E. E. SOCIETY TO DINE AT ENGINEERS' CLUB.

Interesting Program Has Been Arranged—No Tickets After 12 O'clock Today.

Members of the Electrical Engineering Society will dine tonight at the Engineers' Club at 6:30 o'clock. Tickets to the dinner are still on sale, but cannot be obtained after 12 o'clock today. The Engineers' Club is situated on the corner of Commonwealth Avenue and Arlington Street, the entrance being on Commonwealth Avenue.

The dress will be informal, and the program of the evening is given below.


card on these changes that have been made in Course VI as they appeared in the new Catalogue. Prof. H. J. Thompson will speak in Prof. Wiekend's place, and present the plans for the Mid-year trip. Mr. E. A. Deklein of the Boston Public Library will give a talk on the student course that has been established at the Westinghouse Electric Company's plant. Entertainment will also be furnished by some of the members of the Society.

Next Friday there will be another trip to the Fore River Shipyard. These two went last time, and about as many expect to go this time.

As it is not desirable to have more than twenty-five, it is suggested that those who expect to go sign up as soon as possible on the paper provided in the corridor of the Lowell Building.

C. E. SOCIETY FRIDAY

Major Cole To Speak On "Rapid Fire Surveying."

Friday at 4:30, in the Union, Major Cole will lecture on the C. E. Society. His subject is "Rapid Fire Surveying." Major Cole has for many years been connected with the Engineer Corps of the U. S. Army, having seen service in the Philippines and in Panama. He has also collaborated in several books on the subject of Military Engineering. He gave a similar talk last year.

CLASS PIPES

The sale of 1916 class pipes, which was expected to close today, has been extended until tomorrow. The committee has in hand a large room on the Union to receive orders from 10 to 3, and from 4 to 6 P. M. today and tomorrow. The price is $2.30, of which $1.00 must be paid when the order is given.

TECH CATHOLIC CLUB

The regular meeting of the Catholic Club, which is usually held on the first Thursday of the month, will not be held next Wednesday. Announcement of a special January meeting will be made later.

GLEE CLUB REHEARSAL

There will be a rehearsal of the Glee Club this Tuesday, at 5 P. M. in the Union. All members are expected to be present.

SUCCESSOR CHOSEN TO BURSAR RAND

Mr. Horace S. Ford of Dorchester

Now With Old Colony Co., To Fill Position.

Horace S. Ford of Dorchester was installed yesterday as the Bursar of the Institute, taking the place of Frank H. Rand, recently deceased. Mr. Ford comes to Technology from the Old Colony Trust, where he was assistant cashier. He is a Gloucester boy, a graduate of the High School in that city, and like his predecessor had made his own way in life. He has been associated with the National Bank of his home city, and since March, 1903, he has been with the Old Colony Trust. Here he has advanced rapidly, and two years ago was appointed assistant cashier. He is just short of thirty, married and resides on Whistland Avenue, Dorchester. Francis R. Hart, vice-president of Harvard Old Colony Trust, is treasurer of Technology; but Mr. Ford was not particularly related to him at the bank, so that his appointment is a selection purely on merit.

FOOTBALL PICTURES

The 1916 Football pictures will be taken at Noyes's, 3 Park Street, on Thursday at 1 P. M.

CERCLE FRANCAIS

Cercle Francais will meet to-night in the Union at 8 o'clock. The meeting will be conducted entirely in French, as usual, and anyone interested in the language is invited to be present. Refreshments will be served.

TECH VS. BROWN MEET

WRESTLING ON SATURDAY

Preparations For A Big Meet—The Probable Line-Up.

Preparations for the Tech vs. Brown wrestling meet, which takes place Saturday, are under way. The latest reports from Brown indicate that the Tech team will compete with a team of unusual strength. The Institute team will be picked from the following men: Meeh, H. H.; Meanch and Stetson, D. S.; Singer, Martin, Kelly, Durkee and Borden, 135; Morse, Treat and W. C. Wood, 145; Goodfellow and Walker, 158; Crowell and Leslie in the heavy-weights.

It is not at all certain that Kelly will wrestle on Saturday, as his injury, received at East Weymouth, may keep him out. Treat's injury is coming on well. Leslie is laid up with a bad ankle received last Saturday, and it is uncertain whether he will get into the game.

Tickets for admission, which are 25 cents, may be bought at the Cage, or may be obtained from any member of the team. Assistant Manager Morse announces that a novice meet with the Boston Y. M. C. U. has been secured; the match to be played immediately after the mid-year examinations.

INSTITUTE FORUM

Dr. Mackaye Speaks This Noon—Everybody Welcome.

At 1:30 P. M. today the M. I. T. Forum will hold a meeting in 8 Eng. C. The speaker will be Dr. James Mackaye, Chief Chemist for Stone & Webster. Dr. Mackaye received the degree of Ph. D. from Harvard, and is now associated with the Old Colony Trust Company. He is the author of "The Economy of Happiness," and three years ago delivered a series of lectures on Political Engineering at the University of Washington. His book, which created considerable excitement in newspapers in the East, in addition Dr. Mackaye has done much research work of importance; the meeting is open to all who may be interested.

CALENDAR

Tuesday, January 6, 1914.

1:00—Institute Committee Picture—Noyes's, 3 Park Street.
1:30—M.—I. T. Forum—E. E. Society—Eng. C.
3:30—Progressive Exe. Committee—Union.
5:00—Glee Club Rehearsal—Union.
8:00—Cercle Francais—Union.

Wednesday, January 7, 1914.

4:00—Presidential 180 Yard Trials.
5:00—J. P. Flower—Union.
6:00—Rifle Club Prizes—Army.
8:15—Wireless Club Meeting—Eng. B.
5:00—Business Meeting, Cosmopolitan Club—8 Eng. C.

Thursday, January 8, 1914.

1:00—Soph Football Picture—3 Park Street, Noyes's.

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1:00—Soph Football Picture—3 Park Street, Noyes's.
National is bringing before us today a man of whom it is easy to speak. He is a prominent factor in public life. The people of the country have given him a position of increasing influence and number. It is not the least of his services to the nation that he has a deep respect for the law of the land. He is known to be a clean-cut man, a man of integrity, who will command both their friendship and their respect.

We are conscious that he has no easy task to fill, for Mr. Ford is a man who is not only known to the people of the country, but he is also known to be well versed in the art of winning the hearts of the people. His work is not easy, but it is not impossible. He is a man who is able to stand up to the test of public life.

We are happy to extend to our new newspapers so much as we can of friendly greetings and well wishes. We welcome you to the world of newspapers. We hope that you will be successful in your work and that you will be able to stand up to the test of public life.

The Society has been awarded to Darrell H. Smith '12, for a paper on "The Engineer in the Civil Service". The paper is one of note, and Mr. Smith is expected to do well in the contest.

The reduction of speed and other hazards to navigation which are caused by barnacles and similar marine growth on the submerged parts of a vessel's hull are remembered as very real troubles by those who have had experiences with ships large or small, especially where dry-dock facilities were poor or entirely lacking. A novel device known as a "towal subtiraneous cleaner," which has been recently tested in England, is able to afford methods of overcoming these difficulties which is worthy of consideration. The vessel exhibited for treatment, a screw steamer of some 3,000 pounds, was cleaned one day and dry-docked on the following day. When it was seen that the work had been successfully accomplished, the entire plant was carried on a self-propelled barge, 30 feet long and 15 feet 6 inches in beam, and can be used in dock, river or open sea. Motive power is obtained from a 38-horse power petrol engine directly coupled to a Bruce-Poulton dynamo. Current is supplied to three motors, one of which is used to propel the vessel, one to control the raising and lowering of the brush gear, and the third, to drive the brush itself. The brush, which is 5 feet long and about 1 inch in diameter, is made of coir fibre, and can be unshipped and replaced in 15 minutes. The frame in which it is mounted carries an enclosed motor, which in addition to driving the brush actuates a small screw propeller, the shaft of which is perpendicular to the axis of the brush. This propeller forces the barge up to its work, and by keeping the water near the top of its shaft in a state of agitation aids the cleaning operation. Air tanks attached to the brush frame reduce its height when not in use, to 1-2 feet. The out-of-water weight being about 500 lbs., two separate cables, which enable the brush to be passed under the keels of large vessels, if necessary. The movements of the two lifting cables and of the electric cable leading to the brush motor are simultaneously controlled by a winch fitted with a dial, which indicates the depth at which the brush is working, the maximum being 30 feet. It is stated that the machine is capable of cleaning a 1000-ton ship in six hours, and the weight of the entire plant, large included, is given as eleven tons.

A new lamp, known as the Wotan 1-2 watt lamp, designed for high efficiency on the whole earth power, is being introduced into the electrical world. As the name indicates, this lamp consumes one-sixth of a candle power and has a wick varying from 600 to 3000 candle power capacity.
ATLANTIC PRINTING COMPANY
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Special dishes served for two at modern prices. For banquets large or small see Mr. Hyams
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Half a Grape Fruit served with a 15c. breakfast.

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Come and see

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Near Colonial Theatre
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Telephone Oxford 2642

DATES FOR ALL-
TECHNOLOGY REUNION

President Maclaurin To Attend As-
association Meeting At
Chicago.

The dates selected for the All-
Technology Reunion in Chicago,
the second annual convention of the
Technology Clubs Associated), are
February 20-21, 1914, Friday and Sat-
day, preceding Washington's Birth-
day, which latter falling on Sunday,
the legal holiday will be observed on
Monday, thereby giving ample time
for the return trip to the out-town
guests. The plans now being perfected in-
sure that this convention will hold
interest, give expression to greater enthusiasm and promise more
for the future of Technology than
any meeting of Tech men ever held.

The first complete exposition of
the plans of the New Technology
will be presented by President Mac-
laurin personally, illustrated by lan-
tern slides of details hitherto unpub-
lished. The faculty will be repres-
ented, the dates decided on having been suggested originally by the
In-
stitute representatives. Former stu-
dents will hear directly from the
heads of the respective courses of
the changes in the curriculum, and of
the equipment whereby in the new
buildings the facilities for keeping
abreast of the times will be wonder-
fully amplified. An excursion to the
Cary Steel Plant and the Universal
Portland Cement Co., has been defi-
nitely decided. The possibility of
further tours of inspection to the
Drainage Canal, Mississippi Dam at
Koctuk, and industrial communities
of which Chicago is a center, are un-
der consideration. The attendance,
as guests of honor and as speakers,
of some of the most distinguished
engineers and business executives in
the country, is assured by the local
committee.

The Chicago Reunion is your Re-
union and not a local affair. It takes
the place of the regular All-Technol-
gy five year reunion, which would prob-
ably be held in Boston, June, 1914, but
which has been shifted to Chicago instead, as the new buildings
will not be ready for dedication until
1915, at which time a special celebra-
tion will be held.

The classes which are planning five,
ten, fifteen, etc., year reunions in Boston next June, are urged to trans-
fer their activities to Chicago. They
will thereby gain the double advan-
tage of a 1914 reunion at a centrally
located point, and a 1915 eastern
union. The attendance will neces-
sarily be different at the two meet-
ings, and neither will detract from
the other.

The different Alumni Associations
are urged to undertake at once, the
plans of the New Technology
will be held.

The Brotherhood of St. Andrew
will hold its regular bi-monthly meet-
ing Tuesday evening, January 6
7:15 in the Trinity House, 39 St. James
Avenue. This will be the last meet-
ing of the term, and will be devoted
to the discussion of any subjects
which may be brought up. Rev. Van
Etna will lead as usual, and all Tech
men are invited.

ST. ANDREW TUES. EVE.
The Last Meeting Of Term—All Tech
Men Invited.

STUDENTS’ CAST-OFF CLOTHING
and other personal effects bought by
KREZER
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Old Established Dining Room
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TWO STORES

659 Washington St.
Under the Dairy Theatre

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College Shoes for College Men
238 Washington Street, Boston, Mass.
OPPOSITE THOMPSON’S SPA

Chamberlain

Gloves and Sticks
Canes with cigar lighter (within) . . . . $3.00
Canes with silk umbrella (within) . . . . . 5.00
Canes folding for the traveler . . . . . 5.00
Midget silk umbrella . . . . . . . . . 5.00
Superb NECKTIES from 50c to $3.00

More Fatimasa sold in this country than any other cigarette!
THE CLEVER WOMAN
Tetrazzini, Heyman, Tanlongo, For-}


OF THE MADONNA. Edvina,}
Fontana, Danges, Mardones, Ludikar.

AND DALILA. D’Alvarez, Ferrari-

Evgs. 8.15.}

rhe Passing Show of 1913}

"Urs.

Boston Opera House

THE CANDY INDUSTRY

(Continued from page 1)

The study of operation should be car-

ried on with a view toward the results
desired in the shortest time, with the
smallest amount of waste, and with
the amount of labor as low as possible.

Professor Prescott brought out a plan
devised for the control of the whole
industry so far as they affect the public
health. The plan is as follows:

Plan For Hygienic Control

1. The Plant or Factory.
A. Construction, arrangement and
cleanliness—floors, walls, ceil-

ings and windows.
B. Ventilation.
C. Light.
D. Freedom from dust.
E. Cleanliness of machines.
F. Sanitary arrangements.

2. Study for Raw Materials.
A. Examination for suitability, for
use.
B. Examination for harmful sub-

stances and bacteria.

3. Study for Operations.
Under this head comes mainly
study of processes for efficiency,
food value, infection, determi-
cation, with special regard to the
principles upon which they rest.
4. Hygienic Supervision of Opera-
tives, or Welfare Work.
Here should be regarded physical
well-being of operatives, their per-
sonal cleanliness, etc.

Professor Prescott gave a detailed ac-
count of what he thought should be
done in putting the system of control
into practice. Inspection of the whole
plant for cowdews, cleanliness of painted
surfaces, etc., is comparatively easy, but
examination of machines must be made
with minute care, in order that small
crevices and hidden joints may be
checked more thoroughly than would
ordinarily be the case, since they often
afford excellent opportunities for bac-
terial infection of materials pass-
ing over or through them.

Ventilation and light should also
be watched, the sources of air in
the factories being regulated, and car-
bon dioxide tests made. Sanitary ar-
rangements should be looked after, and
enquiries made of the necessary for per-
sonal cleanliness and careful attention
to the sanitary aspects of their work.
The study of raw materials should
aim to exclude any which contain de-
harmful ingredients such as arsenic,
lead or zinc should, of course, be
barred. It must be borne in mind, how-
ever, that these substances are often
unavoidably present in some of the raw
materials used, and such occurring
must be carefully differentiated
that of materials present, as the result
of deliberate addition as impurities or
adulterants. As proper cleanliness, cannot
or such impurities are suggested that
of starch for bacteria; glucose for micro-
organisms of fermentation; and for ar-
senic; chocolate for arsenic and for
other metals and for carbohydrates
for bacteria; gelatin for arsenic and
zinc, and for bacteria; and similar
examination in the case of the candy
mill products. If pastes, jellies or the
like are employed, they may be examined
for bacteria, as well as for mineral
substances and bacteria. Examination
for the end-products of fermentative or
putrefactive change must be made,
for it may happen that the bacteria
which effect these changes are killed
by fermentation, or by the pastes,
and will not be detected in
examination for them.

The study of operation should be car-
ried on with a view toward the results
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Music evenings and Sunday afternoons

The The Tech, Boston, Mass., January 6, 1914.