

The M. A. C. Record.

VOL. 6.

LANSING, MICHIGAN, TUESDAY, JAN. 15, 1901.

No. 17.

A Primer of Forestry.—Part I.

BY GIFFORD PINCHOT, CHIEF OF THE DIVISION OF FORESTRY, U. S. DEPARTMENT OF FORESTRY.

In recent years the work of the Agricultural Department has become extensive and many-sided, and the bulletins and reports numerous. These are sent free, in most cases, to persons who appreciate them and who are capable of making good use of them. In 1899 a large edition of the Primer of Forestry was distributed, and in 1900 another edition also. This is a cloth-bound volume five by seven inches, and contains 89 pages. There are 47 plates and 83 figures, most of them excellent, and they are printed on paper which makes the best of all the illustrations.

The ordinary person, or even the educated person, can have little conception of the complications and details that are to be found in a piece of woods.

In the first chapter are brief statements concerning the parts of a tree, the structure and growth; in the second, are noticed the various requirements of trees, rate of growth, reproduction; in the third, the seven ages of a tree, how the crop begins, continues and ripens; in the fourth, man as an enemy, insects, fungi, wind, snow, drought.

Here's a book prepared by a specialist and it is in strong contrast with some of the school books which are put on the markets. This is admirable to place in the hands of a teacher or the students. The statements are clear and reliable. I have marked many paragraphs, but only quote the following: "A forest tree is in many ways as much dependent upon its neighbors for safety and food as are the inhabitants of a town upon one another. The difference is that in a town each citizen has a special calling or occupation in which he works for the service of the commonwealth, while in the forest every tree contributes to the general welfare in nearly all the ways in which it is benefited by the community. A forest helps to protect its neighbors against the wind, which might overthrow them, and the sun, which is ready to dry up the soil about the roots or to make sun cracks in their bark by shining too hotly on it. It enriches the earth in which they stand by the fall of its leaves and twigs, and aids in keeping the air about their crowns, and the soil about their roots, cooler in summer and warmer in winter than it would be if each tree stood alone. With the others it forms a common canopy under which the seedlings of all the members of this protective union are sheltered in early youth, and through which the beneficent influence of the forest is preserved and extended far beyond the spread of the trees themselves. But while this fruitful co-operation exists, there is also present, just as in a village or city, a vigorous strife for the good things of life. For a tree the best of these, and often the hardest to get, are water for the roots and space and light for the crown."

On turning the pages of this beautiful primer, a Michigan man

can hardly restrain the regret that our agricultural bulletins are not printed with more attractive type and on better paper which shall make the best of all illustrations.

W. J. B.

The Boat Club Party.

Last Wednesday evening the Lansing Boat Club gave the faculty and subfaculty and their wives an invitation to spend the evening with their members in their pleasant rooms on Washington avenue.

Although the evening was an exceedingly stormy one, many of the College people were brave enough to face a possible break-down of the street-cars, and accepted the invitation.

The club has about one hundred and fifty members, and is one of the most flourishing and popular social organizations of the capital city. Among the members to receive their guests, and perhaps especially instrumental in making the evening one to be long remembered in its happy cordiality, may be mentioned the president of the club, Mr. Edward S. Porter, and wife, Mr. and Mrs. Fred Schneider, Dr. and Mrs. R. W. Morse, Mr. and Mrs. C. D. Woodbury, Mr. and Mrs. Charles Shubel, Mr. and Mrs. Elgin Mifflin, Prof. and Dr. Ganung, Mr. R. E. Brackett, Mr. Chris. Herrmann, Mr. and Mrs. G. W. Bement, Mr. and Mrs. C. E. Bement.

After a very informal reception in which the guests had been introduced to all of the club members and ladies present, those who wished remained and indulged in a spirited game of six handed euchre, Mrs. Roy Bristol winning the prize. Dainty refreshments were served by some of the gentlemen of the club. At 10:30, as it was announced that our car was waiting at the door, we bid good night to our royal entertainers, and carried home with us the memory of a very pleasant evening, and the hope that in the future it will be possible for the College and Lansing people to meet more frequently in a social way.

Perhaps the most amusing incidents of the evening were that several who undertook to come home early, after waiting an hour or more for the street cars, took hacks and drove out, reaching the College some time after the crowd had arrived. Others there were who took the 8:40 car down, reaching the city about 9:30, too late for the party, so they remained in the car and rode out again. After spending about two hours on the road they have little to say of the party but very much of our car service.

Another Valuable Addition to the Herbarium.

The Arnold Arboretum is owned jointly by Harvard University and the city of Boston. The university owns the land on which the woody plants are growing, and cares for them; the city owns the streets, attends to perfecting them and keeps them in order. This plan was devised by the director, Professor C. S. Sargent, with the view to making the arboretum permanent.

Except some duplicate specimens planted in groups or in quantity for display or for covering certain places, each tree and shrub has its own distinct permanent number and this is indicated by a number on the label above ground in view of visitors, and corresponds with one underground near to the specimen. In the laboratory, there is a case containing cards on which appear the names of all kinds of trees and shrubs with a statement as to where the plant came from, whether introduced as a growing tree, or cutting or in the form of seeds.

To those of the botanical department, it seemed very desirable that the herbarium of M. A. C. should contain specimens of these trees and shrubs, each with the name and number as grown near Boston. Last spring, A. Phelps Wyman of Brookline undertook to prepare specimens for our College.

Recently we have received 1,500 specimens, which will be mounted and "pigeonholed" by some of the students during this term. This does not include all of the species and varieties that are hardy in that region, nor even all that flowered last season, but it contains most of those that flowered last year. Large numbers of others produced no flowers last year because it was the "off" year, or because the plants were yet too young.

The genuine worth of such a collection for the use of a forester or a landscape artist or the amateur cannot be fully understood by the lay member of the community.

W. J. B.

A Locomotive Test.

(Letter from Allan Stone to Prof. Weil.)

MY DEAR PROFESSOR:—A short time since I had the pleasure and honor of helping some Cornell students run some locomotive tests on the Lackawanna railroad, and thought you might like to hear about them. The company have recently purchased 60 consolidation freight locomotives and 10 passenger engines, mainly from the Brooks people, and as they were not giving entire satisfaction, the Cornell fellows were given an opportunity of testing them. When the time came to make their run some of the men could not leave college and, as a consequence, the party was short-handed. Having an acquaintance with the mechanical engineer of the company, my name was suggested to them as one whom it might be possible to get, and of course I was very glad to accept their invitation. The first engine they arranged to test was one of the freight "hogs." As I said before, they are consolidation engines, with a wide fire-box adapted for burning fine anthracite or culm. The cylinders are 21x28 and have the Brooks piston valve, taking steam on the inside and exhausting on the outside. The boilers are over six feet in diameter, and carry 210 pounds of steam, and a person standing in the cab cannot see over the boiler. The tender is a giant in itself, holding 7,000 gallons of water and ten tons of coal. These engines are used mostly as pushers over the

mountains east and west of here where the grade is mostly 100 feet to the mile.

To prepare the engine for the test a framework was built around the pilot to prevent anyone falling off, while the steam-chests were boarded up to allow room for two persons on each side and high enough to prevent the wind interrupting them too much. A new pantagraph was constructed to reduce the motion of the cross-head. The cylinders were piped for two indicators on each side and cards were to be taken simultaneously on both sides by air operated by the timekeeper in the cab. It was ingeniously rigged up and worked satisfactorily. A water-meter was put on the right hand injector pipe, a Boyes speed recorder was attached to the truck wheel, a throttling calorimeter was attached to the steam dome in the cab and there was also one on the steam chest.

Nine men came from Cornell and were posted as follows: One man to have charge on the pilot and weight the overflow water from the injector, four men for the indicators, one man to read revolution counter, temperature of the smoke-box, calorimeter on steam chest and the position of the reverse lever, all of which were read on the pilot, one man in cab with engineer to keep time, blow the signals by means of air whistles and to take cards, one man in cab on left side to take position of throttle, the strokes of the air-pump and read the calorimeter on the dome, one man in fireman's cab to read water-meter, number of shovels of coal, steam pressure, water glass reading. I was posted on the back of the tank to read the dynamometer, the temperature of the tank water and the level in the tank.

The morning we started to make our test we had some trouble with the superintendent over orders, but finally straightened those out and left for the summit east of here with ten loads of coal. We had a hard pull out of town and had to stop about eight miles on account of a hot main pin. The engine was comparatively new, for on its first trip over the road it ran away down the mountain, and had laid up in the shop for repairs ever since. We had no further trouble, however, and reached the summit, twenty miles from Scranton, at about noon, left our load, turned around, ate our dinner and waited for two fast passenger trains to get out of our way. It was necessary for me to ride the bumpers most of the way up, so I thought I was in position to beat my way on a freight, if it ever comes to it.

On our way back to Scranton we picked up 21 loads at a coal mine and started for Clark's Summit, west of Scranton, after which we returned to Scranton just in time for supper. The apparatus worked very well on both tests, though I noticed they complained about the indicators. They used 125-pound springs, and had to oil up frequently. From an examination of the cards it was found the valve motion was out on one side; while the cut-offs were about equal, the steam distribution was not the same and there was

(Continued on second page.)

This book, recently added to the library, is well worthy of a careful reading by all of our students. While primarily designed for the teacher more especially of the elementary school, it contains much of value to the college teacher, and, as we have already stated, a series of most valuable hints and directions for the student of larger growth.

About the Campus.

Mr. A. M. Welch called at the college Saturday, on his way to his home in Ionia.

The milk for our creamery course comes from Wixom, in Oakland county, and is shipped in daily.

In the Women's Dormitory nearly all the old students are back, and five new students have registered.

The Mechanical Department has purchased a new Oliver Wood Trimmer, No. 3, one of the largest sizes of one of the best makes.

An evening class in cookery is to be organized on Friday evening (Jan. 11) by Miss Paddock, under the supervision of the instructor in domestic science.

Prof. L. R. Taft attended the meeting of the Indiana Horticultural Society during the holidays, and read an address on the "Philosophy of Spraying."

The prevalence of small pox is seriously interfering with institute work. Twice this week it has broken out in places where we had planned to hold institutes.

R. J. Coryell '84, Supt. of Parks and Boulevards, Detroit, has sent to the college a specimen of the prairie wolf or Coyote. This has been prepared and placed in the museum.

Mr. Bradford, superintendent of the wood-shop, is introducing a system of finished and unfinished native woods, which will enable the students to learn, without leaving the shop, the various kinds of native woods in their different conditions of finish.

One or two robins and a crow black bird are wintering on the campus. The latter gets its food from the refuse of the grain fed to the deer and elk. This is the first time in seven years' experience here that Prof. Barrows has known of a crow black bird wintering on the campus.

The department of Zoology has received several valuable specimens recently. Harry Weatherwax (with '01, m.) sent whale-bone plates just as they came from the jaw of the whale. The specimen from which they were taken was captured at Gray's Harbor, Wash.

The library has recently been the recipient of a beautiful and valuable gift in the shape of a book, "Men of Progress of Michigan," by S. B. McCracken, and published by the Evening News Association. Among the prominent Michigan men mentioned may be found Secretary Arthur C. Bird.

The total registration at this time is 70 ahead of the corresponding date of last year. In the special short courses 56 have registered. Many are taking more than one course. There are 21 taking the creamery course, 24 the live stock, 5 the fruit, and 12 have already registered in the sugar beet course, although the factories have not closed as yet, and most of our men cannot get in.

The new debating club started off on Friday night with an attendance of about 30, and everything seems favorable to good work. The aim is in the direction of good citizenship through the honest and impartial discussion of the social and economic questions of the day, and the personal improvement and power

that comes through the clear and thoughtful formulation of opinions in the face of well-supported opposition. The club will be called the M. A. C. Debating Club, and for the present will meet in class-rooms, at from 7:30 to 8:30 p. m. on Monday evening. The officers elected are: R. M. Norton, president; Matt Crosby, vice-president; J. J. Ferguson, secretary. The questions discussed will, as far as possible, be arranged in series, taking up quite thoroughly the phases of one economic subject before entering on another. References for the debates will be announced with the subjects, and the books, etc., referred to will be held in the library.

Bible Study.

Last term the students took more interest in Bible study than has been manifest before in the history of the association. We have the same teachers again and a more successful term is expected. To fulfill these expectations we want every student who is interested in Bible study, to attend one of the classes given below:

Y. W. C. A.

1. "Women of the Bible," by Miss Wild; leader, Miss Avery; 1:30 p. m. Sundays.
2. "Christ in Old Testament," by Rev. Schofield, leader Prof. Bemies; 2 p. m. Sundays.

Y. M. C. A.

1. "Studies in the Life of Christ," by Stevens and Burton, 8-10 a. m. Sundays, in class room 6. Leader, Dr. Waterman.
2. "Studies in the Life of Christ," by Stevens and Burton, 8-10 a. m. Sundays, in association rooms. Leaders, J. J. Ferguson and T. Gunson.
3. "Studies in the Life of Christ," by Stevens and Burton, 8-10 a. m. Sundays, in class room 7. Leader, Burt Wermuth.

VISITING CARDS....

Latest Styles—Lowest Prices
at

LAWRENCE & VAN BUREN
PRINTING CO'S.

FULL MEASURE AND GOOD GRADES.

THE RIKERD LUMBER CO.

CALL AND SEE THEM.

The main item in Stoves is to get the best for the least money. We have the nicest assortment ever in the city. Steel Ranges \$18.00 to \$40.00; Cast Cook Stoves with Reservoir \$16.00 to \$25.00; Base Burner Coal Stoves \$25.00 to \$40.00; Soft Coal Air-Tight Stoves \$12.00 to \$18.00; Air-Tight Wood Stoves \$5.00 to \$9.00; Nice Oil Heaters \$3.25 to \$4.00. Everyone of them fully guaranteed. A nice line of Pocket Cutlery Razors. Shears, in fact anything needed in the Hardware Line you will find it and at prices to suit you, at

NORTON'S HARDWARE.

4. "Studies in the Life of Christ," by Stevens and Burron, 1 p. m. Sundays, in association rooms. Leader, W. W. Wells.

5. "Studies in the Acts and Epistles," by C. J. Bosworth, 8-10 a. m. Sundays, in class room 5. Leader, Prof. W. O. Hedrick.

A. G. C.

SIMONS DRY GOODS CO.

...January Remnant Sale

REMNANTS of SILKS, DRESS GOODS, LININGS, COTTON, LACES, EMBROIDERIES, RIBBONS, WASH GOODS, FLANNELS, LINENS, CARPETS, Etc.,

—AT HALF PRICE.

Odd lots of Kid Gloves, Hosiery, Underwear, Etc., at Half Price.

Entire Stock of Ladies' and Misses' Jackets at Half Price.

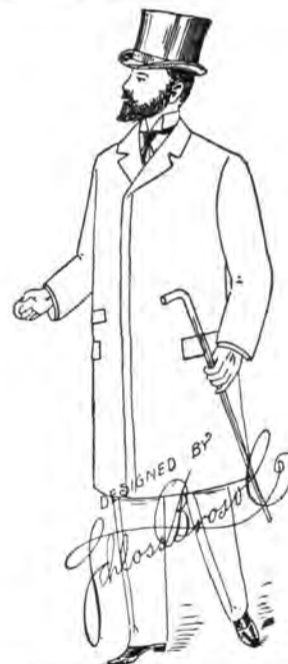
SIMONS DRY GOODS CO.

Furniture Headquarters.

COMPLETE LINE OF FURNITURE FOR STUDENTS' ROOMS

Woven Wire Springs at	\$1.50, \$2.00 and \$2.50
Woven Wire Cots at	\$1.50, \$2.00 and \$2.50
Mattresses at	\$1.75, \$2.00, \$2.50 up
Chairs at	50c, 60c, 75c up
Arm Chairs at	\$1.50, \$1.75, \$2.00 up
Students Tables at	\$1.50, \$1.75, \$2.00

M. J. & B. M. Buck.



WE ARE IN POSITION
TO SAVE YOU MONEY ON

Overcoats

And at the same time give you a garment unsurpassed for Fine Tailoring and Correct Styles.

Elgin Mifflin.



The Melba Shoe

For women, is a stylish high-grade boot designed especially for swell dressers and ladies who wear up-to-date footwear.

Made in light, heavy and medium soles, narrow, medium and wide toes—all kinds of leather—at the one uniform price of

\$3.00 a pair

Best shoes on earth at the price.

C. D. WOODBURY,
HOLLISTER BLOCK.

Former Students and Graduates.

C. D. Beebe, with '01, was married New Year's day to Miss Veda Pentecost, at the home of the bride's parents, Mr. and Mrs. Wm. Pentecost at Tipton.

Miss Grace Newman (w. sp.), 1899-1900, was married to Mr. Herbert Holloway, on Thursday, December 27, at her home in Portland, Mich. Mr. Chace Newman gave his sister away. A color scheme of red, white, and green, was artistically carried out with bunting, holly, and carnations. The usual refreshments were served after the ceremony, which was performed by the Rev. John H. Stewart. The bride wore a dress of white silk mull, trimmed with white velvet ribbon, and carried red and white carnations. The couple were the recipients of many handsome gifts, and the wedding was peculiarly happy in that it took place in the new home of the bride and groom.

David Anderson (a) '89, of Paw Paw, Mich., and assistant horticulturist in the experiment station 1890-91, assumed on New Year's day the office of prosecuting attorney of Van Buren county, to which he was elected last November. Mr. Anderson was born in Columbia township, Van Buren county, August 12, 1867. After graduating from the M. A. C. he studied law and was admitted to the bar June 17, 1892. After practicing for two years in South Haven he removed to Paw Paw where he has since resided. For the past two years he has held the office of circuit court commissioner. The *Lawton Leader* says: "Mr. Anderson is a successful lawyer and has a host of friends throughout the county who predict for him a wise and faithful administration of the affairs of his office."

Dwight S. Cole, '93, Supt. New York State Saw Filers' Association, Brooklyn, N. Y., writes: "I am happily married and settled in my own home. * * * Am very proud of the woman who has become my wife." Dwight encloses the following announcement from the Brooklyn *Eagle*: "Among the pretty home weddings on Columbia Heights during the holiday week was that of Miss Sara A. Williams, eldest daughter of Mr. and Mrs. Eugene Williams of Cranberry st., to Dwight S. Cole, formerly of Lansing, Mich., on Wednesday evening, Dec. 26, at The Shawnee, 29 Willow st. The ceremony, which was performed by the Rev. C. H. French, was held in the parlors of the apartments fitted up by the groom as a home for his bride, in the presence of the immediate relatives and friends of the contracting parties. After hearty congratulations had been showered upon the newly wedded couple a bountiful wedding supper was served in their finely appointed dining room. The happy couple received a large number of beautiful and useful presents as tokens of the high esteem in which they are held." Dwight's address is 29 Willow st., Brooklyn, N. Y.

The following explains itself:
M. A. C. RECORD:

In your this week's issue you refer to me as an author of a book on nature study which is upon recommendation for an introduction in the schools in New York. "Some people are born great, some achieve greatness, and others have greatness thrust upon them," and I feel that I

belong to the last class. I regret very much that I cannot "plead guilty" to the authorship of the book, but I have no doubt that some other loyal son of M. A. C. is the culprit. I am at work on a book on Veterinary Science for Prof. Bailey's Rural Science Series, and it is possible that this may have lead to the error. I am, yours truly,
N. S. MAYO, M. D., '88.

The mistake was an innocent one, and probably arose as stated, the information coming to the RECORD through a close friend of Dr. Mayo.

M. L. Carpenter, '75, now serving his second term as one of the judges of the Wayne Circuit Court, is a candidate for the republican nomination to the office of justice of the supreme court. Judge Carpenter came to the college from Oakland county in 1872, making his way through college by teaching school during the winter. He was graduated from the law department of the Michigan University in 1878, and after a year in the office of Hon. M. E. Crofoot, commenced the practice of law, and continued in active practice in Detroit until his election to the circuit judgeship. Judge Carpenter has every reason to feel proud of the enthusiastic support that the announcement of his candidacy has called forth, and the college to congratulate itself on so strong and highly esteemed an alumnus. The testimony to his eminent legal ability, his painstaking work, his uniform courtesy and fairness, and above all his integrity of thought and purpose, is strong and explicit, and constitutes a proof that even in our day unselfish merit may and does win recognition.

The following from Hon. C. W. Garfield, '70, will possess a sad interest to readers of THE RECORD:

In 1879 Eva D. Coryell was graduated from the Michigan Agricultural College, and very soon thereafter she came to Grand Rapids and taught school in the district of which I was director. While engaged in teaching here, William McBain made her acquaintance, and this acquaintance led to friendship, love and marriage. These two people founded their home in Grand Rapids, and have lived a sweet married life until the tie was broken in December last by the death of Mr. McBain. He left a family of six children, four boys and two girls. The oldest boy is now a freshman in the University of Michigan, and the youngest is a little boy of three years. Mr. McBain was an earnest, active, and successful business man. He was identified with a number of corporations in Grand Rapids, and an officer in several of them. He was very painstaking in all his business activities, and made an efficient secretary.

I have special interest in this family because Mr. McBain was my schoolmate in common school, and started with me in high school. We were there but a week when an opportunity to go into business offered itself, and so his school days were ended before I entered the Agricultural College.

Mrs. McBain is a brave, sensible woman under her burden of sorrow, and she will devote herself to the care and attention of the little family that are dependent upon her. Her college friends will all sympathize with her in her affliction and will be glad to strengthen her to bear up bravely under the responsibilities that must weigh heavily at best.

We Welcome

THE STUDENTS' RETURN AT THE M. A. C.

It gives new life to the Capital City. We cordially invite all to make their home at our store. Mr. Homer Burton and Mr. Arthur Hart will make daily trips to every one who desires to see them on the M. A. C. grounds or in the vicinity. If you are not called upon drop us a postal and we will call. Samples sent on application.

We Guarantee Satisfaction.

Visit Donsereaux's Department Store, and the Donsereaux Clothing and Grocery Store.

312 to 320 Washington Ave. South. One door south of Hotel Downey.

CHAS. A. PIELLA . .

JEWELER AND OPTICIAN.

DIAMONDS, WATCHES, JEWELRY, CLOCKS,
SILVERWARE, ART GOODS.

Repairing Neatly Done.

121 Washington Ave. N., Lansing, Mich.

ALL MEATS

May look alike to you, but there is a very great difference in the quality we handle and that sold by some other markets. We handle none but the very best. Like the pudding, the proof of good meats is in the eating. A trial will convince you that you ought to trade with us.

We make daily trips to the College.
BOTH PHONES. Careful attention given to 'phone orders.

GOTTLIEB REUTER.
Washington Ave. South.

FURNITURE DEALERS.

M. J. & B. M. BUCK.—Furniture. Cor. Washington Avenue and Ionia Street. See ad.

HACK AND BAGGAGE LINES.

ORDER your hacks for parties at Carr's Hack Line. Livery in connection. 410 Washington Ave. N.

HARDWARE, STOVES AND TINWARE.

NORTON'S HARDWARE.—General Hardware, Stoves, Tinware, Granite ware, Cutlery, etc. 111 Washington Ave. South. See ad.

JACOB STAHL & SON.—Wholesale and Retail Hardware and House Furnishings. 211 and 213 Washington Avenue North.

HARNESS, TRUNKS, ETC.

J. W. EDMOND'S SONS.—Keep the finest stock of Trunks, Traveling Bags, Pocket Books and Leather Goods in the city. Also a full line of harness and horse goods. Repair shop in connection. 107 Washington Ave. south.

INSURANCE.

THE DYER-JENISON-BARRY CO., LTD., (Incorporated) Hollister Block. All kinds of the best insurance. Strongest agency in city.

JEWELERS.

B. P. RICHMOND.—Watchmaker, Jeweler and Engraver. 200-202 Washington Avenue N.

LAUNDRIES.

THE VAN GORDER PALACE LAUNDRY. College agents, Rudolph and Mills. S. P. Lantz, Prop.

TAKVORIAN & JEWELL.—Agents for STAR LAUNDRY. We return your work on Thursday p. m. Either high polish or dull finish. No saw-edge collars.

MANICURE AND HAIRDRESSING.

MRS. O. T. CASE.—Manicure and Hairdressing Parlors. Masquerade wigs for rent. All styles of hair goods in stock or manufactured on short notice. New 'phone 118. 222½ Washington Avenue S., up stairs.

MERCHANT TAILORS.

WOODBURY & SAVAGE.—Tailors. Student trade solicited. Opposite Hotel Downey, North.

JOHN HERRMANN'S SONS. Fine Tailoring, 218 Washington Avenue N.

MUSIC, PIANOS, ETC.

THE POST & BRISTOL CO. Pianos and everything in the line of music and musical instruments. 219 Washington Ave. N., Lansing, Mich.

OCULISTS.

JOSEPH FOSTER, M. D.—Eye, Ear, Nose and Throat. Hours 9 to 12 A. M. City National Bank Building, Lansing.

PHYSICIANS.

A. D. HAGADORN, M. D.—Office hours, 11 to 12 A. M., 2 to 4 and 7 to 8 P. M. Office at 212 Washington Avenue S.; home 419 Seymour St.

RESTAURANTS.

GILBERT M. HASTY, Proprietor Hasty's Gem Lunch. Best meals and lunches in the city. Quiet place for adies. 118 Wash. Ave. S.

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.

ARCHITECTS.

W. JUDD CUMINGS—Architect. Sparta, Mich. Rural architecture a specialty. Patronage of M. A. C. men solicited.

BARBERS.

J. H. WOOD—Barber. 106 Michigan Avenue E. College work especially solicited.

BOOKS AND STATIONERY.

CITY BOOK STORE. Fountain Pens, Drafting Tools, Stationery, Cards Engraved, Pictures and Picture Framing. Tennis, Football and Baseball goods. Crotty Bros., 206 Wash. Ave. N.

LANSING BOOK AND PAPER CO. Waterman and Sterling Fountain Pens, Stationery, Pictures, Frames, Wall Paper. 120 Wash. Ave. N.

BICYCLES AND ELECTRICAL SUPPLIES.

CAPITOL ELECTRIC CO.

BOOTS AND SHOES.

C. D. WOODBURY.—Boots and Shoes. We shoe the students. See ad.

CLOTHING.

LOUIS BECK.—Clothier. Gents' Furnishings, Hats and Caps. 112 Washington Ave. North.

H. KOSITCHKE & BRO.—Clothing and Dry Goods. 113 Wash. Ave. N. 210 Wash. Ave. S.

CROCKERY AND GLASSWARE.

H. LARNED.—China, Glass and Lamps. 105 Washington Ave. S.

DENTISTS.

R. W. MORSE, D. D. S. Hollister Block, Room 517.

D. E. PARMELEE—Dentist. 218 Washington Ave. S., Lansing, Mich.

DEPARTMENT STORE.

DONSEREAUX'S DEPARTMENT STORE is the place to trade. - You can get a warm lunch in our cafe for 10c. See ad.

DRUGGISTS.

ROUSER'S CAPITAL DRUG STORE. Up to date. Corner store. Opposite Hollister Block.

DRY GOODS.

SIMONS DRY GOODS COMPANY.—Dry Goods and Carpets. See ad.

FURNISHING GOODS.

ELGIN MIFFLIN.—Ladies' and Gentlemen's Furnishing Goods. See ad.