

The M. A. C. Record.

VOL. 3.

LANSING, MICHIGAN, TUESDAY, JANUARY 18, 1898.

No. 18

M. A. C. Special Live Stock Course.

JOHN A. ATCHINSON.

A short sketch of what the short course live stock men are doing, may be interesting to the readers of the M. A. C. RECORD.

We entered with the regular students January 3, and after finding boarding places, in which most of the boys were fortunate to get good ones, we met President Snyder in his office and were classified. We were then at leisure until the next day at 8 o'clock when we reported, with the Creamery and Dairy Specials, to Prof. Clinton D. Smith at the Agricultural Laboratory for lectures on stock feeding. Prof. Smith has given us very good lectures on calculating rations, silos, and feeding dairy cows. He next takes up feeding beef cattle and later other stock. Great stress is put upon the judgment of the feeder, based upon price of food stuffs, purpose fed for, and calculation of rations. We also have the advantage of the experience of an expert feeder, Mr. Richard Harrison, who fed Rosa Bonheur 5th 11277 H. F. H. B. and Belle Sarcastic 23039 H. F. H. B. for their records.

At nine o'clock on Mondays, Tuesdays and Fridays we spend one hour with Prof. C. E. Marshall at the Veterinary Laboratory in the study of bacteria, with special reference to their nature, requirements, diseases produced by them, and how to combat them.

On Wednesdays and Thursdays we have at nine o'clock, lectures on stock breeding by Prof. H. W. Mumford. He has given us some very good points on selection and heredity and expects to take up other questions on the subject.

From ten to twelve o'clock daily except Saturdays we have lectures on the different breeds and stock judging by Prof. Mumford, for one hour, and practical scoring and judging stock the other hour. When each student has formed his opinion of an animal, it is gone over, point by point, by Prof. Mumford, and defects and points of excellence pointed out. These lectures are worth the cost of the whole course to any farmer who keeps stock. All the principal types are discussed and each breed classified, as beef, dairy or general purpose. We have studied Shorthorns, and judged the M. A. C. herd, the Polled Durham, the Red Polled, the Devon, and the Galloway. Prof. Mumford is especially fitted for this work by reason of his knowledge of the breeds, and his trip to the British Isles.

At one o'clock we again meet, with the creamery and dairy men, for veterinary lectures by Dr. Geo. A. Waterman, consulting veterinarian. We have studied the digestive organs of domestic animals and how to treat their more common diseases. To know the drugs to give and the prescriptions we have received, from good authority, is valuable to any man.

At three o'clock we go to the Chemical Laboratory where we analyze, in a crude manner, different food stuffs for protein, carbohydrates, and fat, under Mr. L. S. Munson.

At four o'clock we study forage plants at the Botanical Laboratory with Prof. W. J. Beal. Some of the boys think that there is not much in the study of grains and seeds, but I notice that we find something new every day.

At four o'clock we are left to our wicked devices, with the buildings to examine and the library to read.

On Saturdays we take in the best farms and stock near the College. Last Saturday we visited Springdale, Turner's noted farm. There is but little stock left on the farm but the buildings are, mostly, there.

I hear some of the specials talking of coming back next winter to take another course, they are so well pleased with what we have this year.

Hurrah! for Michigan's Agricultural College, the farmers' college.

The Greenhouse.

To the visitor or college resident, if he be a lover of the beautiful in nature, no place on the campus presents so many attractions in winter as the greenhouse. Its beauties



are continually changing, always fascinating.

Entering the main house, we find ourselves in a veritable tropical forest, with date palms, bird of paradise flowers, bananas in fruit, Spanish bayonets, evergreens, mosses, vines, and a hundred other things jungled in the middle of the room. Around are delicate ferns, flaming poinsettias, rich foliage plants, and orchids that, when they come into bloom in a week or two, will give us flowers of the most ravishing beauty.

On the left, at the entrance to the first wing, we have presented the view given in our illustration. Yes, and we have much more; for no picture can give any idea of the delicate beauty of the ferns, of the rich grandeur of the large leaved anthurium, of the stately and guarded dignity of the screw pine, of the thousand little touches of color in leaf, vein and flower that nature, aided by man, has assembled for our enjoyment. As we go down one side of this room and back on the other, we linger to admire the variegated crocuses, the brilliant flowered cactus, the pure white calla, the delicately wrought lace-like climbing asparagus, the graceful smilax, and to drink the fragrance of the hyacinth and rose.

In the other two wings we find

long benches filled with cactuses, geraniums and primroses, and yard upon yard of carpet-like foliage plants that are taking a winter's rest that they may put forth greater beauty to gladden bits of the campus when spring comes.

And we must not forget the house below the hill. It is not often seen by the visitor who wanders alone about the grounds. It is not a showy place, but it has its humble attractions. There are long beds of the crisp, pungent radish that is so welcome to our tables at this season; hundreds of strawberry plants in bloom; a large bed of carnations, fragrant and many-colored; and violets—violets!

"Blue, bright as hope, or rifts in summer clouds,
Fresh, pure, unsmirched by stain of rain or clay,
Thou dream of radiant sun, of soft spring skies,
What dost thou here, mocked by this dismal day?
But yet methinks a light born of thy grace
Pierces the gloom as morning pierces night
Sweet messenger, hast thou some sign for me?
Some blest Evangel, if I read aright?"

teaching this subject, which she has chosen as her profession. The class will meet from 7 to 9 o'clock P. M. Wednesdays for fifteen lessons in practical cooking, the course embracing nearly the same work covered by the regular classes in College. There were ten pupils last Wednesday night—two more are coming—and among them were two young brides, who have just awakened to a realization of the fact that cooking is one of the useful arts; and several teachers from the city schools, who are also aware of possible future contingencies in which they may desire to—teach the subject.

Shall We have Field Day in Lansing?

At a recent meeting of the Athletic Association a resolution was adopted instructing our representative in the M. I. A. A. to use his influence toward securing the next field day of the association in Lansing. The old State fair grounds could be used to good advantage for this purpose, and it is thought that the merchants of Lansing will donate \$200 to help defray expenses. F. L. Woodworth, '98, has been chosen to represent us in the M. I. A. A. and he will use every effort to bring the field day here.

At a later meeting, held last Thursday, the association appropriated half of this term's athletic dues for the purchase of apparatus for indoor training. With this appropriation Henry Keep has purchased one twelve-foot jumping standard, one twelve-foot vaulting pole, two 3x7 side mats, and one 3x7 rubber mat for the take-off in jumping.

Constitution of the Club Boarding Association Amended.

At a meeting of the Club Boarding Association Saturday afternoon, two amendments to the constitution that provoked a pretty warm discussion were considered and finally adopted. The first amendment, changing the price of dinners, to transients, from 15c to 20c, did not meet with much opposition; but when it came to the second amendment, cutting the wages of cooks from 40c to 35c per week for each boarder in the club, there were several present who were prepared to oppose the measure. They thought the cooks were getting little enough for their long hours of labor; but the friends of the measure showed, by figures that they had ready, that the cooks were all getting good wages and that one, in particular, had received over \$200 last term, clear of help hired, board and rooms. There has been quite a demand for a curtailing of expenses in the clubs, in order that cheaper board might be furnished, and the sentiment supporting this demand finally carried.

Her smile was most bewitching,
As beside him down she sat;
And she made a great impression,
But she made it on his hat. —Ex.

"A romantic young man says that a woman's heart is like the moon—it changes continually, but it always has a man in it."

Indoor Athletic Meet.

Henry Keep and Professor Hickey, of the Lansing high school, have completed arrangements for an indoor athletic meet in the armory in Lansing, Saturday evening, January 29. Only College students and high school students will participate in the contests, and only College and high school people will be admitted to the building. R. E. Bracket will give a medal for the all-round championship, and Lansing merchants will give prizes for the various events.

Following is the probable list of events: 30-yard dash; running high jump; running broad jump; standing high jump; pole vault; putting 16 lb. shot; feather, light, welter, and heavy weight wrestling; exhibition club-swinging, by Will Lyons; and exhibition bag-punching, by the champion bag-puncher of the State.

Night Cooking School.

Last Wednesday night Miss Amy Vaughn, '97, began teaching a special class in cooking, which is composed of young women belonging to the Y. W. C. A. of Lansing. Miss Vaughn is doing the work gratis in order to get practice in

THE M. A. C. RECORD.

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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.

Official Directory.

PREACHING SERVICE—Sunday afternoons at 2:30 in the Chapel.

Y. M. C. A.—Regular meetings Sunday evenings at 7:30 and Thursday evenings at 8:30. C. W. Loomis, President. E. M. Hunt, Cor. Secretary.

Y. W. C. A.—Weekly meetings for all ladies on the campus, Tuesday evenings at 8:00, in Abbot Hall. Sunday meetings with the Y. M. C. A. Miss Clara J. Stocoum, President. Miss Ella Phelps, Cor. Secretary.

KING'S DAUGHTERS—Meet alternate Wednesdays. Mrs. J. L. Snyder, President. Mrs. W. Babcock, Secretary.

NATURAL HISTORY SOCIETY—Meets second Friday of each month in the Chapel at 7:00 P. M. T. L. Hankinson, President. O. W. Slayton, Secretary.

BOTANICAL CLUB—Meets Monday evenings 6:30 in the Botanical Laboratory. B. Barlow, President. Miss Marie Belliss, Secretary.

SHAKESPEARE CLUB—Meets Wednesday evenings at 7:30. Dr. Howard Edwards, President.

COLUMBIAN LITERARY SOCIETY—Meets every Saturday evening at 7:00. Fourth floor, Williams Hall. C. E. Townsend, President. D. B. Lansing, Secretary.

ELECTRIC SOCIETY—Meetings every Saturday evening at 7:00, Fourth Floor, Williams Hall. H. L. Mills, President. W. H. Flynn, Secretary.

FERONIAN SOCIETY—Meetings every Friday afternoon at 1:00. West Ward, Wells Hall. Lucy Monroe, President. Blanche Huhn, Secretary.

HESPERIAN SOCIETY—Meetings every Saturday evening at 7:00, West Ward, Wells Hall. C. W. Loomis, President. H. J. Westcott, Secretary.

OLYMPIC SOCIETY—Meetings every Saturday evening at 7:00, Fourth Floor, Williams Hall. W. K. Brainerd, President. C. A. Warren, Secretary.

PHI DELTA THETA FRATERNITY—Meetings every Friday evening at 7:30, East Ward, Wells Hall. Eugene Price, President. A. E. Lyon, Secretary.

THEMIAN SOCIETY—Meetings every Saturday evening at 7:00, Chapel. Marguerite Bogula, President. Irma Thompson, Secretary.

UNION LITERARY SOCIETY—Meetings every Saturday evening at 7:00, U. L. S. Hall. F. L. Woodworth, President. E. W. Ranney, Secretary.

TAU BETA PI FRATERNITY—Meetings on alternate Thursday evenings, Tower Room, Mechanical Laboratory. F. V. Warren, President. C. A. Gower, Secretary.

CLUB BOARDING ASSOCIATION—E. A. Calkins, President. Lucy E. Monroe, Secretary.

M. A. C. ATHLETIC ASSOCIATION—F. V. Warren, President. E. W. Ranney, Secretary.

Soil Moisture.

During the last two years determinations of the proportion of moisture absorbed and retained by soils in various conditions, and experiments upon methods of saving the moisture of soils have received attention at the Experiment Station of the Kansas State Agricultural College at Manhattan, Kas.

A recent bulletin devoted to the subject concludes with the following summary:

"In this bulletin the following experiments are described—all of them are to be regarded as preliminary, and not carried to a conclusion:

"1. A study of the difference in the condition of moisture of soils which differ only by the preparatory tillage they have received. In these trials, the undisturbed prairie sod, as compared with that which had

been brought under cultivation, was much dryer in all cases, except following a heavy rain. In this case, the part sampled of the sod, the upper portion, was about as wet as the plowed ground, but it rapidly dried out again. The plowed ground, not cropped nor cultivated during the season, was more uniform in its water content than the sod, and was persistently in better condition.

"2. A comparison at the close of the season of the moisture content of ground that had been prepared in the spring by shallow plowing, by deep plowing, and by subsoiling. The soils were sampled at different depths. No essential difference could be observed in the soil.

"3. A trial to see whether soil to which salt and gypsum have been applied are more moist because of any direct or indirect effects of these chemicals. The results are negative.

"4. A comparison of the loss of water from soil that was treated as follows: Cultivated, but not cropped; mulched, but not cropped; cropped, but not cultivated; untreated. The cropped soil dried out most rapidly. Next, the untreated soil. Surface cultivation to a depth of four or five inches was about as effective in conserving moisture as a good mulch.

"5. Experiments with soil in galvanized iron pots, under well controlled conditions, showed: That a layer of finely pulverized soil three-fourths inch thick had no marked influence on the rate of evaporation; that a hay mulch two inches thick checks evaporation most effectively, but that evaporation proceeds at so rapid a rate from bare soil that a mulch, to be most useful, must be promptly applied; that the rate of evaporation from a sandy soil is less than that from one less sandy when both are kept constantly wet, but if allowed to dry, the sandy soil becomes much drier; that neither salt, gypsum, lime nor magnesium chloride exerts any beneficial effect in checking evaporation from the soil, the evaporation being practically the same as from untreated soil."

Yeast, its Manufacture and Use.

KATHERINE MCCURDY, '99.

The microscope has shown that yeast is a true plant belonging to the fungus tribe and consisting of numberless minute oval or circular bodies which, under circumstances adapted to their development, grow and multiply to an incredible extent. These little cells multiply by budding, and their growth is very rapid.

The yeast plant requires, for growth, warmth, moisture, and nourishment. The temperature at which it is best cultivated is from 70 to 80 degrees F. A lower temperature, even freezing, does not destroy the yeast, but arrests its development; while raising it to a higher temperature weakens it. A temperature of 140 degrees destroys the cells in yeast suffused with water but, in dry yeast, it may become higher. For the nourishment of yeast, sugar, nitrogenous compounds, and appropriate inorganic matter are necessary.

There are three commercial varieties of yeast, namely: Brewers', Distillers' Compressed, and "Patent." Brewers' yeast is the frothy substance that rises to the surface of

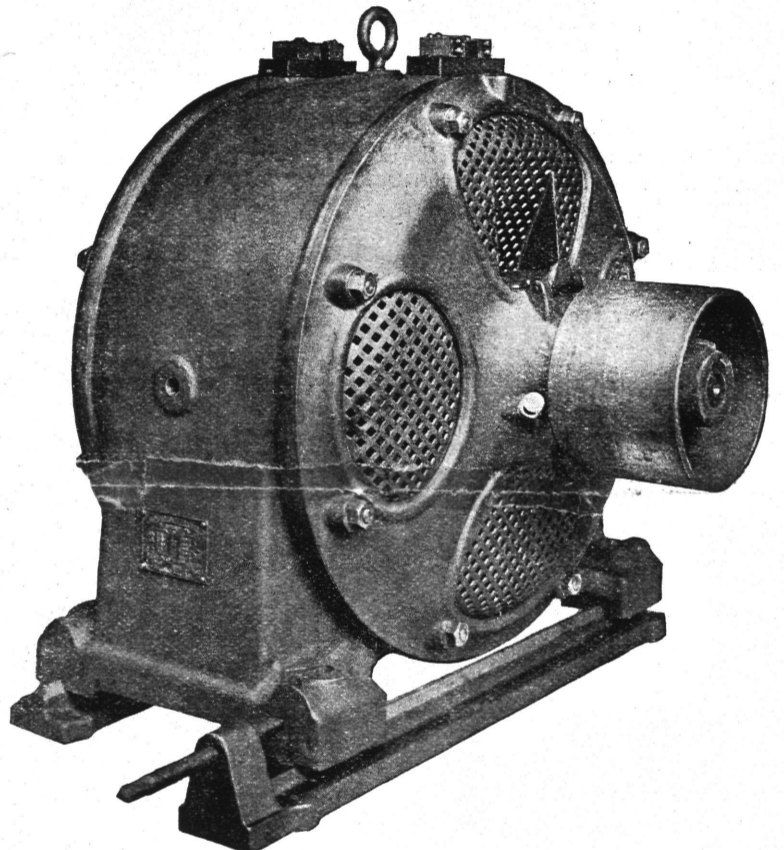
wort in the manufacture of beer. As soon as yeast is added to the wort to cause fermentation, the new yeast forms and rises to the top. This is all skimmed off, but the first cells formed, as well as the last, should be rejected. Bacteria which may be present, are, from their small size, floated up to the surface with the yeast on its first ascent, and, as the fermentation slackens, cells which have been grown in a comparatively exhausted medium, are thrown to the surface. The yeast, when skimmed, should be stored in shallow vats, so as to admit of free access of atmospheric oxygen, the thorough aeration of yeast being essential.

Distillers' or Compressed yeast is the principal product of the manufacture of spirits from malt and raw grain. After the grain has gone through quite a complex process, the wort is rapidly cooled and fermentation is allowed to continue for from ten to twelve hours before it is skimmed. The yeast rises to the surface the same as in Brewers'

mashes of malt and hop fermented either by the addition of some yeast of a previous brewing or allowed to ferment spontaneously. Twenty-four hours is required for the fermentation, but the yeast is best at the end of two days.

Yeast if mixed with a small quantity of starch has superior keeping powers to those it possessed when free from this admixture, especially during hot weather. Liquid yeast is often dried to prevent its turning sour.

A choice of the kind of yeast to be used is determined by the individual taste, some preferring bread made of one kind and some another. Brewers' yeast darkens the color of bread and, if used alone, must be used in considerable quantity. It is also apt to cause a bitter taste in bread and, in summer, its action is very unreliable and uncertain. The patent yeast may be of very high quality, but it is weak as compared with Compressed. The Compressed yeast is very largely used because its action is more rapid and



OUR TEN HORSE POWER TESLA MOTOR.

yeast and the skimming is carried on continuously for about twelve hours. The fermentation is then complete, the maximum amount of yeast and alcohol having been formed. The skimmed yeast is first mixed with water, then passed through a series of mechanical sieves by which the grains are removed. It is then washed by decantation two or three times and again sifted through finer sieves. This washing must be done thoroughly in order to remove the wort, but washing in excess weakens the yeast by removing the interior contents of the cells. At the final decantation, when the yeast has settled completely, there is a layer on the top of immature and young cells which are rejected. In mixed yeasts, starch is added at this stage. The carefully washed and purified yeast is next taken to filter presses where the mixture of yeast cells and water is pumped through a series of filtering cloths. These retain the yeast and the water drains away. Thus as much water as possible is eliminated from the yeast. Then it is pressed and made into packages ready for the consumer.

"Patent" yeast is a yeast made of

certain than Brewers' yeast. It is also much stronger than any other kind and if it can be obtained fresh, is probably the best kind for general use.

At the College.

The State Board will meet one week from today.

There are 34 students in the special dairy courses.

Frank V. Warren has been elected captain of the baseball team.

Charles L. Mann, of Milwaukee, was the guest of Prof. Taft Friday night.

Miss Deborah Garfield spent Saturday and Sunday at her home in Grand Rapids.

There will be a military hop in the armory next Saturday night, beginning at 8 o'clock sharp.

We have been offered an option on three dates, May 11, June 2, and June 8, for a game of baseball with the U. of M.

Friday night a number of the students attended a party given by P. G. Towar, '85, at his residence north of the College.

Professor Smith has been invited to address the National Association of Creamery Butter Makers at Topeka, Kas., February 22.

The Lansing Condensed Milk Company have ordered 2,000 copies of the recent bulletin on Feeding Dairy Cows, to give their patrons.

A class of young women is taking work in calisthenics Tuesdays and Thursdays from 5 to 6 p. m. in the armory, under Miss Franc Burch, of Lansing.

The King's Daughters will meet tomorrow afternoon with Mrs. Gunson. Lesson, the tenth chapter of Acts. Text, "Come." Leader, Mrs. Gunson.

Two of our special course students may be considered among the "old boys." George W. Tower, Detroit, is 62 years old, and J. B. Baker, Armada, is 60 years old.

A physical examination will be given each student in the women's course who does gymnasium work. Why would it not be well to extend this to each student who enters College?

A copy each of Robert's "Rules of Order" and Cushing's "Manual" were left in the Y. M. C. A. rooms Saturday evening, January 9. Will the finder please leave them with Miss Marguerite Bogula?

Messrs. A. C. Bird and T. F. Marston have been to the agricultural colleges of Ohio, Illinois, Wisconsin, and Iowa, on a tour of inspection for the State Board of Agriculture. Mr. Bird stopped at the College Friday on his way home.

Friday Prof. Smith engaged between 600 pounds and 1,000 pounds of milk from W. W. Sprague of Battle Creek, to be used in the special dairy course. The Lansing Condensed Milk Company can no longer spare us the required amount of milk.

Like Ichabod Crane of the "soft and foolish heart toward the sex," there must be something wrong with the young men who walked out from the city, three miles, leading two of "Thump T. D." Gates' goats, just for the sake of tying the fragrant beasts under the windows of their lady loves.

At an early hour Thursday morning fire was discovered in the small shed back of Dr. Kedzie's residence, which contained Mrs. Kedzie's china kilns. The shed was burned to the ground and with it were destroyed a quantity of charcoal and some of the china that had been put in the kilns the day previous.

At the annual banquet of the National Association of Oxford Down Sheep Breeders, given at the Bryant House in Flint last Tuesday evening, Prof. H. W. Mumford responded to a toast on "No need of apology for the Oxford Down." About sixty prominent breeders of the United States and Canada were present, and a profitable meeting is reported.

Well Pleased With the Military Department.

Inspector General J. C. Breckinridge, Washington, D. C., called on Lieutenant Bandholtz Sunday afternoon, and after spending several hours about the armory and grounds, sent a telegram to headquarters at Washington, requesting new guns and other equipment necessary because of our increased attendance. The first sentence of the message

read as follows: "Improvement indicated in report of inspection of May 28 at this College more than realized." Monday morning he left for Detroit, where, in the evening he was one of the speakers at the annual banquet of the Michigan Society, Sons of the American Revolution.

New Books in the Library.

A large number of new books have been added to the library shelves since the last list was published. We give below a list of a part of these; the list will be completed next week:

- Acloque, Flore de France.
- Austin, Notes for Chemistry Students.
- Adriance, Laboratory Calculations and Specific Gravity Tables.
- American Jersey Cattle Club. 4 Vols.
- American Cyclopaedia, 1895, 1896.
- American Hereford Record, Vol. 16.
- American Annual of Photography, 1897.
- Allen, Commercial Organic Analysis, Vol. 3, part 2.
- Allen, The Choir Invisible.
- American Health Association Reports. 14 Vols.
- American Society of Civil Engineers' Transactions and Proceedings. 39 Vols.
- Browning, Society Papers, 1886-1897.
- Barr, The King's Highway.
- Bates, Talks on Writing English.
- Badhan, Esculent Funguses of England.
- Bryant, Practical and Progressive Book-keeping.
- Biossier, Country of Horace and Virgil.
- Benjamin, Notes on Laboratory Practice.
- Boyer, Les Champignons com. et ven. de la France.
- Binney, Terrestrial Air-Building Mollusks of the U. S. 4 Vols.
- Baker, Specimens of Argumentation.
- Baker, Principles of Argumentation.
- Cargill, Freak of Finance.
- Conrad, Monography of the Family Unionidæ.
- Cook, Account of British Fungi.
- Cook, Mollusks.
- Contribution from the U. S. National Herbarium, Vol. 3.
- Constantin, Petite flore des Champignons.
- Constantin, Nouvelle flore des Champignons.
- Cross, Light and Shade.
- Commissioners of N. Y. Central Park. Reports. 2 Vols.
- Curry, Province of Expression.
- Davies, Hygiene for Girls.
- Dureau, Visit to Klem-Wanzleben Beet Sugar Factory.
- Directory, with regulations for establishing science and art schools.
- Dana, Plants and their Children.
- Dulles, Accidents and Emergencies.
- Edwards, Butterflies of North America, Vol. 3.
- Fothergill, Food for the Invalid.
- Fuller, The Nut Culturist.
- Fletcher and Carpenter, Introduction to Theme Writing.
- Ford, The Honorable Peter Stirling.
- Farrington, Testing Milk.
- Gill, Gas and Fuel Analysis for Engineers.
- Green, Vegetable Gardening.
- Georgia Board of Agriculture. Publications, 1896.
- Gurney, Northwestern Pomology.



Have cut the price of Men's House Coats to, and on some below cost. Not often you have such an opportunity of buying a nice coat for so little money.

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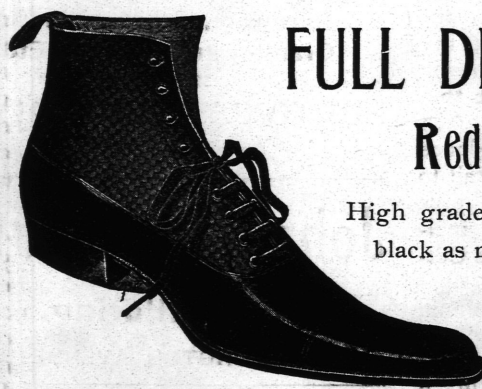
Elgin Mifflin.

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Odd lots of Gloves, Underwear, Hosiery at 33 per cent Reduction.

Remnants of Carpets, Mattings, etc., at 33 per cent. Reduction.

Entire stock of Ladies' and Misses' Winter Jackets, reduced to \$5.00 and \$7.50 each, from \$10, \$12, \$15, \$18.

Sale prices in every department until Feb. 1st. Students and members of faculty are cordially invited to attend this sale.

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