

THE TECH

VOL. XXX. NO. 79

BOSTON, MASS., WEDNESDAY, FEBRUARY 8, 1911

PRICE TWO CENTS

RESEARCH WORK IN FOREST PRODUCTS LABORATORY

Joint Enterprise of the Government and the University of Wisconsin

PRACTICAL RESEARCH WORK

Government has Installed Complete Equipment of Paper Making Machinery.

Since June, 1910, the paper-making world has been following with intense interest the work of the Forest Products Service at Madison, Wisconsin. The work is the joint enterprise of the Government and the University of Wisconsin. A laboratory building costing \$44,000 was erected by the University of Wisconsin and presented to the Federal Government. In accordance with the modern industrial policy of centralization, and in order to conduct the tests on a large scale, the Government has installed at this laboratory its entire equipment of paper-making and paper testing machinery, and its entire of chemists and chemical engineers who are laboring over the many problems of the paper industry. In return for the use of the laboratory, the Government experts are giving courses of lectures at the University. Advanced or graduate students in Chemistry or Chemical Engineering are allowed to use the laboratory under certain conditions.

The equipment of the laboratory is unique. Every process of the manufacture of paper can be reproduced. There are grinders, beaters, washers, jordan, screens, digesters for the soda process and the sulphite process and a 15 inch Fourdrinier paper-making machine. (i.e. Capable of producing a continuous sheet 15 inches wide.)

With an annual consumption of four million tons of paper and the available supply of spruce wood rapidly disappearing, the solution of the problem of how to use the available material in the most economical manner becomes a very important matter. A cord of spruce wood, weighing about 4300 pounds, yields on the average, by present means of production, 1700 pounds of ground wood pulp or 39.53 per cent of its weight. A cord of hemlock, weighing about 5000 pounds, yields in sulphite 800 pounds, being further reduced in the process of turning it into paper to 727 pounds or 14.54 per cent of its weight. Therefore in converting spruce and hemlock into paper there is a direct loss in materia of 60.47 per cent and 85.46 per cent respectively.

This illustration is sufficient to show the great loss of raw material in the manufacture of pulp and paper by the processes now known. As yet, no satisfactory method for producing suitable ground wood from hemlock has been devised. What a wonderful saving in raw material there would be if a way were found for producing from hemlock a ground wood pulp, equal in weight and usefulness to that now derived from an equal weight of spruce. This alone, would more than double the present pulp product from hemlock. Even more important, perhaps, is the development of ways and means for utilization of the other fibrous materials—cornstalks, grasses, and the many kinds of woods now unsuitable for the paper makers use.

The Forest Products Laboratory has for its primary purpose the solution of such problems as these in the paper-making industry. Moreover it has complete facilities for experimental work on the preservation of wood by chemical means. The staff includes chemists, chemical engineers and scientific foresters. Their work—the work of the Forest Products Laboratory—is destined to do a great work in advancing the cause of practical conservation.

PRESIDENT MACLAURIN URGES INCREASED APPROPRIATIONS FROM STATE IN MEETING OF STATE COMMITTEE

An annual grant of \$1,000,000 from the state necessary in order that the Institute shall continue in front rank among technological institutions

QUESTION BEFORE COMMITTEE ON EDUCATION

President Lowell of Harvard adds his influence in favor of the appropriation.

President MacLaurin appeared yesterday at the State House before the committee on Education in behalf of an increased annual State Appropriation for Technology. The amount asked is \$1,000,000 a year for 10 years. His argument in part was as follows:

"They acquire at Tech qualities that we need right here in Massachusetts, and we will need them more and more as competition with other states and foreign lands becomes keener, as inevitably it will. The institute has, as you know, received some support from the state almost continuously throughout its history, and for many years it has obtained regularly \$25,000 per annum. The last resolve appropriating this amount was made 10 years ago, and we ask that during the next decade the appropriation should be increased to \$100,000. The ground for this increase is that, through the operation of forces that we cannot control, the cost of maintaining the institute in the front rank has greatly increased, and is likely to increase still further."

President MacLaurin then went into the cause for increased salaries necessary for instructors and the competition Tech is obliged to meet and overcome. Then he continued:

"The \$100,000 that we ask for is made up thus. For several years, in order to maintain our level, we have been forced to over-reach our income by about \$30,000 per annum. Then the annual subvention of \$25,000 from the state, which was voted 10 years ago, has just come to an end. Simultaneously there has come to an end a special source of income guaranteed five years ago by our alumni for a definite period of years. The income from this source, added to the \$30,000 deficit and \$25,000 from the state, makes up the \$100,000. There would be little doubt that, with so loyal and enthusiastic a body of men as the Technology alumni, we could count for some support from them during the next 10 years.

"There is, however, a special reason, easily understood, why we cannot expect such support for running expenses at this particular juncture. We are being forced by our success to embark upon a policy of development. Our buildings are now not only scattered in the neighborhood of Copely square, but they are absolutely crowded out. To meet the changed conditions and to maintain the highest standards of efficiency, we simply must move. This will involve buying a new site and rebuilding the institute on a larger scale at the cost of millions. We are absolutely assured of very generous support from our alumni in the carrying out of this policy of expansion. Although, however, there is scarcely any limit to their generosity there is a limit to their means. They are mostly young, the average age being about 34. We will need all that they can afford to give us and much more from other friends to carry out this policy of expansion. We therefore ask the state to help us with an unusually large appropriation throughout this unusual period. We ask the state because we have always been a semi-state institution, never being associated with the name of any individual but bearing that of the state itself."

"I have set forth numerous facts and figures with references to the institute, and directed your attention to the main reasons for increased state aid in a pamphlet that is now in your hands. In the last analysis our claim rests on the indisputable fact that technical education of the very highest kind is absolutely vital to this commonwealth. We

have no great natural resources or natural resources or natural advantages, either of climate, soil, mineral wealth or conditions of labor. We can keep in the front rank industrially only but the exercise of unusual skill in the conduct of our industry. Our peculiar position has been recognized by wise men within the commonwealth for generations. It was set forth clearly in the constitution, which lays it down "that it shall be the duty of Legislatures in all future periods of this commonwealth to cherish the interest of the sciences and to encourage private societies and public institutions for the promotion of agriculture, arts, sciences, trades and manufactures."

"The social features of the institute's training are its insistence on hard and persistent work and its uniform use of the laboratory method. Technology is no place for boys to play, but for men to work; and they must learn not merely from books, but by actual contact with things as they are. They do not play with toys, but work with real machines. They are taught by men of practical experience and are so rooted and grounded in the fundamental principles of the sciences and their application to industry as to enable them to deal successfully with the great problems of transportation, of manufacture, of sanitation, on which the prosperity of the whole state depends.

President Lowell of Harvard also, spoke in favor of the appropriation. He stated that the unique position of the Institute among educational institutions of the state entitles it to the amount of state aid asked for, since Tech was chartered by the state, the state governor is a member of its board of trustees, and other members are appointed by the state.

SOCIETY OF ARTS LECTURE AT HUNT HALL TONIGHT

Prof. Sedwick of Institute will speak on "Science and Public Welfare."

At 8.30 o'clock in Huntington Hall tonight, Prof. William T. Sedwick, head of the Biological department at the Institute will lecture before the Society of Arts on "Science and Public Welfare."

Beginning with the development of scientific spirit in the eighteenth century, Professor Sedwick will trace rapidly the rise of modern science and will consider, so far as the time allows, its influence upon the life and thought of mankind, with illustrations such as the decline of superstition in scientific countries, the increase of population made possible by the applications of science and especially, the growth of the ideas of toleration, human brotherhood and altruism.

He will use as his principal illustration the change in the attitude of mankind toward plague and pestilences as exemplified by the Black Death in England in the fourteenth century, and to-day.

This lecture promises to be an exceedingly interesting and instructive one, and well worth attending. The lecture is given under the auspices of the Society of Arts and the public is invited.

There's a vice write up of Prof. D. C. Jackson in last week's Engineering News.

It has been suggested that a course in Aeronautics be started at the Institute.

The Musical Clubs go to Chelsea tonight

COMPETITIONS OPEN IN TECH SHOW MANAGEMENT

Candidates for Assistant Publicity Manager Meet in Show Office Tomorrow

ALL UNDERCLASSMEN ELEGIBLE

Call for Candidates for cast and chorus to be Made this Saturday.

Competition for assistant manager in the Publicity Department of Tech Show, 1911, will begin Thursday, at one o'clock when all those, who expect to try for the vacant position will meet Publicity Manager, H. L. Woehling in the Show office, Room B, Union, at one o'clock. The competition is open to all underclassmen and it is hoped that a number of men will report. This department has charge of advertising the Show, writing articles for the papers, taking charge of poster competition, the mail, and paid newspaper advertising. The work is excellent training for anyone and is not difficult. Anyone who becomes an assistant this year has a change of becoming manager of the department in his junior year and general manager of the show the following year.

It is absolutely necessary that everyone who expects to come out for the competition, should do so Thursday, as the competition will begin immediately and probably end within two or three weeks. If you are at all interested, be present and hear what is to be said on the subject. It is hoped that a large number of men will take advantage of this unusually good opportunity to get out and do something for the show and the Institute.

Early next week, Stage Manager, E. H. Schell, will issue a call for an assistant in his department. Saturday of this week the call for candidates for cast and chorus will be made. Here is the chance for the student body as a whole, to back the show. Every fellow who has any talent along this line should keep the date open, Saturday, 2 P. M.

VARSITY BASKET BALL TEAM LOSES TO WILLIAMS

Purple Team Much Faster and have better General Knowledge of the Game

Score—25—16.

Gilmore and Freeman Stars for Williams; Parker and Ell for the Varsity.

CALENDAR

Wednesday

4.00—Basketball Practice—Gym.
4.15—Gym Team Practice—Gym.
5.00—1914 Basketball—Gym.
5.00—Hockey Practice—Arena.

Thursday

1.30—House Committee Meeting—Cage.
4.15—Technique Board Meeting—Union.
4.15—Varsity Track Team—Gym.
4.15—1914 Track Team—Gym.

Friday

4.15—Mech. Eng. Soc. Mtg.
4.15—Gym. Team Practice—Gym.
5.00—Basketball Practice—Gym.
5.00—1914 Basketball Practice—Gym.
6.30—C. E. Soc. Dinner—Union.

Saturday

2.15—1914 Indoor Track Team—Gym
2.30—Varsity Indoor Track Team—Gym.
5.00—Hockey Practice—Arena.

THE TECH

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C. F. Cairns, 1913... General News
A. H. Waitt, 1914... Societies
M. Paris, 1914... Institute
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E. Taylor, 1914.....Photographs

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WEDNESDAY FEBRUARY 8, 1911

The Tech regrets to announce the resignations of J. B. Nealey, P. L. Flansburg, and T. E. Senior from the Board of Editors, E. W. Tarr and R. S. Rankin have been granted leave of absence.

The following men have been elected Associate Editors in the news department:—K. C. McKenney, athletics; C. F. Cairns, general news; A. H. Waitt, societies; M. Paris, institute.

T. B. Lawler has been elected Associate in the business department.

The Tech has had quite a little trouble in getting publication started again and in smooth-running condition and no one regrets the recent delays more than does the management itself. The primary delay was due to unforeseen difficulties connected with the changing of printers and the non appearance of The Tech yesterday was due to the cutting off of power during the storm, both causes beyond the control of the Board. We trust that publication will not be so interrupted during the remainder of the term.

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 Exceptional Cuisine
 Attractive Rooms
 Popular Prices

UNION COMMITTEE MEETING YESTERDAY

Consideration of the Purchase of Part of Cosmopolitan Club Furniture

At the meeting of the Union Committee yesterday it was announced that N. McL. Sage, chairman of the Entertainment Committee, had resigned, on account of leaving the Institute. The Union Committee is considering buying some of the furniture of the Cosmopolitan Club to aid to that now at the Union. The dining-room during the past two weeks has made up the deficit incurred during the previous two weeks. Yesterday's attendance at the dining-room, bears this out, as there were about four hundred and fifty there at noon, although this large attendance was directly traceable to the great storm.

During the vacation, the Union was thoroughly cleaned, the floor being oiled and the rugs being cleaned with a vacuum cleaner. The trophy banners have been rearranged to improve the appearance of the Union. It is the intention of the House Committee to keep the chairs and benches clear of coats and hats in the noon hour, as there will be room enough for these in the cage or on the shelves.

The average age of Tech Grads is 34 years.

The C. E. Profs. are practising for that story-telling contest.

The Technology Review will be issued monthly now.

In forty-nine years the Institute received from the Commonwealth \$552,191.78—about \$11,000.00 a year. The Institute has expended to date about \$13,000,000.

FOWNES GLOVES—

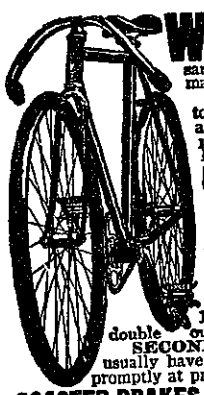
The way they're made has a good deal to do with the way they wear.

The Tech

Offers Opportunities for Mutual Benefit In the Competitions for the Various Offices IN NEWS ADVERTISING AND CIRCULATION

Those in charge of each of these departments can be found in THE TECH Office from 8:30 to 9:00 daily.

If there is a student in Tech who is not familiar with **ENGINEERING NEWS** let him write for a Free Sample Copy and see our agent, Mr. O. W. STEWART, about special subscription Rates. **ENGINEERING NEWS, New York**

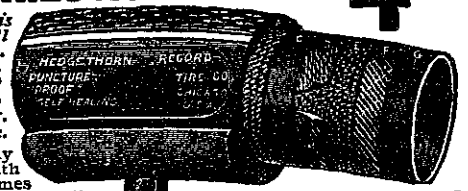


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\$8.50 HEDGETHORN PUNCTURE-PROOF SELF-HEALING TIRES A SAMPLE PAIR TO INTRODUCE, ONLY \$4.80

The regular retail price of these tires is \$8.50 per pair, but to introduce we will sell you a sample pair for \$4.80 (cash with order \$4.55). NO MORE TROUBLE FROM PUNCTURES. NAILS, Tacks or Glass will not let the air out. Sixty thousand pairs sold last year. Over two hundred thousand pairs now in use.



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SWIMMING TEAM HAS A SUCCESSFUL TRY-OUT

Election of officers will be held at important meeting this Friday

Last Saturday the swimming team held its first try-out. The showing made by the men was good considering the conflict with the indoor track meet. Twenty men responded and the times made in the four events, 25, 50, 100 and 200 yd. dashes were fair. The fancy dive and plunge for distance were well represented. The following men reported. Babcock, Mann, Leshner, C. A. Smith, Bent, Doremus, Smythe, Martin, St. John, Schellens, Schiniedehe, Cleverly, Partridge, M. S. Smith, Herespoft, Freman, Owen and Frisbie.

The meeting of the candidates arranged for yesterday has been postponed till Friday of this week at one o'clock. Everybody interested should attend for the election of officers and other business will be attended to.

M. E. SOCIETY TO HEAR ABOUT GEAR CUTTING

Mr. R. E. Flanders, Associate Editor of "Machinery" to Speak

Next Friday afternoon at 4.00 o'clock sharp, the Mechanical Engineering society will hold their regular meeting in Room 11. Engineering B, after a short business meeting, Mr. R. E. Flanders will give a talk a the subject of Gear Cutting machinery. Mr. Flanders, who is very well known in the Mechanical Engineering circles of this contry, is an associate editor of "Machinery" and is employed as an expert by the Fellows Gear Shaper Company. Special lantern slides will be shown and the lecture is one which no student in mechanical engineering should miss. Everyone is invited and it is hoped that a large number will be present.

ADVISON COUNCIL AWARDS LETTER TO RELAY TEAM

Contest for New Tech Cheer Discussed by the Athletic Association

A short meeting of the Athletic Associations was held yesterday afternoon, at 4.15 in the Union. M. L. Wateman 1913 was appointed as delegate to the meeting of the I. C. A. A. A. A. to be held the twenty-fifth of this month in New York. Manager Benson was chosen to represent the A. A. in a similar meeting to be held at the B. A. A. house to-night to make final arrangements for the meet Saturday night. President Salisbury's suggestion of getting a substitute for "We are happy" was again discussed. The plan is to start a "New Cheer Contest" very soon and thus get material for the suggested substitute.

Owing to the fine showing made by the Relay Team, at Providence, week before last, the Advisory Council has seen fit to award the "T" to each member of the team. As Captain Salisbury already has his letter, the new awards were to Cummings 1911, Thompson, 1913 and Guething, 1914. The race was a 390 yard run against Harvard from which the Institute team brought home a well earned victory. This is a Special award for exceptionally good work and not the regular "T" to which members of the Relay Team are entitled at the end of the season.

TO LET

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MUSICAL CLUBS.

All pictures to be taken at Notman's Park Street, Saturday, February 11, at 1.30. Come in full dress. (76-6)

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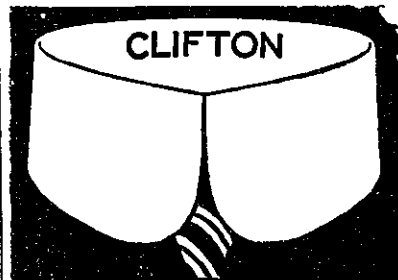
A fountain pen that won't ink your fingers, one that can be carried in any position, upside down or on its side in any pocket or bag. When the cap is screwed on, the pen is as tight as a bottle. When not in use the pen rests in ink, so remains moist, and will write without need of shaking. Made in many styles. Prices \$2.50 to \$15.00.

On its own merits this pen is fast finding its way all over the world. There probably is a dealer in your town who now carries it and you can buy of him; but if there isn't, if you will send us the name of your most reliable dealer, we will see that he has an assortment of these pens for you to select from.

Be careful to give us his name and address and your name and address correctly. State also whether you like a fine, medium or coarse pen; otherwise, we shall send an assortment that you can purchase from at \$2.50.

Something new:
Moore's Midget non-leakable 3/4 inches long. The smallest fountain pen made, just the thing for ladies' shopping bag or for men's lower vest pocket. Price \$2.50.

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CLIFTON, 2 1/2 in. high BEDFORD, 2 1/2 in. high

The New
ARROW
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SHAWMUT RUBBERS
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FATIMA

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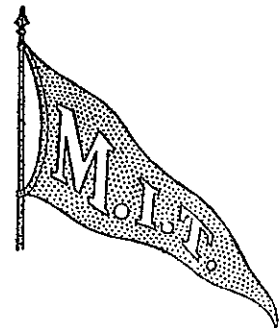
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So in Fatima Cigarettes, the same exactness in blending fine tobaccos has been made a definite science, in order that their good qualities may never, never vary.

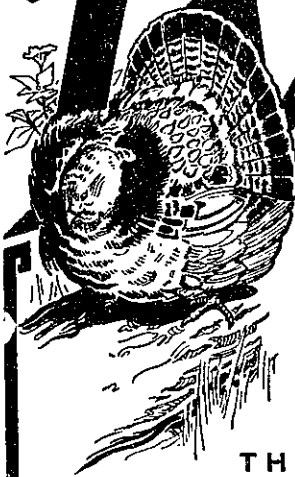
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1ST YEAR.

The exercise in Freehand Drawing for section 12, is changed from Thursday at 11 to Wednesday at 11.
Walter Humphreys,
Registrar.
Feb. 6, 1911.

THE ELECTRICAL DISCHARGE IN
GASES AND RADIOACTIVITY.

The course will be given on Tuesday afternoons beginning February 7th in Room 22, Walker, at 4:10 o'clock.
It is open to all students of 2d, 3d, 4th years without registration. No examination will be required or given.
Chas. R. Cross.

FACULTY STORY TELLING
CONTEST

at the Civil Eng. Soc. Dinner Friday evening, February 10 at Technology Union, 6.30 P. M. Get tickets from officers before Thursday.

WELLESLEY CONCERT

Those desiring tickets for the concert and dance at Wellesley Hills, must leave an order at the Cage for H. K. Fraugheim before Tuesday, February 7.
Special cars between Wellesley and Wellesley Hills. Special train service to Boston at midnight. (77-2)

ROWAN & CURRY

The Tech Barbers

Special attention paid to students at M. I. T.
In the new
Chauncey Hall Building.
85 Boylston St. (Opp. Copley Sq.)

BURGLARY

The Institutes model observation station in the Middlesex Fells has been rudely vandalized. One of the windows has been completely torn out and the building entered, evidently with malicious intent if one may judge by the wreckage strewn about over the floor. How great the loss may be, we have not been able to ascertain at the present time. It is known, however, that a valuable transit instrument, several chronometers, level adjusters and other delicate astronomical instruments are used in the building by the third year Civil Engineering course in Astronomy and Geodesy. The building is a substantial stone structure, nearly cubical in form with a hip roof. The roof has the usual opening, for the objective of the transit. It is interesting to note that the door was found intact and securely padlocked.

There is no hole, however small, through which a villain cannot crawl.

GERMAN III. a and GERMAN
COLLOQUIUM.

Students desiring to take either of the above courses are requested to meet on Tuesday January 31, at 9 A. M. in room 24 Lowell for the arrangement of hours. It is important that all planning to take either course be present at that time.
Frank Vogel.

FRATERNITY MEN

From other colleges kindly hand your names in at the cage with your fraternity and college for the list in 1912 Technique.
F. W. Barker, Jr. (77-2T)
Associate Editors,
1.00—Swimming Meeting—Union.

French Gothic Architecture—(250)
Offered the second term instead of the first. Fifteen lectures by Mr. Dike, illustrated. Applicants will please hand-in tabular view cards at once to Mr. Dike

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Friday, Feb. 10, at 8
Il Trovatore

Saturday, Feb. 11, at 2.
La Gioconda

Sat., Feb. 11, at 8. Popular Prices
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