

GEORGE A. HOYEN ORCHESTRA LEADER RECEIVES HONORS

Musical Clubs Coach Awarded
Honor Certificate From
Salzburg

HOYEN WILL DIRECT
M. I. T. BANJO CLUB

Combined Musical Clubs Invite
Freshmen To Meeting
In Room 10-250

George A. Hoyen who has for several years conducted the Little Symphony at the Institute and will coach the Banjo Club and Orchestra this year has been awarded a certificate of honor from Mozarteum in Salzburg, Austria, the first to be given in the history of the Konservatorium according to a letter received at the New England Conservatory of Music.

Hoyen has attended the International School of Conducting at Salzburg, for three years, where he held the scholarship created by the American Friends of the Mozarteum. He

(Continued on Page 4)

HARVARD PROFESSOR SPEAKS AT MEETING OF CHEMICAL SOCIETY

Motion Picture On Chemistry
To Be Shown; Will Serve
Refreshments

Professor Grinnell Jones, of the department of physical chemistry at Harvard, will speak at the first meeting of the M. I. T. Chemical Society this Thursday evening at eight o'clock.

A motion picture on industrial chemistry will also be shown. There will be refreshments and smokes and the customary book raffle. The So-

(Continued on Page 4)

Lost Schedule Fails To Hinder Freshman

The complicated schedule which is so vital a part of the Institute semester, evidently develops resourcefulness if not memory in Technology students. The average man, who finds himself in the middle of a crowded day without his very necessary schedule card might find himself embarrassed, to say the least. Especially at the beginning of the term, before he has had a chance to familiarize himself with the sequence of classes. One freshman who found himself in the above predicament did not delay in solving his problem. Proceeding to the Information office he looked up his schedule in the files. As it happened, he found that he had no class for the next period. However, at least one upperclassman is known to have profitably employed the above device frequently to check up on his program.

"THE TAVERN" NEXT DRAMASHOP PLAY

Farce By George M. Cohan To
Be Produced In
November

The Tavern, a farce in two acts, by George M. Cohan, will be the fall presentation of the Dramashop, General Manager Harrison S. Woodman announced yesterday.

Tryouts for the play, which is to be given some time in November, will be held Wednesday, October 3, at 5:00 P. M. in Room 2-178. Copies of the play may be viewed in Room 2-176, the office of Professor Dean M. Fuller, director of the Dramashop. Candidates for the management may also report Wednesday.

The play, aptly named, takes place in a tavern sometime in the not too distant past. On a dark and stormy

(Continued on Page 3)

DORM FRESHMEN ATTEND DINNER

First of Series of Compulsory
Meals Held in Walker
Last Friday

Dormitory freshmen were present Friday night at the first of a series of dinners given to acquaint them with the aims and purposes of the dormitories. Attendance at these dinners is compulsory. The principal speech of the evening was given by Professor Leicester F. Hamilton, chairman of the Dormitory Board.

Professor Hamilton outlined three important things which every freshman dormitory resident is expected to try to do; namely, act like a gentleman, develop personality, and have a good time. Professor Hamilton also urged the dormitory dwellers to attend the Sunday teas since they offer valuable opportunity for making contacts with members of the faculty and help in rounding out the social life of the Institute.

Other speakers were John G. Mooring, '35, who explained the workings of the dormitory committee, Kazmier J. Winiarski, '35, who spoke on student athletics, Louis W. Phlanz, Jr., '35, who pleaded for support for dormitory dances, and Robert A. Scribner, '35, who warned the freshmen to observe regulations.

OVER 500 STUDENTS ATTAIN DEAN'S LIST

Percentage of Honor Students
Exceeds Last Year's

The names of 531 students at the Institute whose high records last semester entitle them to a place on the dean's list of undergraduate students of high scholastic standing were made public yesterday.

Of the group of 531 young men and women, the great majority are graduates of public high schools. The large number of freshmen who stood in the upper fifth of their high school classes and consequently were permitted to enter Technology without examinations maintained a particularly high average.

The dean's list, which does not include last June's graduating class, shows 34.4 per cent of the first year students, 41.7 per cent of the class of 1936, and 37.9 per cent of the class of 1935 as having maintained first, second, or third honor rank. This represents a rise in the percentage of honor students in these classes over the preceding term, when the student body of the Institute set a new high record for academic achievement.

ROGERS WILL LECTURE TO EXTENSION CLASSES

More Than Ten Thousand Have
Attended His Lectures

Professor Robert E. Rogers of the Institute English Department will start a series of lectures in Boston, Lowell, and Lawrence this week under the auspices of the State University Extension Classes. The Boston series of lectures will consist of talks on English and American Literature of the past fifty years. The chief individuals who have figured in English literature will form the subject matter for the English Literature course, while the American Literature course will deal with the social history of America since the Civil War as mirrored in literature.

The lectures at Lowell and Lawrence are on the subject of "Parallels and Contrasts in Literature." They are similar to Plutarch's lives in that each lecture compares the lives of two people.

Lt. Henry B. Harris



Killed in Auto While Towing Glider
At Elmira, N. Y.

LT. HARRIS KILLED EARLY IN SUMMER

Unofficially Broke Altitude
Record in New England,
Reached 20,570 Feet

Lieutenant Henry Brown Harris, pilot of the Institute's meteorological research plane, was killed in an automobile accident early this summer while launching a glider.

Familiarly known as "Hank", Lieutenant Harris, a special student at the Institute, had made daily weather observation flights over New England for the Institute, recording upper air temperature, pressure, humidity and making photographic and visual observations of cloud and haze.

About a year ago, Lieutenant Harris established what was believed to be an unofficial altitude record for New England in reaching a height of 20,570 feet.

Aside from his official Institute activities, Lieutenant Harris was Massa-

(Continued on Page 4)

FIELD DAY DATE IS ANNOUNCED AS FRIDAY, OCT. 26th

Annual Event Is Advanced To
Take Place Before Five
Week Marks

150 AT FROSH MEETING

First Year Men Given Pep Talks
By Coaches and Junior
Class Officers

Field Day will be held on October 26, instead of November 3, according to an announcement made at the freshmen mass meeting held in Room 5-330 yesterday. Among the reasons for the change was the desirability of getting in five full weeks of Physical Training. It was also declared advisable to hold it before the five weeks marks are declared so that the participants may settle down to work more readily after receiving their marks. The selection of November 3 was because of an oversight on the part of the committee in charge.

The class of 1938 were given pep talks by Oscar F. Hedlund, track coach; Amelius P. Horner, '36, Tug-of-war Coach; and Hoyt P.

(Continued on Page 4)

ROGERS WILL SPEAK AT INITIAL MEETING OF COMMUTERS' CLUB

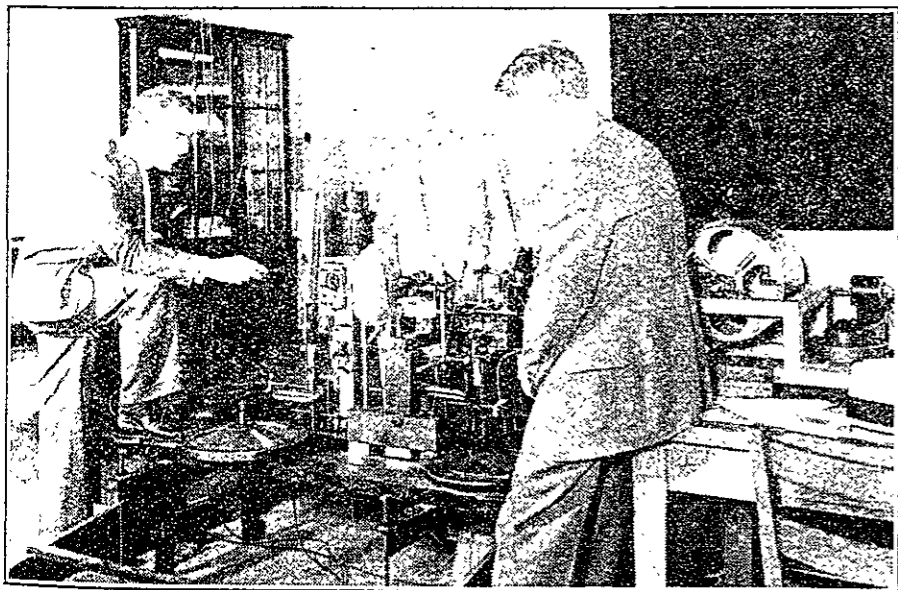
First Smoker to Be Held Friday;
Association Announces
Barn Dance

In an effort to bring together, once more, commuters at Technology, the 5:15 club will hold its first smoker of this year on Friday, October 5, 1934, in the commuters' room, in the basement of Walker. The meeting will commence at 5:15.

Prof. Rogers of the English department and Gerald M. Golden, '35, presi-

(Continued on Page 3)

Model of Water Tank Used in Earthquake Study



Arthur C. Ruge, Research Associate; Commander N. H. Heck; and
A. L. Brown, Research Director.

Miniature Elevated Water Tanks Used to Investigate Effects of Earthquakes

Research Is Directed By Arthur
C. Ruge; Goal to Safeguard
Water Supplies Subject To
Seismic Disturbances.

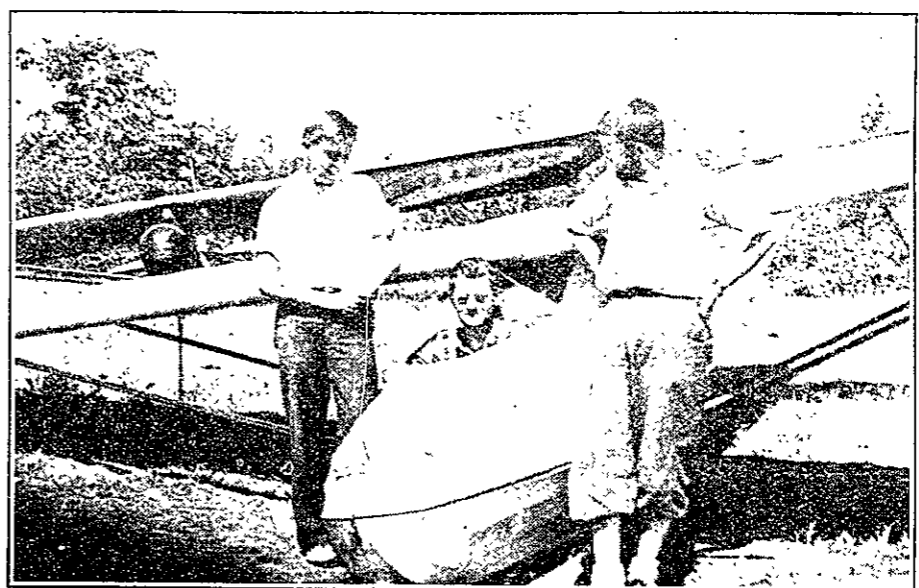
Earthquakes and their effect on elevated water tanks are being studied in the department of civil engineering at the Institute in a search for methods of safeguarding public water supplies in areas subject to seismic disturbances.

The research is being carried on by Arthur C. Ruge, research associate in the laboratory of seismology, who

employs miniature elevated water tanks and laboratory earthquakes in his studies. The investigation was sponsored by the Factory Mutual Fire Insurance Companies because of the fire hazard and the danger of disease when water supplies are destroyed in earthquakes. The destructive effects of even a slight earthquake were demonstrated in the seismic disturbance at Long Beach, Calif., last year, when a surprising number of elevated tanks were damaged, some so seriously it was necessary to dismantle them.

(Continued on Page 4)

Glider and Three A. E. S. Members in Meet at Elmira



J. B. Schliemann, President A. E. S.; Benjamin Badenoch; and F. W. Locke

A. E. S. Returns from Fifth National Soaring Contest With Fairchild Cup

Award Sherman Fairchild
Trophy for Longest Basic
Time in Air; Second Award
Given for Number of Cross
Country Flights.

Fresh from a successful summer gliding season and participation in the Fifth National Soaring Contest at Elmira, New York, where they won the Sherman Fairchild Cup for greatest total time in the air, members of the Aeronautical Engineering Society began a new drive for members today.

Those participating in the Elmira meet left for Elmira two weeks before the start of the contest, on July 8, and spent the intervening time in training and qualifying flights and in putting finishing touches on the "Professor", the Society's German sailplane. After the unfortunate death of Lt. Henry B. Harris on June 15th, the work of instruction was assumed by Emerson Mehlhose and Martin Schempp, nationally known glider pilots.

From the start of the meet both gliders were kept busy while there

(Continued on Page 3)



Vol. LIV OCTOBER 2, 1934 No. 33

MASSACHUSETTS INSTITUTE OF TECHNOLOGY

MANAGING BOARD

General Manager John D. Hossfeld, '35
 Editor Paul Cohen, '35
 Managing Editor Hamilton H. Dow, '35
 Business Manager John D. Loomis, '35

EDITORIAL BOARD

Phoenix N. Dangel, '35 Perry H. Ware, '35

ASSOCIATE BOARD

Assistant Editors

Anton E. Hittl, '36 Ralph D. Morrison, Jr., '37
 August V. Mackro, '36 Richard L. Odiorno, '36
 Robert J. Marks, '36 Francis S. Peterson, '36

Business Associates

Elwood H. Koontz, '36 Benjamin B. Dayton, '36
 Robert F. Driscoll, '36 James F. Notman, '35

Staff Writers

Arthur A. Carota, '36 Charles J. Rife, '36
 Jackson H. Cook, '36 Charles W. Smith, '35
 Jack I. Hamilton, '36 Milton B. Dobrin, '36
 Louis C. Young, '36 Francis H. Lessard, '36
 Associate Advertising Manager: Oscar A. Pick, Jr., '36

OFFICES OF THE TECH

News and Editorial—Room 3, Walker Memorial, Cambridge, Mass.
 Telephone, University 7029
 Business—Room 302, Walker
 Telephone, University 7415

SUBSCRIPTION, \$1.50 Per Year
 Published every Tuesday and Friday during the College year,
 except during College vacation
 Entered as Second Class Matter at the Boston Post Office
 Member Eastern Intercollegiate Newspaper Association

In Charge of this Issue: Herbert K. Weiss, '37

RAW MATERIAL

STUDENT SELECTION

ONE of the best ways of assuring successful graduates of an engineering school is obviously to insure the securing of men fitted for an engineering training before they enter college. What are the earmarks of the embryonic engineer? How can it be discovered whether a man has aptitude for technical studies?

The Engineers' Council for Professional Development with its subsidiary body, the Committee on Student Selection and Guidance, has taken a definite stride toward the answer of this problem. They have inaugurated a series of tests to be given to men entering engineering institutions all over the country. Students take the tests upon entering college and before each successive year of their college career. At the end of four years, the Committee will have the results of the four comparable tests on all entering freshmen who have survived till graduation in addition to the regular grades and examination results that the students normally receive in their courses. The standing at the end of the period can then be compared to the standing at the beginning of the freshmen course. With these data, critical zones for the scores on the tests could be established below which few if any succeed in engineering work and above which almost all are successful.

These tests could be made the proving ground for would-be engineers, offering the yardstick by which the student's capacities and aptitudes can be measured. Because of the pressing necessity for men to locate themselves in the right field as early as possible, the demands made on agencies of vocational guidance are becoming critical. Perhaps this experiment will add another valuable tool to the equipment of high school principals, guidance officers, and councillors whose work is to advise students for or against an engineering education.

CHANGE AND TRADITIONS

FRESHMAN RULES

THIS is a day of experiment and change. We of today cannot say whether this change will lead to renaissance or decline, but most certainly it will lead to a new world.

The immediate problems arising from any change are those of orientation. Men find themselves confused, and in seeking for a bearing, discover the value of tradition. Traditions change too, being only relatively stable, but even their relative permanence makes for an easier adjustment to one's environment.

Freshmen rules are a tradition and a good one, although their goodness is often disputed by the poor devils who are reminded of some breach of "etiquette", by a group of "high spirited" sophomores. But it must be remembered that freshmen ties are not a mark of inferiority but an emblem that creates group solidarity, that tipping one's hat to the president and the dean is a mark of courtesy that these men deserve.

The value of such traditions lies in the manner and the spirit of their enforcement. If the attitude of the student body is that these rules should be enforced because they are a worthwhile part of Technology life, they will serve to form a cohesive, loyal class. If they

are made a penance that freshmen must pay because they are freshmen, the rules had better be abandoned altogether.

DECENTRALIZATION

THE HUMAN EQUATION

DURING the last fifty years enormous strides have been made in the development of electrical power transmission. It has become, from a nebulous hope, a practical reality which is invaluable to modern industry. In general, it has affected the industrial world in two important ways, both of which are related.

Formerly the major operations of a manufacturing plant were all grouped about the source of power. Power transmission by belts and shafts was the general rule. Were the plant to have several sections, either a very long transmission belt or an entirely separate prime mover would be necessary. With the advent of cheap electrical power, however, the inherent waste of such a system has been fairly well eliminated. Automatic machines have entirely separate drives, and various scattered parts of the plant house their own motive power in the form of an electric motor.

Another industrial movement which advances in electric power transmission have made possible is that of separating manufacturing plants to sections remote from a cheap source of natural power. When power could not be obtained so easily as it can be now, many of the important industries were grouped near plentiful sources of water power, near the coal fields, and near oil fields. Even locations which were not close to any of the natural sources were situated at such a place that transportation was handy, in order that a supply of fuel could be easily obtained. Now it is possible for a factory to be so located that the sources of other than electrical power are far removed, and the only necessary condition is that some means of transportation for their product be handy. This means need not necessarily be a railroad, for good roads will permit distribution by trucks.

These two movements have gained some foothold in the present industrial system. There are, however, some counteracting forces which tend to hold them back. Certain sections of the country have become known as industrial centers. At these places labor may be obtained more easily, transportation can be more cheaply furnished, and supplies are not as difficult to get.

The mere fact that other industries have settled down in one place makes it more attractive for similar activities. Aside from certain natural advantages such as harbors or climate, there is practically no limit to the decentralization of industry from the technical point of view; it is in the human equation that the problem lies.

VISION AND REVISION

BOOKS COST MONEY—TO PUBLISH

CONSIDERABLE clamor is raised each year among the undergraduates about the revision of textbooks written by members of the faculty, necessitating the purchase of new books. It immediately occurs to the student that the books are revised to prevent him from using the previous year's notes and answers for the assigned problems. But to his mind this doesn't justify the revision of the entire volume, making it impossible to buy a second hand copy. A pamphlet of problems to supplement a regular textbook would answer that need without complete revision.

The real reason for frequent new editions is the feeling among the faculty that the books are being gradually improved, and that improvement is justification for a revision. For the past five years the text book on elementary electricity has been enlarged and changed, the present copy containing about twice as much material as that of five years ago. The changes form a process of evolution. Each year the instructors find parts of the material that offer trouble to the student, and as a result new material is included in the following edition.

Moreover, in the physics department, before this series of planograph books on electricity was initiated, several other standard textbooks were tried without much success. It was found more beneficial to the student if the text were suited to the methods of the individual instructors. Though of course the fundamental principles of electricity remain the same, the manner of presentation has been changed, and the authors feel that the students are getting more for their money.

Those who suspect the professors of getting rich on the money earned by the sale of books every year should consider the amount of time and effort required for the revision per unit remuneration, and the business habits of publishers. If students realize that a new book is designed to fulfill his needs better than the previous one, then perhaps the more strident shouts of the calamity-criers will be quelled.

But that will not ease the pain in our pocket books.

R. O. T. C. APPOINTMENTS

The following promotions, appointments, and assignments of Student Officers in the R. O. T. C. have been announced by Captain Bayard Johnson:

REGIMENT		
Commanding:	Colonel	Henry Christensen, Jr.
REGIMENTAL STAFF		
Executive Officer:	Lieut. Colonel	Elmer J. Roth
Plans & Training (S-3)	Major	Thonet C. Dauphine
Supply (S-4)	Major	Charles H. Ross
Adjutant	Captain	Walter R. Hedeman, Jr.
Asst. Adjutant	Captain	John R. Burton, Jr.
Personnel (S-2)	Captain	Israel E. Woll
Assistant (S-3)	Captain	William E. Peterson
Assistant (S-4)	Captain	Robert J. Flood
FIRST BATTALION		
Commanding:	Major	Edward Loewenstein
Executive Officer	Captain	Isadore E. Friedman
Adjutant	First Lieutenant	Ernest E. VanHam
Plans & Training (S-3)	First Lieutenant	George F. Lincoln
Supply (S-4)	First Lieutenant	Ralph B. Woolf
COMPANY "A"		
Commanding:	Captain	Robert J. Lutz
Second in command	First Lieutenant	Michael G. Kelakos
Platoon commander	First Lieutenant	Robert A. Olson
Platoon commander	First Lieutenant	Donald F. Taylor
Platoon commander	First Lieutenant	John R. Graham
Platoon commander	First Lieutenant	Basil A. Martin, Jr.
Platoon lieutenant	Second Lieutenant	Milton K. McLeod
Platoon lieutenant	Second Lieutenant	John M. Teasdale
Platoon lieutenant	Second Lieutenant	John P. Bainbridge
Platoon lieutenant	Second Lieutenant	Richard F. Bailey
Platoon lieutenant	Second Lieutenant	Arthur M. Linn
Platoon lieutenant	Second Lieutenant	Fitz R. White
Platoon lieutenant	Second Lieutenant	John H. Colby
Platoon lieutenant	Second Lieutenant	John J. Ryan
Platoon lieutenant	Second Lieutenant	George R. Kevorkian
COMPANY "B"		
Commanding:	Captain	Hal L. Bemis
Second in command	First Lieutenant	Richard L. Shaw
Platoon commander	First Lieutenant	John A. Miller
Platoon commander	First Lieutenant	Charles F. B. Price
Platoon commander	First Lieutenant	H. Fiske King
Platoon lieutenant	Second Lieutenant	Duncan K. Finlayson
Platoon lieutenant	Second Lieutenant	Jefferson Farmer
Platoon lieutenant	Second Lieutenant	Stanley M. Lane
Platoon lieutenant	Second Lieutenant	Donald C. Gutleben
Platoon lieutenant	Second Lieutenant	Francis W. Muldowney
Platoon lieutenant	Second Lieutenant	Hugh F. Fenlon
Platoon lieutenant	Second Lieutenant	Bernard H. Nelson
Platoon lieutenant	Second Lieutenant	Robert J. Granberg
SECOND BATTALION		
Commanding:	Major	Lucius E. Packard
Executive Officer	Captain	George W. Bartlett
Adjutant	First Lieutenant	Kasmierz J. Winiarski
Plans & Training (S-3)	First Lieutenant	Robert W. Spinney
Supply (S-4)	First Lieutenant	Laurence A. Stone

(Continued on Page 5)

Intercollegiates

Physical Chemistry has been abolished as a required subject in the Electrical Engineering course at Rensselaer.

When the two lower classes at Rensselaer have their annual free-for-all, participants cover themselves with grease.

The Rensselaer Department of Mathematics used the same text book

Walton Lunch Co.

Morning, Noon and Night
 You will find All Tech at
 78 Massachusetts Avenue
 CAMBRIDGE

QUICK SERVICE
 APPETIZING FOOD
 POPULAR PRICES
 Quality First Always
 THAT'S
 WALTON'S

1080 Boylston Street
 Convenient to Fraternity Men

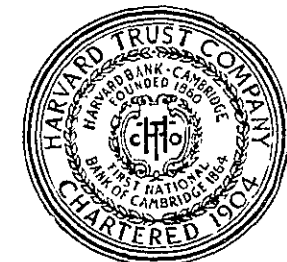
continuously for fifty-two years—
 Bousser's Calculus.

One hundred Northeastern freshmen spent the week-end of September 8 at the freshmen camp at Lake Massapoag.

It is estimated that the Nott Elm, five-hundred year old tree on the Union College campus, has only fifty years more to live.

Your Bank

KENDALL SQUARE
 OFFICE



HARVARD
 TRUST
 COMPANY

MORE SOPHMORE CANDIDATES FOR FOOTBALL NEEDED

Field Day Football Teams Are Being Selected By Class Football Coaches

WINNERS GET NUMERALS

Although practically all of last year's first string freshman football team have reported for practice within the past week, co-mentors Harner Selvidge and John Colby have issued another spirited appeal for more Sophomore material. In order to encourage more boys to come out for the team, Colby has arranged with class officials to advance additional funds with which to purchase uniforms for these late comers. The reason that such an interest is being shown for the late comers is that the coaches want to have two full teams so as to facilitate substitutions and so that scrimmage games may be held in the near future. In addition potential candidates are reminded that class numerals are awarded to all the members on the team winning the Field Day football game.

In spite of the fact that a sizeable nucleus of last year's team is back, it can safely be said that not many of the boys are sure of their positions, due to the fact that they will find plenty of competition from such new comers as: "Don" Cestoni, last year's freshman heavyweight wrestling star; "Joe" Heal, last year's freshman intercollegiate wrestling champ and crew man; and "Ed" Brettingham, a transfer from Prinseppi College, Missouri, where last year he won all state honors as tackle. Other boys from last year's team include Captain "Stan" Zemansky and Jim Thompson ends; Johnny Simpson, Harry Corman, Jervis Webb, backs and Fred Wasserman, center.

CROSS-COUNTRY MEN ARE BEING SHAPED FOR COMING SEASON

First Meet With Rhode Island State College Comes October 20

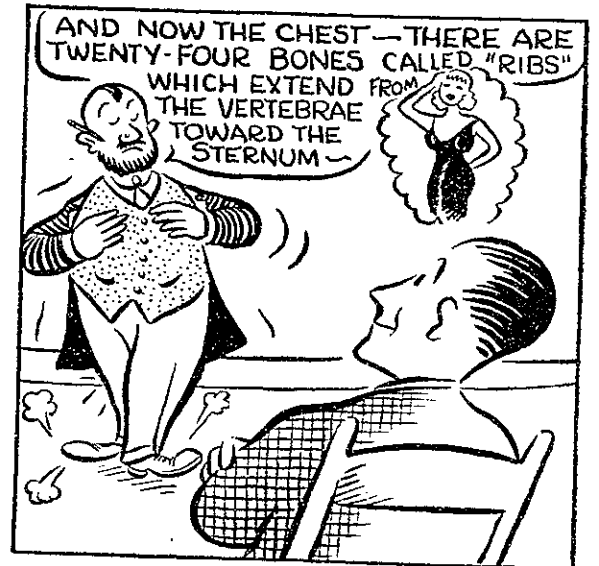
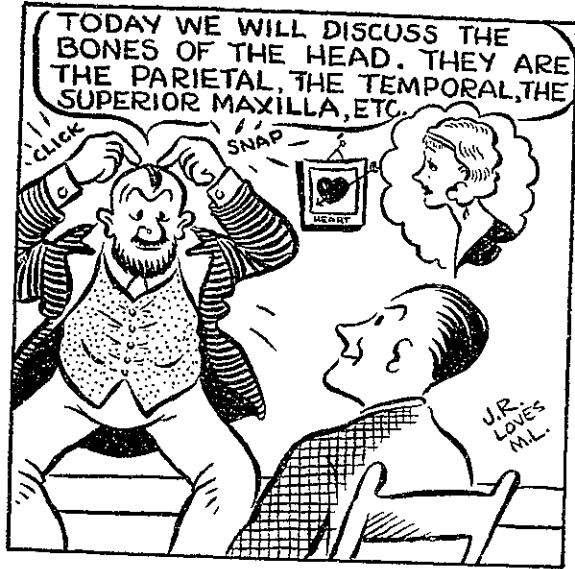
Facing one of the stiffest schedules in recent years, Oscar Hedlund, track coach, is assiduously shaping his cross-country men into shape for the first meet of the year which comes on October 20th, when he and his charges journey down to Rhode Island to meet the strong State College group that last year placed first in the N. E. I. C. A. A. meet at Franklin Park. It is interesting to note that it was in this meet that Mort Jenkins was "discovered", when running his first race on any track team he placed second with other much more experienced boys trailing him. Other men who probably will make the trip include: Captain Talbert, Clark Nichols, Murray Brown, George Lincoln, Wendell Fitch, William Bates, and Douglas Fitch. Cooper, Guerke, Moffatt, Oakes, and Matthews, up from the last year's strong freshman team are expected to give the veterans plenty of competition.

A.E.S. WINS FAIRCHILD CUP AT ELMIRA MEET

(Continued from Page 1)

was sufficient breeze to fly. Four pilots made their "C's" in the Franklin: Benjamin Badenoch, Margaret Kimball, Richard Koegler, and Julius B. Schliemann. Schliemann's flight lasted one hour and 55 minutes, topping all others for duration in the secondary ship. Some of the flights made from Henry Harris Ridge ran afoul of certain irate agrarians in the vicinity of Elmira, who extorted fees of two and three dollars for landings on their property.

The "Professor", too, performed ably in the hands of Emerson Mehlhose. Mehlhose took third place for endurance in sailplanes with a flight of 5 hours and 42 minutes. This



Copyright, 1934, R. J. Reynolds Tobacco Company



AFTER EVERY CLASS IT RINGS THE BELL!

PRINCE ALBERT is made of the finest top-quality tobaccos. And before it is packed in the big red tin a special process removes every hint of "bite." No wonder Prince Albert is so mild and mellow! Just give Prince Albert a chance to please you...and find out how good a pipe can really taste!

PRINCE ALBERT

- THE NATIONAL JOY SMOKE!



HUNDRED FRESHMEN NOW WORKING HARD ON FIELD DAY CREW

Captain Bill Haines Is Drilling Varsity On Fundamentals And Details

With a hundred strong but inexperienced freshmen to work with, Coach Al Dunning has started to mould together a winning field day crew. The freshman coach must perform the almost impossible job of producing a smooth working crew in the short space of five weeks. When asked what progress he has made to date, Al grinned and said, "We're still struggling." First year crews have failed to win their event in the annual affair since 1930 when the class of '34 overwhelmed their rivals 11 to 2.

While the freshmen are learning the general aspects of sweep-swinging, head coach Bill Haines is waging his annual campaign with fundamentals, not working his men very hard, but trying to drive home the all important details that make rowing an art. There are no permanent lineups as yet but Coach Haines is watching all three varsity boats very closely prior to choosing his first boat.

Guy Haines, captain and stroke of the light boat for the last two years will probably stroke the varsity. Captain Al Mowatt is rowing the No. 6 position while Willard Bixby has retained his last year's position at stroke of the junior varsity. The sophomore heavies have been kept intact with Pierce setting the pace. The present freshman lineup, which according to Al Dunning closely approximates the field day crew has Wilson at bow; Germain, 2; Bausch, 3; Draper, 4; Underwood, 5; Dunlap, 6; McLaughlin, 7; Freeman, stroke, and Smith, Coxswain.

flight caused quite a sensation, for while evening drew on and Earl Southee, manager of the meet, tore at his hair, Mehlhose declined to come down in spite of rocket signals, shouted threats, and Department of Commerce rulings about night flying without lights. The trailing edge-flaps designed by J. B. Kendrick, '34, and installed last spring, were said to have greatly increased the ease in landing the "Professor".

One of the wonders of the meet was the awe-inspiring beard grown by Fred W. Locke, '36, a member of the A. E. S. managing board. The second week of the meet when a heavy windstorm caused much confusion and resulted in the wreckage of a glider owned by the Stevens Institute of Technology, Locke heroically protested a Stinson operated by Mr. John

SPORTS COMMENT

Coincident with the opening of the school year came rather disheartening news to two of Technology's athletic teams. We refer to the basketball team and the tennis team. In the case of the latter the bad tidings concerned one Gilbert Hunt, star of the 1934 net-wielders at the Institute who did not return to Technology this fall.

Hunt is one of the outstanding young tennis players in the United States, his performances in national tournaments of the last two or three years having stamped him as such. Last spring he led all the New England college netmen in the tournament held at Brookline. In the early part of this past summer he battled his way to the finals of the National Inter-collegiate Tournament, only to be defeated by another brilliant young player, Gene Mako of the University of Southern California, who showed the country that that institution can produce tennis players as well as football players and a champion golfer. Hunt indeed was regarded as the mainstay of Tech's 1935 tennis team and his presence will certainly be missed.

Coach Henry McCarthy, director of the fortunes of Tech's basketeers, was the recipient of the other bit of bad news when it was learned that Charles "Red" Kennedy also had decided not to return to the Institute. Kennedy, who would have been a member of the junior class, was captain-elect for the coming basketball season. His withdrawal from the Institute means that last year's back-court combination of himself and Johnny Demo will be broken up this winter. Coach McCarthy will have to find someone else to team up with Demo on the defensive end of the court.

It is also rumored that Fletcher Thornton, one of the forwards on McCarthy's last outfit, may not be seen with the hoopmen this winter. Thornton is manager of the track team this year and his duties in that field may be heavy enough to keep him from donning his basketball suit. And speaking of last season's forwards we saw Gene O'Brien, captain and the other forward on the 1933-34 five, working out in Walker Gym last Saturday afternoon. Gene has a job in Cambridge at the present time.

H. Shobe, of the Boston Municipal Airport. Shobe's plane was merely placed to the leeward of Locke's luxurious shrubbery, the latter acting as ship remained in a dead calm.

Among the outstanding women pilots at the meet was Miss Margaret such an effective windbreak that the Kimball, of Lexington, Mass., a licensed airplane pilot, whose "C" was gained after very little experience in the A.E.S. Franklin.

At the end of the meet, the Society received the two following awards: The Sherman Fairchild Trophy for the greatest basic time in the air and the second award for the greatest number of cross country flights of fifteen miles or over.

In addition, Martin Schempp made the third highest altitude (sailplanes) and first for duration (sailplanes), remaining aloft 6 hours and 8 minutes. It was in this latter event that Mehlhose took third with the "Professor".

After the meet some of the members of the Society remained to carry on further training flights for another week, under Mehlhose's direction.

Those who participated in the summer's activities were Richard Koegler, '36, Julius Schliemann, '36, James Kendrick, '34, Erskine Kelley, '34, Frederick Locke, '36, Leon Wallenstein, '36, Donald Davis, Harvard, '37, Henry Baum, Harvard, '37, Albert Moeller, '33, Margaret Kimball, Benjamin Badenoch, Roy McLane, '31, and George Gibson, '34.

5:15 CLUB WILL HOLD SMOKER FRIDAY NIGHT

(Continued from Page 1)

dent of the club will be the guest speakers. Cider, doughnuts and smokes will be served free to all attending.

Announces Barn Dance

At this time the commuters' club announces that it is planning a barn dance to be held October 11, the evening previous to Columbus Day vacation. The dance will be held in the Main Hall of Walker, from 9 to 2 o'clock, with music furnished by Duke Charles, popular Boston orchestra. Prices of admision will be \$1.25 to members of the club, and \$1.50 to others.

Although organized early in March, 1933 the 5:15 club has been successful in sponsoring several dances and a moonlight sail. In the light of the club's successful first year and its large number of members, including alumni, the Institute Committee, with the recommendation of Dr. Bush, vice-president of the Institute, granted in January, 1934, the old billiards room for use as a combined lunch and club room.

Bradley is one of the very few schools in the country that maintains a free required physical examination for all students.

The Bradley Tech

NEW FIELD HOUSE IS APPRECIATED BY STUDENT BODY

Building Has the Most Modern Systems For Lighting And Heating

GRANDSTAND TO BE BUILT

"It's a wonderful thing for the student body," was Track Coach Oscar Hedlund's comment when questioned about the new Barbour Field House. This feeling is now general among the users of the new building less than two weeks after the opening of school.

Constructed this summer, the field house, of reinforced concrete, replaces the old wooden track house which was erected as a temporary structure twenty years ago. About fifty by one hundred eighty feet, and one story high, the new building has no windows, but is provided with skylights instead. For this reason all the lockers are well illuminated, instead of only the outside row.

Another advantage of the new building is the modern heating and ventilating system, with fans keeping the air fresh. This feature is one of those most appreciated by the men using the building.

The field house is much larger than the old building, and contains a spacious shower room and offices for the different sports. "This is one of the most up-to-date plants around here," said Coach Hedlund. "It is an excellent set-up for an institution of its kind. It makes the whole squad feel better."

The new building was constructed this summer and is named in memory of the late Edmund Dana Barbour, who provided a fund a portion of which was used for the building. The structure is now entirely completed, with the exception of a grandstand to be built along the east wall, facing Tech Field.

DRAMASHOP TO PRESENT "THE TAVERN" BY COHEN

(Continued from Page 1)

night, a romantic vagabond, a homeless woman, the Governor of the state, and his family arrive at the tavern. Many complications ensue when the identity of each character is questioned in turn. The vagabond delights in directing each character in his or her respective part.

The plot is finally cleared up when some of the characters are taken back to a sanatorium, thus effectively settling the difficulties.

Last year the Dramashop produced *They Knew What They Wanted* and *The Ivory Door*. Other productions have included *Ten Nights in a Bar-room*, *The Hairy Ape*, *The Queen's Husband*, and other standard stage plays.

WHO INVENTED ELECTRIC MOTOR TOLD IN REVIEW

L. L. Thwing, '03, Claims It Was Thomas Davenport, Vt. Blacksmith

FIRST IN MANY FIELDS

"Who invented the electric motor?" is a question which would baffle most electrical engineers, but Mr. L. L. Thwing, '03, in the *Technology Review* for October, claims that it was Thomas Davenport, a Brandon, Vermont, blacksmith.

One hundred years ago, it seems, Davenport "first succeeded in producing rotary motion from the electromagnet." Among other notable accomplishments of this Yankee genius, says Mr. Thwing, are that he edited the first electrical journal, operated the first electrically driven printing press, promoted the first stock company for manufacturing an electrical device, and invented the electric railway.

All of which entitles Blacksmith Davenport to a seat with the electrically great.

The hackneyed but always pertinent note of *Pooling Efforts in Research* is sounded by Dean Samuel C. Prescott, who covers the subject quite thoroughly from the angles of its past, present, and proposed future. Scientific Provincialism says the Dean, must give way to concerted action. Although Dean Prescott treats of the idea in general terms, as might be expected he looks to *Technology* for specific examples.

News from Round Hill has finally reached a turning point. That is to say it features something other than the atomic research laboratory of Dr. V. D. G.

Director of the Station, Professor Edward L. Bowles writes extensively of the many other "problems that are being attacked there."

A "sound thermometer" involving strips of metal made atom by atom, which when piled together would take a million to reach the thickness of an inch, is one of these problems. Apparently a solved one, since it is sensitive to one one-millionth of a volt.

Another solved problem is the now famous one of dissipating fog. The process is a simple one, and it stands as a tribute to modern science to say that it was necessary to go all the way to Round Hill to discover that calcium chloride, that they put on the roads to lay the dust, can do away with fog in less time than it takes to say "hygroscopic particles".

It is becoming almost second nature in this reviewer to conclude every review of this magazine with a compliment to the *Review* for its excellent photographs. If you do not care to have your reading matter dressed elegantly in meticulous photographs, then the *Review* is not being published for you.

R. D. M., Jr.

Undergraduate Notes

An important business meeting of the National Student League will be held tomorrow at four o'clock in Room 4-131. This is the first organizational meeting of this year. All those interested in joining are invited to attend.

Articles which were left at Freshman Camp: a lettered sweater, a raincoat, a towel, and a pair of socks. Owners can secure these articles by identifying them at the T. C. A. office.

Freshmen intending to come out for the Technology Christian Association are invited to a meeting Wednesday, October 3 at 5:00 P. M. at the T.C.A. offices in the basement of Walker Memorial.

Men interested in joining the *Voo Doo* staff should attend the smoker which will be held Wednesday evening at 7:45 in the North Hall of Walker. Positions in the business, literary and art departments are open to new men.

INSTITUTE SOCIAL SEASON IS OPENED BY CATHOLIC CLUB

Informal Dance To Be Held Friday From 9 Until 2 In Walker

FOURTEEN PIECE BAND WILL FURNISH MUSIC

Doctor Doyle, Wife, and Their Guests Will Serve As Chaperones

The Technology Catholic Club is opening the social season at the Institute with an informal dance to be held this Friday from nine to two o'clock in the Main Hall of Walker. Admission is one dollar and fifty cents per couple and seventy-five cents for stags.

Music will be furnished by Henry Brigode and his fourteen piece orchestra, who provided on the pier this summer at Old Orchard, Maine.

Copeland C. MacAllister, '35, president of the club, is in charge, assisted by John P. Carey, '35, vice-president; Thonet C. Dauphine, '35, treasurer; Henry J. Ogorzaly, '35, senior advisor; Philip T. Norton, '36, junior advisor; John L. Everett, '37, sophomore advisor, and James A. Sweeney, '34, graduate advisor.

Doctor Doyle, his wife, and their guests, will serve as chaperones.

T. E. N. SMOKER TO TAKE PLACE TODAY

Professor Frederick G. Fassett, Jr. of the English Department will give a talk on magazine making at the *Tech Engineering News* smoker to be held in West Lounge, Walker, today at five o'clock.

The Yale Cup which T. E. N. won last year will be on display at the smoker. The heads of the various departments will be on hand to explain the literary and business opportunities.

FIELD DAY DATE IS CHANGED TO OCT. 26

(Continued from Page 1)

Steele, '34, Football Coach. Michael A. Kuryla, President of the class of '36, was chairman.

Walter H. Stockmayer, President of the Senior Class, briefly outlined the field day rules, emphasizing that no members of teams who will participate may be kidnapped by the opposing class, under the penalty of forfeiting the entire event.

A call was made for managers for the football and tug-of-war teams, and for players as well. The freshmen were reminded that class numerals will be awarded to the members of the victorious teams.

Attendance at the mass meeting was very poor; approximately 150 out of some 550 were present.

The weights for the individual events are listed as follows:

Football Game4 points
Relay Race3 points
Crew Race3 points
Tug-of-war2 points
Glove Fight1 point
A majority of one point decides the winning class.

LT. H. B. HARRIS KILLED WHILE TOWING GLIDER

(Continued from Page 1)

Massachusetts Governor of the National Aeronautical Association and an officer in the 101st Observation Squadron, Massachusetts National Guard.

"Hank" also joined in the activities of the glider club of the student branch of the Aeronautical Engineering Society in which he served as instructor after winning his rating as three gull glider pilot.

It was at Elmira, N. Y. where Lieutenant Harris was preparing for the coming national glider meet, that he met his tragic end. Harris, in his car, towed a glider until it took off the ground. While turning the car so that he might better observe the flight of the glider, the rear left wheel collapsed and the car rolled over pinning Harris beneath it and breaking his neck.



"My throat is my fortune... that's why I smoke Old Golds" says Bing Crosby

See BING CROSBY in "SHE LOVES ME NOT," his latest Paramount Picture

SATURDAY CLASSES FEWER THIS YEAR

Five-Day Plan Favored in March By Students; Rejected By Faculty

Saturday classes at the Institute have decreased in number more than fifty per cent during the last three years, according to an analysis of tabular views for the last six terms.

Following are listed the numbers of Saturday classes according to term and class:

1931-1932		1932-1933		1933-1934		1934-1935	
First Term	Second Term	First Term	Second Term	First Term	Second Term	First Term	Second Term
1st	49	65	54	55	56	25	
2nd	95	87	81	61	57	37	
3rd	79	48	61	49	56	45	
4th	100	92	31	77	24	51	
Total 323		Total 227		Total 193		Total 158	

Last March a plan to eliminate Saturday classes was proposed. A poll of the student body at that time favored the plan. The men felt that they could do better work with a five day week, and that free Saturdays would offer opportunities for recreation and part time work. The Faculty appointed a committee to investigate the plan. The committee did so and reported favorably. However, upon taking a final vote, the Faculty rejected the plan stating that Graduates and Architectural students could not possibly arrange their schedules to eliminate Saturday classes.

CHEMICAL SOCIETY WILL HEAR PROFESSOR JONES

(Continued from Page 1)

The society cordially invites all men interested in any branch of chemistry to attend.

Make Plans For Year

Two trips a month to industrial plants near Boston will be made by members of the Society. The club also plans to have famous men in chemistry as speakers at its meetings. In addition, the *Nucleus*, publication of the New England district of the American Chemical Society, is given free to each member.

EFFECT OF QUAKES ON WATER TANKS STUDIED

(Continued from Page 1)

In his research Mr. Ruge built a model of a 60,000 gallon, 100-foot tower tank on a 1 to 50 scale, and tested it by means of miniature artificial earthquakes produced by a shaking table. He compared the results of his tests with the commonly accepted method of designing tank towers to resist earthquakes and found that the latter was inadequate.

In a report recently issued on this work it is stated that "present methods of designing elevated tank towers to resist earthquakes were found to be considerably on the unsafe side. They do not even give a general indication of the actual stresses." It is also pointed out that, paradoxically enough, "moderate strengthening of a tower has practically no effect upon its earthquake resistance. Such resistance will in some cases be actually lowered by strengthening the tower." It is like riding in an automobile over a very bumpy road, sitting first relaxed and then with the body held rigid. The stiffening of the muscles will be found to make the ride seem much worse because every bump of the car is resisted by the muscles.

Newer Designs Necessary

As a result of his model studies, Mr. Ruge has concluded that a radical departure will have to be made in the design of tank towers if they are to be made quake-proof. "The type of tower now so common was not developed for earthquake resistance," he reports, "but merely to fulfill the purpose of elevating the water supply on a structure which must resist a certain amount of wind force in addition to carrying the vertical load. For this it is practically ideal, but there is no reason to accept it as the ideal structure for withstanding earthquake motions." Further research is to be directed toward the development of a more suitable type of construction for the purpose.

Model Holds 2 1/2 Quarts of Water

The tank model employed in the research is five inches in diameter and holds about two and a half quarts of water, weighing five pounds. Compared with this miniature, the full-sized tank is about 20 feet in diameter, holds 60,000 gallons of water, and weighs half a million pounds. Small models are easy to build and test and are comparatively inexpensive, yet they give a perfect reproduction in miniature of the behavior of the full-sized structure. Events happen faster in models and the motions are smaller, but these differences are taken care of by well known model laws.

Motions Recorded Photographically

All the motions of the model and of the miniature earthquake have to be magnified and recorded photographically in much the same manner that the motions of a seismograph are magnified and recorded. The principal difference is that in the laboratory the research staff does not have to wait for an earthquake to happen. In-

JUNIOR HONORS GROUP SELECTS SIX STUDENTS

Experimental Group Is Given Many Liberties; Faculty Aids In Plan

The selection of six students of the Institute as members of the honors group of the department of electrical engineering was announced. They are Philip Gilinson, John J. Hibbert, Henry T. Gibbs, Albert E. Whitcomb, Edward S. Halfmann, and Luigi L. Robinett, Jr. All are members of the class of 1936.

Under the honors group plan of the electrical engineering department, students of high scholastic standing and responsibility are given considerable freedom from class attendance and routine assignments. Each honors student carries on his work largely on his own initiative, with the advice and guidance of members of the faculty. The arrangement is designed to foster student originality, self-reliance, and intellectual courage.

HONOR CERTIFICATE TO MUSICAL CLUBS COACH

(Continued from Page 1)

was born in Lowell and educated in Lowell and Worcester. He is a graduate of the New England Conservatory of Music in the class of 1931.

Hoyen is under contract to conduct five concerts in Salzburg next summer of the Mozarteum Symphony Orchestra with Rose Walter, Lone soprano as soloist. He was pursuing his studies at the conservatory toward a master of music degree.

Men desiring to be under Hoyen's direction in the Banjo Club and Orchestra, as well as any others interested, are invited to attend the meeting of the M. I. T. Combined Musical Clubs, which will be held in Room 10-250 at five o'clock today.

General Manager H. William Peier, '35, will preside and will introduce the leaders of the Clubs who will explain the activities of their respective organizations. Arrangements for outings will also be made at the meeting.

Intercollegiate

University of Southern California coaches hold winter football practice in preparation for spring football practice to get the team in condition for the following fall's football season.

Instead, a shaking table manufactures artificial earthquakes when the wanted. After a test, which only a few seconds, the record developed like any ordinary cinematograph film. Everything that happens during the test can then be studied leisurely and compared with other

R. O. T. C. APPOINTMENTS

(Continued from Page 2)

COMPANY "C"

Commanding:	Captain	Charles N. Endweiss
Second in command	First Lieutenant	Philip P. Johnston
Platoon commander	First Lieutenant	Lars H. Sjudahl
Platoon commander	First Lieutenant	Roger H. Hammond
Platoon commander	First Lieutenant	Louis B. C. Fong
Platoon lieutenant	Second Lieutenant	William H. Rothen
Platoon lieutenant	Second Lieutenant	John Thorpe
Platoon lieutenant	Second Lieutenant	John J. Demo
Platoon lieutenant	Second Lieutenant	Vincent J. Mooney
Platoon lieutenant	Second Lieutenant	Edmund D. Gittens
Platoon lieutenant	Second Lieutenant	Kenneth D. Young
Platoon lieutenant	Second Lieutenant	Albion R. Felcher
Platoon lieutenant	Second Lieutenant	William H. Matchett

COMPANY "D"

Commanding:	Captain	Leonard S. Wiener
Second in command	First Lieutenant	James W. Libby
Platoon commander	First Lieutenant	Randall C. Smith
Platoon commander	First Lieutenant	Philip F. Kurz
Platoon commander	First Lieutenant	Cornelius J. Wilson
Platoon commander	First Lieutenant	John P. Carey
Platoon lieutenant	Second Lieutenant	Roy P. Whitney
Platoon lieutenant	Second Lieutenant	Oscar E. Eckblom
Platoon lieutenant	Second Lieutenant	Arthur H. Crowley
Platoon lieutenant	Second Lieutenant	Ermano Garaventa
Platoon lieutenant	Second Lieutenant	Joseph L. Haggerty
Platoon lieutenant	Second Lieutenant	William N. Stark
Platoon lieutenant	Second Lieutenant	Lester H. Mofatt
Platoon lieutenant	Second Lieutenant	Leslie G. Haines

BAND

First Lieutenant John H. Best
 Second Lieutenant John C. Tebbetts

HONORARY GRADE

First Lieutenant Samuel P. Brown

FOG DISSIPATED BY NEW DEVICE

Chemical Method Developed At Institute Research Station

A chemical method of dissipating fog over a limited area has been developed at the research station of the Massachusetts Institute of Technology at South Dartmouth, Mass., and tests of the process are now under way at the Round Hill Airport on the estate of Col. E. H. R. Green.

This method, which is believed to be the first promising step in the long search for means to reduce the hazards of landing aircraft in fog, was developed by Henry G. Houghton, Jr., a member of the Institute's research staff, who has been studying the physical characteristics of fog for several years.

The chemical used in the process has the ability to collect or condense the water vapor in the air. In applying the method for its first tests in natural fog a pipe 100 feet long and fitted with small nozzles of special design at frequent intervals for its entire length was suspended horizontally 30 feet above the ground. A chemical solution is sprayed from the pipe in the form of a curtain of tiny drops or particles which in falling through the drifting fog, condense the water vapor and carry it to the ground by force of gravity. This results in lowering the relative humidity and dissipating fog over an area the size of which depends upon

the position of the distributing system and wind conditions.

Used To Aid Flying

In using a ground system for the dissipation of fog on an airport it would be necessary to use a localized radio beam to guide aviators to the region of the cleared area where they would then be able to see the ground and land safely. Successful development of this method in the future may lead to its application from aircraft, thus making it possible for pilots to fly over an airport and by laying down a curtain of chemical particles from apparatus in the plane, clear a path of visibility to the landing field. A still further development might be its use in some form for vessels at sea.

The first test was successfully carried out when fog closed in over the Round Hill Airport on Friday night, July 20, when a fog bank driven by a southwesterly wind at 13 miles an hour, drifted in from Buzzards Bay. The visibility was less than 500 feet.

As soon as the fog had completely enveloped the airport the centrifugal pumps which drive the chemical solution to the distributing system were started and a fine spray of chemical began falling from the long pipe suspended in the air. Within a few seconds the fog drifting through the chemical curtain began to precipitate, falling to the ground in the form of water drops. The curtain was in effect straining the fog, for immediately a

(Continued on Page 6)

CALENDAR

Tuesday, October 2

10:00—Lecture on Slide Rule, Prof. R. D. Douglass, Room 10-250.
 2:00—Lecture on Slide Rule, Room 10-250.
 5:00—Tech Dance Orchestra Tryout, North Hall, Walker Memorial.
 5:00—Musical Clubs Mass Meeting, Room 10-250.

Wednesday, October 3

4:00—National Student League Business Meeting, Room 4-131.
 5:00—Cast Tryouts for Dramashop, Room 2-178.

Thursday, October 4

4:30—Physical Colloquium, "Research in Physics at M. I. T.: Progress and Prospects," Prof. G. R. Harrison, Eastman Lecture Hall.
 8:00—Chemical Society Meeting, Moore Room.

Friday, October 5

5:15—Club Smoker, 5:15 Club Room, Walker Memorial.
 9:00—Catholic Club Dance, Main Hall, Walker Memorial.



Luckies



They Taste Better

So round, so firm, so fully packed—
 Luckies are made of only the clean center leaves—these are the mildest leaves—
 they cost more—they taste better.

"It's toasted"

✓ Your throat protection—against irritation—against cough

Copyright 1934, The American Tobacco Company.

FOG DISSIPATED BY DEVICE TESTED AT SO. DARTMOUTH

(Continued from Page 5)

path of visibility approximately 100 feet wide and 30 feet high began to open across the airport in a north-westerly direction. On either side were walls of turbulent white vapor, but in the cleared area the ground was entirely free of fog. The lane

continued to open as though a huge invisible plough were moving through the fog. Within a few minutes objects on the opposite side of the airport, a distance of more than 2000 feet, were clearly revealed. The path was clear as long as the chemical curtain was operated, and it was several minutes after the pumps had been stopped before the fog began to close in again.

The apparatus had been ready for its first test for several weeks, but it was not until the night of July 20 that the research staff had the opportunity to try it out. When the low-lying fog bank appeared far to the southwest across Buzzards Bay late in the afternoon, Mr. Houghton made preparations for the test. While he worked the Elizabeth Islands were blotted out and the fog moved across the bay.

The chemical solution, which has the power to condense the water vapor of which fog is composed, was quickly mixed and the pumps were tested. The distributing pipe, which is suspended on a heavy cable between one of the radio towers and a flagpole, had already been in position for several days. Darkness fell before the fog reached the western shore of the bay and Mr. Houghton waited until

the airport was entirely shrouded before he started the test.

The research program at the Institute's experimental station at Round Hill is directed by Professor Edward L. Bowles, who has given Mr. Houghton every encouragement in the long investigation which resulted in development of the chemical method of fog dissipation.

They are made that way —

**Chesterfields are milder
Chesterfields taste better**

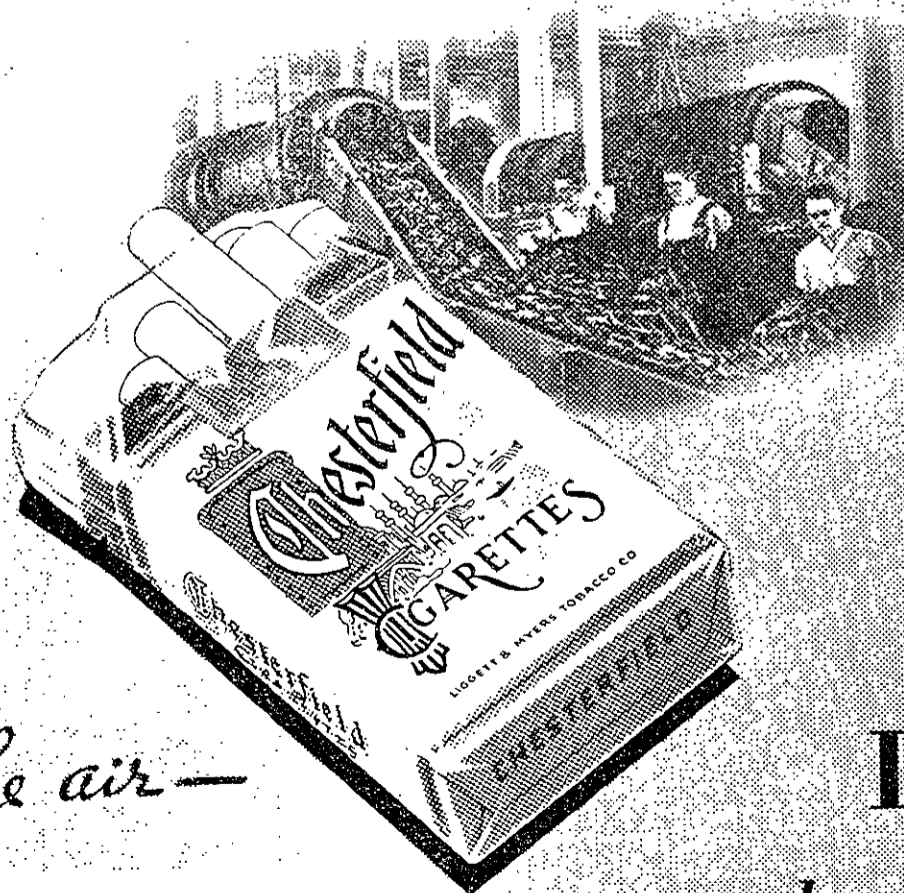
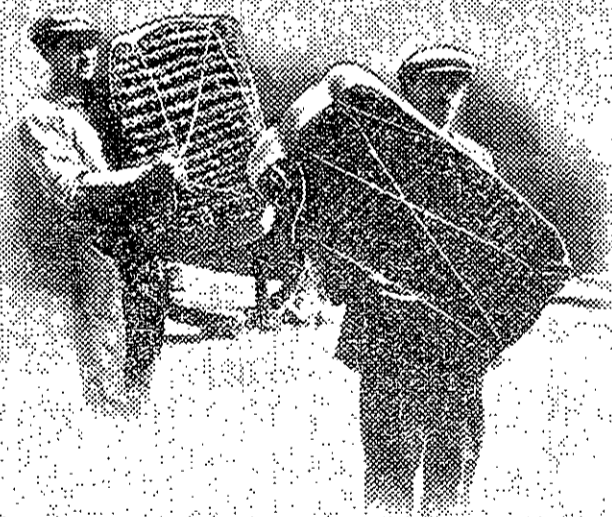
Ripe home-grown tobaccos

We begin with the right kinds of mild ripe Domestic tobaccos. Then we age and mellow them like rare wines for flavor and taste.



Aromatic Turkish tobaccos

Next we add just the right kinds and the right amounts of Turkish tobaccos to give Chesterfield the "seasoning" that helps to make them taste better.



Blended and cross-blended

Finally we "weld" these tobaccos together the Chesterfield way—different from any other—to make Chesterfield a milder better-tasting cigarette.

On the air —

MONDAY WEDNESDAY SATURDAY
ROSA NINO GRETE
PONSELLE MARTINI STUECKGOLD
KOSTELANETZ ORCHESTRA AND CHORUS
9 P. M. (E. S. T.) — COLUMBIA NETWORK

*It takes good things to
make good things ... there is no
substitute for mild ripe tobacco*