# The M. A.C. RECORD. 

MICHIGAN STATE AGRICULTURAL COLLEGE.
Vol. 12.
LANSING, MICHIGAN, TUESDAY, FEBRUARY 5, 1907.

## NOTICE.

At the Faculty meeting beld Saturday the matt r of vacation, commencement, etc. was taken up. It was decided that for the seniors work would cease on May 24, the week following to be commencement week. For all other students college closes on June 14 as stated in the catalog. No change was made in the spring vacation and the winter term closes Friday, Mar. 22.

## Y. M. C. A.

Mr . Webber spoke on the life of Sir George Williams at the meeting Sunday evening, the M. E. orchestra of Lansing rendered a very good musical programme, and a very good audience came to hear them. The associations are very grateful to the members of this orchestra for their kindness in playing for us. Efforts are being made to make next Sunday's meeting especially interesting. It will be conducted by the students, who will tell about the Christian work that is being carried on in the colleges and universities of the world. This is the first meeting of the year to be led by the students, so let every one come and make it a success.
L. B. McWethy gave an interesting talk on missions at the Y. M. C. A. meeting Thursday evening, and we hope that his talk will stir up more enthusiasm for missions, as there is a lack of missionary enthusiasm in the association.

## LULU TYLER GATES.

The concert given by the Lulu Tyler Gates Company last Friday night was highly appreciated by a very large and attentive audience. The program was highly entertaining as well as of educational value. Each number was applauded enthusiastically, and deservedly so, for the rendition was in every case very accurate.
Mrs. Gates has shown herself to be a very capable reader, possessing a clear strong voice, clear enunciation, naturalness in her speaking, and adapting herself to all varying moods with ease. Without attempting to imitate to any great extent the tone of voice of the characters, Mrs. Gates brought very vividly before the listener's mind the scene to be portrayed. The greatest criticism of her reading to be offered would be that the emotional effects were too sensational and long-continued.

One could hardly feel justified in pronouncing any one selection especially appreciated and worthy of mention, for all were good. Miss Adams is truly a gifted cellist. She displayed an unusual technique, especially in the "Elf Dance" which was probably the best musical number on the program, having an artistically finished performance in technique and interpretation. Schubert's "Serenade," given as an encore was much enjoyed.

Mr. Smith is the possessor of a
pleasing bass voice, strong and vol uminous in quality and he sings with greatease. "The Song of Hybrias, the Cretan," especially deverves mention to which he responded with the "Anvil Song" as encore. His singing was lacking in expression and clear enunciation, otherwise deserves much praise.

The pianist has excellent technique and played the Liszt "Rigoletto" very well indeed. He responded to the hearty applause with a light Scherzo like encore, which was very daintily played. Mr. Snyder also showed himself to be a sympathetic accompanist.

The three musicians do not possess as much musical feeling in general as is essential for finished musicians, but are nevertheless artists.

The program was very greatly enjoyed by all present, and was one of the best on this year's excellent course.

## BAND CONCERT.

On the coming Friday evening in the armory will take place the annual winter term band concert. The program promises to be an exceptionally good one for several reasons. Miss Carrie Porter, a well known soprano of Lansing, has been engaged for this occasion, and also A. J. Clark, a cornet soloist of whom we made mention last week. It is expected that the trombone quartet and Mr. Hopphan's work on the clarinet will also prove strong numbers.

The following program speaks for itself:

## PROGRAM

1. "Hands Across the Sea" .......-Sousa
2. "Somnambula" -........... Thornton Karl Hopphan
3. Selection from "Il Trovatore". Verdi
4. "Irish Folk Song" ..................oote Carrie Porter
5. "Iola".........................Johnson
6. "Poet -Intermission-
7. "Sernade"
.............
.. Suppe
8. "Traumerie" ............. Schumann

Messrs. Dewey, Hallock, Clippert, Cav anagh
9. "Queen of the Earth"........Pinsuzi Carrie Porter
10. "U. S. Cruiser Maryland". Rollinson

The band is working hard to make this affair a success financially as well as musically, let us turn out and give them proper support. Tickets on sale at secretary's office.

## UNION LITERARY.

The Union Literary Society gave an 11 o'clock party in their building Saturday evening, Feb. 2. Though on account of the usual inefficiency of the car service, the musicians and some of the dancers were delayed a couple of hours, necessarily postponing the program until a late hour, the party was a success, and possibly the merrier for the delay. Prof. and Mrs. Babcock kindly acted as chaperones. Baker furnished music.

## ATHLETICS.

In the game of basket ball on the evening of Jan. 28 at Detroit the Y. M. C. A. won from our team 3 t to 14. Their team recently won from Columbia, one of the strongest universities in America. M. A. C. put up a fine game, and Detroit papers state that it was the hardest game this season for the locals. Capt. Krehl especially put up a fine game. The boys were given an ice cream supper after the contest and treated royally: A return game will be played here on Feb. 19, and should be the banner game of the year, as they certainly have the strongest team in the state if not in the west.
At Ypsi on the following evening M. A. C. won from the normals 50 to 25. Krehl and McKenna put up a fine game. After the game the team was entertained by six young ladies of the institution, five of whom were former M. A. C. girls.
M. A. C. 4 --OLIVET 24.

In one of the hardest fought contests yet seen on our own ground this season M. A. C. won from Olivet in Basket Ball by the above score. Almost every seat was taken and much enthusiasm was shown not only in ball but in the various track events as well. Fouls were frequent. Olivet winning four points from free throws. The visitors secured five baskets from the field in each half, while the home team won 27 of the $4^{1}$ points in the first half. Of baskets thrown Krehl secured 7, Mills 5, McKenna and Vondett each 4. One point was registered on free throw. Coach Kennedy of Olivet officiated.
M. A. C. $261 / 2$-OLIVET $131 / 2$.
M. A. C. won the first indoor meet of the season by defeating Olivet Saturday afternoon in the Armory. The events with winners were as follows, Olivet contestants being designated by "O ".
Dash,-Small ist Vaughn 2nd Pearsall 3d. All M. A. C.
High jump-Chiesman, O , ist, Allen M. A. C. and Hurlbut, O tied for second. Height 5 ft .4 in . High Dive,-Arnold O, and Small tied for 1st. Hemenway $O$, and Allen tied for $3^{\text {rd. }}$ Height 5 ft $93 / 4 \mathrm{in}$.
Jacobs and Cathaline gave an exhibition in tumbling.
Hurdle-by 8 M. A. C. men. Finals resulted as follows: Small ist, McKenna 2nd, Pearsall 3rd.
Pole Vault.-Gilbert ist, Bishop O , 2nd., height 9 ft 8 in .
Shot put,-Burroughs ist, Camp. bell 2nd, Hadden O. 3 d.

## '90

At the farmers' institute held at Marshall last week Prof, Kedzie took supper with Ben K. Bentley of the above class. Mr. B. is running a 300 acre farm three miles west of Marshall on the electric line between that city and Battle Creek. He carries on general farming but is a large producer of milk which is sold to retail dealers in the city. He is experimenting with the milking machine.

## ALUMNI.

## With '67.

Dear Sir:-With pleasure I acknowledge the receipt of calendar for 1907. It certainly is the finest. thing of the kind I ever saw and when it has outlived its usefulness as a calendar, will keep it as a souvenir of the college and a reminder of the labor ${ }_{j} I$ performed for my father (when a very young man) in sawing and delivering all the bill stuff that entered into the construction of the college building and original boarding house long since burned down.

Again thanking you for your kindness in sending me the calendar.

I am respectfully yours,
J. J. Brown,

77 Gully Road, San Jose, Cal.
L. Whitney Watkins lead in the discussion of the topic, "Stock Farming vs. Grain Farming" at the institute held at Brooklyn. He was unable to attend the second day's sessions on account of an accident to one of his teams.
'94.
R. A. Bentley ' $90-$ ' 92 conducts a plumbing business $\ln$ Marshall and has one of the finest and best equipped shops in that city.

## 'oz.

E. A. Richmond is constructing engineer with the Tennessee Copper Co, where 600 tons daily is the output of the Sulphuric Acid plant.

## 'об.

Messrs. Markham and Neilson are with the I. S. R, R. at Linton, Ind. Mr. N. states that this is the easy time of the year, work being almost at a standstill. He also states that the Record is scanned each week for news of M. A. C. men.

## DEBATING CLUB.

The debating on last Thursday night was the most successful of the term. The subject, "Resolved that the president's action in the Brownsville case was justifiable," was a live one and both sides handled it with a spirit that kept the interest up. The affirmative was upheld by Messrs. Ingall and Kierstead and the negative by Messrs. Dorland and Rodegeb. The decision rendered by the judges was two for the negative and one for the affirmative.

The question next week is "Resolved, That the Honor System should be established at M. A. C." Since this system is being established in many colleges, it should be of vital interest and draw a large crowd. The members are to be notified by mail as to when they will be expected to appear before the club, and they are asked to decide upon the question for debate and submit it to the chairman of the committee as soon as possible.

THE M. A. C. RECORD. COLLEGE YEAR BY THE
michigan State agricultural College
B. A. favnce, Managing Editor Assoclate Editors. MALD FERGUSON, ${ }^{\prime} 07$ G. A. HEINRICH, A. GARCINAVA. '06 R. G. CARE, '08

Florence hall. '08
B. B. PRATT, ' 00
H. L. CANTRICK, '09
W. D. FRAZER, '0
alleen raynor, '09
R. J. ALVAREZ, SI

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seribe.

## TUESDAJ; PERB.5,1007.

## WEEKLY CALENDAR.

Tuesdar, Feb. 12.-Farmers Clab, Agricultural Building, "Some Essentials to Success it Practical Agriculture, ${ }^{4}$ Dr. Waterman.
Nature Study Clut, Botanical Building.

Wednesday-Morticultural Club, 3d floor Hort. Builling, "Seed Growing and Seed Selling," MIr. lame- Satter lee, ${ }^{\prime} 69$, of Lansing.

Dairy Club, zd floor Dairy Build. ing.
Therersay,—「. M. \& Y. W. C. A. meetings at 6:30.

Debating Cluh in No. 7, College IIU at 7 : $: 00$.
Friday, - Band concert in the armory at 8:00.

Saturday,-Political Science Club in Reading Room at $7: 30$. Rev.
F. G. Ward, of Lansing, speaker. Sunday,-Chapel service at 9:00 a. m .

Association meeting in the evening, condacted by students. Monday,-Chorus practice a $6: 45$ in Chapel.

OUR MILITARY, MECHANICAL, AND ELECTRICAL ENGINEER, THE ARTIL LERYMAN.

The following is abstracted from a paver on the above subject delivered a few weeks ago, before the American Society of Mechanical Engineers, by Mark L. Ireland, of the class of igor. Mr. Ireland is now First Lieutenant in the Or dnance Department, United States Army. Reviewed by G. W. Hayes, o7.
The purpose of this paper is to introduce to the society our Military, Mechanical, and Electrical En-gineer-the Artilleryman-to show something of the method of producing him, the conditions under which he works, the number on hand, the possibilities of increasing this number to meet a sudden emergency and finally to invite discussion upon the sufficiency of the peace strength.
The aspirant for an artillery commission must have acquired a good working knowledge of mathematics, chemistry, optics, surveying, electricity, and mechanics. The successful man finds that this is not only requisite for obtaining his com-
mission, but that his duties from the first are of such a nature, that this knowledge is assumed. He must be ready to undertake any task from that of counsel for a prisoner before a court-martial, to that of mounting his own guns, and breaking in raw recruits for annual target practice. He must be able to tell how a rear guard should defend a retreating army, or why a particular generator fails to excite, or a gas engine refuses to start.

We have heard of days when the army officer was so little troubled by his duties that he found life really quite monotonous, but to the youngsters at least in the service today this is but a tradition which, strange to say, he hears oftener from his civilian friends than from his superiors. The army today with its schools, its examinations, its practice marches, and maneuvers, is not the comfortable place it has been sup. posed to be by some not over-industrious youth whom the exactions of business worried into trying the fabled soft snap. Such a man finds that his duties require his un divid d attention for from ten to twelve hours per day, and that, unless he gives them that attention, his sup-riors so in find a way for him to step down and out to make way for the man who will.

The eulisted man who comes to us in times of p :ace has little or no experience that is of value to him in his new life. It is a matter of no small wonder sometimes how a man of his ability cou'd be induced to accept such small pay as $\$ 13.00$ per month. His training as coast artilleryman is acquired at an expense of time and effort which is far from being commensurate with the compensalion received. He must be thoroughly drilled at the guns, and in the use of various kinds of projectiles and explosiver. He must be familiar with the manipulation of telephones, anemometers, aeroscopes, tide-gauges, and searchlights. He may, within a short time, find himself detailed as cook, bugler, company mechanic, machinist engineer, fireman, dynamo, storage battery, or gas engine tender. He must learn the drills and general duties of an infantryman, in order that he may, at an bour's notice, march into a panic-stricken San Francisco and bring order out of chaos. To qualify for a position of this kind is by no means an easy matter, and after one has qualified the duties are unusually responsible. That it would be highly desirable for the government to retain the services of such men, after the training has been given them, is very evident and yet this can seldom be done, as the pay is not sufficient to induce the men to re enlist.

A gun commander of the coast artillery receives only $\$ 24$ per month and a part of this is his clothing allowance. The suboridnate gunners receive lower pay porportionate to their responsibility.
In the time of a great war, when the solid, ingenious, and patriotic American citizen feels it necessary to lay down his business pursuits and enter the army, not through spirit of adventure, but because the country needs him, the matter of pay will lose much of its importance, and the volunteer artillery will find many men who will easily adapt themselves to the work after a short interval of service. However, it must be borne in mind that the needs of war time are immediate and pressing. The first volunteers
have been made up, to a great ex tent, of adventurers and men with out steady employment. The cream of the volunteers is not apt to come until the second or third call. In the mean time, the fortunes of war, so far as the vulnerability of our naval and coast defense is concerned, will most probably have been decided. If it were a civil war, where both sides needed two years of fighting to develop armies and leaders, these conditions would not be alarming but our coast defense system is intended to meet the attack of an outside enemy, and necessarily one of skill and preparation.

Progress in the acquirement of apparatus for coast defense went on very slowly until 1898 when the Atlantic seaboard began to clamor for protection against Cervera's fleet. The great impetus given to the work by this agitation resulted in an increase of appropriations. which have been largely used in hringing up to date the work that had, for some time back, been neglected. The consequence is that the country today possesses, in material, one of the finest coast de fense systems in the world. The thing now lacking is the personne with which to man the equipment. It is not the purpose of this article to advocate a great peace establish ment, which would, from lack of employmen', turn to playing politics like the Praetori in Guard of Rome The surest way of avoiding such a calamity is to keep, in peace, the minimum number necessary to pre vent the knowledge of war from hecoming a lost art anong our people, against the time of its sure need to avert a national disaster, and to keep this small body fully occupied w th perfecting itself, and lay ing plans for the defense of the country.

Under the best weather conditions a bostile ship may be sighted about 12 mile, at sea in the daytime, or by the use of the most powerful 60 inch search-lights, at a distance of miles or 12,000 yards at night. A rather low rate of speed for an attacking fleet would be 15 knots an hour, for a cruiser squadron 20 knots, and for a torpedo flotilla making a dash, about 27 knos . That is, for a day attack, from the time a call to arms could be sounded until the fleet had run by, less than 42 minutes would elapse. For the cruiser squadron this time would be but 30 minutes, while for the torpedo flotilla it would be but 23 minutes At night these times would suffer a 43.25 per cent reduction, leaving them as 23.6 minutes for the fleet, ${ }_{1} 7.7$ minutes for the cruisers, and ${ }^{1} 3.3$ minutes for the torpedo flotilla, It should be borne in mind that these times are computed from speeds which are only from 70 pe cent to 90 per cent of the trial speeds already obtained with the various classes of ships.
(Contlinued next week.)

## Strathcona, Alberta,

Jan. 24, 19)7
Dear Record:-Here I am 312 miles north of the 49th parallel in what was called British America when I studied geography. It was a part of the ever receding Northwest Territories until Sept. 1905, when the four districts or territories of Athabaska, Alberta, Saskatchewan and Assiniboia were formed into two new provinces, Alberta and Saskatchewan. Regina, the old territorial capital is now the capital of Sash, and Edmonton on the

North Sack River is the Alberta capital with Calgary as the metropolis.

Edmonton is on the north side of the river with a population of 12,000 and Strathcona is on the south side with 3000 people.

Bay Port, and now is becoming known the world over as boom town in the far northwest.

Although there is a great immigration from the states of Minnesota, North and South Dakota, Kansas and Nebraska, not many Michigan people are here yet. After nearly a two years' residence I advise all Michigan people who are pleasantly situated and making a comfortable living to stay.

A great blow is made about B. C. fruit lands in the valleys but land there is said to be high in price and the market is east on the prairie and over the mountain. Western Michigan with Chicago across the lake is a better proposition to my mind.

This winter is a record breaker. Snow came Nov. 1st and is now from $\geq$ to 3 feet deep. Since last of December from 15 degrees to 50 degrees below zero every morning. Not so much sunshine either, and this is advertised as "Sunny A1. berta " with the accent on "Sunny."

The soil is rich and deep here and practically all underlaid with a chocolate clay running down 20 to $5^{\circ}$ feet. For oats, wheat, barley, wild hay and for cattle it is a winner.
Out on the open prairie not a shade tree and in the timbered portiou poplar poles and willow brush till you can't rest. Small game is plentiful.

I enclose 50 c . for the Record another year. Wish I could le back for the semi-ecntennial but hardly thituk I can. E. J. Rowle yy, 'go

The following letter from $H, L$. Mills, 'oz, will we trust receive attention from all M. A. C. students who have recently moved to the windy city so that a complete list of our Chicago boys may be at hand:

Record Editor.-I think it would be a good plan for all M. A. C. men locating in or near Chicago to send their address to Prof, Woodworth, care of Lewis Institute, Chicago. Prof. Woodworth is secretary of the Chicago M. A. C. as sociation and keeps a list of the names and addresses of all M. A. C. men reporting to him and notifies them of the date of the annual banquet and other M. A. C. doings. If all would do this it would provide a valuable means of locating friends whom we know to be in the city.

## 'o3.

Born to Mr. and Mrs. Sidney A. Wise (Alice Hadley 'o3) Jan. 14, a daughter, at Woonsocket, S. Dak. with 'o3.
August F. Frey is now drafting with the New Consolidated Copper Co. of Ely, Nev. He is much pleased with the western country, but had a little difficulty in keeping warm during the recent coal trouble out there.

## 'O3.

At the Farmers' Institute, held at Brooklyn recently, Burr Hesse took part in the discussions and also sang a solo.

The band has issued complimentary tickets to the Athletic Board of Control for the concert Friday evening.

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## ap a top notel

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The interior of the power house is being repainted.
Half term exams this week. It is hard to realize that another term is half gone.

The two weeks' course in fruit growing begins Feb, II. Tell your friends about it.
The noted Modjeska appears in "Macbeth," Wednesday evening, Feb. 6, at Baird's.

The next Military Hop of the season takes place on the evening of Feb. 15. One price to all

The special course in creamery management ends on Friday of this week. Cheese making course begins February 11.

Prof. and Mrs. Smith were called to their old home in New York last week on account of the death of the professor's mother.
Remember the Band Concert on Friday evening. The boys have been working well and long and should have a good house.
Prof. Shaw was in Urbana, Ill., a few days last week where he attended a meeting of the Illinois Live Stock Breeders Association.

Prof. Fletcher leaves Tuesday for Madison, Wis., where he speaks before the State Horticultural Society on the cost of production in fruit growing.
L. B. Westerman 'o7 has been engaged by the Lansing H. S. as instructor in physics laboratory. His work will be given in the afternoons.

Bert Shedd, 'ro, spent Sunday at his home in Tekonsha.

Prof. Pettit was at Imlay City on Friday where he did institute work.
If the bear happened out at the right moment, it will, of course, mean 6 weeks more.

Miss Shirley Gardner, 'o9, recently spent a very pleasant week with her brother in Iowa.

In the M. A. C. dash on Saturday there were eighteen starters. Phippeny won ist and Hansen 2nd.

Remember the band concert at the Armory, Friday evening 8:00. Everybody come. Admission 35c.

Prof. Kedzie recently spent a pleasant evening with Loomis and Bristol of the Alamo Mfg. Co., Hillsdale.

While at Brooklyn last week Prof. Kedzie met Prof. D. P. McAlpine, superintendent of schools, who is a brother of Bruce McAlpine, 'o5.

The Michigan Farmer of Feb. 2 presents a picture of some of our forestry students trimming trees in one of the timber lots at the College.

Mr. and Mrs. John Backus who have been guests of their daughter, Mrs. Alger, several days, leave Thursday for their home in Hesperia.

Both Miss Roxie Palmer, 'o8, and W. C. Severance, 'II, who are in the hospital, are reported much better. Each had an attack of pneumonia.

And now for the new catalog. We trust that every department will be thinking of this matter and be able to report all changes as early as possible.
Among M. A. C. men to attend the farmers institute at Marshall last week were B. K. Bentley, 'go, J. H. Brown with ' 87 and F. J. Garratt, '94-'95.
The Old Plantation Quartet and Jubilee Singers, successors to Fisk Jubilee Singers, give an entertainment at the Pilgrim church in the city tonight at 8 o'clock.
M. E. Long, 'II, who has been ill in the hospital for several days, will return home as soon as his condition will permit, and will not return for the remainder of the term.
O. S. B. Varner, 'It, is very sick at his rooming place, Mr. Rogers, on Oakwood. His father and mother of Bay City, are with him and will remain until he is able to be moved.
We are glad to report that Prof. Jeffery's daughter, who was injured in a street railway accident four weeks ago, is steadily improving, and her complete recovery is practically assured.
We are glad to report that Prof. Bogue was feeling the most like himself this morning that he has for several days, due largely to the fact that he passed quite a restful night. It is sincerely hoped that the professor will gain rapidly and soon be with us again.

A little motor generator has been installed to draw current from the lighting system and furnish current for the storage battery for the telephone system.
T. H. McHatton, who has been ill in the hospital with an attack of pneumonia, left Wednesday of last week for his home in Macon, Ga. He will not return until the beginning of the spring term.
With the exception only of when the campus is first putting forth its beauty in the spring, it was the most beautiful on Friday morning. The white frost clung to every branch like so many crystals and remained more than half the day.
A few days ago, Mr. Pierce, janitor in the Mechanical Building, was noticed runring around with several barrel hoops. When questioned as to their use he stated that they were to "put around Baker." It was then learned that Mr. B. had just succeeded in safely running an 800 pound casting, the shell for a large surface condenser which the department is building for senior laboratory and thesis work.
Mr. N. C. Thomas, with ' 97 , of Caledonia, and W. A. Thomas, with '88, of Coopersville, brothers of Mrs. H. W. Collingwood, visited the College on Friday. As they passed from one buildiug to another many interesting stories of their college days were told. The many changes were noted, and they were delighted with the improvements. They were in Lansing on account of the serious illness of their mother.

Dr. White, of Cornell University, sums up the benefits derived from military drill in three reasons, as follows :
First, because it trains up a large body of educated men, who, if necessity comes, can be drawn upon for military service.

That this argument is valid is shown by the fact that no fewer than sixty-eight Cornell gradua'es had positions in the army during our late war with Spain, and to one of them, who lost his life at E Caney, a noble memorial in bronze has been erected in the university library by his fellow students.
Second, on account of the fact, which I have often stated in public addresses here and elsewhere, that a great republic like this is not to escape civil commotions from time to time, and that the more of its educated men who have some knowl edge of military tactics and some military spirit, the less likely a mere wild, unthinking mob is to terrorize our various communities.
Third, I have steadily supported the military department on account of its value to the young men them selves. The students of Cornell are largely from the people of comparatively small means. Very many of them come from the farms and the counters, and though as a rule the very best of fellows, they are often, when they reach the university careless and rather "slouchy." Mil itary drill "sets them up," makes them stand straight, makes them look a person to whom they are speaking straight in the face, enables them to give and take the word of command, and if I were called upon to name the one thing which I think we should not dispense with in Cornell University, it is this same military drill.

BOOKS ADDED TOTHE LIBRARY SINCE OCTO BER LAST.

MoMaster, History of the people of the
U. S., vol. 6.

Sracy, Party organization and machin ery.
McDonald, Jacksonian Democracy, 1811 -1819
Michigan as a Province, Territory, and
State. 4 vols.
Meredith, Adventures of Harry Rich mond.
The amazing 'marriage
One of our conquerors.
Short stories
Rhoda Fleming
Sandra Belloni.
Tragic comedians,
Lord Ormont and his Lady Aminta.
Newcomb, Side lights on astromony
Nuttall, Handbook to birds of the U. S. and Cenada.
Newman, Southern gardiner's practical manual.
Perry, Intro, to course in argumentation.
Parsons, Disposal of municipal refuse.
Penn. R. R. Locomotive tests and ex hibits.
Pennell, Charles Godfrey Leland, 2 Parshall \& Hobart, Electric Machine Design.
Pfeffer, Physiology of Plants, Vol. 3
Roosevelt, Rough Riders.
Ranch Life and the Hunting Trail.
The Strenuous Life.
Addresses and Messages, 1902 $-1904$
Hunting Trips of a Ranchman.

The Wilderness Hunter. Oliver Cromwell.
Riis, Children of the Poor. Roosevelt the Citizen Children of the Tenements. Is There a Santa Claus Ravenel, Charleston; the Place and the People.
Ribot, Essay on the Creative Imagina tion.
Reade, The Cloister and the Hearth. Richards, The Silver Crown.
Richards, TThe Apostles' Creed in Modern Worship.
Sexton, Chemistry of the Materials of Engineering.
Strong, Exhaustive Concordance to the Bible

Some of the experiments in progress in the Horticultural Department are as follows:
J. C. Wilcox is continuing experiments of M. J. Dorsey, 'o6, in storage. Results will be published in the spring.
O. I. Gregg is duplicating his experiments in the cross fertilization of tomatoes in the greenhouse.
L. L. Burrell is carrying on experiments begun by Mr. McHatton in the cross pollenation of strawberries,
A. L. Darbee is working on the sterility of soil for greenhouse tomatoes.
J. V, Sheap is making a comparative study of varieties of peas.
O. K. White is corresponding with fruit growers in different parts of the country for the purpose of determining the influence of various conditions on the age of bearing of fruit trees.

Following table shows weather conditions at M. A. C. for the month of January.


## LAWRENCE $\Omega$ VANBUREN PRINTING CO.

DANCE PROGRAMS or SOCIETY PRINTING.

## DIRECTORY

LANSING BUSINESS and PROFESSIONAL MEN
The names in this Directory, as well as those of all our other advertisers, are of reliable parties. We hope that the faculty and students will take pains to patronize those who patronize us.

## BARBERS.

M. A. C. BARBER SHOP, Rooms in New

BOOKS AND STATIONERY
A Fine Stationery, Engraved Calling Cards, Fountain Pens, Pictures, Framed, Fine Framing
a Specialty. Up-to-Date Styles. 1 Specialty. Up-to-Date Styles.


Being Desirous to Know if
It Pays to Advertise in this paper,
we therefore make an offer of 20 per cent discount from the regular price, to those mentioning this ad during the nonth of February.

Cameron \& Arbaugh Co.


WATCHES, CLOCKS, JEWELRY Repairing in a workman-like manner.
H. P. PIPER $\begin{aligned} & \text { will he at the M. A. c. } \\ & \text { Book Store from }+ \text { to }\end{aligned}$ p. m. to receive and deliver work
fll Work Warranted.
ALL MEATS
. $\cdot$
like to you, but there is very great diference in the quality we handie and that sold by some other markets.

## BOon BINDERS

$\mathrm{G}^{\mathrm{EO}}$ con. BLUDEAU \& CO-Bookbinders AcG count book makers, paper ruling, libriry and fine art bindings, file boxes, map mounting, albums,
pocket books, etc. Citizens phone No, 56.109
Wash, Ave. N,
W AGENVOORD \& CO.- Book binders, Blank-
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## BOOTS AND SHOES.

C D, WOODBURY. - Boots

## CLOTHING.

L HIS BECK.-Clothier. Gents' Furnishings,

## CROCKERY AND GLASSWARE.

$\mathrm{H}^{\mathrm{H},} \mathrm{l}, \mathrm{LARNED.-China}$, Washington Ave.S. Glass and Lamps. DENTISTS.
A $\begin{gathered}\text { F. GORDON, D. D. S. M, A. C. } \\ \text { M, }\end{gathered}$

## $\int \begin{aligned} & \text { E. STOFFER, D. D. S. Office } 301 \text { Clty Na- } \\ & \text { tional Bank Building. Citizeus Phone 1049. } \\ & \text { Former M. A. }\end{aligned}$

$\mathrm{N}_{\substack{\text { H. MOORE, D, D, S. } \\ \text { Building, Lansing, Mich. Citizens phone } 475 . \\ \hline}}^{\text {Offict Hollister }}$ $\mathrm{R}^{\text {W.MORSE, D. D. S. Hollister Block, Room }}$ D. PARMELEEE, Dentist, $1171 / 2$ Washing: DRUGGISTS
ROUSER'S CAPITAL. DRUG STORE, Up to
date. Corner store. Opposite Hollister Block. $\mathrm{R} \begin{aligned} & \text { OBINSON DRUG CO., successors to Alsdorf } \\ & \text { \& Son, Drugs and Druggists' Sundries. } 102\end{aligned}$ Washington Ave. N.

## DRY GOODS

THE JEWFTT \& KNAPP STORE, Dry

## ELECTRICAL SUPPLIES.

APITOL ELECTRIC CO, Electrical Supplies,

Telegraph Instruments and Telephones, | Mich, Ave., E. E. |
| :--- |

PURNISHING GOODS
ELGIN MIFF1.IN.-Ladies' and Gentlemen's

## FURNITURE DEALERS. <br> J. \& B. M, BUCK.-Furniture. Cor. Wash- Ington Avenue and Ionia Street. See ad.

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RDER your hacks for parties at Carr's Hack
Line. Livery in connection. 410 Washlng 友
Ave. N.
HARDWARE, STOVES AND TINWARE,
WORTON'S HARDWARE-General Hardware, Stoves, Tinware, Graniteware, Cutlery, etc,
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rates. Office at college Grocery Building.

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M $\begin{gathered}\text { RS. O. T. CASE-Manicure and Hairdress- } \\ \text { ing Parlors. Ma-querade wivs for Rent }\end{gathered}$ Switohes made of cut hair or combings. The
France-American Hygienic Tollet Renuisites a France-American Hygienic Tollet Requisites a
speelaity. New phone 118. $2221 / 2$

## MUSIC, PIANOS, ETC

$\mathrm{G}^{\mathrm{RINNELL}}$ thing in the line of music. 219 Wanding ${ }^{2}$
$\mathrm{M}^{\mathrm{R}}$, and MRS, GEO. O. CLARK, Violinist
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CHAS, G. JENKINS, M. D. - Diseases of Eye Ear, Nose and Throat. Hours, 9 to 12 g, m.,
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Throat. Hours 9 to 12 a. m. Throat. Hours 9 to 12 a. m.; 2 to 4 p. m.; Sun-
days, 12 to 1 ; Evening 7 to 8 . Correr Allegan
St. and Capitol Ave., Lansing. Both phones.

## PHYSICIANS.

$\mathrm{D}^{\text {R. H. W. LANDON. Office and residence, }}$ and 12:30 to 2 , and $6: 30$ to $8 \mathrm{p} . \mathrm{m}$. Sunday office
$\overline{D^{R,} \text { OSCAR H. BRUEGEL. Hours } 9 \text { to } 11 \mathrm{a}}$ and 5 to 2 to 4 p. mind 7 to 8 p. m . Col Sundays 12 to 11 zens phone is02.

PLUMEERS,
HIELDS \& LEADLEY, Plumbing and Heat-
ing. 300 Wash, Ave. N., Lansing. Both
SPORTINE GOODS.


