

THE CRAWFORD SHOE

IS MADE EXPRESSLY FOR GENTLEMEN.

WHEN WE MAKE THE ABOVE ANNOUNCEMENT WE MEAN JUST THIS:

**It is made in Proper Style,
Of the Best of Material,
By the Best Workmen we can Hire.**

It is not, like hundreds of factory-made shoes, made for shoe dealers to sell at \$3.00 or \$4.00 through extensive advertising.

We do an immense business in Boston, New York, Philadelphia, and other large cities on our Crawford Shoe alone, and we do it on the GOOD REPUTATION of our shoe.

Think of this, visit one of our stores, and examine the shoes for yourself. They are JUST AS GOOD as they look.

CRAWFORD SHOE STORES IN BOSTON.

611 WASHINGTON ST., opposite Globe Theatre.
225 WASHINGTON ST., next door to Thompson's Spa.
Under UNITED STATES HOTEL, cor. Kingston St.
56 MAIN ST. (Charlestown Dist.), Boston.

45 GREEN ST., near Bowdoin Square.
20, 22 and 24 PARK SQUARE, near Providence Depot.
182 and 184 BOYLSTON ST., near Columbus Avenue.

BOUVÉ, CRAWFORD & CO. Corp., Maker.

BOOK BINDING

IN EVERY STYLE:

ALEX. MOORE, 3 School Street, BOSTON.

HOMEWARD BOUND.

BY SEA AND RAIL.

The Norfolk Route.

The palatial steamships of the Norfolk Route ply semi-weekly and direct between

BOSTON, NORFOLK AND BALTIMORE,

Sailing from Central Wharf, Boston,

Every Tuesday, Thursday and Saturday, at 2 o'clock P. M.

Connecting with Rail and Water Routes for Washington, D. C., the South, Southwest, and Pacific Slope.

You are respectfully invited to inspect our steamers, and see for yourself the accommodations offered.

C. P. GAITHER,
Soliciting Agent,
290 Washington St.,
BOSTON, MASS.

A. M. GRAHAM,
Agent,
Central Wharf.

ALL RAIL.

The Shenandoah Valley Route.

The Shenandoah Valley Route connects with all lines from Boston to New York, and thence is via the world-renowned Pennsylvania Railroad, or picturesque Baltimore & Ohio, passing through Philadelphia, Harrisburg, Hagerstown, Antietam Battlefield, Old Charlestown, made famous as the place where John Brown was executed, or Washington, Shenandoah Junction, the wonderful Caverns of Luray, the historic Natural Bridge, on to Roanoke and the magic cities of the New South, Bristol, Knoxville, Chattanooga, Nashville, Decatur, Florence, Sheffield, Corinth, Grand Junction, Memphis, Little Rock, and Texas. Kansas City, Colorado, Utah, and the Pacific Coast.

Chattanooga, Fort Payne, Birmingham, Meridian, Vicksburg, Shreveport, Texas,—Cleveland, Tennessee, Dalton, Rome, Anniston, Calera, Selma, Montgomery, Mobile, New Orleans, Old and New Mexico, and the Pacific Coast.

Atlanta, Macon, Jesup, Brunswick and Florida.
Through Pullman Car service from New York, Washington and Norfolk, to Roanoke, Louisville, Knoxville, Chattanooga, Nashville, Memphis, Birmingham, New Orleans,

C. P. GAITHER, N. E. Agt., 290 Washington St., Boston.

ELECTRIC MOTORS
... FOR . . .
ALL POWER PURPOSES.

ELECTRIC
Hoisting Apparatus.

THE ONLY
Practical & Successful Systems
... OF . . .
Electric Tramways
... ARE THE . . .
EDISON AND THOMSON-HOUSTON.

DANCING.

WALKER'S PRIVATE ACADEMY,
No. 24 DWIGHT STREET,

Evening Classes from Oct. 1st to May 1st.

Private Lessons daily from 10 to 6.
Please call or write.

Drawing Boards, Papers,
Inks, Pens, Instruments, and Fountain Pens
At Discounted Rates.

A. D. MACLACHLAN,
Tech. Co-operative Store,
214 Clarendon St., - - Boston, Mass.

STUDENTS' SUPPLIES.

BLANK BOOKS, NOTE BOOKS, DRAWING PAPERS, PENS, INKS of all kinds, FOUNTAIN PENS.

PERIODICALS AND MAGAZINES.

Writing Paper and Envelopes with TECH Monogram and Imprint. Paper by the Pound, at

SOUTHWELL'S Corner Dartmouth Street
and Columbus Avenue.

J. P. BOND,

Gentlemen's Furnishing Goods.

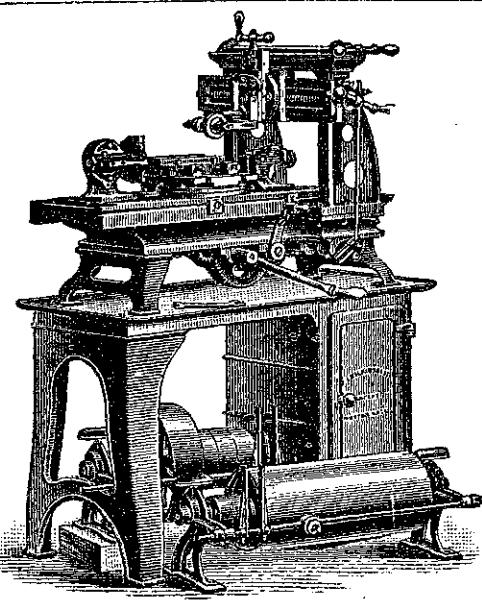
Between Huntington and Columbus Avenues.

DARTMOUTH LAUNDRY.

BEST LAUNDRY WORK.

CALLED FOR AND DELIVERED.

A PRACTICAL
Hand or Power Planer



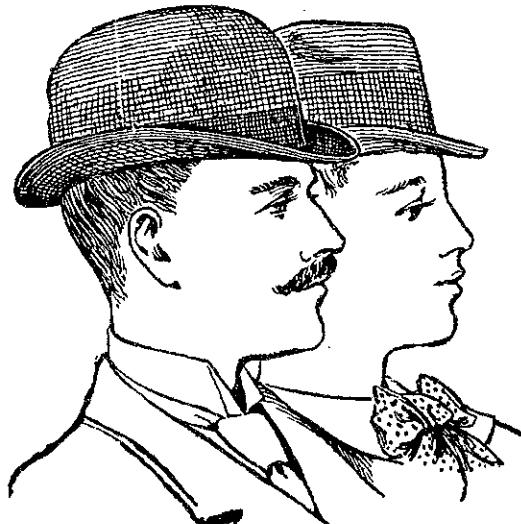
MECHANICS' TOOLS.

INSPECT OUR STOCK

A Large Assortment of Steel Rules, Calipers, Dividers and Small Tools.

A. J. WILKINSON & CO.,

184 and 188 Washington Street,
BOSTON, MASS.



OUR
CHESTERFIELD,
\$3.

OUR
HARVARD,
\$2.

Two new styles of hats for young men and youths in the correct shapes for Fall and early Winter. Blacks, Seal and English Browns, Pearl, Tan and Tobacco shades.

HAT DEPARTMENT.

A. SHUMAN & CO.,
BOSTON,
CLOTHIERS and OUTFITTERS.

ST. BOTOLPH HALL.
NEW TECH. DORMITORY.

Favorably situated at the corner of St. Botolph and Hareourt Streets, near all the Departments of the Massachusetts Institute of Technology.

Furnished Suites

To let, including heat and baths.

Restaurant in Building.

For terms apply on the premises.

M. DWYER,
Manager.

GODFREY MORSE,
Proprietor.

Banjo, Mandolin and Guitar.



G. L. LANSING,

Teacher, and Director of Clubs,
58 A WINTER STREET, BOSTON.

BEST INSTRUMENTS CONSTANTLY IN STOCK. MUSIC, STRINGS, ETC.

ABRAM FRENCH CO.,

89, 91 and 93 Franklin Street,

IMPORTERS OF

China, Glass and Fancy Pottery.

Wedding and Birthday Gifts.

A SPECIALTY.

ALL THE LATEST
PATTERN.

RICH CUT GLASS.
DINNER SETS,

From the Lowest Cost
to Highest Grade.

WE ARE THE LARGEST IMPORTERS OF HAVELAND & CO.'S FRENCH CHINA IN THE UNITED STATES.

Reasonable prices in our entire stock.

ABRAM FRENCH CO.

New Pictures.

Etchings, Engravings, Photographs, just received from the best American, English, French, and German publishers.

The largest and finest stock to select from in New England,—and prices satisfactory.

Special attention to Artistic Framing.

WILLIAMS & EVERETT,
190 Boylston Street, - - Boston.



J. C. LITTLEFIELD,
Tailor and Outfitter,
21, 23 BEACON ST., BOSTON.

Exclusive Styles for Young Men

DRESS SUITS A SPECIALTY.

DISCOUNT TO STUDENTS.

FROST & ADAMS,
— Importers of —
DRAWING INSTRUMENTS
AND
Supplies for Students, Architects, and Engineers.

SEND FOR ILLUSTRATED CATALOGUE.

No. 37 Cornhill, Boston.

LIBERAL DISCOUNT TO M. I. T. STUDENTS.

Student

Work



Specialty

MESSENGER & JONES,

HIGH-CLASS TAILORS

No. 388 Washington Street, Boston.

The Tech.

VOL. XIII.

BOSTON, OCTOBER 12, 1893.

NO. 2.

THE TECH.

Published every Thursday, during the college year, by students of the Massachusetts Institute of Technology.

BOARD OF EDITORS.

RAYMOND BEACH PRICE, '94, *Editor in Chief.*

FREDERIC WAIT LORD, '94.

COLBERT ANDERSON MACCLURE, '94.

WILLIAM HERBERT KING, '94.

ANDREW DANIEL FULLER, '95.

CHARLES GILMAN HYDE, '96.

ANDREW DANIEL FULLER, *Secretary.*

CHARLES REAY KNAPP, '94, *Business Manager.*

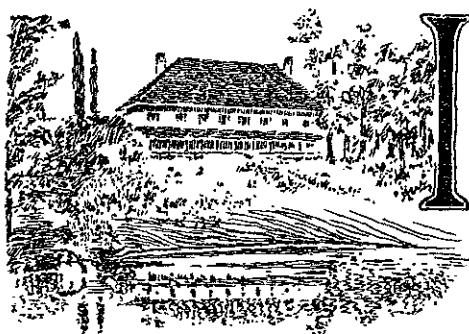
ROBERT DOUGLAS FLOOD, '96, *Assistant Business Manager.*

Subscription, \$2.50 per year, in advance. Single copies, 10 cts. each.

For the benefit of students THE TECH will be pleased to answer all questions and obtain all possible information pertaining to any department of the College.

Contributions are requested from all undergraduates, alumni, and officers of instruction. No anonymous manuscript can be accepted.

FRANK WOOD, PRINTER, 352 WASHINGTON STREET, BOSTON.



IN spite of the departure of Professor Levermore, whose place it will be impossible to fill with one man, the standard of the Course in general studies is not to be lowered. Prof. John Fiske, the most brilliant living writer and lecturer on American History, will give a course of lectures which are probably to be open to students outside the Sophomore Class. Professor Jameson, of Brown University, is to conduct a course in the advanced study of United States History and historical criticism. Further than this, A. Lawrence Lowell, Esq., the eminent author and critic in political science, will lecture on the history and politics of the leading countries of Continental Europe. Of the new instructors, Mr. Edson L. Whitney is a graduate of Harvard, of Boston University Law School, and Ph.D. of Harvard. He

will devote his whole time to the history department, while Dr. William Z. Ripley, graduate of M. I. T. and Columbia College School of Political Science, will divide his time between history and political economy.

Professor Carpenter's successor, Mr. Arlo Bates, is a graduate of Bowdoin, where he received also the degree of A. M. He is now editor of the *Boston Courier*, and is well known as a novelist, being a versatile and distinguished writer.

THE Athletic Club of the Institute is one of our oldest organizations, and one which is deserving in many ways of the most credit.

Besides being of very great service to athletics in general at Technology, it has had a marked effect on athletics outside of the Institute. For the last fifteen years the Club has held open games for the amateurs of New England. Of all the athletic organizations at the M. I. T. it is the one which has always been self-supporting.

From time to time much money has been donated to the Football Association, but of late years, partly owing to the springing up of other athletic clubs which give meetings, and partly because such expensive prizes have to be awarded, the Athletic Club has had all it could do to defray its own expenses, let alone helping out the football team.

The fee for life membership in the Club is five dollars. Beyond the duty which all Technology men should feel in joining, there is certainly a substantial return for the money. There are always three sets of games given every year, admission to each of which is half a dollar; so if any student intends going to the meetings, it would be actually cheaper to join the Club.

The treasurer of the M. I. T. A. C. tells us that out of the thousand men at the Institute, not one hundred belong to the Athletic Club, and at present there is an overhanging debt which greatly impedes the work of the Executive Committee.

Now is a chance

to use the money which we hope will be improved by many, to show loyalty to the Institute and to disembarass the Athletic Club from its financial difficulty. We assure all that money is well spent if invested in the M. I. T. A. C.

THAT Technology is some day to possess a Trophy Room is moderately certain; just when is the question. However, starting with the hypothesis that the room will materialize in the future, would it not be well to prepare for the occasion? For several years THE TECH has had occasional bequests of photographs representing various classes, teams, and other organizations. These are mostly framed, and ready to adorn the walls of our Trophy Room. We should like, in the same way, to preserve for future use the pictures of our present classes, football and baseball teams, glee and banjo clubs, track athletic team, and so on. Ninety-three generously voted to frame and present its picture, in hopes that it might be an example to future classes. We have plenty of room in our office to care for other loans, if such they may be called. The student portfolio, now at Chicago, is a nucleus for which we can thank the Faculty and Institute Committee. Our double championship banner, athletic cups, and numerous other relics are in waiting to make a Trophy Room of which Technology may be proud. The Faculty realize our desires, and anticipate fulfilling them as soon as more space can be obtained for other crowded departments. Probably a student reading room would be attached, making the acquisition doubly valuable. Remember this suggestion and act upon it.

THE football season being now well begun some definite arrangements should be made for leading the cheering. As any athlete is aware,

games have been won against great odds by hearty united yelling at the proper time. THE TECH suggests that two or three men be chosen from the Senior Class to direct the cheering. They would command more support from the under classmen, and in a short time could work so well together that a distinct, penetrating yell would replace the halting, lagging sounds that our students have sometimes called yells. It would remain for the leaders to determine how and when to give vent to enthusiasm or encouragement, with perhaps a better result than has previously attended the efforts of numerous badged officials. The football team or association should consider this.

WE are pleased to note that Prof. John Fiske will deliver a course of lectures on "American History" to the Sophomore class. As one of the most eminent historical lecturers, Professor Fiske holds an enviable record; from his valuable works, his lectures, —delivered both in America and abroad,—and his thorough knowledge of the subject, he has acquired a national and international reputation. Being especially interested in Colonial history, Professor Fiske will devote the first five or six lectures principally to the Colonial period. Every Friday at eleven o'clock Professor Fiske will lecture in Huntington Hall. All are cordially invited.

JUST a word should be said in regard to the Photographic Society. Its object is to bring together the men of the Institute who are interested in photography, and to make as

clear as may be its bearing on their professional work. At Technology the amount of time given to the Society must of necessity be small, and the work must be of a kind which

will interest the beginner as well as those who have acquired some proficiency in it. The productions of the Society last year were of a higher order than heretofore, and they will be still better this year. The fact that the Society last year attracted outside notice, shows that no man will make a mistake in accepting the membership it offers to all.

The Lowell Free Course.

AN unusually interesting series of lectures has been provided for this popular course for the winter. We are fortunately able to print the subjects of the lectures, together with the lecturer, but it is impossible now to state the time and place of each lecture. As soon as the date and place are known, however, they will appear in THE TECH.

The Measurement and Calculation of Earthwork. Lectures by Associate Professor C. Frank Allen.

Quaternions. Lectures by Assistant Professor Frederick H. Bailey.

The Adjustment of Observations by Method of Least Squares. Lectures by Assistant Professor Dana P. Bartlett.

Geodetic and Topographical Surveying. Lectures by Associate Professor Alfred E. Burton.

Chemical Mineralogy. Lectures by Assistant Professor W. O. Crosby.

The Metallurgy of Silver; Amalgamation and Lixivation. Lectures by Associate Professor H. O. Hofman.

Electrical Measurements. Twelve Lectures, by Associate Professor S. W. Holman.

The Architecture of Renaissance. Twelve lectures, by Assistant Professor E. B. Homer.

Naval Architecture. Lectures by Associate Professor C. H. Peabody.

Architectural Engineering. Lecture by Professor George F. Swain.

Elements of the Theory of Functions. Lectures by Professor H. W. Tyler.

The History of English and Irish Relations (especially during past century), and the Question of Home Rule in Ireland. Lectures by Assistant Professor Chas F. H. Currier.

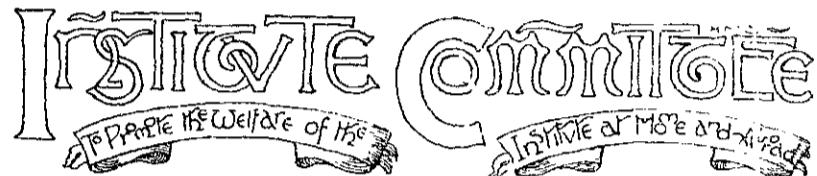
Pauperism and Crime. Twelve lectures, by Professor David R. Dewey.

Mediæval German Literature (in German). Twelve lectures, by Assistant Professor G. T. Dippold.

Descriptive Geometry. Lectures by Assistant Professor Linus Faunce.

The Rise and Development of Prose Fiction in France. Lectures (in French), by Professor A. N. Van Daell.

Plane Analytical Geometry. Lectures by Associate Professor Wells.



THE first meeting of the Institute Committee for this term was held in the Tech office last Friday afternoon. The Committee, in the name of the students of Technology, passed a hearty vote of thanks to the Northwestern Alumni Association for all their interest, expense, and trouble in maintaining the Technology Headquarters on Michigan Avenue, Chicago, during the summer, as well as for their general hospitality upon every occasion.

Mr. Dickey was tendered a vote of thanks for his services in completing the student portfolio for the Fair exhibit.

Mr. F. W. Belknap, '95, was appointed Technology Correspondent for the *New York Tribune*, and Mr. F. Kleinschmidt was offered a similar position on the *Boston Journal*, provided that paper cared to publish Tech news this year, as before. No man should accept the position of Technology correspondent unless he feels able to represent the Institute as a whole. Some of the recent columns of Tech news in various Boston papers have savored very largely of localism, a single class or course being reported. It is therefore highly important that our correspondents should acquaint themselves with all sides of Tech and its student life, else they will do more harm than good. At President Walker's request Dr. Ripley will keep track of Faculty news for reporters, and R. B. Price will, so far as possible, help those who desire student informa-

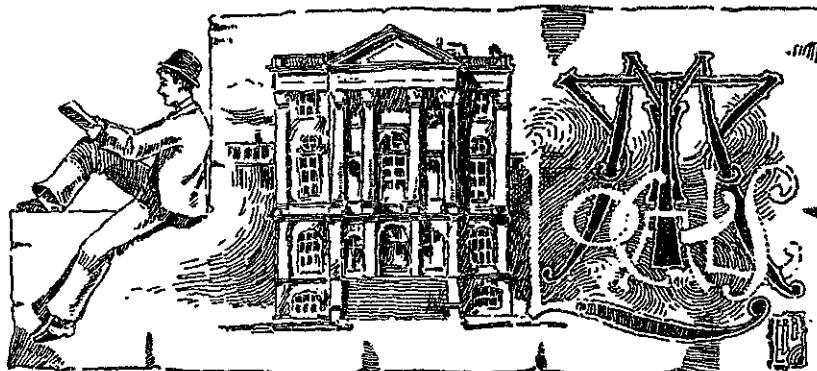
tion, especially such as is obtained by means of THE TECH, provided the reporters will seek them to obtain it. Of course no one person can send news to all the correspondents.

Then the old subject of the Institute Pin was brought up again. During the summer many students expressed themselves dissatisfied with the little triangular pin, and numerous alumni thought it hardly the thing to wear at all times, though it did very well during the Exposition. Of course the pin was adopted last spring with the idea that it was unique, cheap, and a good means of recognizing Tech students and alumni. The wish seemed to prevail for a more elaborate pin besides the old one. So many students now possess the triangular pin, and it has served its purpose so well, that to repudiate it would be foolish. However, a more expensive pin is desired by many, perhaps for personal use, possibly for "dear friends." Therefore, Messrs. Rockwell, '96, and Abbott, '95, were appointed to receive designs from students and jewelers, and obtain estimates for a gold pin of moderate cost. These will be posted in Rogers corridor, where students may inspect them and have an opportunity to express an opinion in the matter. This second pin, be it understood, is merely to supplement the present one by filling a want realized by many of us.

No Wonder!

One day while wandering the streets about,
I chanced to meet a German stout,
Looking around quite helplessly
For something, of course, he couldn't see.
Surely thinking that I must know,
"Vashington Street do thees car oop go?"
He sputtered out with accent queer,
As though more used to "Hier, zwei Bier!"
Long I weighed the construction cumbrous,
And then concluded 'twas not very wondrous
That I flunked my Dutch.

R. B. P.



Mr. Hewitt, '94, is THE TECH reporter for the Glee and Banjo Clubs.

H. L. Wardner, of last year's 'Varsity, is playing end on the B. A. A. team.

Among the new students in the Architectural department there are twenty-one college graduates.

Professor Sedgwick addressed the Freshman Class on "Hygienic Student Life" last Saturday.

Old uniforms are selling fast. An increase in the price of the new ones has delighted the Sophomores.

Every Junior should attend the class meeting to-day at 1 P. M. Nominations for class officers will be read.

A. L. Drum, '96, is Technology correspondent for the *Boston Globe*. Any news to be published may be forwarded to him.

The fencing class at the gymnasium will begin this week. For further particulars apply to Herman Boos, instructor of gymnastics.

The Freshman class is about twenty smaller than that of last year, but the total number of students at the Institute is greater by about seventy-five.

J. G. Barri, '91, recently from the U. S. Engineering Office at Wilmington, N. C., has opened an office on School Street for general engineering.

Technology has been granted, by the State authorities, permission to keep the arms used by the Freshman corps in the south armory, where the drills are held.

There is a great need of proper apparatus for taking physical measurements at the gymnasium. A small amount spent in this direction could not be better invested.

The classes in the Mining Department are larger than they have been during the last few years; there are seventeen students in the second year, and fourteen in the third.

The annual election of officers for the Class of '96 will be held in Rogers corridor, Saturday morning, October 14th. This is a matter of importance. Every Sophomore should vote.

Prof. Frank Vogel was married during the summer to a Chicago young lady. They are now traveling abroad. THE TECH offers its congratulations, and best wishes for a pleasant tour and a happy future.

The Winslow rink has been leased for a period, and is consequently undergoing extensive repairs. The Art Students League will make this building their future headquarters, and will use it as a clubhouse as well as a studio building.

Attention needs to be called again to the fact that the "Technique" Board of '95 offers ten per cent on all "ads" secured for them. Students should help this department as well as the others. Address A. L. Canfield, '95, for particulars.

Nomination papers must have been filled out and sent to F. W. Fuller, Secretary of '95, by one o'clock to-day. One week from to-day, October 19th, the annual election of officers for the Junior Class occurs from to-day's nominations. This will be the first important meeting, and every one is expected to be present.

Attention may be called to the weather bulletin, where a notice from the manager of the *Traveller* shows what is desired, and how we ourselves may co-operate in advertising the Institute. Possibly the Institute Committee are to be thanked for the improved condition of things; at any rate a change is very noticeable.

Every man interested in football should accompany the team to Amherst this coming Saturday. The game promises to be an exciting one. A special car may be chartered, and a jolly good time is guaranteed. We must win, so let each person stop up now all the leaks in his lungs in preparation for effective service later.

The latest number of the *University Magazine* contains a long article on Technology, illustrated with numerous views. It is in the main a reproduction of the Columbian Catalogue issued by the Institute. Fortunately that is just what we desire to put before the public. The Tech correspondent is certainly doing his duty in this quarter.

The Architectural library has just been enlarged by four almost priceless volumes of sketches by Mr. George Snell. These volumes were the artist's most valued scrapbooks during the later years of his life, since they contain sketches made by him in almost all parts of the world. The Institute is indeed fortunate to obtain so much valuable work from the hand of this noted etcher.

The first Freshman Class meeting came out with about the same success that other classes have attained in their first attempts. About half as many Sophs. as Freshmen were present,—enough, at any rate, to make the chorus of "nays" equal to the "yeas" of '97. Two or more '96 men were elected to the committee of five to draw up a constitution. On the whole, '97 is to be vastly congratulated for its brilliancy, and especially its sand.

The *Traveller* is certainly branching out in the right direction. It has established a regular Technology column, and, moreover, taken the means to fill it. Mr. M. C. Priest, '96, is our correspondent. Dr. William Z. Ripley is to assist all reporters in obtaining Faculty news. The student side will be superintended in a way by one or more of the students who are in a position to be in touch with the various phases of our daily life. —E

The prizes awarded last spring by the Photographic Society were: First prize, artistic merit, Partridge, '96; second prize, artistic merit, Guy Carleton, '95. First prize, general excellence, Guy Carleton, '95; second prize, general excellence, H. N. Parker, '94. The judges, Professor Niles, Professor Puffer, and Mr. Briggs, decided that there were not enough entries in the third class instantaneous work to justify an award.

The Institute is well represented in the works of the Maryland Steel Company, at Sparrow's Point, Md. Frederick W. Wood, '77, is president of the company; John W. Cabot, '79, is superintendent of the Bessemer department; George F. Knapp, '84, is assistant to the president; David Baker, '85, is superintendent of the blast furnace department; Newbert M. Randall, '85, is chief chemist; Clement March, '91, is in the rail mill; and Ralph H. Sweetser, '92, is in the blast furnace department. Mr. Knapp graduated in Course V., and Mr. March in Course I.; all the others graduated in Course III. The marine department is ready for men from Course XIII.

Last Saturday an informal meeting of Ninety-four was held in Room 11, Rogers, to broach the subject of reducing the quorum required to transact business. *The regular meeting for election of Senior officers will be held Saturday noon, Oct. 14th.* This is an occasion when every man should postpone for half an hour his contemplated lunch or pursuit of pleasure, since now the class is well able to judge of the men worthy of the honor to be conferred, and it seems only right that the voice of each individual should decide in the choice. Remember, this is the last chance that a large proportion of the class will ever have to show their appreciation of the work done for the Class by some of its members.

The Architectural Society is already reorganized, and prepared for another year of work. This society was one of the most

energetic and progressive in the Institute last year, and the prospects are even brighter this year, on account of the greatly increased number of students in the department. The first meeting of the term was held in Room 12, Architectural Building, on October 2d. The following officers were elected: President, Colbert A. MacClure, '94; Vice President, Donald P. Hart, '95; Secretary and Treasurer, Guy Lowell, '94; members of Executive Committee, Harry W. Gardner, '94, and Herbert E. Hewitt, '94. The plans for this year are not definitely settled as yet, but it is probable that the programme will be very similar to that of last year.

In THE TECH of last week, possibly a wrong meaning could be attached to a sentence in the article upon our Engineering Laboratories. The 300,000 pound Emery testing machine is "one of three" only in one particular. The Government machine at Watertown has 800,000 pounds capacity, one at Bethlehem, Penn., has a limit of 300,000 pounds, and a third of 300,000 pounds capacity was destroyed by a flood. These, with our own, are supposed to be the largest Emery testing machines yet built, though Yale has one (vertical) of smaller limit, and the one in the United States Government building at the Fair is of 200,000 pounds capacity. The 800,000 pound machine is thought to be one of the largest in the world, if not the largest; at any rate it is probably the most delicate.

Athletics at the Institute bid fair to receive a long-needed boom this year. Mr. Herman Boos, formerly gymnastic instructor at the Boston Turnverein, recognizing the importance of all-round development, has laid out a series of exercises for students between 4.30 and 6 p. m., consisting mainly as follows: the free-movement exercises with bells, wands, etc.; a short run; rope climbing; inclined ladder; the heavy exercises, parallel bars, flying rings, etc.; and finish by light exercises. This brings all parts of the body into action, and is a course that all students should

take advantage of. Mr. Boos is well versed in gymnastic science, being a graduate of the gymnastic schools of Germany and of this country; and if students will recognize the importance of daily exercise, his efforts here will meet with success.

The Glee Club is at present composed of the following men:—

1ST TENORS.	2D TENORS.	1ST BASS.	2D BASS.
Barker.	Stearns.	Bates.	Hewitt.
Baker.	Chase.	Young.	Guptill.
Wason.	Lamb.	Travis.	Leighton.
Dalton.	Emerson.	Schmitz.	Hart.
Holwill.		Robinson.	
		Hall.	

The first rehearsal—a trial one—was last Saturday.

The Banjo Club consists essentially of last year's players, with the addition of three new men. Banjeaurines—Lucius S. Tyler, '96, Albert W. Thompson, '96, James H. Slavin, '97, George F. Shepard, Jr., '95. Banjos—Edwin F. Hicks, '94, Floyd Frazier, '96, James K. Morgan, '95. Guitars—Nathan Cheney, '94, Winthrop F. Case, '94, Frank S. V. Sias, '96, Shuman, '97. George F. Shepard, leader and manager.

Associate Professors Wells, Holman, Peabody, and Tyler have been appointed full professors in their respective departments. Instructors F. H. Bailey, A. M., and C. F. A. Currier, A. M., are now assistant professors of mathematics and history respectively. Dr. Theodore Hough and Dr. R. P. Bigelow, of Johns Hopkins University, have been appointed instructors in biology. Messrs. Leon E. Bernard and Johann Meyer are appointed instructors in modern languages. Further appointments are: Benjamin E. Carter, Jr., A. M. (Harvard), Instructor in Mathematics; G. Russell Lincoln, M. I. T., '71, Instructor in Sanitary Chemistry; Carlton A. Read, '91, Instructor in Mechanical Engineering; James Swan, '91, Instructor in Naval Architecture; Willis R. Whitney, '90, Instructor in Analytical Chemistry; Henry W. Nichols, '93, Assistant in Geology; and Charles L. Norton, '93, Assistant in Physics.

A meeting of the Class of '96 was called last Friday in Room 11, Rogers, to take some action in regard to the nomination and election of officers, and to hear the report of the treasurer for the past year. Mr. Clifford gave a very original report of the finances, which was accepted with applause. According to the class constitution the election of officers will take place on Saturday, and all nominations must be handed in to-day, signed by at least five members. With the regular officers and the three men to fill out the executive Board, nominations of two men for the Institute Committee are in order, and must not be overlooked. It is necessary that energetic men be nominated for such a position, as well as for the other offices. While there should not be too many nominations for the positions in general, it would be well to bear in mind that several are necessary for each officer and each place on the committees in order to stimulate a healthy competition.

It will be gratifying to all to learn that President Walker is taking active steps to see that the Institute is reported as it should be in the newspapers. The following is a copy of the letter sent to the professor in charge of each department:—

DEAR SIR: The President has requested me to attend to the collection and publication in the Boston newspapers of such items of interest as concern the Faculty and instructors of the Institute, to the end that we may secure an adequate and trustworthy representation in their columns from day to day. To do this it will be necessary for me to be in receipt of such matter directly from those who are in authority. I should be greatly obliged, therefore, if you would designate one of your staff of instructors who will keep me speedily and accurately informed as to any matters of public interest,—such as changes in courses of study, the prosecution of new lines of investigation, publications, reception of distinguished visitors, etc.; in short, any items which may serve to awaken public interest in the works of the Institute. Purely technical descriptions, of course, would be inappropriate; the news must be suited to popular reading. The desire is to prevent the awkward inaccuracies of the past, and to further the true interests of the school by informing the public of our existence, our needs, and our ambitions in every legitimate way.

May I ask that you will give this matter your personal attention, so far as possible?

Respectfully yours,

WILLIAM Z. RIPLEY,
Room 40, Rogers.



The two-mile bicycle record of the Institute is 6 min. $1\frac{2}{5}$ sec., made by W. C. Marmon, '95, on Holmes Field, May 2, 1893.

Fred Lord has added another to his long list of victories. In New York, September 30th, at the N. Y. A. C. games, he won first in the 120-yards high hurdles from scratch.

The football team to play Harvard yesterday seemed likely, when THE TECH went to press, to be composed of the following men:—

L. E., Parker,	L. H., Curtis.
L. T., Mayo,	R. H., Clark.
L. G., Whiting,	F. B., Andrews.
C., Manahan,	Quarter, Thomas (Capt.)
R. G., Perkins.	Substitutes, { Osgood,
R. T., Simonds,	Humphrey, } backs.
R. E.,	Schmitz, Newell, Washburn.

The ends and guards are our weakest points. Parker, '97, and Underwood for ends play the game well and tackle excellently, but lack in weight. However, both will play the position for all they are worth. Of the new guards, Whiting, '96, is doing the best so far. Perkins, who played last year, will play again this season. Mayo and Simonds, both old men, will fill the tackles. Simonds is doing splendid work,—energetic, vigorous, and, above all, sure. The line on the whole, with reliable Manahan for center as of old, is very strong.

Back of the line little else could be desired. Of Thomas, quarter, all know the quality and quantity of his work. Clark, our old captain, and Curtis, who covered himself with glory on two important occasions last year, are two halves we may rely upon at all times. Andrews, as full back, is an earnest, steady player, and a good rusher.

Our chances for a strong team are very good indeed, candidates being numerous and enthusiasm high. A little more "beef," however, would be desirable. But let the students back up our team, and the result will be pleasing to all. We may add that Cushing, known to most of us as a strong player at guard, will play again. Schmitz, center on '95's team, is substitute center, and Osgood, '97, from St. Mark's, is doing good work at half, though a trifle slow. Lebosquet also shows up well in practice.

The game with Exeter did not materialize last Saturday. Through some strange mistake the Exeter management had booked two dates for that time. B. A. A. played and we did not. The B. A. A. game scheduled for October 11th was canceled in order to play Harvard. An account of this match will appear in the next TECH.

It is probable that a special car will be chartered for the benefit of those desiring to attend the Amherst-Tech game. In this way expenses will be reduced to an amount that should tempt every man who is willing to pay a fair price for fine sport. Go and back your team. This game must be won.

The Athletic Association intends giving sparring meets again this year. Two years ago we had a very successful meeting; and the attendance at all we have held shows how popular they are. On account of the law against charging admission to these contests, none but members of the Athletic Club showing tickets can gain admittance. Moral: Join the M. I. T. A. C.

C. O. Gill, Yale, '88, is training the Amherst Football Team this year.

What has become of our Tennis Association? It is a shame to waste this magnificent weather for tennis, especially as '97 has added largely to our list of good players. An energetic man is needed to push matters; let him appear soon or else not at all.



THE other day the Lounger chanced to behold an ambitious Freshman endeavoring even so soon to put himself in the place of his friend the Soph. 'Twas in the gym,—once known as the drill hall, where pranced the militia men of old, but which has now developed into a great misfit clothing establishment. There were Freshmen great and small, trying to convince themselves of the virtues of cast-off armor, and in their admiration of their manly forms so newly ensconced, to forget a pucker or a pinch here and there, that they might yet play the game upon our ambitious tailor in his recent rise of stock. The thought is an odd one, yet how typical was that Freshman of the events of the past week! To many of us this has been a trying on week, and many are the misfits we have encountered. Surely the Lounger more than any one has realized that the harness is still stiff, and though the straps are new and the buckles bright, the colt is not yet broken. How the summer memories will return. How easy it is to float from the hard, dry facts of to-day into the soft, summery months when we called no one master. The winter of our discontent is long, and the promised reward seems futile. In truth these are the days that try men's souls. Now it is that the vaulting enthusiasm of the Freshman is to be envied. How easily can he see the day when all the pretty girls shall flock to gaze upon his big, bright buttons! How soon, indeed, will he betray his academic origin as he parades the street with his nice new cap! Even now how coyly does he press the pave, a freshly lighted cigarette between his teeth, or else with morals most wofully shocked does he behold the daily procession to the "chapel." What injured innocence that one of these doves should timoursly ask our great scribe if "chapel" is compulsory. And how kindly did another inform our lunch-room maidens that they "might keep the change." Again does the irrepressible youth play horse in the gym. with his big marble, while his snickering admirers gaze at the antics com-

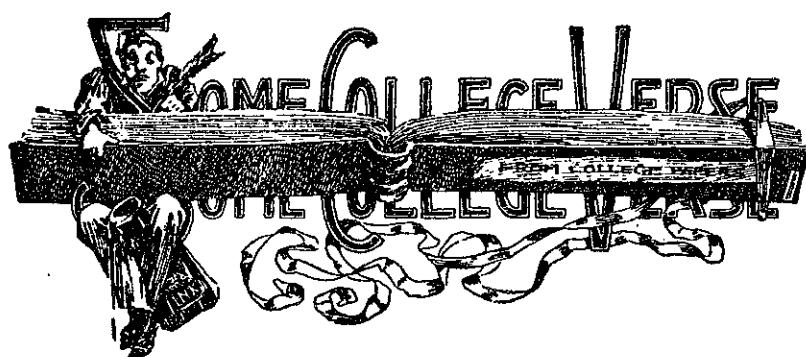
placently. Happy Freshman days when each learns why he came to the Institute. Says one, "I came to the M. I. T. because it has no frivolous attractions." Another, "I came to the 'Teck' because there were no sects, classes, or 'upper' Four Hundred."

Happy man that he can tell why he came to this round of toil. The Lounger has been here many years and he is at loss to know, unless it be to enjoy the presence of the Freshmen.

There is one '96 man, however, who has truly found his vocation. This man poses as "my assistant" to the chief of all the militants. Nicely arrayed in his last year's suit of gray, he teaches the young idea how to shoot, and is the observed of all observers. With what awful pomp and pageantry does he frown down the restless ones. How gayly does he salute his lord! 'Tis his stately bearing that tells the Freshman of future glory, or else hies him to the family physician.

Again the Lounger would impress the need and duty of attendance at class meetings. We are not here for long, and surely there are few enough opportunities for class friendship and cordiality within these barren walls to forego a single one. Year after year has the Lounger seen men neglect their meetings, till at last, if ever, they awake to find but few such occasions remaining. 'Tis only when all are assembled that true class spirit exists and mutual bonds are formed. From the harrowing scene of disorganized Freshman to the dignified debate of lofty Seniors, we shall all soon have met for the first class meeting of the year. The attendance will doubtless be good, but not what it ought to be. See to it Senior, Junior, Sophomore and Freshman alike, that when the respective class meetings are called, your place is filled. Believe the Lounger when he tells you that in future years you will recall most pleasantly the meetings you have attended, or else regret your lack of class spirit. Our lives here are too narrow, at best. Many college pleasantries are not for us, but the class meetings are our own. Let us cling to them. For you, '97, there is opportunity to institute unequaled fellowship and loyalty to Technology. Shall you, too, be found wanting? Let it never be said that '97 was obliged to adjourn for want of a quorum, and your fame will be lasting.

It is not yet too late to subscribe for THE TECH.



A QUESTION.

They tell how fast the arrow sped
When William shot the apple,
But who can calculate the speed
Of him who's late for chapel?

—*Trinity Tablet.*

A DOUBTFUL QUESTION.

"Who eats the bread of idleness must needs get his deserts,"
A father to his "sapegrace son" with serious mean asserts.
And I, who am that personage, my brains do rack to see,
What other things besides *loaf* cake may be in store for me.

—*Trinity Tablet.*

Her great, dark eyes upon me shone,
As on the stairs we sat alone.
So swift her glances played their part
And took possession of my heart,
That straightway I was all undone.
I asked her in a tender tone
To marry me, and be my own.
She laughed—I noticed with a start
Her great dark eyes.

A dread fear chilled me to the bone;
I grew as cold as any stone,
For glass, and some optician's art
Had made one eye which came apart!
And so that night they captured none;
Her great dark eyes.

—*Williams Weekly.*

JUANNA.

When thou art near me
Sorrow seems to fly;
And then I think, as well I may,
That on this earth there is no one
More blest than I.
But when thou leav'st me
Doubts and fears arise,
And darkness reigns where all before was light.
The sunshine of my soul
Is in those eyes,
And when they leave me all the world is night.
But when thou art near me,
Sorrow seems to fly,
And then I think, as well I may,
That on this earth there is not one
So blest as I.

—*Polytechnic.*

FATE.

I took my books the other day
And studied in the Quad, alone.
But no professor passed that way,
I wasn't called on the next day;
That work was never known.

Up on the road beside the brook,
One little hour we two beguiled;
I never looked inside a book,
But I met each prof. whose work I took,
And when I flunked, he smiled.

—*Sequoia*

THE SILVER ISSUE.

The spinster sat before her glass
And let her tresses down;
Then carefully she scanned them o'er
With many an anxious frown.
Three hairs of silver met her gaze—
She spied them with a pout—
"Ah, no; say dye I never will,"
She sighed, and pulled them out.

—*Yale Record.*

We walked into the Adams House,
The drinks they were on me;
I asked, "What are you taking, boys?"
They said, "Some *eau de vie*."

We drank our little nippie,
Which was brandy, as you see;
I asked how much I owed them,
And they said I owed a V.

—*Harvard Lampoon.*

A DAY-DREAM.

I was sitting in the shadow of a bending apple tree,
When I saw a ship a-sailing—like a swallow—o'er the sea.
Hung the spars of silver glistening, from the towering
masts so high,
And the sails seemed gauzy cobweb, 'gainst the cloudless
summer sky.

In the hold were treasures countless, from a dim and dis-
tant land;
Where the ocean scarcely murmurs on the shifting, shin-
ing sand.
But the ship came now no nearer in the sunlight's sinking
ray,
Though her sails were set, she moved not in the distance
far away.

Then I waited, watching, looking, o'er the rippling sum-
mer sea,
For the gallant fairy vessel—that would never come to me.
For she vanished in the sunset,—in the sunset's crimson
light,—
And my golden dream had faded like the rainbow glisten-
ing bright;
While the stars their watch were keeping in the boundless
misty night.

—*Yale Courant.*



DRESS AND BUSINESS SHIRTS, from \$2.00 up.

For Business Wear, for Outing, Negligee, for Traveling, for Dress Occasions.

Most thoroughly made, and always in stock for immediate use, from \$2.00 up.

COLLARS, CRAVATS AND GLOVES

Constantly on hand, and made to order in the most thorough and elegant manner.

WEDDING AND PARTY OUTFITS.

SPECIAL LAUNDRIES for Dress Shirts, for Family Work, for Collars and Cuffs. The BEST work possible to be done. Family work sent for and delivered without extra charge.

BLANKET WRAPS . . .

FOR LOUNGING, FOR THE NURSERY, FOR THE SICK ROOM, FOR THE BATH, FOR STEAMER TRAVELING, FOR THE RAILWAY CARRIAGE, FOR YACHTING. For Men, Women, Children, and the Baby, \$2.75 to \$35, with Hood and Girdle complete.

PAJAMAS . . .

or East India Sleeping Shirts, and Long Night Shirts made from English Flannels, Cotton and Silk, for Steamer, Sleeping Car, Yachting or Hunting.

THE NEW CLUB CRAVAT . . .

THE PRINCE'S CRAVAT FOR GENTLEMEN, New. ENGLISH LONG SCARFS, THE LONDON PUFF AND NEW ASCOTS.

GLOVES . . .

The New Gold Tan, the Famous London Tan at \$1.35, Fowne's New Cavendish Tan, Fowne's Red Tan.

NOYES BROTHERS, Washington and Summer Sts., Boston, U. S. A.

L. E. FLETCHER & CO.,

HATTERS AND MEN'S OUTFITTERS.

HATS

In LEADING and CORRECT STYLES for YOUNG MEN.

Novelties in Neckwear,

Gloves, Hosiery, and Underwear,

Canes, Umbrellas, Etc.

158 BOYLSTON STREET,

Opp. COMMON.

BOSTON.

Drafting Instruments,

Drawing and Blue Process Papers,

Selected with especial reference to the requirements of students of the Institute.

SCALES, TRIANGLES.

CURVES, T SQUARES, Etc.

Wadsworth, Howland & Co.,

82 and 84 Washington St., Boston.

267 State Street, Chicago.

SPECIAL RATES TO STUDENTS.

F. L. DUNNE,
TAILOR AND IMPORTER,
EXCLUSIVE STYLES A SPECIALTY.

TRANSCRIPT BUILDING, 328 WASHINGTON ST., cor. MILK ST.,
BOSTON.

SHOES

To be entirely Satisfying should have EASE,
GOOD STYLE and DURABILITY.

This trio of Essentials are possessed
by the



FINE SHOE

And we respectfully request Ladies and Gentlemen intending to purchase to allow us the privilege of trying on a pair; to see and feel this Shoe upon the foot, is to make a customer.

— POPULAR PRICES —

HATHAWAY, SOULE & HARRINGTON, Incorporated
35 BOYLSTON STREET, Between Washington and Tremont Streets, BOSTON
F. E. LOVEJOY, Manager.

Of all the world,

VICTORS

are LEADERS!



You are safe in

BUYING

A VICTOR.

DROP IN AND GIVE US A CHANCE TO SHOW YOU WH

OVERMAN WHEEL CO.,

BOSTON BRANCH

182-188 COLUMBUS AVEN

CATALOGUE FREE.

L. E. FLETCHER & CO.

HATTERS AND MEN'S OUTFITTERS.

Hats in Leading and Correct Styles for Young Men. • • • •

• • • • Novelties in Neckwear, Gloves, Hosiery, and Unde

CANES, UMBRELLAS, Etc.

158 BOYLSTON STREET (odd. Common), BOSTON.

RAY.

SHIRTINGS FOR 1893.

ENGLISH SHEVIOT, SCOTCH MADRAS.

From the above cloths you will find a large range in stock for immediate wear, also many designs reserved for special order work.

UNDERWEAR.

Balbriggan (close fitting), \$1.00, \$1.50 and \$2.00. Wool (light weight), \$1.50 and \$2.00. Lisle Thread, \$2.00 and \$2.50.

NECK DRESS.—New effects and shapes.

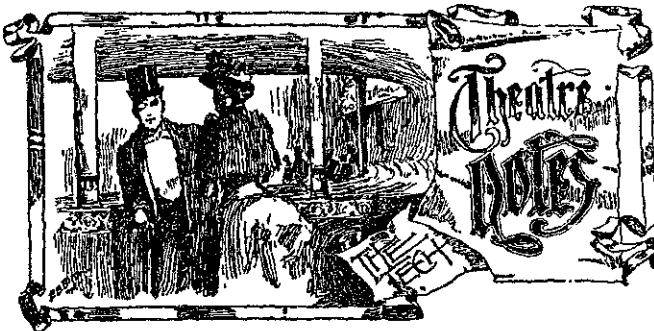
COLLARS.—Lord Kennard, Copley Square, the Latest.

Men's Furnisher.

509 Washington, cor. West Street; 641 Washington, cor. Boylston Street, BOSTON, MASS.

TREMONT THEATRE.—

Monday, Oct. 16th, last week of Mr. E. S. Willard. Evenings at 8; matinees Wednesday and Saturday at 2.



BOSTON THEATRE.—

Monday, Oct. 16th, grand production of the revised "Black Crook." Evenings at 7.45; Wednesday and Saturday matinees at 2.

BOWDOIN SQUARE THEATRE.—Monday, Oct. 16th, "The Span of Life." Evenings at 8; Wednesday and Saturday matinees at 2.

GLOBE THEATRE.—Monday, Oct. 16th, DeWolf Hopper and his merry Company in "Panjandrum." Evenings at 8; Wednesday and Saturday afternoons at 2.

BOSTON MUSEUM.—Monday, Oct. 16th, Barnet and Thompson's musical, mirthful, up to date fantasie, "Prince Pro Tem." Evenings at 8; Wednesday and Saturday at 2.

THE TECH.

THE MEDIUM of communication between student and student, Course and Course, Students and Faculty, Alumni and Technology.

INDISPENSABLE TO FRESHMEN who wish to derive the full benefit of college life, to learn the ways of Technology, and the best firms to deal with for student supplies.

INVALUABLE TO SOPHOMORES who are interested in football and general athletics, and who desire to become better acquainted with their surroundings and their departments.

JUNIORS, who are anxious for general college news, who are concerned in keeping posted about the numerous social and other events, at all times should take THE TECH.

SENIORS want a record of all college events, an idea of what previous graduates are doing, and above all to set an example of class and college spirit to the under-class men. Buy THE TECH.

INSTRUCTORS, to have a better hold on your students, learn about their doings from THE TECH.

ALUMNI, keep in touch with the "happiest days of your life" at good old Technology.

FRIENDS, obtain THE TECH to see what those whom you are interested in are doing.

S U B S C R I B E N O W .

A. N. COOK & CO.,

IMPORTERS, MANUFACTURERS, JOBBERS AND DEALERS IN

FINE HATS AND FINE FURS,

377 and 379 Washington Street, opp. Franklin Street, Boston, Mass.

WE AIM FOR THE FINEST AND BEST. NEW AND CORRECT STYLES.

Seal skin garments to order, tailor measure, fit guaranteed. Furs received on storage, insured against moths and fire.

**THE
BRUNSWICK**

(American Plan.)

NEAR THE
Museum of Fine Arts,
New Old South, Trinity
(Phillips Brooks's)
Church, and OPPO-
SITE INSTITUTE OF
TECHNOLOGY.

BOSTON'S
Grandest Hotel

BARNES & DUNKLEE
Proprietors.



**THE
VICTORIA.**

*(Nearest European Plan
Hotel to M. I. T.)*

In the Center of Bos-
ton's Fashionable
District,
THE BACK BAY.

Opened November,
1886, and within one
week, the *Traveller*
said, "It has established
itself as the Delmonico
of Boston."

BOSTON
FOREIGN BOOKSTORE.
CARL SCHOENHOF,

144 Tremont St., Boston, Mass.

Liberal Discount to Tech. Students,
Especially on Works imported to order.

NOTE PAPERS.

ROUGH AND SMOOTH, FOR "AT HOMES," RE-
CEPTIONS AND PARTIES.

NOTEBOOKS AND STUDENTS' SUPPLIES.

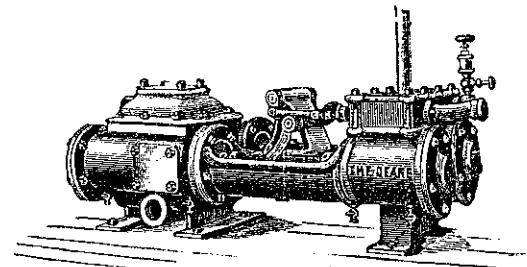
C. E. RIDLER,

Boylston Street,
and Berkeley.

DEANE STEAM PUMP CO.

HOLYOKE, MASS.

**STEAM
PUMPS.**



Boston Office: 54 Oliver Street.

The Richmond Straight Cut No. 1 Cigarettes.

Cigarette Smokers who are willing to pay a little more than the price charged for the ordinary trade cigarettes, will find this brand superior to all others.

The Richmond Straight Cut No. 1 Cigarettes are made from the brightest, most delicately flavored, and highest cost Gold Leaf grown in Virginia. This is the Old and Original Brand of Straight Cut Cigarettes, and was brought out by us in the year 1875.

Beware of imitations, and observe that the firm name as below is on every package.

The ALLEN & GINTER Branch of the American Tobacco Co., Manufacturers,
RICHMOND, VIRGINIA.



Frank Wood,
Printer,
352 Washington Street, Boston.

Scientific Books

DAMRELL & UPHAM,
The Old Corner Bookstore,
283 Washington St., Boston.

WRIGHT & DITSON,
Leading Dealers in all kinds of
ATHLETIC SUPPLIES.
Football, Tennis,
and Gymnasium Clothing
A Specialty.

Send for Catalogue.

Wright & Ditson,

344 WASHINGTON STREET
(NEAR MILK),
BOSTON, MASS.

Elmer Chickerling.

Mr. HALE'S
SCHOOL FOR BOYS,
5 Otis Place, Boston.

Prepares for the Institute of Technology
and for Harvard College.

Inquire of the former pupils of the school
who are now in the Institute in regard to
the preparation given.

STUDENTS'

Notebooks, Paper, Envelopes, Stylo. Pens, and
Fairchilds and Franklin Pens, etc.

H. H. CARTER & Co., 3 Beacon St.
"CO-OPERATIVE STORE."

Artistic Photographer.

WITH our new large rooms we are more
than ever fitted to provide our patrons with
the best work that can be produced.

SPECIAL DISCOUNT PRICE TO ALL "TECH"
STUDENTS.

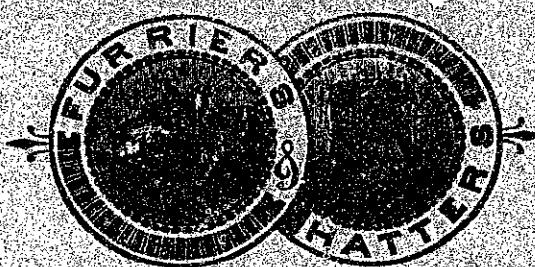
21 WEST STREET.

BOSTON.

O. A. JENKINS & CO.,
COLLEGE HATTERS.

CORRECT STYLES.

BEST QUALITY.



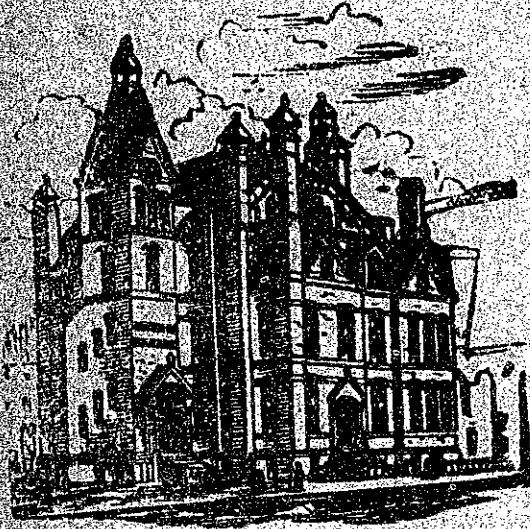
HEATH'S
LONDON + HATS
A well-selected line of
MACKINTOSHES
CANES and UMBRELLAS.

407 WASHINGTON STREET, BOSTON.

Preparation for the

Established in 1868.

Massachusetts Institute of Technology.



THIS HAS LONG BEEN A SPECIALTY AT

CHAUNCY HALL SCHOOL.

REFERENCE is made to the INSTITUTE FACULTY in regard to the thoroughness with which Chauncy-Hall pupils are fitted, not only for entering the Institute, but also for pursuing successfully their subsequent work. Preparation, also, for business and for college.

No. 393 Boylston Street, Boston.

(Very near the Institute.)

SOCIETY PINS, BADGES, PRIZES, Etc.,
IN GOLD AND SILVER.

H. M. RICHARDS & CO.,
MANUFACTURING JEWELERS,
7 GREEN STREET, - - - - - BOSTON.

A. McMILLAN.

A. McMILLAN, Jr.

A. McMILLAN & SON,
Tailors and Importers,
288 BOYLSTON STREET (Opposite Public Garden), BOSTON.

TECH men are specially invited to examine our line of Scotch novelties
in Suitings, which have been imported directly by us.
Our stock in other lines is very complete.

TELEPHONE. TREMONT 1017.