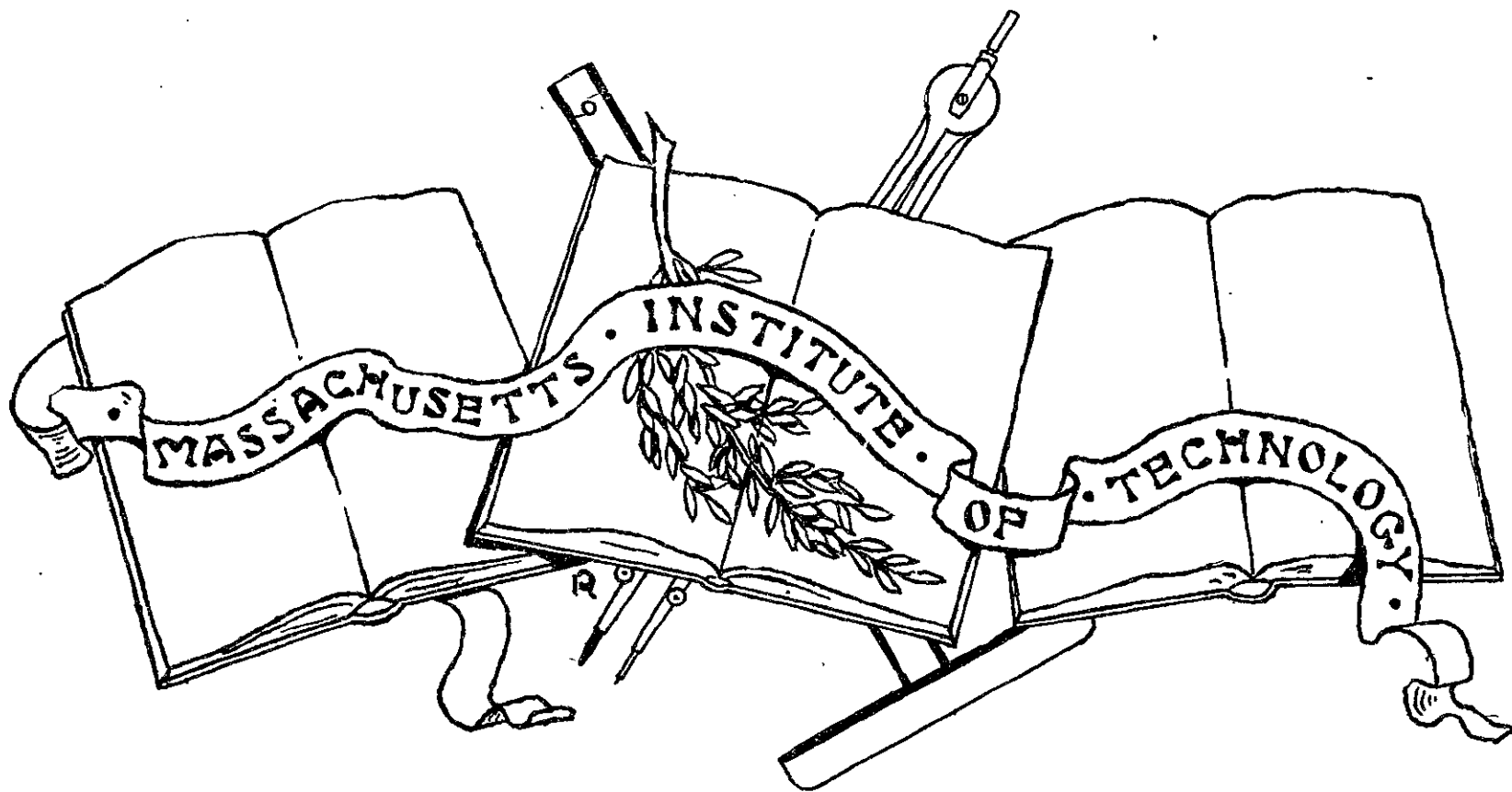
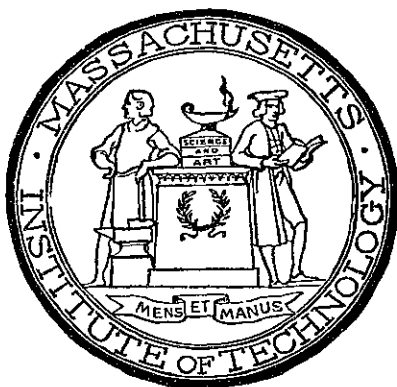




THE TECH



BOSTON, MASS.

VOLUME XVI.

NUMBER 17.

FEBRUARY 25, 1897.



(SUCCESSORS TO HASTINGS)

146 TREMONT STREET,
BOSTON.

Strictly High Grade
Photographs AND Portraits.

Special Rates to all M. I. T. Students.

OAK GROVE CREAMERY COMPANY,
DAIRY LUNCH ROOM.

445 BOYLSTON STREET, COR. BERKELEY, opp. Y. M. C. A. Building,

Where can be had Sandwiches of all kinds, Soups, Tea, Coffee, and regular Dairy Lunch.

EVERYTHING FIRST CLASS.

Pure, Fresh-churned Butter, in Quarter-pound Prints, 5 and 10 Pound Boxes. Pure, Fresh Milk and Cream, delivered in Glass Jars. Fresh-laid Eggs. Pure, Full Cream Cheese, American (plain), Sage, Neufchatel and Edam. All kinds of Fruit Ices.

NELSON L. MARTIN.

ALL GOODS REQUIRED BY STUDENTS AT
MACLACHLAN'S

214 CLARENDON STREET.

Fountain Pens, Text Books.

Drawing Instruments and Materials, etc.

Frank Wood,
Printer,
352 Washington St.,
Boston.

TELEPHONE BOSTON 273.

L. P. HOLLANDER & CO.,

SPRING FASHIONS.

YOUNG MEN'S CLOTHING AND OUTFITTINGS.

Exclusively our own make, SACK SUITS of Scotch Tweeds and Homespun, \$18 to \$25. COVERT COATS, silk lined, from \$22 upward. FULL DRESS SUITS, \$40. TUXEDO SUITS, \$30 to \$35. KNICKERBOCKER SUITS and TROUSERS of Scotch and Irish Homespun a specialty. NEW STYLES in HATS. NEW NECKWEAR, NEGLIGE AND FANCY SHIRTS.

202 to 212 BOYLSTON STREET AND PARK SQUARE, BOSTON.

THE HAT OF THE SEASON.



STYLE

PRICE,

1616

\$2.00.

Special 1616

has all the characteristics of a \$3.00 hat and costs but \$2.00.

SPECIAL ATTENTION

Given to Technology Uniforms.

THE LARGEST STOCK IN BOSTON OF

NOBBY ♦ SUITS ♦ AND ♦ OVERCOATS.

CONTINENTAL CLOTHING HOUSE,

COR. WASHINGTON AND BOYLSTON STREETS.

Haircutting, .25

Shaving, .15

Bootblacking attendance.

**OPPOSITE
TECH.**



Shampoo, .25

Razors Honed,

.25

Razors received by mail or called for.

BRANCH OF HOTEL THORNDIKE.



J. C. LITTLEFIELD,

Tailor · and · Outfitter,

21, 23 BEACON STREET, BOSTON.

I can offer you a larger and more complete assortment than can be seen elsewhere, and at lower prices for the same qualities. Look in and examine my prices before placing your order.

GOLF BREECHES, RIDING BREECHES, AND DRESS SUITS A SPECIALTY.

DISCOUNT TO STUDENTS.

TRADE MARK

COLLINS & FAIRBANKS
CELEBRATED

SOLE AGENTS FOR HENRY HEATH'S AND A.J. WHITE'S LONDON HATS

HATS

STYLES CORRECT
QUALITY UNEQUALLED

381
WASHINGTON ST. BOSTON

Messrs Brooks & Co.
Importing Tailors

15 MILK STREET.
OPPOSITE OLD SOUTH CHURCH.

LONDON OFFICE, 6 SAVILE ROW, W.

BIRTHPLACE OF FRANKLIN.

BIRTHPLACE 1706

THE LARGEST ASSORTMENT OF FOREIGN WOOLLENS SHOWN IN BOSTON

M. I. T. CO-OPERATIVE.

THE TECH

VOL. XVI.

BOSTON, FEBRUARY 25, 1897.

NO. 17

THE TECH

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

CHARLES-EDWARD AMORY WINSLOW, '98, *Editor in Chief.*
CLARENCE RENSCHAW, '99, *Assistant Editor in Chief.*
THOMAS EDDY TALLMADGE, '98, *Secretary.*
HARRY DRAPER HUNT, '97.
MORRIS KINNARD TRUMBULL, '97.
WARD WELLINGTON WARD, '98.
HAROLD WELLINGTON JONES, '98.
GEORGE REED WADSWORTH, '98.
WILLIAM EATON WEST, '99.

W. R. STRICKLAND, '98, *Business Manager.*
E. R. SHEAK, '99, *Ass't 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.

Entered in Post Office, Boston, Mass., as Second Class Matter.

"CORNELL has abolished the Degrees of Ph.B., B.S., and B.L., and has coalesced the four general courses into one leading to the degree of A. B., all work in that course being elective during the entire four years."

It is indeed a surprise that Cornell should abolish all prescribed work in the departments of the humanities and pure sciences. It is true that colleges and educational institutions throughout the country are tending more and more toward a free choice of subjects on the student's part, but few, indeed, go so far as to do away with all prescribed work in the Freshman year. And, truly, the disadvantages of such a "liberality," as it is called, seem to outweigh its advantages. The student entering college is on the average seventeen or eighteen years old; too young, in most cases, to make an intelligent selection of subjects, many of which are entirely new to him. He is among strangers,

and the methods and customs of the institution are unfamiliar. Though he wish to choose as advantageously as may be, his age and previous experience prevent such a choice. And if, on the other hand, he is one who is looking for "snap" courses, what an opportunity is open to avail himself of his perfect freedom to elect an easy schedule. How many men of that stamp there are in college to-day is appreciated only by one who has seen and met them in college life. But there is another disadvantage in the system. In a prescribed course of study new subjects are brought before the student; he perhaps takes no interest in them beforehand and yet may find something exactly suited to his temperament which he can follow out further on elective lines. Many a man's life-work has been determined by prescribed work at college.

And what is to be gained by thus indiscriminately throwing open all of the departments? It is said that they will be relieved by having in them only the students whose "native bent has brought them to the respective classes." Very true; those who have discovered their native bent will get on excellently, but a very large proportion of the Freshmen have not yet discovered their native bent, and these will not fare so well. While the age for entering college remains as immature as it is at present in America, the attempt to turn colleges into universities cannot succeed.

PRESIDENT ELIOT, in his recent report on the condition of Harvard University, called attention to the fact that bequests are not keeping pace with the demands of the University. The great increase of colleges in the country, especially in the West, has

diverted into many minor channels the sums that once were turned into the resources of the fewer and larger institutions. It is on their alumni that the older colleges have to depend for their endowments. An alumnus of the Stevens Institute of Technology, whose twenty-fifth anniversary is now being celebrated, has presented his Alma Mater with one thousand shares of railroad stock. This property is of a nature to appreciate largely, and so to meet the enlarging demands of the future. Such bequests are worthy of imitation.

THE raised corners in the Gymnasium have proved very unsatisfactory. They were built by the Chauncy Hall A. A., whose men use the Gym. two afternoons of the week, and our Association is now considering their proposal to bear a third of the expense for the privilege of using them.

Mr. Boos is taking great interest in the matter, and strongly advises that, instead of paying this proportion of the cost, the M. I. T. A. C. should build additions to these, correcting the faults which the members of the relay team found them to possess, during their training for the B. A. A. Games. Mr. Boos has promised to present the matter before the Faculty, and ask that the expense of these repairs be borne by the Institute.

THE great convenience of the Co-operative Society's book table in the corridor of Rogers, since the beginning of the term, has brought forth the wish on the part of many to have it continued throughout the year. In view of inconveniences to which the Society is subject, due to their having no place in the building for the keeping of books and materials; this is not likely to be the case. If a room could be secured on the lower floor, the Society would doubtless be glad to keep on sale not only books, but all the other materials used from time to time. Such a plan would

be a great convenience to the students, and would also benefit the Society, and we hope that before long such a supply room in Rogers may be established.

M. I. T. Society of New York.

ON Saturday evening, February 6th, the M. I. T. Society of New York held its second annual dinner at "Clark's" on Twenty-third Street. The president of the organization who is Prof. Charles R. Richards, Director of the Pratt Institute of Brooklyn, officiated as toastmaster.

Nominally, this dinner was the annual one, but in reality the tone of the exercises tended to stamp the evening as a commemoration of President Walker as a man of letters, as a scientific investigator, and as the executive head of our Institute.

The guests were Henry Holt, Professor Richmond Mayo-Smith, and James P. Monroe. Professor Richards was associated with President Walker in connection with the American Statistical Association. Henry Holt is the well known publisher. In particular, it was his firm that published President Walker's works. Not only did Mr. Holt come in contact with him as a business man, but as an intimate acquaintance. Extracts from many letters written to Mr. Holt by President Walker were read, which were very significant in portraying the humorous vein which existed in his nature.

Walker Club Plays.

AT a business meeting of the Walker Club, held Monday, February 15th, Charles W. Bradlee, '97, was chosen Manager in Chief of the play to be given by the Club in Junior Week.

The play to be given is the three-act comedy, "Dandy Dick," by Pinero. The first meeting of candidates for parts was held Thursday, February 18th. Miss Ryan, who is to coach the plays, was present.

A System for the Election of Class Day Officers and Class Day Committee.

ARTICLE I.

The Class shall vote by the Australian Ballot System (or as near to it as practicable) on one day for Nominations, and on a later day for Elections. Election day shall not be sooner than one week after the formal announcement of nominations.

The Executive Committee of the Class shall have charge of everything but the forms of ballots. Three members, elected by the Class, shall have full charge in deciding the forms of ballots.

ARTICLE II.

Nomination Day.

SECTION 1. Marshals.—Vote for three; the four highest shall be formal candidates.

SECT. 2. Orator.—Vote for one; the two highest shall be formal candidates.

SECT. 3. Same as Section 2, for Statistician, Historian, Prophet, and Poet.

SECT. 4. Class Day Committee.—Vote for twelve; the fifteen highest shall be the formal candidates.

SECT. 5. In case of a tie vote for any position, the fewest and highest groups of votes containing at least the required number of names for that position, shall be the formal candidates.

ARTICLE III.

No one can be a candidate for more than one position.

ARTICLE IV.

If an individual be nominated for two or more positions, he may choose from them the position for which he wishes to be a candidate. Should he have no choice, he shall be considered a candidate for that position in which he receives the highest number of votes.

ARTICLE V.

Thirty-five signatures of members of the Class may formally nominate an individual for any position.

ARTICLE VI.

No nomination may be withdrawn after nominations close.

ARTICLE VII.

Nominations close with the Class Secretary at least forty-eight hours before the time set for the opening of the polls on election day.

ARTICLE VIII.

Election Day.

SECTION 1. (a) Marshals.—Vote for three: the one receiving the highest number of votes shall be First Marshal; the one receiving the second highest number of

votes shall be Second Marshal; the one receiving the third highest number of votes shall be Third Marshal.

(b) In case two individuals receive the same number of votes for First Marshal, the result of the election for the other Marshals shall be withheld, and there shall be another election by the Class upon these tied candidates for First Marshal. The one receiving the highest number of votes shall be First Marshal; the other shall be Second Marshal. From the names withheld, the one receiving the highest number of votes shall be Third Marshal.

(c) In case of a tie vote for Second Marshal, there shall be no Third Marshal, and the tied candidates shall be designated as Marshals (without distinction).

(d) In case of a tie vote for Third Marshal, the Class Day Committee, already elected, shall decide from these tied candidates which one shall be Third Marshal.

(e) In case more than two individuals are tied for First Marshal, a re-election by the class shall be held to decide from the tied candidates upon First, Second, and Third Marshals. The rules above shall apply to this re-election.

(f) The Marshals shall be members, *ex officio*, of the Class Day Committee.

(g) The First Marshal shall be chairman, *ex officio*, of the Class Day Officers and of the Class Day Committee.

SECT. 2. (a) Orator.—Vote for one.

The one receiving the highest number of votes shall be Orator.

(b) In case of a tie vote, the Class Day Committee, already elected, shall decide which one of these tied candidates shall be Orator.

(c) Same as (a) and (b) for Statistician, Historian, Prophet and Poet.

SECT. 3. (a) Class Day Committee.—Vote for twelve.

The twelve receiving the highest number of votes shall be the Class Day Committee.

(b) In case of a tie vote, the fewest and highest groups of votes containing at least twelve names shall be the Class Day Committee.

(c) When the Class Day Committee is called upon to decide a tie vote, then nine members, exclusive of the members *ex officio*, shall constitute a quorum.

ARTICLE IX.

Vacancies.

In case of a vacancy in any position the next highest candidate for that position shall fill the vacancy. The tellers shall therefore make a report in writing of all candidates and their votes, addressed to the Secretary of the Class; and this shall be kept on file by him, so that the names, with their respective votes for positions, may be quickly referred to.

In the event of there being no remaining candidate in the teller's report for that position, then the Class Day Committee shall choose a member of the class to fill the vacancy.

ARTICLE X.

The President of the class shall be a Class Day Officer, *ex officio*.

ARTICLE XI.

Forms of Ballot.

SECTION I. For Nomination Day the ballot will be arranged in eight columns. The first column will be the names of members of class, with respective courses, in alphabetical order. The second column will be headed "Class Day Committee.—Vote for twelve." The following columns will be headed respectively: "Marshals.—Vote for three;" "Historian.—Vote for one;" "Orator.—Vote for one;" "Poet.—Vote for one;" "Prophet.—Vote for one;" "Statistician.—Vote for one." Between names horizontal lines will extend across the columns forming rectangles.

A vote of yes or no will be taken on the question: "Shall men not candidates for degrees be eligible for Class Day Offices?"

Directions for Voting.

Place a cross against name and in column of position desired.

In each column vote for no *more* than number stated.

Unless these conditions be complied with the ballot shall be considered void, in so far as the irregularities affect it.

Articles I. to VII. shall be printed on the ballot.

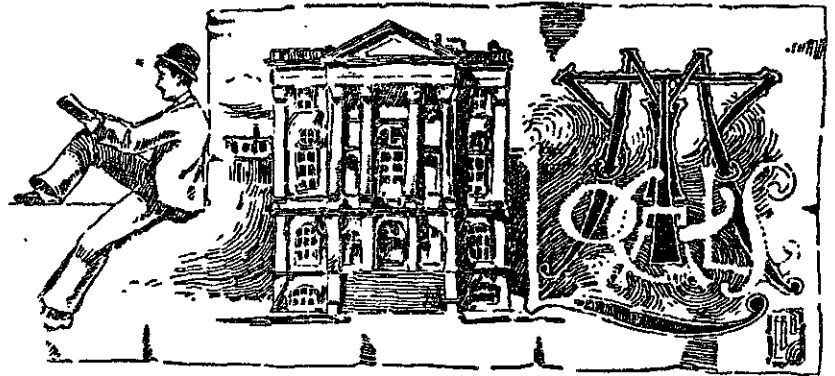
SECT. 2. For Election Day—to be announced in the next number of THE TECH.

Institute Committee.

THE first meeting of the Institute Committee for this term was held Friday, February 19th, in the TECH Office. It was decided that the annual picture for "Technique" should be taken the next week at Purdy's.

President Bancroft stated to the Committee that the graduate class secretaries had formed themselves into a committee for mutual assistance in the registration of graduates, and desired that a member of the Institute Committee be appointed to co-operate with them. Mr. Hutchinson, '98, was unanimously elected as this representative, and accepted.

THE discussion in regard to the ceremonies at the tree on class day at Harvard has been finally settled by vote of the Senior Class adopting resolutions which provide for the lowering of the flowers on the tree and the wearing of ordinary instead of football clothes.



The members of last year's Baseball Team of the Class of '99, have elected Lane Johnson captain for this season.

The class of '99 will hold an election for the selection of its "Technique" electoral committee, Friday, Feb. 26.

The course in Sanitary Science, given by Professor Sedgwick is extremely popular, the class numbering over seventy-five students.

The Freshmen are using General Walker's book, "The Making of the Nation," in connection with their work in United States history.

Beginning with the present year, the civil engineers will finish in Applied Mechanics, including a course in the laboratory in the third year.

At the last meeting of the Biological Club, last Friday, Mr. Stiles spoke on the "Relation of Temperature to the Irritability of Muscle and Nerve."

THE TECH has many calls for No. 14, containing the "Life of Gen. Walker." If any one has the above number and wishes to dispose of it he may do so by calling at THE TECH office.

G. H. Wright, '98, gave a very interesting talk on "The X-rays" before the Walker Club last Friday evening. Mr. Wright illustrated his remarks with experiments on an electrical machine of his own invention.

On Saturday evening, February 27th, Prof. George F. Swain will deliver a lecture before the Y. M. C. U. at their rooms, 48 Boylston Street. His subject is "The History of Stone Bridges," fully illustrated with the stereopticon.

There will be a meeting of the Civil Engineering Society, Monday evening, March 1st, in Rogers Building, at which there will be a lecture on the Metropolitan Waterworks with stereopticon views by the assistant engineer.

The Mining Department has received from Mr. James McArthur, Manager of the Canadian Copper Co., Sudbury, Canada, a set of samples of nickel ores and metallurgical products of the company's mines and smelting works.

Capt. A. E. Hunt, Course III., '76, President of the Pittsburgh Reduction Co., has sent to the Mining Department a set of samples representing the metallurgy of aluminum as carried out at the works of Kensington, Pa., and Niagara, N. Y.

The Cane Committee of the Class of '99 wish that every man desiring a cane would please hand in his order, accompanied by \$3.50, as soon as possible. It is the desire of the committee to have every man supplied before the Class Dinner.

The Executive Committee of the Class of '99, who by the constitution of the Class have entire charge of the social affairs, have elected Mr. A. S. Hamilton, Toastmaster for the coming dinner which is to be held at the Hotel Brunswick on March 12th.

The annual meeting of the Y. M. C. A. was held February 18th. Reports of the work carried on by the Association were read, and the following election of officers ensued: President, James A. Patch, '99; Vice President, George T. Cottle, '98; Secretary, Herbert I. Lord, '98; Treasurer, H. B. Newhall, '98.

The Class of 1900 at a meeting last week elected C. B. Cotting, of West Newton, captain, and J. W. Paget, of Dorchester, manager of the Baseball Team. The class contains much promising material, and judging from the enthusiasm shown in the meeting, '99 will have to work hard to maintain her laurels.

The new rotary pump for the Engineering Laboratory, which was described in a previous number of THE TECH, is now in running order and experiments are being conducted on it. When working at its full capacity the pump requires about 120 horsepower. None of the nozzles owned by the Institute were large enough to handle the water from this pump, and a 2½-inch one has been loaned by the Associated Factory Mutual Insurance Co. Experiments are also being made on the 40 horse-power gas engine which was also added to the laboratory this year.

L'Avenir held a regular meeting, last Friday, at four o'clock. Mr. D. L. Wing read an interesting paper on the Tobacco Monopoly in France, and a long discussion of the subject by the members followed, all in French. Afterwards it was voted to give a Bohemian dinner, and a committee was appointed to arrange for it. At the next meeting, a week from to-morrow, Mr. E. S. Chapin will read a paper. These discussions, to be continued at each bi-weekly meeting of the Society, are of great value, and all who speak French or wish to speak French, should attend, as the meetings are open to the public.

The conditions of this year's Beaux Arts competition have been given out and already the men in Course IV., who think they can uphold Technology's proud record in architectural competitions are busy on their designs. The senior problem is that of a State Governor's official residence, which must be built in connection with a capitol building. Russell Porter, winner of the first award in the Junior competition last year, and Mr. R. C. Henry are competing in this class. The Junior problem is a city market, with an ornamental entrance gate. In this class are competing Messrs. Holmes and Cummings, and Miss Ryan. The designs are due in New York April 13th.



'77. The Class of '77 held its twentieth reunion on Tuesday evening, February 16th, at Young's Hotel, twenty-two members being present. The following officers were re-elected: President, George A. Nelson, of Lowell; Vice President, H. C. Southworth, of Stoughton; Secretary-Treasurer, R. A. Hale, of Lawrence. Among other interesting talks of the evening, Professor Swain spoke on "The Subway." A pamphlet is soon to be issued giving short sketches of the careers of the members since graduation.

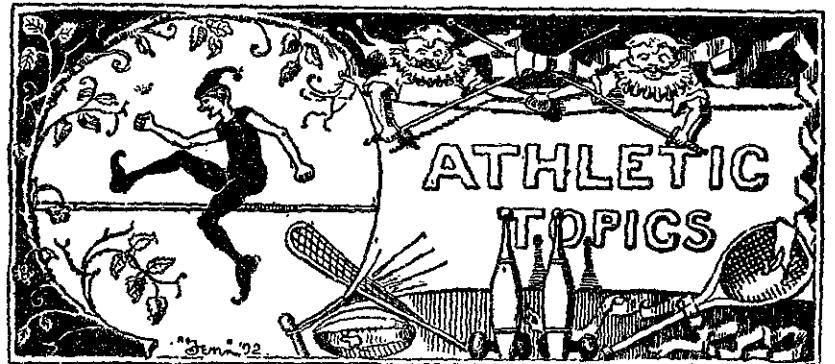
'88. Jas. C. T. Baldwin, who was last year Superintendent of the Chicago Telephone Company, is now holding a like capacity with the St. Louis Telephone Company. St. Louis has been recently making rapid strides to the front in the competition of our cities, and there is now open to Mr. Baldwin opportunity for a most successful career.

'93. Charles E. Buchholz, Course I., who is now the Inspector of Masonry on the Rome, Watertown and Ogdensburg R. R., visited the Institute the latter part of last term.

'94. Mr. Mason Smith Chace, Course II., who returned from Paris in December, having completed his course at the Ecole Polytechnique, has just accepted an appointment as assistant naval inspector, civilian officer, and is now stationed at Newport News.

'94. Allan Avery Claffin, Course V., is engaged to Miss Mabel Gertrude Nash, of Wollaston, Mass.

'96. Mr. E. A. Baldwin, Course VI., formerly assistant editor in chief of THE TECH, visited the Institute and THE TECH office last week. Mr. Baldwin is in the testing department of the General Electric Co.'s works at Schenectady, N. Y.



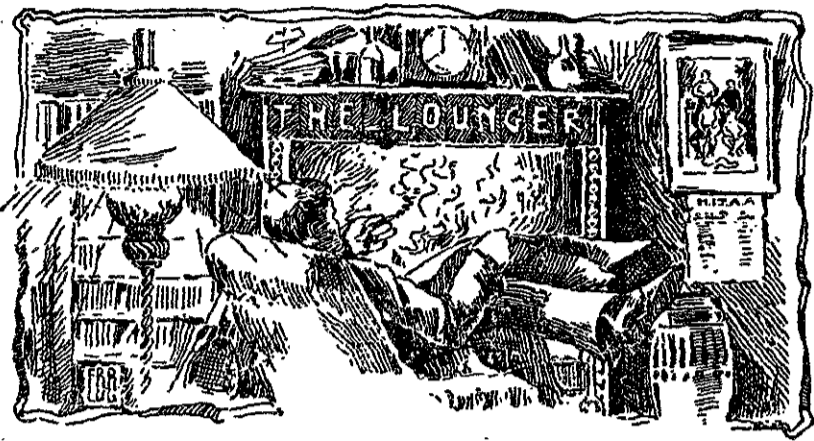
The Tech. Relay Team is to run Boston College Relay Team at the Boston College Games, March 11th in Mechanics Hall.

Mr. Arthur Lovering, a Senior at Harvard, succeeded in breaking the Harvard strength record, making the truly phenomenal record of 1660 points. It would be a good thing if Tech. had a similar system. The matter has been agitated several times, but it has never come to anything.

All athletes should bear in mind that the new registration rule goes into effect March 1st, and no athlete can compete in open games after that date until he registers and receives a number. The fee for registration is one dollar, and blanks may be obtained at the "Gym." or at the Tech. office.

The annual scratch games will be held in the Tech. Gymnasium on Saturday, March 20th, at 8 o'clock. The events will be all scratch, and are as follows: 35-yard dash, 40-yard high hurdles, putting 16-lb. shot, pole vault, high jump, and novice 35-yard dash; this last is open only to those who have never won a prize in an open running event at any distance.

The new officers of the M. I. T. Tennis Association who will serve for the coming year are as follows: President, Lansingh, '97; Vice President, Ayer, '99; Secretary and Treasurer, Gillson, '99; Executive Committee, Grosvenor, '98, Burch, '99, and Street, '99. It is planned to relay and improve the tennis courts built last spring, and to hold three tournaments during the year. A team of six men is also to be formed.



THE LOUNGER notes with approval the occurrence of another "brief respite from the labors of college life," as the stately editorial writers of this organ would probably describe it. He refers to the anniversary of the nativity of George Washington. For the gentleman in question the Lounger has the greatest respect; in spite of the fact that he was in politics. The mind which first evolved the concept of raspberry jam between an upper and a lower stratum of sponge cake is worthy of all reverence. In one direction only the parent of his country did not excel: his imaginative powers were sadly limited. One of the Lounger's rivals, a well-known humorist, once remarked that he considered himself a greater man than George Washington, because George Washington couldn't tell a lie while he could and didn't. The Lounger, however, is far ahead of either, for he not only can tell a lie, but does frequently.

It is pleasant indeed to see that calm peace has settled down upon the warring sons of '97, and that all goes merrily as a dinner bell. This phrase strikes the Lounger as peculiarly happy, even for him, because the principal cause of the reconciliation was the imminence of the annual feast. These particular youths, now masquerading as Seniors, have always shown a marked addiction to the pleasures of the table. When, therefore, they discovered that their little difficulties about nominating committees were interfering with the more weighty affair of their Class Dinner, the heated conflict stopped at once. The gastronomic questions were carefully discussed. Then the matter of the repast being settled, all found themselves in good humor, and the settlement of the Class Day dispute became easy. One other factor contributed also to this felicitous conclusion; namely, the presence of a veteran of last year's struggle, whose wide experience in Institute politics renders him peculiarly fitted to act as the guide, philosopher, and

friend of incipient alumni. The success of his intervention suggests strongly the advisability of creating a permanent office, whose incumbent might lead successive generations through the devious mazes of the Senior elections.

The Lounger has in the past found occasion to say a word of commendation for the canny policy which actuates the authorities of the Institute. Nothing is more pleasant than a careful and economical administration of public funds, and it is only just to speak with praise of the last instance of thrift on the part of the Corporation of the Massachusetts Institute of Technology. Some time ago the Athletic Association held a meeting modeled in miniature after the Olympic games, in the gymnasium on Exeter Street. As usual a large and enthusiastic concourse of loyal students supported the efforts of the management, and the custodian of unpaid bills, yclept Treasurer, began to rub his hands with glee. But he was reckoning, literally, without his host. The next morning came a missive from the Powers that Are,—it was a bill for the gas burned during the evening. Such good business methods as this cannot fail to place the Corporation of the Institute very soon on as firm a foundation as the Sugar or the Whiskey Trust. The Lounger only regrets, however, that the splinters from the floor which may have stuck to the athletes' shoes were not estimated as kindling wood and added to the bill.

The Lounger usually lunches late, after the *hoi polloi* has departed, trusting, of course, to his faithful Hebe to save him the fat of the land and the skim of the milk. At these times a certain instructor who teaches the young idea how to shoot (No, not the gallant Cap'n; this phrase is purely metaphorical), always occupies a particular seat of peculiar convenience. How said instructor manages to secure his special point of vantage the Lounger perceived on a day last week when he departed from his usual custom and lunched early. As he complacently munched his ham sandwich and quaffed his *creme-d*—no, just cream, the instructor stealthily approached and whispered in his ear, "Have you finished your lunch?" For answer the Lounger chewed expressively and grasped more firmly his sandwich and his flagon. "Well, turn up your seat when you get through, will you?" said the other, and glided away. But thus it is that the witless Freshman is bamboozled and has to eat his lunch standing.

Electrical Engineering Society.

At the February meeting of the Electrical Engineering Society last Friday evening, Mr. Chas. L. Norton, '93, of the Physical Department of the Institute, and an honorary member of the Society, gave a most interesting and instructive lecture on the X-rays. Mr. Norton has made a special study of these phenomena during the past year, and may be considered an authority on the subject. After a few words about the discovery of these rays by Roentgen, Mr. Norton described briefly the three principal means of producing them, from induction coils, influence machines, and high frequency coils, mentioning incidentally that the largest one of the latter in the world, made for Professor Thomson of Lynn, is now in the possession of the Institute.

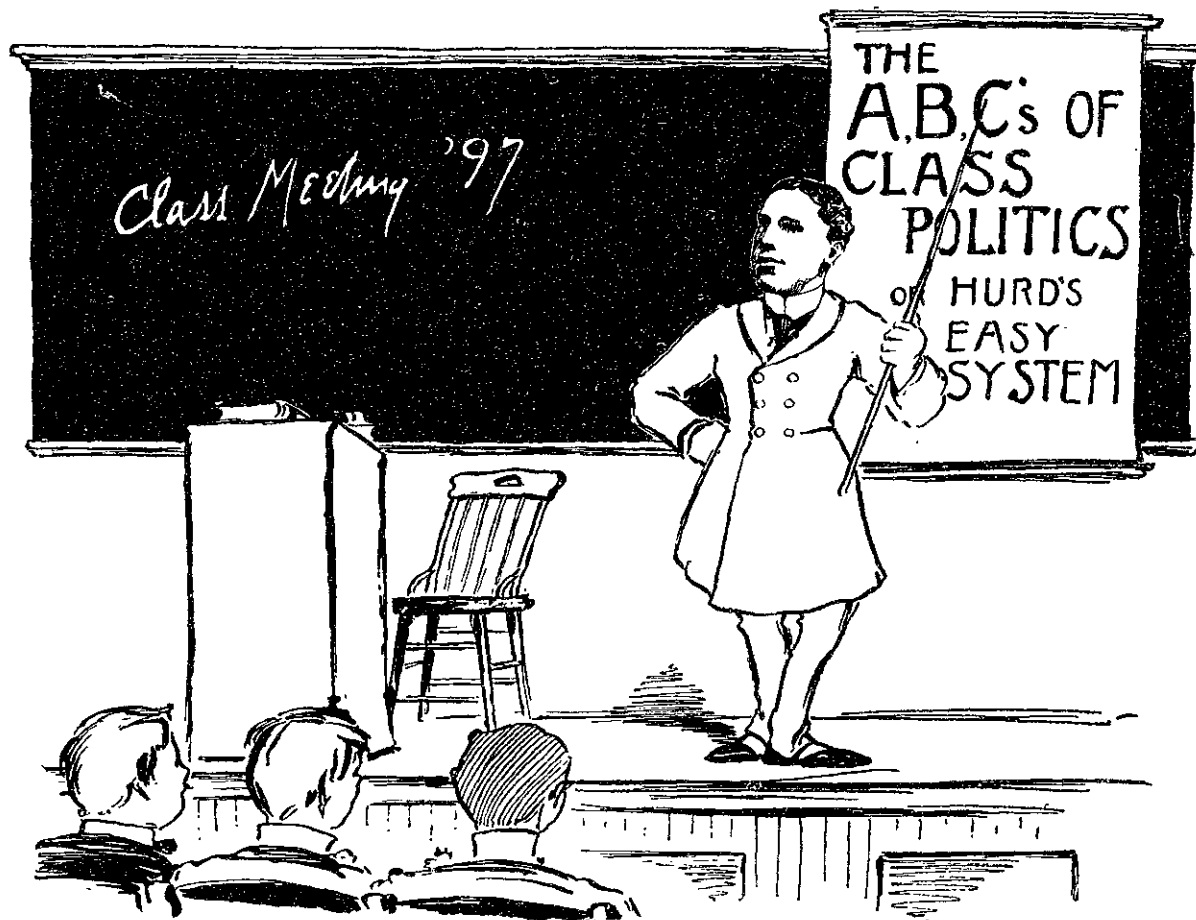
After leading up to the subject by showing discharges through Geissler tubes of various sorts and different degrees of exhaustion, he

then exhibited various properties of the rays with the aid of a fluorescent screen. Mr. Norton then exhibited with the aid of the lantern a large number of slides of great variety, showing in novel ways the difference in the transparency of substances as regards light waves and these rays.

A most interesting part of the lecture was the description of a method devised by Mr. Norton, of producing a current suitable for the production of the rays from an induction coil without the use of the troublesome circuit breaker.

The method is, but a few days old and was thus made public for the first time.

At the close of the lecture Mr. Norton expressed his great interest in the Society, and his desire to be of service in any possible way. He was assisted in the manipulation of the large amount of apparatus used, by Mr. Ralph R. Lawrence, and both gentlemen were given a vote of thanks by the Society.



INSTRUCTOR IN "CLASS-DAY ELECTIONS:" "Really, gentlemen, this class is almost as backward as the one I had last year. Still, if you follow my directions carefully, you will probably get through."

Established 1828.

CHAUNCY-HALL SCHOOL

HAS LONG MADE A
SPECIALTY OF PREPARATION FOR
TECHNOLOGY.

REFERENCE is made to the President and Secretary of the Institute 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.

Regular Grammar and High-School
Courses, fitting for Business
and for College.

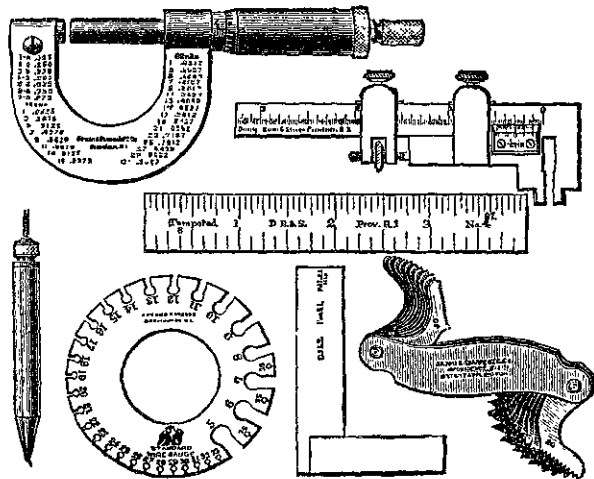
458 Boylston Street, - - Boston, Mass.

(OPPOSITE THE INSTITUTE)

TAYLOR, De MERITTE & HAGAR,
PRINCIPALS.

BROWN & SHARPE MANFG. CO., } Providence,
R. I.

SMALL TOOLS FOR



MACHINISTS' USE.

Micrometer Calipers, Vernier Calipers,
Rules, Gauges, Squares, etc.

68 Varieties, 424 Sizes,

FOR SALE BY LEADING DEALERS.

Catalogue, 366 pages, on application.

For forty years we have not only made, we have *used* small tools, thoroughly testing everything new by actual use in our shops; a good reason why our tools are convenient and practical, as well as accurate and well made.

College Men

belong to the limited and distinguished class
of men with trained and cultured minds.

Columbia
Bicycles

belong to the limited and distinguished class
of great mechanical creations.

WORTHY STEEDS for WORTHY RIDERS

\$100 to all alike

STANDARD OF THE WORLD

Hartford Bicycles, second only to Col-
umbias, \$75, \$60, \$50, \$45. Strong,
handsome, serviceable and at prices within
reach of everyone.

POPE MFG. CO., Hartford, Conn.
Greatest Bicycle Factory in the World.

Branch House or dealer in almost every city and town.
Send one 2-cent stamp for handsomest bicycle catalogue
ever issued; free by calling on any Columbia dealer.

If You Draw,

PURCHASE YOUR . . .

Drafting Instruments,
Drawing and Blue Process Papers,
Scales, Triangles, Curves,
T Squares, Colors, etc.,

FROM THE MANUFACTURERS.

Wadsworth, Howland & Co.,

INCORPORATED,

Branch Store: Grundmann Studios,
adjoining Architectural Building.

Main Office: 82 & 84 Washington St., Boston.

Factories: Malden, Mass.

SPECIAL RATES TO STUDENTS.

ALBERT BENARI, Tobacconist,

33 TREMONT STREET, - - BOSTON, MASS.

Agent for the Bohemian Mixture.

FINE LINE OF FRENCH BRIAR PIPES ALWAYS
ON HAND.

New Tech Pin.

HENRY GUILD & SON

Have the best Tech Pin yet for 75 cents; also a combination of gold and silver for \$1.00, and Solid Gold at \$3.00. For sale at the Institute and

433 Washington St., Boston.

WRIGHT & DITSON...

Athletic Outfitters to the leading Colleges, Schools, and Athletic Clubs of New England.

BASEBALL

Supplies of Every Description for
Athletic Sports.

Tennis, Golf, Cricket, Track, and Field
Supplies. Gymnasium Equipments.

Discus Throwing. — Full line of Supplies for
this popular sport.

Estimates and Samples for Team Uniforms, etc.,
furnished on short notice. Secure our rates
before purchasing. Special attention to mail
orders. Catalogue free.

WRIGHT & DITSON,

344 Washington Street, Boston, Mass.



MANDOLIN, Banjo and Guitar Lessons.

Instruments, Best Strings, Latest Music, etc.

G. L. LANSING, No. 171 Tremont St.

Ask for Mr. Lansing.

GAREY, TEACHER OF DANCING.

212 BOYLSTON STREET, HOLLANDER BUILDING.

Most convenient location in the city. Classes
for Beginners and Advanced Pupils.

PRIVATE LESSONS.



MESSENGER & JONES,

Makers of

Men's Clothes,

388 Washington St., Boston.

RIDING, KNICKER AND GOLF WORK
A Specialty.

STUDENTS

Are cordially invited to inspect our work, which is a model
of neatness, and artistically done. None but competent
men employed.

Your patronage is respectfully solicited.

ERNEST M. ALEXANDER,

Copley Square Hotel.

Hair Dressing Parlor,

Cor. Exeter Street and Huntington Ave.

THE BRUNSWICK

BOSTON.

Boylston and Clarendon Streets,

(Adjoining Copley Square)

Near the Museum of Fine Arts,
New Public Library, New Old
South Church, and opposite
Trinity (Phillips Brooks')
Church, and Institute
of Technology.

KEPT ON BOTH AMERICAN AND
EUROPEAN PLANS.

BARNES & DUNKLÉE, Proprietors

H. H. BARNES, Manager.



Scientific Books } **DAMRELL & UPHAM,**
The Old Corner Bookstore,
283 Washington St., Boston.

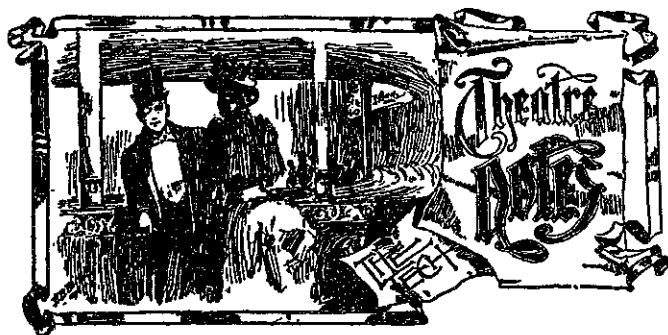
CLASS-DAY INVITATIONS,

BLANK BOOKS, FOUNTAIN PENS,
CAN BE FOUND AT THE CO-OPERATIVE STORE,
H. H. CARTER & CO., 5 Somerset St., near Beacon.

Bookbinding

IN EVERY STYLE.

ALEX. MOORE, 3 School Street, BOSTON.



Week beginning March 1, 1897.

Hollis Street Theatre. — Mr. E. H. Sothern will open his engagement of three weeks in his new play "An Enemy to the King," by R. N. Stevens. The play has met with as great a success in New York as did "The Prisoner of Zenda" last year. Mr. Sothern is supported by Miss Mary Hampton.

Tremont Theatre. — Mr. John Hare will open his return engagement. The repertory for the first week will be as follows: Monday, Tuesday, Wednesday and Saturday evenings, and Saturday matinee, "Caste," and Thursday and Friday "The Hobby Horse."

Castle Square Theatre. — "Mignon,"

that most delightful opera by Ambroise Thomas, will be given at Castle Square next week, Clara Lane as "Mignon" and Fatmah Diard as "Filina." The company gave this opera last winter with well-deserved success, and there is no doubt about their scoring another triumph.

Boston Theatre. — "Under the Polar Star," the attraction at the Boston, is a magnificent play, splendidly acted and well put on the stage. Every one likes it, and it is a great success.

Park Theatre. — The successful burlesque, "The Gay New York," will open a two weeks engagement at the Park. The play is very bright and amusing, but the most attractive part is the number of new and "catchy" songs.

Boston Museum. — The "Thoroughbred," with Henry E. Dixey in the principal comedy role, will be seen for one week only at the Museum. Other members of the company who are well known in Boston, are Miss Isabel Evesson and Mr. E. L. Davenport.

The Zoo. — That the Zoo is one of the most popular attractions in Boston is well evidenced by the crowds which almost blockade the sidewalk waiting to get tickets. Mrs. Tom Thumb is the latest attraction.

LEADING OUTFITTERS

OF

High Grade Mackintoshes

AT POPULAR PRICES.

For the Principal Colleges in New England,
Regular Co-operative Discounts.

CLEVE & KRIM,

49 Summer Street, Boston.

50 cents
Stationery,
Monograms,
Dies, etc.

Have you heard about our

"Assorted Styles Box"

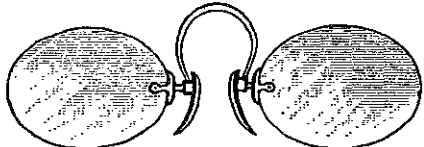
of fine stationery? 36 sheets (no two alike), and 36 envelopes to match. New and dainty styles and lovely tints. Includes samples of Monograms, Dies, etc. Best way in the world to select what you want for correct papers. Post-

paid for 50 cents. Money cheerfully refunded if you say so. Customers are delighted. You will be. Try us. It shall cost you nothing.

SAMUEL WARD COMPANY,
49 Franklin Street, Boston.
OUR SPECIALTIES

Boston Linen
Boston Bond
Bunker Hill

Rimless Glasses.

25 per cent  Discount.

CO-OPERATIVE LIST.

Oculists' Orders Filled.

FACTORY ON PREMISES.

MAIL ORDERS A SPECIALTY.

CATALOGUES MAILED ON APPLICATION.

C. E. DAVIS,

Manufacturing and Prescription Optician,

2 PARK SQUARE - - - BOSTON.

I FLIGHT. ELEVATOR.

Trinity Court Café and Dining Rooms

European and American Plan. Table d'Hote Lunch, thirty-five and fifty cents, from 12 to 2.30. Breakfast, from 7 to 9, fifty cents. Dinner, from 6 to 8, sixty cents. Unexcelled cuisine. Choicest Wines, Liquors, and Cigars. Banquet Halls that will accommodate from three hundred to five hundred people, amply provided with reception, ante, and coat rooms. Orders for Refreshments or Banquets of any size promptly attended to. Decorations and service in the latest up-to-date style.

HALF PORTIONS SERVED,
ALSO SMOKING IN GENTLEMEN'S CAFÉ.

H. E. Sharpe, Proprietor.

HIBBARD & MASON

(INCORPORATED)

Tailors,

MUSIC HALL PLACE,

Telephone 579.

Off WINTER STREET.

BOSTON.

DRESS SUITS, SILK LINED, TO ORDER, \$45.

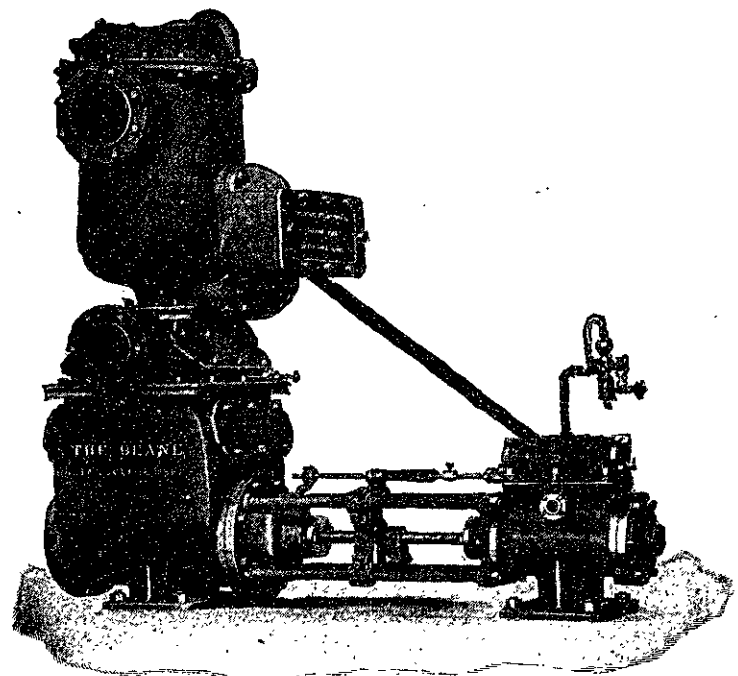
Dress Suits to Let.

THE DEANE STEAM PUMP CO.,

HOLYOKE, MASS.

Boston Office 54 Oliver Street.

PUMPING MACHINERY OF EVERY DESCRIPTION



DEANE INDEPENDENT
CONDENSING APPARATUS



The Richmond Straight Cut No. 1 Cigarettes.

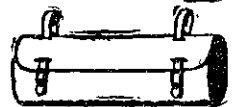
Cigarette Smokers who are willing to pay a little more than the price charged for the ordinary trade cigarettes, will find this brand superior to all others.

These **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.

ALLEN & GINTER
THE AMERICAN TOBACCO CO., SUCCESSOR,
 Manufacturer, **RICHMOND, VIRGINIA.**

FOR THE BICYCLE.



DON'T RIDE WITHOUT A REPAIR KIT. FOR YOU.



POND'S EXTRACT is unequalled for quickly healing all kinds of **WOUNDS, BRUISES, LAMENESS** or **RHEUMATISM.**

Rub thoroughly with POND'S EXTRACT after every ride to keep the muscles supple, pliant, strong. Try POND'S EXTRACT OINTMENT for PILES.

AVOID SUBSTITUTES - Weak, Watery, Worthless.
POND'S EXTRACT CO., 76 Fifth Ave., New York.



50 YEARS' EXPERIENCE.

TRADE MARKS, DESIGNS, & COPYRIGHTS, &C.

Anyone sending a sketch and description may quickly ascertain, free, whether an invention is probably patentable. Communications strictly confidential. Oldest agency for securing patents in America. We have a Washington office. Patents taken through Munn & Co. receive special notice in the

SCIENTIFIC AMERICAN,

beautifully illustrated, largest circulation of any scientific journal, weekly, terms \$3.00 a year; \$1.50 six months. Specimen copies and **HAND BOOK ON PATENTS** sent free. Address

MUNN & CO.,
 361 Broadway, New York.

FIRST ANNUAL CLEARANCE SALE OF Men's Winter Underwear and Hosiery.

The balance of our stock of Heavy Underwear and Hosiery marked at Closing Prices. Also the balance of our stock of Lined Gloves and Scotch Wool Gloves marked down to close. This is a good chance to secure fine goods at the price of much inferior qualities. We carry a full line of E. & W. Collars and Cuffs.

329 COLUMBUS AVENUE,
 (Just below Conklin's Pharmacy.)

A. COHEN.

AGENCY FOR CAMBRIDGE LAUNDRY.

Established 1843.

Incorporated 1895.

"STUDENTS," ATTENTION!

LARGEST STOCK AND LOWEST PRICES
 ... ON ...

MATHEMATICAL INSTRUMENTS

AND DRAWING MATERIALS OF ALL KINDS, at

FROST & ADAMS COMPANY'S,

IMPORTERS AND WHOLESALE DEALERS,

37 CORNHILL, - - - - BOSTON.

"SPECIAL RATES TO COLLEGES."

NEW ILLUSTRATED CATALOGUE FREE.

**THE
Union Gymnasium**

48 BOYLSTON ST. (near Tremont).

PRACTICAL.

Complete
Modern
Apparatus.

Popular
Classes.

Terms,
\$5 and \$8
per Year.



POPULAR.

Extra
Large
Lockers.

Competent
Instructors.

No Extra
Charge
for Instruction

BOSTON YOUNG MEN'S CHRISTIAN UNION.

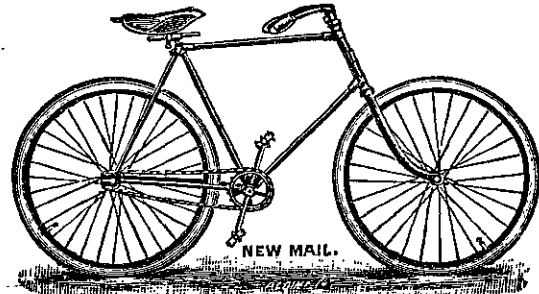
WM. H. BALDWIN, Pres.

GEORGE PEIRCE, Sec'y.

NEW MAIL

HIGHEST GRADE LIGHT ROADSTER.

\$85.



- MEN'S AND LADIES' pattern . . . \$85
- Also **TEMPLAR** medium grade Men's Wheel . \$60
- ATALANTA**, Ladies' Pattern . . . \$60
- Boys' and Girls' Wheels . . . \$15 up

Now closing out a few Shopworn and Secondhand
Wheels, taken in trade, at very low prices. Bargains.
\$25, \$30, etc.

Catalogue and Secondhand list.

.. WILLIAM READ & SONS ..

107 WASHINGTON STREET, BOSTON.

Elmer Chickering,

The Leading Photographer.

SPECIAL RATES TO STUDENTS.

THERE is not a photographer in New England who has been more successful than Elmer Chickering, of No. 21 West Street, and people who desire to have first-class photographs taken, of themselves, or of their friends, should go to this gallery. His success in the business is wonderful. His pictures are admitted to be exact reproductions of the subject, and are remarkable for their clearness and fidelity in detail. Among his patrons are the leading citizens of the United States, including presidents, governors, mayors, and others prominent in official lines, the highest military officers, the most prominent opera singers, the leading actors and actresses. Far and near his pictures are known. In Europe as well as America they are highly admired. Mr. Chickering is a host in himself, but with good judgment he has surrounded himself with a corps of operators and assistants in his operating rooms who have no superiors, while in his office is to be found young lady attendants who thoroughly understand how to please patrons, and by their uniform courtesy add much to the popularity of "Chickering's Studio."

NECKWEAR

UMBRELLAS

THE L. E. FLETCHER CO.

College Hatters and Outfitters.

Latest Styles and Popular Prices. Custom Shirts a Specialty.

M. I. T. CO-OPERATIVE SOCIETY.

No. 158 Boylston Street, Boston.

GLOVES

CANES