

THE TECH

VOL. XXXI. NO. 74

BOSTON, MASS., FRIDAY, DECEMBER 22, 1911

PRICE TWO CENTS

LECTURE ON POWER PLANT EFFICIENCY

Interesting and Valuable Facts Given by Mr. Collins to Mechanicals.

Yesterday afternoon Mr. B. R. T. Collins spoke on "Power Plant Efficiency" before the Mechanical Engineering Society. Mr. Collins graduated from the Institute in '88, taught here until '93, became a member of the Stone & Webster Engineering corps, and is now a consulting engineer, a "power plant doctor" of high standing.

He presented to the society many points which he investigates when called in to improve the efficiency of existing plants. He emphasized each point with an account of its successful application to some problem that he has solved. He told them that increased flow could be obtained from water pipes by eliminating elbows. The placing of all pumps in one room, preferably above the cold water reservoir, and using their combined exhausts to run a low pressure turbine or to heat the feed water, made a great saving in the steam consumed.

He mentioned the fact that the safety valves of boilers should be arranged to blow off slightly below the limit fixed by the insurance agents. The removal of scale often helps to reduce the fuel consumption. The existence of cracks through which air can enter to chill the flue gases and reduce the draft can be shown when the flue gases are tested for carbon dioxide by the abnormally low percentage of this component. It is just as important that the dampers be properly regulated, and that the grates be kept covered with fuel. Mr. (Continued on Page 2.)

PROM COMMITTEE.

Juniors Elect Five Men Prominent in Class Activities.

At the close of the balloting for Junior Prom Committee yesterday the count showed that the following five men had been elected: G. P. Capen, A. G. Ranney, R. B. Nichols, J. B. Welch and W. N. Holmes. The total number of votes cast indicated a deplorable lack of interest on the part of the Juniors in the election of this important committee.

Capen was on his class football team both years and has played basketball all three years. Also he worked on the staff of THE TECH during last year. Holmes was Freshman Class President, pulled on both Freshman and Sophomore tug-of-war teams, and is this year a member of the Musical Clubs. Nichols was on his Class Executive Committee Freshman year, is Class Secretary this year and has been on the Mandolin Club three years. Ranney has played on the Varsity Hockey Team two years and is this year's manager. Welch ran on the Freshman Relay Team and also played on the Freshman Basketball Team.

1914 RELAY MEETING.

There will be a meeting Tuesday afternoon, January 2, at 4 o'clock, of all the 1914 relay men to decide about the sweaters and the picture. As the color and style of the sweaters will then be definitely settled, every man on the team should be there to have his say about it.

HOCKEY TEAM OUTCLASSES CRIMSON BY CLEAN SHOOTING AND TEAM WORK

Sloan Gets 2 of 4 Goals For Tech While Duncan, The Harvard Star, Gets only Score--Eichorn Shows Great Strength in Defence

Supported by four hundred loyal rooters, the Hockey Team obtained revenge for the defeat of last year by winning an exceptionally fast and clean game from Harvard at the Arena last night by a score of four to one. Sloan, Stucklen, Eichorn and Ranney, for Tech, and Duncan and Sortwell, for Harvard, repeatedly brought the enthusiastic spectators to their feet by the brilliant flashes of individual play, but the wearers of the Cardinal and the Gray outplayed their opponents in every department of the game.

Duncan, the Harvard center, got the jump on Sloan at the first whistle and rushed the puck into Tech territory, but it stayed there only for an instant. With fine team work, the Tech forwards rushed it back and Sloan just missed a shot at the Harvard goal. For two minutes the evenly matched sevens were alternately on the defensive. Then Sloan, by speedy work, eluded the Harvard defense and scored on a pass from Storke. It was not allowed, however, for he slid and followed the puck into the cage, upsetting it. Tech rushed the puck back again and Smart, the Harvard point, saved his team from a probable score.

The Harvard team now rallied and the Tech goal was endangered, but Ranney blocked all the shots in fine shape. Soon after Sloan was hit on the nose by a flying puck and time had to be taken out for five minutes. He pluckily returned to the game and played the whole game through.

The centers again faced off and Hurlbutt, unaided, almost eluded the whole Harvard defense. For a time Harvard was the aggressor. Ranney was kept busy by a constant bombardment, but prevented a score. Sloan then broke up a scrimmage in front of the Tech goal and carried the puck down the ice to the Harvard goal, where he was body checked by Wingate, who was put out for this for a period. Sortwell, carrying the puck, was stopped by Eichorn, who secured the rubber, and by a fine pass to Sloan assisted the latter to shoot the first goal after eighteen minutes' play. The puck remained near the middle of the ice until the whistle blew for the first period.

The second period opened with the puck in Tech territory, and Ranney stopped two shots that were labeled sure goals. Sloan again, by individual work, was able to get another shot at the opponents' cage, but Smart made a clean stop. Harvard now took another brace and kept the puck in Tech territory for a few minutes. During this period Ranney saved his team from being scored on by jumping out of the cage and knocking the puck out of danger during a scrimmage.

Harvard again weakened, enabling Sloan and Hurlbutt to break through the Harvard line for the second goal, after only five minutes of play. Tech now played all around the Harvard

team, and in two minutes Eichorn rushed the puck up the rink and by his pass Sloan added another point to the Tech score.

The Crimson team braced and Ranney was kept busy for some time. Eichorn fouled Duncan and was put out of the game for two minutes. Sloan made another of his brilliant rushes but the Harvard defense was too much for him, capturing the rubber and again assailing Ranney. Stucklen got mixed up with a Harvard man and was put out for a minute. Immediately on going back he shot the fourth goal from a lively scrimmage near the Harvard goal, with six minutes more to play. Eichorn got into difficulties and was put out again. The Tech seven now played almost exclusively in their opponents' territory, and Carnochan was a very busy man for several minutes. He showed considerable ability in keeping the puck out of his cage.

Duncan and Sortwell then carried the puck down the ice by a series of beautiful passes, and Ranney missed an easy shot from almost fifty feet in front of his goal for the only Harvard score of the game. The play became faster and faster as time shortened in the fruitless efforts of the Crimson to retrieve their lost prestige, but the final whistle came altogether too soon for their purpose and found the puck again in their territory with their goal in danger.

The team as a whole played a fine, clean game, and easily deserved the victory, for they far outplayed the Crimson men. The forward line was fast and sure in their shots, and the score would have been much larger but for the strong defense put up by the team from across the river. In fact most of the game was played by the defense of both teams. The forwards for both were shooting in almost perfect form and it was up to the men in the cage to keep down the score.

Duncan played a fine game for Harvard, but the individual star of the game was the plucky captain of the Tech team. Sloan, after getting a very bad injury in the first minutes of play, came back and played a perfect game. He was all over the ice and kept the whole team together in every play. The team, with the crowd behind it, defeated Harvard, and with the crowd behind it should have little trouble in taking the other teams into camp in the same way.

The lineup:

Tech.	Harvard.
Storke, l. e.	l. e. Sortwell
Sloan, l. c.	l. c. Duncan
Hurlbutt, r. c.	
	r. c. Palmer, Hanson, Adams
	Yeareance, Fletcher, r. e.
	r. e. Morgan
Stucklen, c. p.	c. p. Wingate
Eichorn, p. p.	P. H. Smart, Houston
Ranney, g. g.	S. B. Smart, Carnochan
Referee, Norfolk.	Umpire, Heron.
Goal umpire, Groustein, Calton.	Goals, Sloan 2, Hurlbutt, Stucklen, Duncan.

VARSITY BASKETBALL PLAYS FIRST GAME

Team Leaves Tonight to Meet College of City of New York.

This evening the Varsity basketball team will start on its regular Christmas holiday trip to New York. There they will open their schedule by playing the strong team from the College of New York Saturday night. Owing to an extension of their vacation, the Springfield Training School cancelled the game that they were to have played with our team tonight.

The men who will make this trip are: Captain Schar, Freedman, McCarthy, Hudson, Mowry and Schatz. The team is exceptionally strong this year and its members hope to show the Advisory Council that basketball should be a recognized Varsity sport. Schar plays a fine floor game, and it will be costly work for the opponents to make many fouls, for he is a crack-a-jack shot. Schatz is playing a good game at forward and is able to dribble the ball in fine shape.

It would be hard to find a better man than Mowry for the position of center. He is quick on his feet and can get the jump on most men who oppose him in the center of the floor. Freedman and McCarthy are both getting in some fast work, the former being hard to beat at passing. Hudson will be taken along as general utility in place of Morse, who is ill.

Anybody who happens to be in New York tomorrow night can do no better than to come to this game. It will help the team a lot if even a few men should show up and tell the New Yorkers that "We are happy."

TALK ON CONSISTENCY.

T. C. A. Men Given Profitable Discourse Yesterday.

Yesterday afternoon the T. C. A. had a very busy and most interesting speaker, a Boston lawyer, Mr. E. R. Anderson. He spoke on "Consistency," and said that lasting success in his profession depended upon unswerving allegiance to the bottom principles of Christianity. Then he explained that those very principles are the only laws which are consistent throughout, and until American laws approach these in uniformity a man's conviction is no proof of his moral guilt.

He referred to a paper that says that Americans are more regardless of law than are the people of any other country, and replied that a man here has ten times as many opportunities to disregard laws because of the multitude of unreasonable ones.

Asked as to what good consistency had done him, Mr. Anderson said that many young men who started with genius have failed and been lost to the profession because they had not followed the laws of right living.

CALENDAR.

Friday, December 22nd.
Tech vs. S. T. S., Basketball—Springfield.
5.00—Lowell Lecture on Milk—Huntington Hall.
6.00—Hockey Practice—Arena.
Saturday, December 23rd.
Tech vs. C. C. N. Y., Basketball—New York.
Exercises suspended until January 1st.

THE TECH

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FRIDAY, DEC. 22, 1911

IN CHARGE OF SATURDAY ISSUE.
 EDITOR—Chandler, L. W., 1912.
 Associates—Foote, P. C., 1915; Spencer, W. S., 1915.

THE TECH takes pleasure in announcing the election of Francis C. Foote, 1915, to the News Staff.

The Senior Portfolio Committee have made arrangements with their photographer so that the men who will be in the city can have their sittings during the holidays and thus save doing it later on. There are numerous advantages of having your sitting taken now, one of the principal being that the best time to have them is when the photographer is least busy, and that is now. If you wait until later on in the year both you and he will be cramped for time, and the Portfolio will be the one to suffer. Moral: DO IT NOW.

The work done by Prof. Peabody and the Department of Naval Architecture in the case of the "Froude" certainly has made an impression on the outside world as is shown by the fact that a fund has been given the department for experimentation on tugboats. This will offer excellent opportunities for thesis work on the part of some of next year's graduating class, and will also put forward the name of the Institute farther than previously into the world of Naval Architecture.

The Hockey Team and the Institute did themselves proud at the Arena last night. The team went against the fast Crimson forwards and impregnable defence and won a clean victory in a most handy manner. The cheering section was the best known in the annals of Institute athletics. Four hundred men bunched solid in the reserved section under the guidance of the Official Cheer Leader, made a most impressive showing against the silent and almost empty Harvard stands.

In this, its first appearance in inter-collegiate circles, the team has made good in the best possible fashion for all the nice things that have been said about it, and the men may surely feel that they have the whole Institute behind them from this time on. We are all pulling as one man for the clean sheet and a chance for the championship at the end of the season.

EXERCISES IN PUBLIC SPEAKING YESTERDAY

Subjects Were Ably Dealt With and Were of Considerable Interest.

The exercises in Public Speaking Thursday, at 4 o'clock, showed encouraging improvement in the work of the speakers. They are now on the third and final round of speeches, and begin to show the effects of practice. The delivery is, on the whole, rough, as would be expected, considering the short time which can be given to preparation. At the same time it is generally effective, and most of the speakers on Thursday held the attention of the audience in a gratifying way.

The subjects were of considerable interest. Mr. Munch spoke on labor unions from the manufacturer's side, and on the condition of this problem in Los Angeles. Mr. Hurst gave a direct and practical talk on the development of will-power, the power "to force yourself to do the right thing at the right time." Mr. Robinson, in dealing with the topic of direct and indirect taxation, was under the necessity of condensing a large subject into a brief talk, but he introduced considerable humorous illustration, and seemed to have his hearers with him. The speech by Mr. Kennard on Alpine climbing was most interesting where he gave the story of his own ascent of the Breithorn, and spoke in detail of the expense of a summer of climbing. Mr. Pratt's talk was a selection of late statistics from the most reliable authorities on Alaska, the most difficult speech of the afternoon to give, and one of the most interesting. The second set of speakers will be heard on Thursday, January 4, at 4 P. M.

POWER PLANTS.

(Continued from Page 1.)

Collins found that the introduction of mechanical stokers in a plant using 700 tons of coal a day made a saving of \$1600 a month, although the stokers were originally installed to avoid labor troubles.

In some cases a poorer grade of coal when burned under the right conditions effected quite a saving. In one power plant it was found that 14 per cent. of the boiler refuse was combustible matter, and by reclaiming some of the coke by hand a saving of \$7500 a year was possible. The handling of coal can be cheapened from 17 cents per ton to 3 cents per ton by using machinery instead of wheelbarrows. The use of fuel oil, now practical in Texas and California, solves this problem of handling, and makes the elimination of smoke possible.

Attention to the temperature of the feed water and to the protection of steam pipes effects a great saving in coal. The condensers ought to be examined for leaks which may spoil the vacuum. The gauges registering this vacuum, as well as these measuring the steam pressure, need frequent calibration.

A program of dates when the various parts of the engines are to be inspected saves much by preventing accidents. He told how large steam engines should have a very well arranged system of oiling, for large savings can be made. The dynamos are kept clean and cool by blowing filtered air through them.

A continuous record of the plant is the most certain indication of faults and losses in efficiency. This record also allows the engineer to send out intelligent specifications for new apparatus. Samples of specifications covering over a dozen types of machines were distributed among the members, and a discussion of the contents and purposes of these concluded the lecture.

These are busy days at the Gym.

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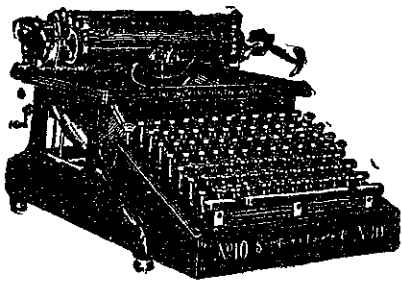
SAMSON et DALILA

Friday, December 22, at 8 p. m.

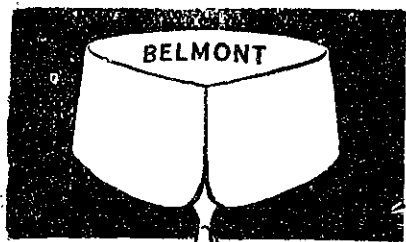
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**LAST ACOUSTICS
LECTURE BEST**

Prof. Sabine Gives Valuable Information—Conditions in Notable Buildings.

The last lecture on Architectural Acoustics which was given by Prof. Sabine of Harvard proved to be by far the most instructive and interesting that has yet been heard in this course. Prof. Sabine had led up to his final consideration of the subject through various explanations of his own experiments as well as by many done before the audience in the lecture room, and had prepared his listeners admirably for the practical illustrations and definite rules which can be followed to make sure of gaining a desired end in the acoustic properties of any room.

The subjects of the lecture, "Calculation in Advance of Construction," "Correction" and "Notable Buildings," were fully taken up and explained in such a way that the least technical person could easily follow the lecturer's meaning, and yet every point was still of utmost interest to the architect and engineer. In fact, to the architect this last lecture is most invaluable, for by the application of the principles and the rules laid down by Prof. Sabine, all of which he determined by many years of hard work and experimentation, the builder or designer of a building may guarantee the acoustic properties of his auditorium to approach perfection in a very great degree.

Of great importance likewise was the consideration of the means for correcting the acoustic properties of a room in such a way that excellent results can be obtained where it has heretofore been thought impossible. To illustrate, Prof. Sabine spoke of several buildings which have been constructed to give perfect acoustic conditions, and also of many which have been corrected so that they are very fair for auditorium uses.

SENIOR PORTFOLIO.

Committee Choose Hearn as the Official Class Photographer.

At a midnight meeting of the Portfolio Committee, which was held for the purpose of deciding who should be the official class photographer for 1912, it was voted to give the contract to C. W. Hearn.

All the members of the class are asked to see Mr. Hearn as soon as possible and make arrangements for sittings during the holidays. All the men who get in at this time will not only get better pictures, due to the fact that the photographer will have less rush work, but they will also have the satisfaction of knowing that they have helped him greatly.

Everything is in readiness at the studio, 727A Boylston street, for the work, even to the extent of a large number of lenses which have been secured to cover the loss by breakage, and Mr. Hearn will be glad to see members of 1912 at any time.

COMMUNICATION.

(We invite communications from all men in the Institute on important subjects. We take no responsibility for their sentiments and do not agree to print any that may come in, whether they are signed or not.)

To the Editor of THE TECH:
Will you kindly extend, through THE TECH, my thanks to the members of the Track Team for their very kind Christmas remembrance of gold cuff links and pin.

Sincerely yours,
FRANK M. KANALY.

Fletcher is showing Varsity class in hockey practice.

Huntington, the Harvard hockey captain, is laid up with a bad ankle.

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THE CHOCOLATES
THAT ARE DIFFERENT
FOR SALE AT THE UNION