

The M. A. C. Record.

VOLUME I.

AGRICULTURAL COLLEGE, MICHIGAN, TUESDAY, JANUARY 21, 1896.

NUMBER 2.

AT THE COLLEGE.

Acting President C. J. Monroe, spent last Tuesday at the College.

C. J. Foreman, assistant librarian, is spending a vacation several weeks at his home, Harbor Springs, Mich.

J. S. Conway, stenographer for the experiment station, returned last week from a three week's vacation spent at Decatur and Kalamazoo.

The families of Profs. Barrows and Weil now reside in Lansing, at 515 Capitol Ave. N., where they will remain until the professors return from their institute work.

Mrs. Ella Kedzie and her son W. R. Kedzie, '98, returned January 14 from a six weeks stay at Lake Worth, Fla. During their visit Mrs. Kedzie made many interesting sketches of the tropical scenery while Roscoe added some one hundred and fifty specimens to his botanical collection. The usual alligator and chameleon boxes formed a part of their luggage.

The Lansing Telephone Exchange now has phones at the president's house and office, the secretary's house and office, the mechanical, mathematical, physical, botanical, agricultural, and horticultural laboratories, the engine house, greenhouse, Howard Terrace, Station Terrace and Abbott Hall; at the residences of Profs. Vedder, Weil, Beal, Smith, and Taft; and at O. H. Palmer's.

At the December poultry show in Saginaw, C. S. Brooks exhibited fifty-five birds from ten varieties of the College flock, and was awarded thirty-two regular prizes and two specials, one of the latter being a Climax bone cutter, for being the largest exhibitor. At the Jackson show week before last over 1,000 birds were exhibited and the College was again first in the number of birds exhibited. Here Mr. Brooks entered sixty birds, securing nine firsts, eight seconds, seven thirds, and five specials. The College does not accept the cash prizes won in such competitions. LATER—We have just learned that Mr. Brooks won another special prize at Saginaw—a prize for being the most attractive exhibitor. He was married on Wednesday, January 15 to Miss Hannah McKenzie of Saginaw. They are at home in their cosy residence just outside the College grounds. The RECORD extends congratulations.

NEWS FROM GRADUATES AND FORMER STUDENTS.

C. H. Alvord, '95, is teaching in the Hillsdale public schools.

Horace E. Blodgett, with '83, is a hardware dealer at Midland, Mich.

Dr. Warren H. Rand, with '76, has an extensive practice at Charlotte.

Benj. E. Benedict, with '71, is an associate editor of the Michigan Farmer.

Thomas F. Rogers, with '74, is editor and proprietor of the Ravenna Times.

Lewis Delamarter, with '74, is pastor of the First M. E. church at Kalamazoo.

Cecil J. Barnum, '94, has just been appointed principal of the Goodrich, Genesee Co., schools.

Glenn Perrigo, '88, has recently been promoted to the position of head bookkeeper in a bank at Ft. Scott, Kas.

Wm. S. Baird, '85, is traveling representative for the Snow-Church Co. Collection Agency of Grand Rapids.

J. E. Hinkson, '92, (M. D. from U. of M. '95) has located at Grand Ledge, and is working up a good practice.

E. S. Antisdale, '85, eye, ear and throat specialist, of Benton Harbor, Mich., is also reported to have married recently.

Geo. J. Jenks, '89, m., together with his father-in-law, Mr. Frank Wells, of Lansing, will open a lakeside resort near Sand Beach, Huron Co., Mich.

Dr. N. S. Mayo, '88, has been appointed resident state secretary for the U. S. Veterinary Medical Association of Kansas.

Prof. U. P. Hedrick, '93, professor of horticulture and botany in the Oregon Agricultural College at Cor-

vallis, has been spending nearly his whole time since his appointment in September, in making a horticultural survey of the state.

Chas. P. Bush, with '83, is paymaster for the Louisville, Texas & St. Louis R. R. with headquarters at Louisville, Ky.

Henry P. Jenney, '74, sues the township of Mussey, Lapeer county for \$3,000 for legal services in a township drain case.

Nelson Adsit ("Nat"), with '78, has a meat market at Medicine Hat, Northwest Territory, having moved into town from his ranch.

E. M. Shelton, '71, has received permanent appointment as agricultural adviser to the government of Queensland, Australia.

Tracy Gillis, with '94 m., has a flourishing business as stenographer for several firms in Traverse City. He hopes to visit M. A. C. next summer.

E. O. Ladd, '78, horticulturist and register of deeds for Traverse county, is an active worker in the winter institutes. He resides in Traverse City.

D. D. McArthur, '94, has recently been promoted from teacher at the Yankton Agency School, to Superintendent of the Omaha (Neb.), Agency School.

A. H. Perry, with '78, is in the hardware business in Traverse City. He has two boys and two girls. The boys, of course, are great with the rod and the gun.

Clarence M. Weed, '83, professor of entomology in the New Hampshire Agricultural College, is spending a leave of absence in the Bermuda Islands, studying their flora and fauna.

F. M. Paine, '89, has been located in Traverse City for two years and has built up a thriving business as florist. He has a large greenhouse and the prospects are that he will have to double his plant soap.

The report of the Wisconsin Farmers' Institutes for 1895 does honor to Prof. Georgeson (M. A. C. '78), by quoting emphatically, all by itself, upon the first page, the following words from a circular issued last year: "A live institute, well attended, is the most intensely practical school of agriculture one can conceive of. No one knows it all. Everybody can learn something from somebody else, and nowhere else is practical information of the kind needed by the particular community dispensed in so liberal measure. It is a school in which experience takes precedence over theory, and in practical affairs we all acknowledge the truth of the old adage, 'experience is the best teacher.'"—*Industrialist, Kas.*

J. H. Holmes, with '92, m., is held in Grand Rapids on the charge of murdering Albert Johnson, a motorman in that city. The news was a great shock to us here for we had known Holmes as a pleasant, studious gentleman. He was in the class of '92 here nearly two years, then went to Ann Arbor where he graduated with the degree of mechanical engineer. About a year ago he opened a civil engineer's office in Lansing and since that time has spent considerable time in our library studying. About six months ago he entered the employ of the Perkins Mfg. Co. in Grand Rapids, and was still in their employ when the quarrel with Johnson occurred; which ended by Holmes' shooting the latter through the heart.

SOME WEDDINGS.

Weddings, like twins, never come singly. To some who do not read THE UNION LIT it will be news to know that since the close of the fall term, five of our alumni have married. Kenyon L. Butterfield, '91, to Miss Hattie Millard, at Lapeer, November 28.

On the evening of December 24, Wendell Paddock, '93, to Miss Jessie Francis, of Laporte, Ind. They will reside at Geneva, N. Y., where Mr. Paddock is an assistant in the experiment station.

Christmas night, George E. Simmons to Miss Fannie A. Moore, of Hanover, Mich. Their new home is in Ft. Wayne, Ind., where Mr. Simmons is a draughtsman for an electrical supply company.

Ray S. Baker, '89, to Miss Jessie I. Beal, 90, Thursday evening, Jan. 2, at the residence of Dr. and Mrs. W. J. Beal. Mr. and Mrs. Baker left immediately for their home in Chicago, 527-44th place. Mr. Baker is an editorial writer on the Chicago Record.

THE FARMERS AND THE MILLERS.

BY DR. R. C. KEDZIE.

Sometimes friction wholly unnecessary arises between two classes of people from misunderstanding their motives and principles of action. A case of this kind occurred a little more than twenty-five years ago between the farmers and millers of Michigan in regard to the White Clawson wheat. This was a soft white winter wheat of large productive capacity, and had been in high favor with the millers who used the buhrstone mills, because of its large yield of velvety white flour. It had accordingly been in high favor both with farmer and miller. But about this time a new process of milling—the Austrian—where steel rollers replaced the buhrstone for grinding, required a different quality of wheat to give the best flour and most profitable results. In place of the soft white wheat, a hard and flinty kind was required which should produce the largest amount of "middlings" from which to make the "patent process flour," which also commanded a higher price.

Instead of frankly saying that the roller process required a different kind of wheat, the millers attempted to drive the Clawson and other soft wheats out of the market by declaring that they "contained too little gluten to be fit for human food," "unworthy of cultivation," and by concerted action cutting down the price of Clawson wheat ten cents a bushel, and recommending the Lancaster to the farmers as a more desirable wheat to sow.

The Master of the county grange in a wheat district wrote to the College saying that "the Clawson had for years been a choice wheat in the estimation of both farmers and millers, that it seemed to be as good now as it had been in years past, that their families were using it for bread with the same satisfactory results as in former years both in nourishing quality and in preserving the health, that it produced five bushels per acre more than the Lancaster, and they saw no good reason for this sudden decrying of the Clawson wheat by the millers of the state, and the reduction of ten cents a bushel in price and the evident effort to drive it out of cultivation."

If the millers instead of denouncing this former favorite wheat had frankly stated that a new process of milling called for another kind of wheat, that in place of the soft white wheat, they wanted one of hard and flinty quality, poorer in starch and richer in gluten, much friction on the one hand, and suspicion on the other might have been avoided.

The farmers should understand what kind of wheat is now most in demand, viz., a hard flinty wheat, capable of making the largest amount of "patent flour," and this not because of any conspiracy of the millers but simply because of the new method of milling. Perhaps it may puzzle a farmer to know what is meant by a flinty wheat. With a sharp knife cut across a kernel of wheat and look at the cut surface. If this is hard and clear, with little floury appearance, you may safely call it a hard wheat. This is the kind of wheat the millers want, and the kind the College is trying to find for the farmers. If in addition to this quality of berry, the wheat shall be hardy and yield a large crop, so much the better for all parties. If in addition to these qualities, the wheat shall be of a light color, white or light amber, better still, for miller, baker and consumer of bread delight in light flour and white bread.

While millers eagerly seek for these strong wheats, there is yet a large demand for white winter wheat for mixing and blending with the other wheats to secure the proper color and temper of flour. As Michigan leads the country in winter wheat, and its winter wheat flour leads the markets, it is seen that there must be a promising future for wheat growing in our state.

I shall have more to say on this subject of wheats for Michigan.

TO NEW STUDENTS AND OTHERS

Who Visit the College—What to do when you Arrive in Lansing.

Come to the College at least one day before the opening of the term, that you may be ready to begin your studies promptly with the class.

Take the MICHIGAN AVENUE car for the College. When you arrive on the grounds go to the PRESIDENT'S OFFICE for information.

Trunks will be brought out by the COLLEGE BUS, which leaves the postoffice in Lansing at 10:30 a. m. and 4:30 p. m. each week day. Leave checks at the Secretary's office and your baggage will be attended to.

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We desire to number among our exchanges every local newspaper in the state, and all college publications throughout the country.

In accordance with the provisions of Act 103 of Session Laws of 1893 Supt. of Public Instruction Patten-gill has appointed Messrs. Gower, Stone and Bates as a Board of Visitors to examine the work of the College and report upon its condition with any recommendations which they may deem best to make. A short sketch of each appointee will be of interest to our readers. Mr. C. A. Gower, U. of M. '67, is one of the best known of Michigan educational men having been Supt. of Public Instruction two terms and Supt. of the Reform School for some years, resigning five years ago to accept the general management of the Lansing Capitol Investment, Building and Loan Association. Mr. Fred H. Stone, a well known lawyer of Hillsdale, is a graduate of Hillsdale College, as well as the U. of M. in the literary and law courses. Mr. R. M. Bates graduated at M. A. C. in 1885, and is a thorough going dairy farmer at Hastings, Mich.

THE LONG INSTITUTE.

The full program for the long institute has not yet been fully arranged, but we can say that it will be held in South Haven, Feb. 3, 4, 5, 6 and 7, beginning the evening of the 3d, the day sessions being held Tuesday, Wednesday, Thursday and Friday. The conductor will be Hon. C. J. Monroe, and the presiding officer Hon. Chas. W. Garfield. It is a fruit institute, with all the subjects bearing directly on the fruit grower's business. The evening sessions will be occupied with various topics which have not yet been assigned. The day lectures will be five in number, each one with its discussion occupying an hour. The following is the program of speakers and topics with the hour they come on.

At 10:00 a. m. each day, Roland Morrill: 1st day—The Peach, Locating and Planting the Orchard; 2d day—The Peach, Cultivation and Care; 3d day—The Peach, Marketing; 4th day—The Peach, Varieties and Profits.

At 11:00 a. m., Dr. R. C. Kedzie: 1st day—Rainfall and Frosts in the Fruit Belt; 2d day—The Simpler Chemistry of the Soil; 3d day—Soil Exhaustion; 4th day—Feeding the Soil.

At 1:00 p. m., Prof. L. R. Taft: 1st day—The Drouth as it Affects Michigan Fruit Growers; 2d day—Management of Fruit Crops in Dry Seasons; 3d day—Irrigation for Michigan; 4th day—Fungicides and their Application.

At 2:00 p. m., Prof. W. B. Barrows: 1st day—Birds and Horticulture; 2d day—Bees and Horticulture; 3d day—Insects and Horticulture; 4th day—Insecticides and Horticulture.

At 3:00 p. m., Prof. C. D. Smith and Prof. P. B. Woodworth: 1st day—Water in the Soil; 2d day—Water in the Soil; 3d day—What Cultivation Does; 4th day—What Cultivation Does.

WOMAN'S INFLUENCE.

[Read at Newaygo County Institute, Fremont, Jan. 10, by Mary Robertson, Hesperia, Mich.]

This is a broad subject and should I undertake to tell you all the influence woman has exercised since the world began, in church and state, in war and peace, in science and art, in literature and works of philanthropy, at home and abroad, as wife and mother, it would take volumes and years to write them.

I will endeavor, however, to give in my own way a brief outline of what I consider "Woman's Influence."

The history of any age or any clime is incomplete without some mention of its women. This nation, so glorious, so free, so prosperous, so noted for the high position it holds among the other nations of the earth, is under obligations to its women as well as to its men for its growth and prosperity.

Did not a woman through her aid and influence, yea, even to the pledging of her jewels, equip Columbus for his voyage of discovery, showing clearly that this broad land might yet have been a howling wilderness, the abode of the wild beast and the savage, if woman had not acted?

History tells us of the daring deeds of man; lands

discovered, battles fought, books written, and inventions made.

But what memories awake at the mention of Mollie Pitcher of revolutionary fame, Harriet Beecher Stowe, Maria Mitchell, Clara Barton, Florence Nightingale, and many more familiar, honored names of noble women.

Is there any department, any circle, great or small, that a good woman has not touched and adorned? Look at her influence in the church. What would it be without woman? There she puts forth her best efforts; she gives her prayers, her time, and her talents; every precious gift she lays on God's altar.

She nurtures and sends forth the young minister to every part of the earth to do battle for the Lord of Hosts. She herself is heard in the pulpits of the land. She has even severed every kindred tie and gone forth into the wilds to carry the gospel and rescue the perishing. She has crossed the boundless ocean and gone into the jungle and broken down the temples of the idolaters and shown them the ways of the true and living God.

Words cannot be found rich enough to tell all that woman has done along this line of light. Suffice it to say that she has shed an influence over the church at home and abroad that will live forever.

Woman has also been influential in the great works of reform, so much so that her influence has been felt around the world.

Woman has risen from obscurity by the simple act of hurling her cutty stool in her madness at the Dean's head in Edinburgh for saying "mass in her lug" (ear), in Scotch. That one act, ridiculous as it seemed, was the signal for a general uprising that did not cease until it ended in a revolution never to be forgotten.

The serpent with his evil wiles that lost to woman Eden, and sent her forth into the world in shame and in sorrow still follows her in the guise of the "Serpent of the Still."

He has entered her home and made it desolate. He drags her sons down into the unfathomable pit; he makes beggars of her daughters and takes away all that makes life worth the living, her purity. The once loving husband and father has become such a demon that every living thing flees in horror from his approach.

But women have arisen in their might to crush this foul destroyer of their homes and all they hold most dear. With Frances Willard and her legions of undaunted followers they will never cease their warfare until the head of the "Serpent of the Still" is a shapeless mass. It is these noble women whom the sons and daughters of America delight to honor, whose sweet influence falls like the manna, all around.

"For God and Home and Native Land
They fight still nobly on,
When God opens wide his portals
May they enter one by one."

Has woman any influence in State? Let us see. Abraham Lincoln said, "All that I am or hope to be I owe to my mother."

From the earliest ages woman has had more or less influence in the political world.

During the French Revolution the influence of Madam De Stael was felt so keenly, that Napoleon, jealous of her power and wonderful abilities, banished her.

Man has come to the conclusion that the best thing for him to do is to acknowledge the superiority and genius of woman and bows before it. She has knocked at the door of the college and university built exclusively for men and been admitted. She is gently knocking at the door of Congress, and the day is not far distant when she will not have knocked in vain. She holds her national and state conventions for Woman's Suffrage with a dignity which reflects credit on her name. She holds office of the lesser degree, and does it well, thereby showing her fitness for the higher ones when they come to her. She will not tamper with the returns, neither will she charge railroad fare up to the state twice on the same date. Yes, woman is marching slowly but surely to the White House; because if statesmen owe to her their existence, the only way for them to repay her is to let her share the spoils.

In works of philanthropy, woman has borne her part, and man has ever found in her a solace. She is found in the hovels of the lowly, feeding the hungry and soothing the bed of pain. She was found on the battle field in our late war, binding up the wounds of the fallen and paying the last sad rites to the slain. She was like an angel of light in the hospital, where she moved from cot to cot so gently, smoothing the fevered brow, and receiving the last sad message to dear ones at home; filling every ward with her presence, till dim eyes brightened at her approach and feeble lips moved and called her blessed.

She has launched her frail bark into the foaming billows when the storm king was revelling in his glee,

and snatched the drowning from the jaws of death, thereby making her name revered by all. Her talent in the field of literature is undisputed. Who can read "Uncle Tom's Cabin," and not see slavery in all its horrors. Who can read Julia Ward Howe's "Battle Hymn of the Republic," without the feeling to do and to dare for the right sweeping over him. Woman's influence in literature has made the world better; she has breathed through her pen her deepest feelings, her noblest thoughts, by her cheering and helpful words. She has lifted the burden from many a weary shoulder and been an incentive to higher aims and nobler pursuits in life.

Her influence over man began when she persuaded him to eat the apple. She has held him in undisputed power ever since. Yet a woman has power to raise a man to highest heaven or plunge him into the lowest depth. She may make him an abject fool, but in doing so she lowers herself in the human scale.

But the sweetest name in all the earth is *mother*, and dearest spot is *home*; and may God help the man, woman or child who has neither.

The mother is the presiding genius, the queen of love and beauty; and home is what she makes it; and the spell she casts around her whether it be for good or evil is lasting for all time.

Napoleon says the future destiny of a child is always with the mother; that is probably what sent him to St. Helena. The overthrow of nations has been traced back to the evil influence of mothers. Catherine De Medicis was the instigator of one of the direst deeds ever known in history, the massacre of St. Bartholomew.

Benjamin West said his mother's kiss made him a painter.

The gentle mother of Robert Burns imbued her spirit into her young son by telling him the traditions of her country while seated at her wheel. That spirit bursts forth in the beautiful songs that have made so much music for the world.

It has been said that home is where the heart is.

The sailor as he paces the lone deck at midnight, listening to the ceaseless splash of the waters, and the creaking cordage, in fancy sees the images of loved ones, and the little cot by the shore passes before his vision. And many a silent prayer has gone up to the throne of Grace, as the tears coursed down the bronzed cheek, that the bark would anchor safely in the harbor of home.

Children, prize your home. Mothers, live such lives that your influence will shed a luster that time will never dim, so that when your tired hands are folded peacefully on your breast, and your toil in the home is over, your children may say of you: "This was our queen, this the shrine we worshipped; so long as we live never shall we forget your teachings; they will follow wherever we lead and save us from the evils that threaten. To us you have been a queen on earth—bright be your crown in heaven."

May God prosper the women of every clime, whose sweet and holy influence has circled the world like a halo of glory, and may He hasten the day when she shall stand where she rightly belongs.

DEATH OF DR. ELDRIDGE.

Dr. C. H. Eldridge, '83, died October 25, 1895, in San Francisco, Cal., after an illness of nine days, with peritonitis.

Dr. Eldridge was born in November, 1859, and received his early education in the public schools at Dresserville, Ohio. He afterwards moved to Litchfield, Mich., and from there entered this college in 1879, graduating in '83. Three years later he graduated from the medical department of Dartmouth college.

For a time he practiced in Toledo, O., then moved to Hartford, Wash., where he followed his profession until last spring. At that time he moved to San Francisco and accepted a position with the drug firm of Leinritz & Co. as prescribing physician, which position he held at the time of his death.

We mourn that he, who had so many friends here in the East, should be cut off in the prime of life and among strangers.

ABOUT THE POTATO.

An Australian agriculturalist, Mr. Krinchau, has called attention to the fact that the potato will celebrate the 300th anniversary of its introduction into England next year. It was in 1596 that Sir Walter Raleigh returned to England from America with the first tobacco and potatoes, which originally grew in Peru. Although the potato, it is estimated, now furnishes one-sixth of the nourishment of the human race, for a long time it was a delicacy for the rich alone. Even at the beginning of the seventeenth century noblemen paid two shillings a pound for potatoes and seasoned them

with sherry. People often visited the gardens of the botanist Gerard at Holborn to see the plants in bloom. There is talk of a celebration in honor of the anniversary.—New York Tribune.

INSTITUTE QUESTION BOX.

[Some questions asked and answered at Institutes.]

What is the relative value of carrots, potatoes and beets as rations?—J. V. CRANDALL.

Carrots are considered best.—PROF. SMITH.

Is it profitable to top graft an apple tree that is forty or fifty years old?—A. M. ALTON.

No, not ordinarily; but if desired should not graft on old timber. First grow new top.—F. W. REDFERN.

What kind of gooseberry is best? Would you set in spring or fall? Would you mulch with straw or use ashes and bone?

1. Downing. 2. Spring. 3. No straw mulch.—J. N. STEARNS.

What is the best method of fitting the ground for strawberries?—H. McCARTY.

Plow deep and pulverize thoroughly.—R. M. KELLOGG.

What instrument is used to cultivate twenty-two inches beneath the surface in preparing strawberry ground?—MALLERY.

The subsoil plow.—R. M. KELLOGG.

How do you train blackberries?

So far I have always pinched back or summer pruned, then cut back laterals in spring.—J. N. STEARNS.

Are dwarf pear trees as profitable as standards for orchard purposes?—CLEVELAND.

I consider them so.—J. N. STEARNS.

What do you think of the Wheatland peach?

What is your opinion in regard to overproduction of fruit in this locality (Fremont)?—KIMBELL.

1. The "Wheatland" is a splendid fruit, but a very shy bearer and not a profitable variety.

2. We already have an overproduction of poor fruit; we will never have too much good fruit.—R. D. GRAHAM.

Do you consider currants a paying crop? What varieties are considered best? What varieties of sour cherries are best?—LENA WADE WOODHULL.

1. Yes. 2. Victoria, Red Duld, London Market, Longbunch, Holland. 3. Richmond, Dyehouse, Morency, Kentish.—R. D. GRAHAM.

FARMERS' INSTITUTES.

Worth Hundreds of Dollars to Them.

Ludington, Mich., January 8.—The farmers' institute held here during the past two days was largely attended by farmers and fruit growers of the county. Messrs. Graham and Stearns, expert speakers, discussed the question of peach growing and marketing all day yesterday, and answered scores of important questions. The peach men say the meeting will be worth hundreds of dollars to them. Last night the topics were "Green Peas," "Canning Industries," and "The Cultivation of Small Fruits," by App M. Smith, H. M. Hoff, and Stearns, of Kalamazoo, respectively.

This forenoon Prof. Smith, of the Agricultural College, gave a most elaborate and interesting discussion of butter making, and Rev. B. S. Mills spoke on grasses and grains.—Detroit Free Press.

Great Interest at Marquette.

The Marquette Mining Journal of Jan. 10 speaks thus of the farmers' institute at Marquette:

"The last night's session was one of the most interesting and best attended of the institute. Too much cannot be said of H. W. Mumford, A. A. Crozier, and J. H. Brown, who were sent here by the State Board of Agriculture to assist in holding the institute. They left the impression with those that attended that they were conversant with both scientific and practical agriculture. They will be heartily welcomed at the next meeting. The total attendance was in the neighborhood of 2,300 people, and the first meeting was a great success. The farmers throughout this section should be gratified over the results, and be proud that such an institute was held in our city, and was so largely attended."

At the close of the meeting held by Mrs. Mary A. Mayo, at the Congregational church, on the afternoon of January 10, and addressed solely to ladies, the following motion was made, supported and unanimously adopted by a rising vote: "We, the women of Newaygo county, wish to extend our heartfelt thanks to the officers of the State Board of Agriculture for sending to us this gifted Christian woman, Mary A. Mayo."—Fremont News, Jan. 15.

HOW SOME OF OUR BOYS AND GIRLS ARE SPENDING THE WINTER VACATION.

L. D. Sees is farming at Unionville.

Oscar Gorenflo has entered the U. of M.

A. S. Eldridge and E. R. Austin are attending school.

F. B. Ainger is working in the Auditor General's office.

Walter Gospill is working at his trade at Sturgis, Mich.

Vadim Sobennikoff and Frank Yebina are studying at M. A. C.

W. J. McGee is working on the Board of Trade in Chicago.

S. B. Young has a clerkship in the Board of Health office, Lansing.

H. L. Fairfield is working for a telephone company in Grand Rapids.

C. M. Wardwell is putting in private telephone lines at Williamston.

A. M. Patriarche is clerking in Morley Bros. hardware store in Saginaw.

J. V. Kinsey is selling books in Toledo, O., and R. L. Clute is at the same business in Indiana.

Many are spending the vacation at home studying or recreating for next season's work at the College.

C. E. Martindale is working for the Perkins Co. Grand Rapids, in their bicycle department and will not return in the spring.

E. D. Partridge, J. C. Coats, L. L. Christensen, J. E. Mayes, L. R. Love, R. B. Buck, W. G. Anderson and C. E. Meyers are working here.

F. M. Morrison is in a machine shop at Aurora, Ill. E. J. Mahan is in a shop in Pullman, Ill. J. M. Barney works in a shop in Cleveland, O.

C. F. Herrmann is studying geometry, working in his father's store, negotiating *Speculum* ads., and hustling the base ball business. He has already arranged games with Albion, Olivet, Orchard Lake and Ann Arbor.

By far the largest number of those engaged in active employment are teaching. Among these may be mentioned the following: John W. Rigerink, A. C. Cole, E. E. Gallup, A. C. Krentel, W. B. Chapman, Miss Marie Belliss, Miss Phebe Dean, R. E. Doolittle and H. B. Gunnison who are teaching in this county or just north of us in Clinton county. B. A. Bowditch, F. W. Robison, Lee Chapman, C. A. Jewell, John Severance, S. J. Redfern, F. T. Williams, A. R. Rogers, E. Shaw, G. F. Richmond, D. J. Hale, Miss Bertha Holdsworth, J. C. Nichols, R. E. Morrow, W. E. Locklin, E. A. Robinson, S. Culbertson; and L. S. Munson who teach near their respective homes, and F. V. Warren at Jones, H. A. Dibble at Grandville, J. T. Berry at Cass City, S. W. Tracy at Neebish, U. P., and S. H. Fulton at Bear Lake, Mich.

THE MICHIGAN AGRICULTURAL COLLEGE

Is the Place to Obtain a Substantial Education at a Moderate Expense.

It offers a course in agriculture which comprises all subjects in agriculture and horticulture, English language and literature, botany, chemistry, zoology, veterinary science, physical science and political economy.

Also a mechanical course, comprising the general work in mathematics, language, etc., with special training in mechanics and electricity. In both courses study is supplemented by practical application, in manual labor, of the principles taught in the class room.

Each department is well equipped with all necessary appliances for study, investigation, and labor. There are eight laboratories, twenty-six professors and instructors, a farm fully equipped with modern machinery, improved breeds of live stock, complete shops for mechanical work.

The Farm Department.

The College farm consists of 676 acres of which 350 acres are under systematic cultivation, 80 acres in campus, 40 acres in gardens and fruit, and the remainder in pasture and woodland.

The woodland is used to illustrate the methods of preservation of virgin forests in the State.

The main part of the farm is devoted to ordinary farm crops, to illustrate the better methods of farm management.

Forty acres are devoted to experiment work.

On the farm are four stock barns, one grain barn, piggery, hen house, tool barn, and a barn used exclusively for experimental feeding.

Two large and three small silos supply storage room for about thirty acres of corn.

In the stock barns are representative animals of the leading breeds of cattle, sheep, and swine. Typical

specimens of the best strains of the leading breeds are kept for illustration to the classes of students. Some of the animals are worthy of special notice as they are prize takers or are making records closely approaching the best ever made.

The breeds of cattle represented are Shorthorn, Holstein, Jersey, Hereford, Guernsey, Brown Swiss, and Aberdeen Angus.

The breeds of sheep are Shropshire, Hampshire, Oxford, Dorset-horned Lincoln, Cotswold, Leicester, and various types of Merino.

Among the breeds of Swine we have Duroc Jerseys, Essex and Poland China.

At the poultry house will be found selected specimens of the leading breeds of chickens.

Experiments in stock feeding are in progress during the greater part of the year, especially in the winter, with dairy cows, pigs, and sheep.

In the basement of the agricultural laboratory are the dairy rooms, equipped for instruction in butter making, with Babcock testers, separators, creamers, cream va's, churns, butter workers, and other apparatus needed in the manufacture of butter. An electric motor furnishes the power.

Horticultural Department.

The horticultural building contains offices, class room, laboratory, seed room, tool room, and other rooms for repairing tools, grafting fruit and vegetables and preparing them for market. The equipment for class room illustration is very complete in the way of models, charts, and drawings, together with a large assortment of the various hand tools, apparatus, and supplies used by the gardener and florist.

The department is also well supplied with greenhouses of approved construction, where may be found not only various interesting forms of tropical plants, many of which are of economic value, but the more common plants of the florist, including such as are used for cut flowers, decoration, and out door planting, besides such vegetables as are commonly grown under glass.

In the class room the elementary principles of horticulture are taught, and lectures are given upon the best methods of growing and handling the various crops; while the students are required by the labor system of the college to put this instruction into practice.

The Zoological Laboratory

consists of a lecture room for eighty students, rooms for anatomical study and histological work, and a private study containing a good zoological library. In connection with the laboratory is the large McMillan collection, which, with specimens added at the College and by exchanges, forms one of the finest insect cabinets of the West.

In the general museum will be found skeletons and preserved specimens of typical mammals and birds from all parts of the world, reptiles, batrachians; the fauna of Michigan is specially well represented; a large collection of shells, native and exotic; a collection of invertebrates from the Smithsonian institution; three collections of insects, a faunal, a scientific, and an economic; a manikin, skeletons of man and of the lower animals; alcoholic and microscopic preparations of animal organs and tissues; fossils from all the groups of rocks; rock specimens illustrating the divisions in lithologic geology; and a small but growing collection in ethnography.

In the Botanical Department

the agricultural students are taught by specimens in hand the names and uses of the different parts of plants; the names of different plants and their relationships, especially those useful or detrimental in agriculture and horticulture; the minute anatomy of plants as seen by using compound microscopes; the physiology of plants; the botany of trees and shrubs for horticulture, landscape gardening, and forestry; grasses and weeds of the farm and garden; fungi injurious to farm, garden and orchard crops.

The mechanical students are taught the structure of woods and their adaptation for certain purposes.

In the botanical laboratory is a fire proof room for 50,000 plants in dust proof cases; 200 or more kinds of grasses and weeds of full size sewn to cardboard; and tight cases for 100 large drawers of seeds of grasses, clovers, weeds, and other economic plants; a workroom; a storeroom containing our choice of the Michigan forestry exhibit at Chicago; four rooms for laboratory work with simple and compound microscopes, other apparatus, duplicate books of illustration, costly maps, charts, lantern views; large numbers of photographs illustrating the agriculture and forestry of Michigan, California, Jamaica, India, Singapore; one room for experiment station work, containing 1,500 kinds of seeds, and other apparatus to aid in identifying and testing seeds, etc. The students are much assisted by

an excellent grass garden, weed garden, botanic garden, arboretum, and a model forest.

The Chemical Laboratory

was erected at a cost of \$18,000. The south front is two stories, and is 40x70 feet, ground space. The upper story contains a lecture room with 150 seats, the study for the professors of chemistry, and two work rooms. The first floor contains a room and fixtures for quantitative analysis, a balance room with fourteen chemical and two assay balances, evaporating hoods, cases for apparatus, etc.

Connected with this is the qualitative analytical room with twelve tables and working room for forty-eight students, provided with Bonn self-ventilating hoods and furnished with water and gas for each student. Beneath this room on the first floor is the experiment station chemical laboratory and assay room, with complete fixtures for mineral assays.

The Veterinary

course of study embraces three terms in the senior year, the autumn term being devoted to anatomy, while the spring and summer terms are given up to the study of materia medica, and the accidents and diseases which affect domestic animals. Provision is now being made for the study of bacteriology with reference to its application to the contagious diseases of domestic animals. Operations are also performed before the class at convenient seasons.

their rooms, excepting works of reference and bound volumes of the leading serial publications.

Connected with the library is a reading room supplied with over two hundred of the leading English and American periodicals.

Physical Laboratory.

The department is well equipped with suitable apparatus to practically illustrate the modern industrial applications of heat, sound, light, mechanics and electricity.

The instruction is given by lectures illustrated by experiment.

The work in the class room is supplemented by laboratory work. The exercises are largely taken from the dairy, farm and shop. Special attention is given to working illustrations and explanations of such subjects as physics of soils, of fuels, cream separators, ice machines, hydraulic rams, condensation of milk, and heat motors; also the construction and management of dynamos, electric lights, electro platers, electric heaters, telephones, telegraphs, motors, and storage batteries.

The aim of the course is to prepare young men in such a practical way that they can be relied upon to build or operate the apparatus used in mechanical, electrical, and agricultural engineering.

Mechanical Course.

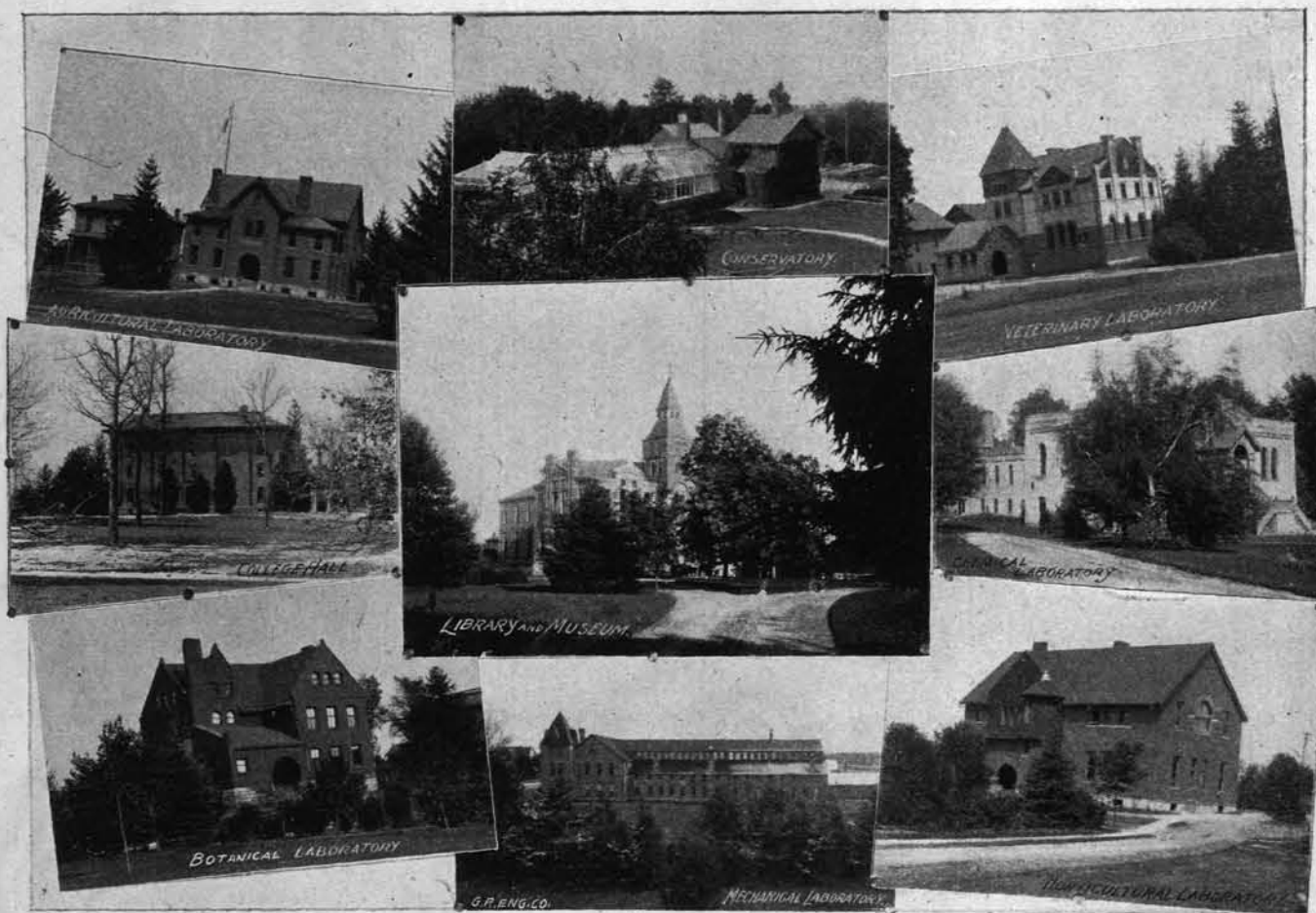
The aim of the instruction in Mechanical Engineering is to give the student a thorough training in the ele-

marking corn ground, hay making, harvesting, etc., judging and handling all kinds of live stock including poultry; dairy practice, care and handling of milk, making of butter.

On the gardens great attention is paid to the methods by which plants are propagated, and each student is required to perform the work of sowing seeds, grafting, budding, layering, and making cuttings of various kinds, and is taught methods of pruning and training. Nearly all of the labor of the department is done by students, and thus they obtain practical insight into the methods employed by horticulturists.

How to Enter the College.

By an act passed by the last legislature the Superintendent of Public Instruction is required to send twice in each year to the County Commissioners of Schools, questions for candidates for entrance to this College. Those who intend entering the College can take the examination at the regular teachers' examinations, which is held in each county, and thus be sure of their entrance before coming here. At the College, examinations are held at the beginning of each term. The next entrance examination at the College will be held Tuesday, February 25, 1896. The subjects embraced in the examination are arithmetic, geography, grammar, reading, spelling, penmanship, and U. S. history. Students entering the mechanical course will be examined in algebra to quadratic equations in addition to the studies



Free Hand Drawing.

In all science schools drawing is freely used in such studies as botany, entomology, zoology, etc. It is considered the best possible training for the observation. Technicalities are avoided as much as possible. It is aimed to develop the observing power of the eye and a feeling for form, and to train the hand to represent in a certain measure in outline and light and shade what the eye sees. The plan is to advance the student as rapidly as consistent with thoroughness, and as much attention is given to individual instruction as the limited time and the large number of students will allow.

The requirements are 120 hours of class room work, but in this time must be done a specified number of drawings of a standard satisfactory to the instructor.

The Library

contains over eighteen thousand volumes. Besides a full collection of works on history and general literature, it is well supplied with scientific and technical works, and with the journals of agriculture and allied arts. Each of the departments of instruction is equipped with a serviceable collection of books of reference.

Current publications recording the results of investigations in the sciences and useful arts are being constantly added. Liberal appropriations have been made by the legislature for the maintenance and extension of the collection.

Students have access to the library eleven hours daily, and they are permitted to draw books for reading in

mentary work—both theoretical and practical—of his chosen profession.

In this course particular emphasis is placed upon the work in mathematics, study of the theoretical principles underlying the sciences of machines and mechanics, and the practical construction of machines.

Students in the mechanical course have laboratory practice of various kinds.

Among the more important subjects are steam engine, steam boilers, valve gears, machine design, strength of materials, kinematics, thermodynamics. Instruction is given in the testing of steam engines, boilers, pumps, and materials, also in the measurement of power, calibration of instruments, etc., etc.

The shop work is supplemented by a course of lectures on shop methods, and during the senior year a course of lectures is given on engineering practice. The student is also required to study English literature and modern languages.

Student Labor System.

All students taking the agricultural course are required to devote twelve and one-half hours per week to manual labor on the farm or garden. All kinds of labor are performed by the students, under the supervision of competent instructors. Students receive pay for labor that is of value to the College.

On the farm, student labor is devoted partly to the study of the details of farm operations, such as repairing tools, construction and operation of farm machinery, carpenter shop work, fence building, plowing, harrowing,

given above. Candidates for admission to College must bring references as to character, and should be not less than fifteen years of age.

Any young man over eighteen years of age will be conditionally admitted to College without examination. Persons holding third grade certificates as teachers, or who are graduates from high schools, are admitted to College without taking entrance examination.

The Spring term opens on Monday, Feb. 24, 1896, and the next College year begins Monday, Aug. 24.

For catalogues or further information write

SECRETARY,
Agricultural College, Mich.

MICHIGAN EXPERIMENT STATION.

The Experiment Station is organically connected with the Agricultural College. Its function is to carry on such lines of investigations and experiments as will be most immediately helpful to the farmers of the State. The results of experiments are published from time to time in bulletins which are distributed free through the mails to all newspapers of the State, and to all fruit growers and farmers or other persons interested in these subjects who apply for them.

The usefulness of the Station is farther extended by answers to inquiries regarding soils, crops, weeds, or breeding, feeding and care of domestic animals. Questions relating to horticulture and agricultural subjects are therefore invited and will receive prompt attention.

The regular mailing list of the Station is already very large but should be farther extended. Every farmer should receive the bulletins regularly.

For bulletins and reports address the Secretary, Agricultural College, Michigan.