At the good roads convention held in Lansing March 3, Gov. Rich, in a few minute remarks, stated that the next legislature would be petitioned to appropriate funds for the betterment of our county roads, and also a couple of straight roads corresponding to the metal guides inside the plate holder.

We decided that the tube should be tried the next time. On February 28th we connected up the coil with three cells of the storage battery as before, but took a slide of the plate. Another plate holder and, wrapping it in about twelve folds of a black silk cloth, we placed it under the Crooke's tube. This we suspended the tube about three inches above the plate.

On top of the cloth wrapped plate holder with a plate inside, we placed a pocket note book with a lead pencil in the back, and a silver dollar in the ticket pocket. Near this we placed various other objects, viz., a couple of letters cut from about half a nickel, five cent piece, and a die with a silver pin on top of it.

This we exposed to the action of the rays about four hours. The Crooke's tube during action was filled with a pale greenish light, having an almost ghostlike and flashed later.

The distance between the points in the Crooke's tube was about four inches. When we developed the plate we found we had a very good shadow. The spots were used equally by the rays and not to the discovery of any new properties. At the first trial we connected three cells of the Crooke's tube and put around on it a lead pencil, latch key, nickel five cent piece, and silver quarter. The slide of the plate came out as a black square, but the pin showed blacker. The die was not of use, and the pin of silver.

We were quite well satisfied with the results, but our desire for experimenting has not been satisfied yet, and we are planning to try to determine of the rays, also try to the opacity of different metals to the eyes.

Among the M. A. C. men present were, Dr. Beal, Pedig Horn, Frank M. Rye, John Hallfan, Kanavith, Oliver Twist, Our Mutual Friend, Bumble, London, Hard Times, A Tale of Two Cities.

At forty cents Henry Altemus publishes A Window for Rats and Guinea pigs, and a large variety of other books.

For thirty-five cents each, one may get Adam Bede, Uncle Tom's Cabin, and the Odyssey. For those who can afford it, the "Globe" edition, published by D. Appleton & Co. at one dollar, is to be highly perused as a future edition. Of Shakespeare, the best cheap edition is probably the Leopold Shakespeare ($1.50, Cassell Pub. Co.). The Odyssey, the best cheap edition, is probably the "Globe" edition, published by D. Appleton & Co. at one dollar. For thirty-five cents, one may get the "Globe" edition, published by D. Appleton & Co. at one dollar.

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The M. A. C. Record.

MARCH 10, 1896.

TO THE AGRICULTURAL SENIORS.

The attention of the Agricultural Seniors is called to the following rules of the faculty in regard to theses:

1. Each Agricultural Senior, after consultation with the head of the department, on whose subject he desires to select appropriately, shall hand in the subject to the chairman of the committee on theses. The instructor of the department which the subject he desires to select appropriately belongs, shall hand in the subject of the thesis to the chairman of the committee on theses. The instructor of the department which the subject he desires to select appropriately belongs, shall hand in the subject of the thesis to the chairman of the committee on theses.

2. Within one week after March 1, the committee shall pass upon the subjects presented and assign the seniors the proper conduct of the investigations and the preparation of the theses. The theses shall be completed and submitted to the committee not later than three weeks prior to commencement.

3. After approval, each thesis shall be typewritten on unruled paper, 8 1/2 by 11 inches in size and bound with cloth sides and leather corners. The color to be black or dark brown. The cover shall be bearing the inscription:

THESIS

1896.

Will the members of the class of 1896 please attend to this matter at once.

CLINTON D. SMITH, Chairman of the Committee.

NEWS FROM GRADUATES AND STUDENTS.

Students in Mechanical Courses designated by "**" and specials by "sp." after name.

E. J. Frost, with '96, is a draughtsman at Jackson, Michigan.

Fred Stockwell, with '90, resides at Pontiac and travels for a Detroit dry goods firm.

Jas. Adams, with '95, is in the shipping department of Strong, Lee & Company, Detroit, Michigan.

John F. Finley, '73, first lieutenant of U.S. Infantry, Fort Ontario, Oswego, N.Y., has been transferred to Fort Leavenworth, Kan.

Wm. Petrie, '90, m., until recently at Conassat Lake, Prent, is now superintendent of the South Side florist.—Truman Bay Bridge.

D. S. Cole, '95, m., has recently been engaged by Berkeley & Gay of Grand Rapids to assist in the business management and introduction of specialties in the bicycle line.

Prof. W. S. Sage '84 of the Deaconess school read a paper entitled "The Science Innovation Requires What?" at a recent meeting of the Yarn Buruse County Teacher's Association.

A resolution endorsing Capt. C. L. Beamis, '74, as candidate for member of the State Board of Education, was unanimously adopted by the Institute teachers at their last T. A.—Moderator.

The Mirror is one of the best exchanges received by the Record. It is published by the pupils of Broaday High School of Wellsville, Wisconsin. William T. Langley, '82, is superintendent of schools in that city.

Geo. C. Novins, '73, who has been principal of the Otsego schools for the past six years, placed his resignation in the hands of the school board January 1, to take effect at the close of the present school year.

Poor health makes the change necessary.

D. D. McArthur, '94, superintendent of the Omaha Agency, returned to the reservation last week, where he has been working. Five gentlemen and two ladies are employed in caring for the 100 pupils and the superintendent's position is one of some consequence. His life is a busy one and no one has ever had so much work. Loomis & Root, dealers in bicycles and bicycle sundries, 307 Washington Ave. N. This is the name and number of a firm that began business in Lansing March 1. M. F. Loomis, who has been for some time with the class of '94, m., and O. J. Root graduated in '90 with the first class to graduate from the mechanical department. Mr. Loomis will assume immediate charge of the new
business, while Mr. Rook will remain for a time with the United States Naval Reserve Works, where he is now superintendent.

J. R. Sayler, with '96, 'le., college last fall, going to Chicago where he secures employment in the shops of Fraser & Chambers, the day after his arrival. He is much interested and profitable and hopes to continue in it for some time. John Churchill, '96, is now employed in the Westinghouse Shops.

Charles E. St. John, '97, who spent the past year as a student at Heidelberg University has recently presented his thesis for a doctor's degree, which appears in the current number of Annalen. It treats of the chemical and physical amount of light emitted by the Welsbach burner. It is a paper of exceptional merit and a credit to its author.

THE WILSON-SQUIRE BILLS.

PROF. C. L. WEL.

Two bills have recently been introduced in Congress to promote the efficiency of our naval service—one by Senator Squire of Washington, the other by Representative Frank H. Wilson of Brooklyn, N. Y. Both these bills are drawn in the main, on the same lines, and have for a principal feature the proposal that the government establish and aid in maintaining courses of instruction in naval engineering at the several scientific and technological schools of the United States. Other interesting features of these bills are the proposals that the government offer a liberal scholarship to its officers in the department, as professor, to every scientific school which shall undertake to provide education in naval engineering in connection with schools with models and plans of ships and naval machinery.

By the provisions of the Wilson-Squire bills the graduates of the several scientific schools and of the Naval Academy, with the assistance of the government, courses in naval engineering, may be appointed as engineer cadets in the United States navy and when so appointed are to be given first a year of practical naval engineering instruction on board a war vessel, then a year of advanced work at a post-graduate school; they will then be permitted to compete with similarly trained officers from other schools of learning.

In view of the fact that modern methods of conducting naval warfare demand the services of civil engineers on each ship, and that the efficiency of our naval service—one by the proximity of the lakes, for practical naval warfare demand the services on each ship of a large body of highly trained and skilled engineers, and that such engineers must some day follow the lead of madder and tea plants, coffee shrubs and cocoa trees in the race for food of the future, we see the wisdom of the Wilson-Squire bills.

In considering the necessity for increased opportunities along the line of naval engineering education in our country one must bear in mind that the modern warship requires a different and more complex apparatus from the wooden warship and the battleship of the Napoleonic era. That of the gunboats was a very different affair from the wooden warship and from the battleship of the Napoleonic era. It will be givtn first a year of practical naval engineering instruction on board a war vessel, then a year of advanced work at a post-graduate school; they will then be permitted to compete with similarly trained graduates from the United States naval academy for appointment in the navy as engineers.

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In the choice words of Prof. Wiley: "Even if food products can be formed in the crucible there is no reason whatever for supposing that they can ever play any role in an economic sense. The untold billions of laboratories which nature builds are infinitely cheaper in construction and operation when filled with platinium and porcelain. The sun ignites the crucibles and heats the salt, and the chemists are paid in the form of the gas coke, the city gas works. The director of nature's laboratory depends upon no endowment nor legislation for his salary, and his bills for supplies are not disallowed by Congress. The scientist working in his own laboratory day and day his patient, faithful assistants work without thirst for fame, without hope of reward. They fight simply for the knowledge that the labors of the past are printed in rich profusion in the great Heritages of the universe. The chemistry of the chlorophyll cell is far more wonderful than any of the achievements of Lavoisier, Bunsen or Fischer."
endeavor to describe it briefly and point out a few of its
operated one of their machines the past two years I will
been most successful in their efforts, and as I have

the ears. The stalks pass on to the shredder or cut­
crush the stalks and snap

into a conical pile for a day or two until the

set with short pins that tear off the husks and silks

when the stalks are not too dry, it will husk 350 or

der prepared in this way is as difficult to keep as in the

in small bits as well as cut.

and the lane a few acres of the heavy muck is sown to

should be made as solid as possible by thorough

on its edge a plank 2 inches thick by 12 inches wide,

and not less than 6 feet and 1 inch in length for the

should be spread over the surface. When finished the

be planted to potatoes. The remainder of this

will be planted to potatoes. The remainder of this

the Grand Trunk R. R., will grow at the west end some

the lane running

the corner by the river and the lane is an acre of Alfalfa,

it is later in maturing than our common variety and

hence fits more aptly with clover. South of the orchard

of keeping breeding ewes on limited areas of land by

the use of various forage crops.

No. 16 has lain in pasture for many years. The

the stampes are not yet all out, but the swapes were drained

It will be planted to corn this year, and sub­sequently farther cleared up and leveled. The lane

the middle, making the fields on either side 56 rods

preparation. The manure should not be too

and to keep the manure from heating violentlv, and

the basic plan of the ends so as to keep the sash from slipping off

soil should not be more than four or five inches from

The College farm serves two purposes, it furnishes the

in the fruit section of this State, where

in its place. As the stalks are crushed and torn

the ears on is also awkward to handle, though the use of
corn harvesters may obviate this.

whether it will do away with the silo in other

in fall. Whether it will do away with the silos in other

as to moisture and the yield per acre. In good corn,

in small bits and having a well sheltered spot, facing the south, and as

sown. While plants seem to enjoy more heat in this

the temperature get much above 60° unless with sunlight.

cut diagonally in two, and attached to the back of the

one good wagon-load of horse manure thrown loosely

added, to keep the manure from heating violentlv, and

as dry as possible the refuse from the fields. We have described. The manure

that its surface is flush with the upper edges of the

front and the lane a few acres of an acre of Alfalfa,

now fresh and vigorous, and whose behavior during the

in the extreme southwest corner of the farm, 6

swamp in the extreme southwest corner of the farm, 6

a line extending south from the end of the lane. The

and the lane a few acres of the heavy muck is sown to

It will be remembered of course that 17 is now a

it is later in maturing than our common variety and

two kinds grown from seed imported from Vilmorin

hence fits more aptly with clover. South of the orchard

or American wheats. In

winter oats, varieties of rye and American wheats. In

in the ten acres of the heavy muck is sown to

South of the river and east of the lane the fields will

and the lane a few acres of alfalfa,

should be made as solid as possible by thorough

the lane a few acres of the heavy muck is sown to

the educational feature is necessarily the dominant one.

on account of its

been much interested in testing the availability

of bow lawn grass and the taller

the acreage of clover. South of the lane the fields

the lane a few acres of the heavy muck is sown to

old wheat crop was 721 bushels per acre, and the

tests of various grasses alone and in mixtures

and for the average farmer, in one

many times its first cost.

be interesting to the readers of the RECORD. The

the accompanying graph graphically represents the

the arrangement of the fields. The lane running

In the center of this is nailed a strip

and not less than 6 feet and 1 inch in length for the

pieces should then be fitted. A piece 1 inch by 3

near the house as convenient, and commence by laying

day in the year. The experience gained in the work of

that the silo is not in use, that this machine will find

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be of value to every farmer, whether his acres be few or many,

in new, and as to moisture and the yield per acre. In good corn,

in the fruit section of this State, where

in its place. As the stalks are crushed and torn

the ears on is also awkward to handle, though the use of
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in small bits and having a well sheltered spot, facing the south, and as

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