the Spirit of the Star, every evening those who approach those cliffs may see the shining forms of the "Turtle Spirits" and hear their musical voices.

The story finished, we continue our drive. We have seen both forts, the Three Cemeteries, Arch Rock, and Sugar Loaf. Now we go to Skull Cave, Wishing Spring, and Devil's Kitchen, then past the Grand Hotel to the village, where we rejoin the rest of our party, who have enjoyed their trip as much, perhaps, as we have ours.

As they passed Arch Rock, the captain of the Algomah had told them the story of the descent of the Great Spirit after having formed the fairy isle. The "Arched Gateway" was found looking toward the east, and his lodge placed back of it. When he made it his dwelling place, he sent word to all his children to draw up their canoes under shadow of the arch and receive his blessing. If any trouble befell them, famine or pestilence, they would be given a dwelling place on the island and nothing could molest them. Finally he departed, his wigwam turned to stone, and is now known as Sugar Loaf. The tall evergreens stand like sentinels to guard the entrance to the lodge of the Great Spirit.

As the crimson of the western sky changed to gold, the gold to gray, and twilight settled over the scene, we started for the steamer. On board, hearing the waves against the sides of the boat, we imagined the sound might be faint echoes of the Island Fairies' song.

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PUBLISHED WEEKLY BY THE
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For various reasons THE M. A. C. RECORD is occasionally sent to those who have not subscribed for the paper. Such persons need have no hesitation about taking the paper from the postoffice, for no charge will be made for it. The only way, however, to secure the RECORD regularly is to subscribe.

The San Jose Scale.

PROF. W. B. BARROWS.

Much uneasiness has been felt for a year or more among Michigan farmers, fruit growers and gardeners over the fact that the San José scale had obtained a foothold in neighboring states to the south, and that several eastern firms were supposed to have been sending out this dreaded pest, unwittingly, with nursery stock. More recently some of these suspicions have been verified, and it is almost certain that if this scale does not already exist within our borders it soon will be found here, and it will be necessary to take energetic measures to restrict and exterminate it. Within the past fortnight the San José scale has been reported from several points in Michigan, but only in a few cases could these rumors be traced to a definite source and investigated.

Last Saturday, Jan. 16, the assistant entomologist of the Experiment Station, accompanied by the horticulturist, visited several places in Oakland county, whence the pest had been reported, but no trace of the insect could be found, and the suspected trees proved to be suffering from other troubles, probably not due to insects at all. It is to be hoped that all these rumors may prove to have as little foundation, but this is too much to expect, and it is well for everyone to be on the watch. The presence of any suspicious scale insect should be noted at once and the entomologist at the College should be notified promptly. If subsequent inquiry should fail to remove the suspicion, a competent entomologist will be sent to investigate and report, so that the proper steps may be taken to prevent further damage in that locality and to stop the spread of the insect.

The female San José scale is very small, the largest specimens not much exceeding one-sixteenth of an inch in diameter, with an almost circular outline; very flat, but with a slight elevation in or near the center, this spot being orange-colored with a black dot in the middle, while the remainder is dull colored, often resembling in tint the bark on which it occurs. The male scale is similar, but even smaller, and lacks the orange spot.

This pest may be looked for on apple, pear, cherry, plum, peach, and other fruit trees, as well as on currant, gooseberry, and rose bushes, and sometimes on other shrubs and trees. It is this wide range of food plants, together with its remarkable fecundity, which

makes this scale a pest among pests, and its advent is not dreaded without good reason.

If its presence in Michigan should be established, the public will be warned at once through press bulletins or special circulars, and every effort will be made to control and eradicate the scourge. Meanwhile the general uneasiness produced by knowledge of the danger may be beneficial in several directions, especially by leading to the discovery and limitation of other insect pests, and perhaps by compelling long-needed legislation in regard to the inspection of nursery stock.

Consulting Zoologist.

Beet Sugar in Michigan.

DR. R. C. KEDZIE.

A number of letters have been received at the College by parties in different parts of the state on the subject of raising sugar beets in this state and the feasibility of starting a sugar beet factory in Michigan, and asking the co-operation of this College in developing the beet sugar industry in our state.

Perhaps the easiest and quickest way to answer these numerous letters will be by giving in the RECORD a summary of what has been done on this subject by Michigan Agricultural College and Experiment Station.

EXPERIMENTS IN SUGAR BEETS.

Recognizing the importance of a domestic supply of sugar, the desirability of establishing a new industry in our state, and the value of a new cash crop which would relieve our land of the drain on its fertility by incessant cropping with wheat, the Chemical Department by the direction of the Board of Agriculture in 1890 imported from Paris more than 1,600 pounds of seed of the best kinds of sugar beets cultivated in France. A bulletin (No. 71) was issued in regard to the seed, announcing that a packet of this seed would be sent to every farmer in our state who would plant the seed, cultivate the beets according to printed directions, and forward specimens of the beet to the College for analysis. The seed was furnished without expense to the farmer, and the analysis was free, and the only cost to the farmer was to pay the expense of sending the beets for analysis. It was also stipulated that the farmer should report at the end of the season the statistics of the crop; the kind of soil, the number of tons per acre, and the cost per ton, and the average weight of the beets.

About 500 packages of seeds were thus sent out, with directions for cultivation, the kind of soil to use, and blanks for reports. Two hundred and twenty-nine reports were received from thirty-nine counties, well distributed in the lower peninsula. Grouped by districts there were the following counties:

Western District: Allegan, Berrien, Muskegon, Ottawa and Van Buren. No. of reports, 28. Average production per acre, 15 tons; the average sugar per cent, 14.23.

South Eastern: Branch, Hillsdale, Lenawee and Monroe. Reports, 21; average per acre, 16½ tons; average sugar per cent, 13.52.

Central: Barry, Eaton, Ingham and Livingston. Reports, 40; average per acre, 13 tons; average sugar per cent, 14.33.

North Eastern: Lapeer, Oakland and Saginaw. Reports, 49; average per acre, 15 tons; average sugar per cent, 13.29.

These four groups do not include the whole number of counties where sugar

beets were raised, but embrace the counties from which the largest number of reports were received. Some idea of the relative fitness of different sections for beet growing is also afforded.

VARIETIES OF SUGAR BEETS CULTIVATED.

Four kinds of beets were tried, viz.,

1st. Vilmorin Imperial Improved.

2d. Austrian Wohauka.

3d. Klein Wazlebeuer.

4th. White Silesian.

The White Silesian is the original sugar beet, and parent of the other varieties. It is vigorous in growth, producing an average of 15½ tons per acre, and the average percentage of sugar was a little over 14. The Vilmorin Imperial Improved was best of all, yielding 15½ tons per acre, and contained 14.38 per cent of sugar.

THE WEATHER.

The season was not propitious for beet growing in 1891, being cold and dry in June and July, but warm and wet in September. The rainfall for the growing season was six and a half inches below the normal. Yet with an unfavorable season, the average crop on lands suitable for beets was 15 tons per acre, with an average of 14 per cent of sugar in the juice. On mucky lands the results were unfavorable, the beets containing too little sugar to pay for manufacturing. The results show that sugar beets of good quality can be raised on suitable soils in all parts of the lower peninsula, especially in the southern counties. Beets whose juice contains 12 per cent of crystallizable sugar will pay a profit in manufacturing, and with 14 to 15 per cent the profit is still larger.

SHALL WE RAISE SUGAR BEETS IN MICHIGAN—THE FARMER'S SIDE.

We want a good outlook from the farmer's side before we recommend any marked change in farm crops, and unless there is a reasonable certainty on this point we may as well drop the subject

1. He wants to know that his soil and the climate are suited to raising sugar beets. An open, porous soil that will raise a good crop of corn, will raise sugar beets. The climate of our lower peninsula is well suited to this crop.

2. He wants a reasonable certainty that the crop will pay him a fair profit above the cost of production, and not abandon crops with which he is familiar and whose value he knows, for a new crop of whose value he is uncertain.

At the beet sugar factory at Grand Island, Neb., they paid \$3.00 per ton for beets that had 12 per cent of sugar, and 25 cents more for every per cent of sugar above 12. Thus beets with 14 per cent of sugar would be worth \$3.50 per ton. With 15 tons per acre the ordinary quality of beet would sell for \$45 an acre, and extra beets for \$52.50 an acre.

3. He wants a cash crop and sure market near home. Near the sugar factories the beet is a cash crop and sure of a steady market. Sugar is as staple an article as wheat.

The beet is a bulky crop to transport, and the beet field should be near the factory so that the cost of cartage shall not eat up the price of the crop.

To stock a factory with beets will require 3,500 to 5,000 acres of beets. To have these within reasonable distance, the land of that section should be uniformly suitable for the beet crop.

The outlook from the farmer's side is reasonably bright. Let us view it from the other side.

THE MANUFACTURERS' SIDE.

1. The complete plant for making su-

gar from beets is costly, the machinery costing nearly \$500,000, and the buildings and appliances, with an adequate capital to start the works, will bring the cost up to nearly \$750,000.

No cheap apparatus will serve the purpose; no sorghum mill and evaporating pan to make raw sugar can compete with the established works, skill and experience of this great industry of the world. The beet sugar factories do not turn out raw sugar to be worked up by the sugar refineries, but white, granulated and refined sugar, fit for the table. What we have in our favor is good soil and climate for raising the beets, no tonnage tax on the beets, or the sugar when made, and no fussy interference of the government. But in this race we are handicapped by the skill, experience and perfected machinery of fifty years of sugar making in Europe. We must compete with one of the world's great industries.

2. The best science and skill are required to manage the works when erected. With the large amount of capital required for beet sugar works (and this must lie idle for half the time), it would be very hazardous to attempt to carry on the manufacture without a competent director and skilled employes.

3. Good water in abundant supply is essential; also railroad facilities.

4. An assured supply of beets for the factory that can be depended upon every year.

These are the conditions regarding beet sugar making in Michigan. Who will solve the problem for our people? One thing we may take for granted at the outset: the people will buy the best sugar at the lowest price, whatever the source from which it comes.

The main points in this article are condensed from Bulletin No. 82, issued in 1891. The edition of this bulletin is entirely exhausted, and therefore its principal points are once more brought before the public.

Chemical Department.

Michigan Engineering Society.

The two sessions of the Michigan Engineering Society that were held at the College Thursday morning and afternoon were well attended. The topics presented were of general interest and were handled in such a way as to engage the closest attention. President Snyder was absent on institute work, so Prof. Weil gave a short address of welcome to the visitors, in which he put in a good word for technical education. President of the association, Geo. L. Wells of Bay City, responded briefly and then introduced Mr. J. J. Hubbell, who read a paper on "Painting a block with an air brush."

Mr. Hubbell had the contract for painting the buildings of a salt block, which covered an area of about five acres. The buildings were covered with rough hemlock and were not originally intended to be painted. He accomplished this difficult task by means of an air brush at the rate of 50 squares per day for two men, whereas two men with hand brushes could have painted about two squares per day. The job was completed at a great saving of time and expense.

Following this came reports from the committee on "Relation of water supply and sewerage to public health," each member of the committee presenting a paper.

F. F. Rogers, '83, city engineer of Port Huron, spoke first. He emphasized the relation existing between the death rate from typhoid fever and pure water supply, and gave statistics from

Port Huron, Chicago and other cities to substantiate his claims.

G. C. Williams of Detroit followed with an able and scholarly paper, illustrated by means of carefully prepared charts. Among the most striking things brought out was the fact that in European cities having a filtered water supply the death rate is not much more than half that of American cities that do not have such a supply. Munich now has an average death rate from typhoid fever of 7 in 100,000. In 1854, before the introduction of filtered water, the rate was about 240. He also showed a marked relation between dredging operations in the Black river at Port Huron and the typhoid death rate in Detroit. Detroit gets her water from the Detroit river.

The third paper was presented by H. E. Riggs of Toledo, Ohio. Mr. Riggs concurred in what the others had said, and made a strong plea for state legislation to stop the contamination of wells, springs and streams. Much of defective sewerage he attributed to the employment of incompetent engineers.

The reports were discussed by Dr. Willbur, Dr. Baker, Mr. Rogers, Mr. Appleton, and others, after which the association adjourned for dinner.

AFTERNOON SESSION.

The afternoon session was called to order after a considerable delay, occasioned by a visit of the society to the mechanical shops. First on the program was an address on "Highway Bridge Legislation," by C. C. Pashby, in which a history of the agitation of highway bridge legislation was given as it has been carried on in the various states of the union. Although various plans have been proposed by means of which a more efficient system might be attained, yet the progress towards the realization of such a system has not been very flattering. As a result of inquiries made of various commissioners throughout the state it was ascertained that in most cases bridges are bought without a sufficient knowledge upon the part of the buyer, that nearly all bridges were constructed without the services of a competent engineer, and that very seldom inspections were ever made. The inquiries also showed that while no serious loss of life had been experienced in this state from faultily constructed bridges, yet many accidents occur, which occasion a considerable expense to the townships maintaining such bridges. Mr. Pashby does not believe that the time has yet come for the proper legislation upon this important matter, but that meanwhile an educational campaign should be carried on in behalf of the persons having such matters under their charge, and that the knowledge and experience of the University and Agricultural College engineers should be employed wherever it is practicable. In the discussion which followed, Mr. Clute, a member of the legislative committee on highways and bridges, led, and outlined briefly a bill which he intends to place before the legislature during its present session. According to his scheme, all the road districts of each township will be consolidated into three divisions, which will be presided over by a competent person elected by the voters of the township.

John F. Nellist, with '96m, of Grand Rapids, next read a paper on "Roads in Southern Michigan." The article was illustrated by a map which showed the various original state and territorial roads and the parts of those roads which are now either gravel or plank. There are thirteen such roads

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crossing the state, six from east to west and seven from north to south. A greater part of these radiate from the more important trade centers of the state. The total length of these thirteen roads is about 2,200 miles, of which about 600 miles are of gravel. Of these, the one running from Detroit to Holland via Lansing and Grand Rapids is 192 miles in length, contains 129 miles of graveled road and is the most improved.

"Notes and Observations," by A. L. Wescott, concluded the afternoon program. In this paper were given descriptions of some methods employed in the mechanical laboratory, together with the results of experiments made to determine the torsion strength of steel, and in others to determine the adhesive power of various cements.

Meeting adjourned at 5 o'clock.

Is the Credit System Beneficial to the Farmer?

BY H. M. WELLS, '85.

(Read at the Livingston Co. Farmers' Institute at Howell, Jan. 16, 1896.)

I read this with the falling inflection, for it is a question that cannot be answered by yes or no. In some cases it is, and in others it is not, depending on the farmer and on the kind of credit. I venture to say that not many of us would be proprietors of farms if we had been obliged to pay cash for them before we took possession; but you who bought farms when prices of farm products were comparatively high and are paying for them with 50-cent wheat and beans may doubt the advantage of even this form of credit.

However, I suppose the secretary referred more particularly to the practice of running accounts at the store to be settled at some indefinite time in the future, maybe six months or a year from the time of starting the account. Such accounts as these are a damage to the farmer in two ways. They encourage him to buy unnecessary things, and he does not get so much for his money as if he paid cash. How easy it is to buy things we would like but can get along without; thinking, "Well, money will be more plenty when I have to pay for these," but once bought, they must be paid for whether the money is plenty or scarce. It must be discouraging to take most of the sales of summer crops to pay the store bill, which has been contracted while the crops were growing; too much like a chattel mortgage to suit me. Then again, these accounts mount up faster than one would think, and when you come to settle you can't imagine how you managed to run up such a long bill in such a short time. In the second place, a man with the

cash in his pocket can usually buy at more favorable prices than the one who has it charged. This statement must be made with several exceptions and modifications, for it is not of so nearly universal application as one might naturally think. It is very easy to figure for the merchant something like this: An article that costs a dollar is sold for \$1.05, making a profit of 5 cents, and the dollar is immediately reinvested and the next month this process is repeated, and so on for six months, when it is found that he has made a profit of 30 cents on the original dollar invested. On the other hand, suppose he had sold the article for \$1.25 and waited six months for his pay, his profit for the six months would have been only 25 cents. Therefore it would pay a merchant better to sell an article that costs him \$1 for \$1.05 than to sell it for \$1.25 on credit. Very good logic—but where will you find a merchant who will do business on such a basis? The best thing any of them do for the cash customer is to sell him goods the same as if he had them charged, and after he has traded twenty or thirty dollars' worth give him a present of more or less value, and which he may or may not want. Some firms make absolutely one price for all, and if they give credit at all sell the goods just as cheap as to the cash customer. In buying things of considerable value, such as agricultural implements, one can get quite a substantial reduction for cash, especially if he understands the art of "beating down," but in the ordinary run of trade few merchants will give the cash customer much advantage over one who buys on credit.

Notice that I said one must understand the art of "beating down" in order to get the full benefit of a cash transaction. This I know little about. I usually pay the price asked, unless I have good reason to believe I can do better elsewhere, when I simply say I will not take the article. One spring, in May it was, I had to buy a new plow. The price of the one I selected was \$11 cash or \$12 to be paid in October. I thought this was pretty heavy interest and managed to scare up the cash, but I have always been haunted with the thought that I might have got that plow for \$10 cash if I had known just how to go about it. It would certainly pay a farmer better to pay cash for all store bills if merchants would make any adequate reduction in their prices, even if he had to hire the money at 6 per cent in order to get the cash.

Another thing. If you have any produce you want to sell to the merchant, they way to do it is to run up a bill and make him think you are not likely to pay it, and then offer the produce in payment. It will be eagerly ac-

cepted, while the cash paying customer may let his stuff rot at home.

For instance, since the advantages of cash trade are theoretically so great, and practically so small, why is it that farmers do not club together and buy their supplies at wholesale for cash? Echo answers why! Ask the Patrons of Husbandry, who started cooperative stores in various parts of the state, not one of which is to my knowledge in operation now. Ask the Patrons of Industry, whose mushroom growth covered the state with organizations who were going to make the farmer prosperous by confining their trade to one merchant, who was to sell them his wares for cash at a uniform advance of ten per cent above cost. Is there a vestige of that organization left in the state today? Why didn't their plan work? I don't know.

Some writers advocate single families buying their goods at wholesale in the city, but I have seen no report of the practical success of this plan. It seems to me that the transportation charges on such quantities as are likely to be ordered would be large enough to balance what profit there might be, while many articles one would not want to buy at wholesale, such as prints, dress goods, suits of clothes, hats, etc.

In conclusion I may say that if the merchant will make no difference between a cash and a credit transaction, and the farmer has a level head so as to buy nothing but necessaries, the credit system is a benefit to him to the extent of legal interest on his money for the term of credit; but if the merchant will make a substantial reduction for cash, or the farmer is likely to buy unnecessary articles, the credit system is a damage to him, and the quicker he gets out of that rut the better.

Bright Outlook.

Demopolis, Ala., Jan. 17, 1897.

Dear Record: F. E. Seman, with '89, and I are down here putting in an electric lighting plant which we expect to run. We are organized with some people here under the name of the Demopolis Electric Light & Power Co., have a fifteen years' franchise and a ten years' contract for lighting the city.

Demopolis is a town of about 2,500 people—white and black—and being situated on the Tombigbee river, it is the center of a large river trade, especially in cotton. About seventy-five miles up the river are large deposits of bituminous coal so that our fuel is \$1.50 to \$2 a ton delivered.

This place does not seem to realize the hard times the effect of which is so noticeable in most places. If Horace Greeley were alive today he would probably say, "Go south, young man!" instead of "West," for there are undoubtedly more undeveloped resources in the South than in any other part of our country and the hard times are felt less here than elsewhere.

Fraternally yours,
LEW W. SPAULDING, 90m.

The Landlord's Joke.

Really Cheerful Rules That Prevail in a Fremont Hotel.

Prof. A. A. Crozier of the Agricultural College, who is conducting a series of farmers' institutes in various parts of the state, spent Sunday here with his brothers. He had just come from Fremont, and had with him a curiosity in the shape of a copy of "Hotel Rules for Guests," which he found conspicuously posted in the Hotel De Haas of that place. They were as follows:

"Board \$50 per week. Meals extra. Breakfast at 5, dinner at 6, supper at 7. Guests are requested not to converse with the dumb waiters.

"Guests wishing to get up without being called can have 'self raising flour' for supper.

"The house is surrounded by a beautiful cemetery. Hearses to hire at 25 cents per day.

"Guests wishing to do a little driving will find hammer and nails in the closet.

"If your room gets too warm, open the window and see the fire escape.

"If you are fond of athletics and like good jumping lift the mattress and see the bed spring.

"If your lamp goes out take a feather out of the pillow. That is light enough for you.

"Any one troubled with nightmare will find a halter on the bed post.

"Don't worry about paying your bill, the house is supported by its foundation."—Evening Press, Grand Rapids.

Professor Paul Haupt, of Johns Hopkins University, the editor-in-chief of the polychrome edition of the new Bible, has received from Hinrichs, the publisher of the work, in Leipsic, the two numbers of the book which were recently issued. They are the Book of Genesis, edited by Professor Ball, of the University of London, England, and the Book of Daniel, edited by Professor Kampenhausen, of the University of Bonn, Germany. The books previously issued are Leviticus, Joshua, Samuel, I and II, Chronicles, Job, Jeremiah, and the Psalms.

Official Directory.

Sunday Chapel Service—Preaching at 2:30 p. m.

Y. M. C. A.—Holds regular meetings every Thursday evening at 6:30 and Sunday evenings at 7:30. S. H. Fulton, President. C. W. Loomis, Cor. Secretary.

Y. W. C. A. regular weekly meetings for all ladies on the campus Tuesday evenings at 8 o'clock, in the ladies' parlors. Meetings on Sunday evenings with the Y. M. C. A.; Miss Edith F. McDermott, President; Miss Alice Georgia, Cor. Secretary.

M. A. C. Grange—Meets every three weeks on Tuesday evening in the Columbian Society rooms. Prof. C. D. Smith, Master. H. W. Hart, Secretary.

Natural History Society—Regular meeting second Friday evening of each month in the chapel at 7:00. H. C. Skeels, President. W. R. Kedzie, Secretary.

Botanical Club—Meets first and third Friday of each month in the Botanical Laboratory at 6:30. T. Gunson, President. W. R. Kedzie, Secretary.

Shakespeare Club—Meets every Wednesday evening. Dr. Howard Edwards, President.

M. A. C. Athletic Association—C. B. Laitner, President. G. B. Wells, Secretary.

Columbian Literary Society—Regular meeting every Saturday evening in their rooms in the middle ward of Wells Hall, at 7:00. T. A. Chittenden, President. A. J. Weeks, Secretary.

Eclectic Society—Meets on fourth floor of Williams Hall every Saturday at 7:30 p. m. D. M. McElroy, President; T. H. Libbey, Secretary.

Feronian Society—Meets every Friday afternoon at 1:00 in Hesperian rooms. Miss Pearl Kedzie, President. Miss Hattie Chase, Secretary.

Hesperian Society—Meetings held every Saturday evening in the society rooms in the west ward of Wells Hall at 7:00. A. T. Cartland, President. D. E. Hoag, Secretary.

Olympic Society—Meets on fourth floor of Williams Hall every Saturday evening at 7:00. W. R. Goodwin, President. E. R. Russell, Secretary.

Phi Delta Theta Fraternity—Meets

on Friday evening in chapter rooms in Wells Hall, at 7:00. H. A. Hagadorn, President. C. M. Krentel, Secretary.

Union Literary Society—Meetings held in their hall every Saturday evening at 7:00. G. A. Parker, President. F. W. Robison, Secretary.

Tau Beta Pi Fraternity—Meets every two weeks on Thursday evening in the tower room of Mechanical Laboratory. G. A. Parker, President. E. H. Sedgwick, Secretary.

Club Boarding Association—I. L. Simmons, President. H. A. Dibble, Secretary.

Try and Trust Circle of King's Daughters—Meets every alternate Wednesday. Mrs. C. L. Weil, President. Mrs. J. L. Snyder, Secretary.

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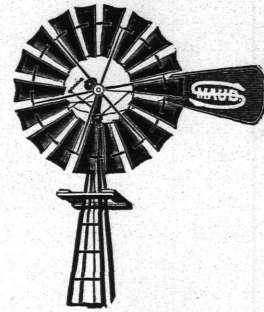
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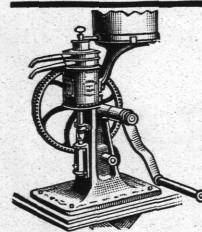
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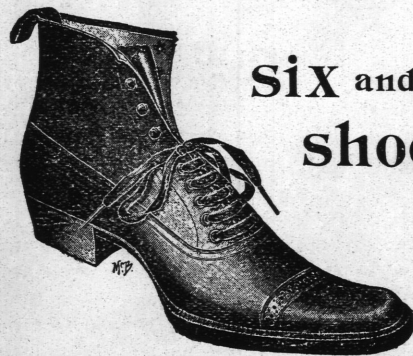
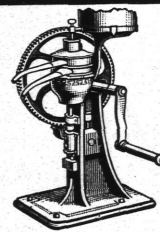
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News from Graduates and Students.

H. E. Harrison, '88, Trenton, was a caller at the College Friday.

Miss Anna Cooper, with '94, is attending a Bible institute in Chicago.

Miss Myrtle Pashby, with '99, is teaching near her home at Constantine.

Miss Grace Marshall, '00, has just recovered from a severe attack of congestion of the brain.

A. A. Myres, Shepherd, Mich., dairy student 1895, has had the misfortune to lose his creamery by fire.

Ben. H. Halstead, with '97, is assistant editor of a semi-weekly college paper at Bloomington, Ind.

Prof. Chas. McKenney, '81, is the popular principal of the Central Michigan Normal school at Mt. Pleasant.

W. F. Pack, with '81, Centerville, and J. Peters, Colon, called on Mr. Pashby last Tuesday. They were on their way to Saginaw.

F. P. Clark, '93, paid us a visit Friday, and told of some of the pleasant hours he spent in the combination rooms, 27 and 29, Williams Hall.

As C. J. Foreman, '94, was getting into a buggy to go to the train for his Christmas vacation his pupils stopped him and made him a handsome Christmas present. Mr. Foreman is reported as having flattering success at Centerville.

We hear that Jos. F. Merkel, with '97m, has been promoted to the draughting office of the E. P. Allis Co. of Milwaukee, Wisconsin. Mr. Merkel has been "farmed out" in their machine shop since last July, and feels quite elated over his new position.

The Van Buren County Farmers' Institute held its 12th annual session at Bangor Jan. 20 and 21. C. J. Monroe, with '61, was president of this institute three years, C. B. Charles, '79, one year, and next year W. H. Goss, of '82, will be president and Geo. C. Monroe, '91, vice president. Geo. Monroe was also secretary for the past two years. The next institute will be in Gobleville.

Frank Hodgman, '62, Climax, Mich., secretary and treasurer of the Michigan Engineering Society, held in Lansing and at M. A. C. Jan. 21-22, was in attendance, as he always has been. F. F. Rogers, '83, Port Huron, Mich., and city engineer of that city for some years past, was also in attendance at these meetings. An old member of the faculty wants the privilege of saying that these two alumni are gems of which M. A. C. can well feel proud.

J. F. Nellist, with '96m, who has a place in the office of Mr. D. Skeels in Grand Rapids, called at the College Wednesday and Thursday while attending the meeting of the Engineering Society in Lansing. He has in preparation a road map of Michigan for the L. A. W. Two of these maps he exhibited at the meeting of the society he attended. One map was of Kent county and the other of several of the counties of the southern part of the State.

Mrs. Cora Palmer, *nee* Stocking, with '93, has charge of the infant department in the Stockbridge public schools and has won an enviable reputation as a teacher of children. Dr. Edwards, who was in Stockbridge on institute work last week, visited her room and says he never saw better work with children anywhere. The children were active, alert, and filled with a desire to learn; and the amount of knowledge they had gained under Mrs. Palmer's

instruction in two months was remarkable.

L. C. Brooks, '92m, writes from Schenectady, N. Y., that he likes his work, but misses his Michigan friends. Speaking of the city, he says: "Everything is old. The streets are narrow, but I imagine they are quite pretty in summer. Union College is here, and it looks like some old barracks—quite a contrast to our pleasant dormitories. The General Electric Company, for which I work, is quite a concern. It employs about 3,000 people—75 in the drawing room—and everything seems to be hurry."

"Training is everything. The peach was once a bitter almond; cauliflower is nothing but cabbage with college education."—Mark Twain in Pudd'n-head Wilson. And cabbage is nothing but a homely straggling weed refined by selection and cultivation—W. J. Beal.

The *Industrial Enterprise* is a very neat, newsy periodical, published monthly in the Industrial School printing office by the boys. The Christmas number would be a credit to any printing office in the country.

"Are you going up to the institute?" "Yes, sir; I'm going. I would not miss it for anything. We had a good one last year, but this is better."

Heard on the street at the "Soo."

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