

Dec. 2,
1886.
Vol. VI. No. 4

HATTERS,

English and American

**SILK DRESS HATS,
OPERA CRUSH HATS,
FELT and CLOTH HATS**
In Choice Shades.



FURRIERS.

**LEATHER HAT CASES,
CANES, UMBRELLAS,
and WALKING STICKS**

Variety Unsurpassed
For *STUDENTS' WEAR.*

Agents for Heath's, White's, and Lincoln, Bennett & Co.'s ENGLISH HATS.

COLLINS & FAIRBANKS, Successors to
D. P. ILSLEY & CO.,

No. 381 Washington Street, Opposite Franklin, Boston.

JAMES NOTMAN,

Photographer to Class of '85, Institute of Technology, and Harvard '80, '81, and '85.

Boston Studio, 99 BOYLSTON ST., Opp. Public Garden.

Harvard Studio, 400 HARVARD STREET, CAMBRIDGE.

RICHARD L. GAY COMPANY,

(RICHARD L. GAY, late of WARD & GAY.)

Will be pleased to see you at their

NEW RETAIL STORE,

332 Washington Street, - - - BOSTON,

Next Store South Transcript Building,

Where they offer the same complete assortment of goods with all the variety and special features of the old firm of WARD & GAY.

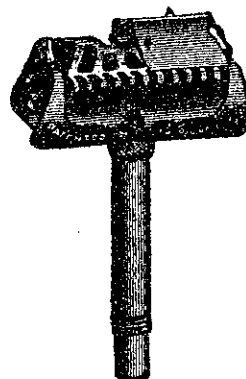
Paper by the Pound, Visiting Cards, Monogram, Crest, and Initial Engraving and Stamping.

They will soon open their Christmas Cards and Souvenirs, which will exceed anything heretofore shown.

Their new sample book of Papers and Envelopes sent upon application.

THE STAR SAFETY RAZOR

SELLING AGENTS,
Dame, Stoddard & Kendall,
Successors to Bradford & Anthony,
374 Washington St., Boston
Opposite Bromfield.



DEALERS IN
**CUTLERY,
AND
FANCY HARDWARE,
FISHING TACKLE.**

Requires no practice. Every man his own barber.

DERBYS. ——— SILK HATS.

BENT & BUSH,

Military Furnishers to the Institute,

387 WASHINGTON ST., BOSTON.

FURS.

THE

Massachusetts Institute of Technology,

BOYLSTON STREET, BOSTON.

FRANCIS A. WALKER, President.

THIS school is devoted to the teaching of science, as applied to the various engineering professions; viz., civil, mechanical, mining, and electrical engineering, as well as to architecture, chemistry, metallurgy, physics, and natural history.

Besides the above distinctly professional courses, the Institute offers scientific courses of a less technical character, designed to give students a preparation for business callings. A four years' course in biology, chemistry, and physics has been established, as preparatory to the professional study of medicine.

Modern languages are taught, so far as is needed for the ready and accurate reading of scientific works and periodicals, and may be further pursued as a means of general training.

The constitutional and political history of England and the United States, political economy, and international law are taught, in a measure, to the students of all regular courses, and may be further pursued as optional studies.

Applicants for admission to the Institute are examined in English grammar, geography, French, arithmetic, algebra, modern history, and geometry. A fuller statement of the requirements for admission will be found in the catalogue, which will be sent, without charge, on application.

A clear admission paper from any college of recognized character will be accepted as evidence of preparation, in place of an examination.

Graduates of colleges conferring degrees, who have the necessary qualifications for entering the third-year class in any of the regular courses of the Institute, will be so admitted, provisionally, on the presentation of their diplomas, and will be given opportunity to make up all deficiencies in professional subjects.

The feature of instruction which has been most largely developed in the school is laboratory training, shop-work, and field-practice, to supplement, to illustrate, and to emphasize the instruction of the recitation and lecture room.

Surveying-instruments are provided for field-work in civil and topographical engineering. Extensive shops have been fitted up for the use of both hand and machine tools, and a laboratory of steam engineering has been established as a part of the instruction in mechanical engineering. Several steam-boilers and steam-engines of various types are available for experiments and tests, as well as a large amount of special apparatus for measuring power, for gauging the flow of water, for tests of belting, etc. The laboratory of applied mechanics contains two testing-machines,—one for ascertaining transverse strength, the other for tension and compression,—besides apparatus for time-tests on timber, for tests of mortars and cements, for tests of shafting, etc. The department of mining engineering and metallurgy has the use of laboratories in which the milling and smelting of lead, copper, silver, and other ores, in economic quantities, are regularly performed by the students themselves. The classes in architecture supplement the work of the drawing and designing rooms by the examination of structures completed or in course of erection, and by practical experiment in the laboratory of applied mechanics, testing the strength of materials and working out problems in construction. The Kidder Chemical Laboratories consist of a laboratory for general chemistry (288 places); a laboratory for analytical chemistry (108 places), together with a special room for volumetric analysis (20 places) and a balance-room with 22 balances; a laboratory for organic chemistry (30 places); a laboratory for sanitary chemistry (16 places); a laboratory for industrial chemistry (16 places); two convenient lecture-rooms; and a well-supplied library and reading-room. The laboratories are thoroughly equipped for the purposes of ordinary instruction, and they also possess excellent facilities for the promotion of original research. The Rogers Laboratory of Physics, the first laboratory in which instruction was systematically given to classes by means of elementary physical measurements conducted by the students themselves, is well provided with the needful facilities for laboratory instruction in both elementary and advanced technical physics, especially in the different branches of electrical engineering.

On the successful completion of any one of the four-year courses of the Institute, the degree of "Bachelor of Science" will be conferred. The degrees of "Master of Science," "Ph.D.," and "Doctor of Science" are open to persons pursuing advanced studies and conducting original researches. Special students are allowed to enter special divisions of any of the courses, on giving evidence that they are prepared to pursue with advantage the studies selected.

The fee for tuition is \$200 a year. Besides this, \$25 or \$30 are needed for books and instruments. There are no separate laboratory fees; only payment for articles broken is required.

For information, address JAS. P. MUNROE, Secretary.

PREPARATION FOR THE INSTITUTE OF TECHNOLOGY.



259 BOYLSTON STREET.

Wm. H. Ladd.

M. Grant Daniell.

REFERENCE

Is made to the President and Faculty of the Institute in regard to the thoroughness with which pupils are fitted at

CHAUNCY-HALL SCHOOL,
BOSTON,

not only for passing the entrance examinations, but also for pursuing successfully their subsequent work.

FITTING

for the Institute has long been a specialty at Chauncy Hall. Thorough preparation is made also for **Business and College.**

J. B. McALOON & CO.

- Tailors -

Latest Styles.

First-Class Work.

SPECIAL PRICES

TO STUDENTS.

BOWDOIN SQUARE.

EVERY STUDENT

Of Engineering should be a regular reader of the

AMERICAN MACHINIST.

Largest paid circulation of any strictly Mechanical Newspaper in the world.

PUBLISHED WEEKLY. SUBSCRIPTION PRICE, \$2.50 A YEAR.

AMERICAN MACHINIST PUBLISHING COMPANY,

96 FULTON ST., NEW YORK.

CAFÉ WAQUOIT,

249 Columbus Avenue.

Table d'Hote or a la Carte.

21-Meal Ticket, \$4.50.

Noon Lunches, 25 cents; 6 for \$1.25.

Evening Lunches from 9 until 11.30 P. M., 25 cents.

Cold Meats, Sandwiches, Sardines, Lamb, Tongues, Pretzels, Saratoga Chips, Bologna Sausage, Baked Beans, Pie, and Crackers and Cheese.

BOSTON & PROVIDENCE R. R.

— CAFE —

PARK SQUARE AND COLUMBUS AVE.

EUROPEAN PLAN.

Open from 6 A. M. to 11.15 P. M.

☛ Six Dollar Students' Tickets, \$5.00.

J. G. COOPER, PROPRIETOR.

OLD COINS AND STAMPS WANTED.

Send 10-cent Postage-Stamp for Coin Catalogue, giving all the rare dates and the prices we pay for them, to

JOHN C. SCHAYER, 147 Devonshire St., Boston, Mass.

Dealer in American and Foreign Coins and Medals, Confederate, Continental, and Colonial Notes, and U. S. Currency, Autographs, Old Newspapers, Relics, and Curios.

No letters of inquiry answered without stamp for reply.

FALL RIVER LINE* — TO — NEW YORK

Fare only \$3.00, for Limited Tickets.

Office, No. 3 OLD STATE HOUSE.

The Tech.

VOL. VI.

BOSTON, DECEMBER 2, 1886.

NO. 4.

THE TECH.

Published on alternate Thursdays, during the school year, by the students of the Massachusetts Institute of Technology.

BOARD OF DIRECTORS, 1886-87.

T. W. SPRAGUE, '87, <i>Pres.</i>	H. C. SPAULDING, '87.
G. C. DEMPSEY, '88, <i>Sec.</i>	FRANKLIN W. HOBBS, '89.
W. L. DEARBORN, '88, <i>Treas.</i>	J. H. TOWNE, '90.

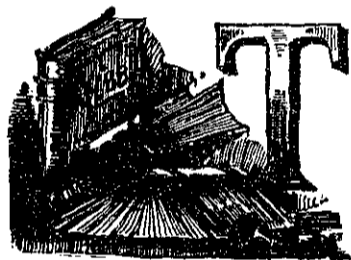
EDITORS.

SYDNEY WARREN, '88, <i>Editor-in-Chief.</i>	JAS. T. GREELEY, '88.
GEO. O. DRAPER, '87.	J. LAWRENCE MAURAN, '89.
QUINTARD PETERS, '87.	G. C. WALES, '89.
H. G. GROSS, '88.	, '90.

H. C. SPAULDING, *Advertising Agent.*

Subscription, \$2.00 per year, in advance. Single copies, 15 cts. each.

FRANK WOOD, PRINTER, 352 WASHINGTON STREET, BOSTON.



THE question of starting a book exchange has been agitated a good deal since our last issue. As then stated, the object of such an exchange would be to save money and time to all the students of the Institute. It would be a market for second-hand text-books; buying those just finished, and furnishing those about to be begun, charging only enough to pay the running expenses. These expenses would be very inconsiderable. There would be but little expenditure beyond the wages of the person engaged to act as clerk. We think the room could be furnished by the corporation.

Undoubtedly this *could* be made a paying investment, and should any outsider take hold of it, it *would* become such. But this is what a book exchange is instituted to avoid. By dealing *directly* with ourselves, we wish to save the money which would otherwise go to enrich a third person. Do we not need, and could we not appreciate, the dollars saved as much as he? And yet we hesitate as to who shall take the initiatory step in the formation of this money-

saving exchange. "Why does not the Board of Trustees, interested as it is in the welfare of the students, take hold of the matter?" is a question heard on all sides. Although this query is but natural, there are *at present* a good many reasons why the Trustees do not feel inclined to take hold of any new undertaking. Among others, we might state that a good deal of capital has been of late invested in printing notes to the different lecture courses. And, as we all know, the Institute, having, so to speak, grown up under the shadow of Harvard, is not a heavily endowed corporation; not that much capital would be needed to start such an enterprise, but that not having so much to dispose of they wish to take more time, and place it where they are sure it will do the most good. After a time the Board of Trustees would undoubtedly take action in the matter; but what we want is *immediate* action. We wish to have the book exchange fully organized and in good running order by the first of next term.

Would it be at all out of its province if our now successful Co-operative Society should interest itself in this matter? It has a not inconsiderable sum in its treasury, which could not be devoted to a more worthy end than the foundation of this book exchange, which would agree so fully in object and method with the avowed aim of the M. I. T. Co-operative Society.

Will not the society give this matter their earnest attention at their next meeting?

AFTER a long and fairly successful season, the foot-ball eleven has disbanded, and gone out of training. Now that all games have been finished, it becomes our province to review the work done during the season. Although not as successful as we could have wished, the team has done well, and deserves great credit.

Especially is credit due to the captain, for his earnest work in making the team as good as it was.

This year has been remarkable, as showing how great improvement may be made under certain circumstances in a short time. At the start we labored under great disadvantages. Our three principal opponents began practice fully two weeks before we were able to, on account of our later commencement, and we had, to begin with, mostly raw and untrained material. Many experiments had to be tried before an eleven could be selected, so systematic training was impossible at first. The series of defeats undergone had a depressing influence, and the lack of interest shown by the students was discouraging. It was after the defeat at Amherst that the change commenced, and the next games showed results that were totally unexpected. In tying Williams the team showed what they could do on their own grounds, with good support, though there was no reason for letting Williams catch up, after we were so far ahead. With Amherst, on the following day, the eleven played the finest game that they were capable of, and the result was most satisfactory. By defeating Exeter two days after, the week was ended, with a record justly to be proud of, the team showed that they could play a winning game much more effectively than a losing one. The lost game with Williams was unfortunate, but showed our men what their weak points were. Defeating Tufts on her own grounds was the last victory scored, and though not so remarkable as some, still served to swell the aggregate number. We were entitled to a chance for the championship by playing the tie off with Williams, but the farcical conference at Springfield defrauded us of our chance, and Williams obtained the empty honor of champions. In the new league next year there will be more harmony, and an interesting contest will undoubtedly result.

The general interest shown has been remarkable. Besides the regular and second elevens, both courses and classes have contested with each other. Fully fifteen per cent of the

students have been directly interested, and nearly the whole Institute indirectly. Such a state of affairs as this demands favorable consideration by the Faculty with regard to grounds, time, etc. Next year should bring forth the best eleven ever seen here. The scientific principles were never before so fully comprehended, and next year's team should be able to begin where we left off this year, and not have to learn the game all over again. Eight of the present team will probably be back next year, and with the large number to choose from, the completed eleven may make a record never before possible.

HERE has been a large influx of class spirit at the Institute during the last week, which waxed so high that it was extremely dangerous for Freshmen to carry canes, if they had any objections to having them smashed. This kind of spirit is all very well in its place, but it should be kept there, and not allowed to create disgraceful rows in the Institute halls and corridors. It is class spirit with a vengeance, and is rather more than THE TECH expected would come from its suggestion of a few weeks ago. It is likewise a different kind of feeling, though somewhat analogous. What THE TECH meant was a feeling which, causing a jealousy between the classes, would incite them to outdo each other in the athletic field, and thus raise the general standard of athletics here. We did not mean the kind of spirit which has been rampant during the last week, causing fights in the buildings, which necessitated the interference of the Professors. We are glad to know that these disturbances have been the result of a misunderstanding, and that the affair will probably be settled by committees from the two classes. The Freshmen are equally to blame with the Sophomores; but now that it has been explained to both sides that they were mistaken in their ideas, there will probably be nothing more heard of these disturbances. Both classes should take into consideration the fact that the Faculty may attribute all the trouble to foot-ball, and think that they may prevent any recurrence of the

trouble by suppressing all games. This would be a misfortune to the whole Institute, as it would shut us off from the only field in which we can at present compete with anything like success.

THE recent communication concerning the adoption of class colors has THE TECH's most hearty support. Class colors are greatly desired at the Institute, and the lack of them is sorely felt, especially on such occasions as the recent Sophomore-Freshman foot-ball game. It is unfortunate that we are open to the charge of copying Harvard, in adopting four class colors to be passed from the graduating class to the entering one; but this charge cannot be avoided if we choose such a method. As our correspondent suggested, it would undoubtedly end to make class feeling stronger to have the colors, and, as can be plainly seen, this is a thing greatly to be desired for the improvement of Institute athletics. This matter should be well considered by the four classes, and some definite arrangement arrived at soon. If the classes are to have colors, it would be well to have them in time for the class tug-of-war contests.

THE much-talked-of Sophomore-Freshman game has at last been played, and the Freshmen won in a hard-fought struggle. We extend our heartiest congratulations to '90. It is indeed a matter of congratulation for the whole Institute, as it shows us what good material there is in the Freshman class to choose men for the regular Tech team. On the Sophomore team were seven men who have played, on the "Varsity" at various times this year, whilst there were not more than four on the Freshman team. This shows what good material there is at the Tech, which only needs to be brought out in some manner. We hope that next year there will be a regular series of class games early in the term, as then there will be a large field for the choice of men, and the "Varsity" should be greatly improved thereby.

She Says Good-bye.

She says good-bye, and moves away,
Then, smiling, turns, again to say
Good-bye. The words come to my ear
As from a distance, though so near,
And meaning only half convey.

Brave girl! As though her heart were gay,
As though she did but say good-day,
With neither sigh nor falling tear,
She says good-bye!

And can she hide a heart's dismay
While I each feeling must betray,
When we are parting for a year!
And what to me seems yet more queer,
Why is it, when I fain would stay,
She says good-bye!
(And moves away!)

G. K.

Some Experiences with Haschisch.

"Passing like a wild cloud through the distance of his mind"—*Dombey and Son.*



HE works on haschisch, other than old narrations of its visions, and more recently some few magazine articles on the subject, are comparatively rare. What little has been written is, however, sufficient to arouse the interest of any one at all interested in psychology, and it incited an investigation of its effects by a small party of whom I was the first one to test its powers. In the opportunity it gives for studying the action of the brain in a singularly disordered condition, haschisch is the most interesting of the narcotics, for its effects are rather intellectual than sensual, as in the case of opium, and the patient, during the height of his emotions, is as capable of watching its processes as any observer.

Interested as we were in the curious visions conjured up by the action of the drug, less attention was paid to the actual phantasmagoria described than to certain vagaries of the mind, and sequence of symptoms, expressed in other ways — except, perhaps, in our first experiment, where the voluble recital, strangeness of circumstance, and the presence of unknown danger,

left less attention for other observation. In this case our notes were rendered inaccurate near their close by a singular cause: they were kept by one who had himself taken a dose of haschisch after mine, and when his action commenced, his feelings were unconsciously recorded with those I described.

Hours of the most detailed description might fail to give any idea of the feelings I experienced when I first became an assassin (fr. *haschischin*): they were so absolutely unique as to seem to belong to another world. Contrary to our expectation, there was no disinclination to talk of our feelings while under its influence, and the fluency of description and peculiar use of words was remarkable in the primary lighter stages. This is, however, apt to be accompanied with a frank confidence often regretted afterward.

Our first trial of the effects of haschisch was not under the most favorable circumstances; for, taken rather unexpectedly, late in the evening, little time was had for preparation, even if we had thought any necessary, for we were incredulous as to its powers. Three hours, indeed, passed before the slightest symptom was felt, and the subject was almost forgotten, when — I gradually came to, and aroused from an unsuspected state of semi-unconsciousness, of so short a duration, however, that others had not noticed it. It was like a faint, in that I felt no sensation of losing consciousness, but only felt that of arousing. The mental shock was sudden and terrible, for our absolute inexperience, unsupported by actual evidence of its results, inspired a certain dread, which the sense of increasing, irresistible helplessness gradually approaching, heightened into apprehension.

This awakening was regularly repeated about every half-minute, occurring between gradually diminishing intervals of lucidity, which themselves became less clear: that is, at no time did I again recover full use of all my faculties, although I periodically aroused into comparative attention.

Immediately after this first shock, I became conscious of the dual existence so often men-

tioned. It is a sensation almost indescribable to one who has not felt it, and is a kind of double consciousness; for, during the whole time that I seemed to be in such novel situations, I knew vaguely where I was, and though connected thought was impossible, yet with a vigorous effort I could awake for a moment. In my wildest flights of fancy I could hear and understand conversation in the room. Although temporary restoration was thus voluntary, it was hastened by drinking water, or by the use of other restoratives. An exclamation of mine upon being requested to keep quiet, will show the strange condition in which I was placed. "The idea," I said, "of a person's telling me to *remain unconscious*—and of its being possible!"

Immediately after the first symptoms, time, and to a less degree distance, gradually stretched out into tremendous proportions: it seemed to take hours to cross the room; my legs were immensely long, and I seemed to be "tottering on the tops of tall pendulums." Meanwhile, the most startling ideas and fancies flew through my brain so swiftly, that, wishing to make a note of some extraordinary idea, I would have forgotten it before I could find the pencil at my side, and often held it, wondering why it was in my hand.

This action of the narcotic went on till I was forced to lie down from weakness. By this time I had become more than doubly sensitive, and impatient of the slightest discomforts: even the off-hand way in which a friend presumed to pour coal on a fire, seemed to prove his utter heartlessness and carelessness of my condition. Meanwhile my body seemed to stiffen, till I felt like marble, and laid during the rest of the time strangely disinclined to stir; at the same time I became wildly absurd, and shrieked with spasms of laughter at the most commonplace remarks. It was a sight long to be remembered by those present, to see me stretched straight and stiff as death on the floor, long after midnight, convulsed with the most ghastly laughter for five minutes at a time without another movement of the body betraying life. Not until this stiffening was felt, did I experience the

marvelous visions and hallucinations for which haschisch is noted; but then I found the equals of the wildest of which I had read, and prominent among them the sense of buoyancy so often cited. I was disappointed, however, not to have the sensation of actually leaving the body that is sometimes described, and which I have known realized in others. The apparent intensity of the intellect was another strange experience: not only did I seem to rise so far above my normal state in this apocalypse as to comprehend the profoundest and most complicated problems of nature, but I was able to study the course of my own mind in all its eccentric freaks, and discriminate between its real and unreal ideas.

An effect peculiar to my own case, was the facility with which I illustrated my sensations by graphical diagrams. For instance: the figure shown, represented the restorative effect of



drinking a glass of ice-water; the lowest portion represents my state of deepest unconsciousness, broken by minor awakenings; then the nearly vertical line indicates the

rapidity with which I was aroused, seeming to rise up from a depth of passivity, till at the top I was almost perfectly awake for a few seconds, lapsing at first slowly, and then swiftly, into unconsciousness again. All this was understood and drawn with the rapidity of thought. As the effect increased, thoughts passed through my brain with such speed that I had no time to describe them when drawing the figures, and thus some of the most complex sensations were lost.

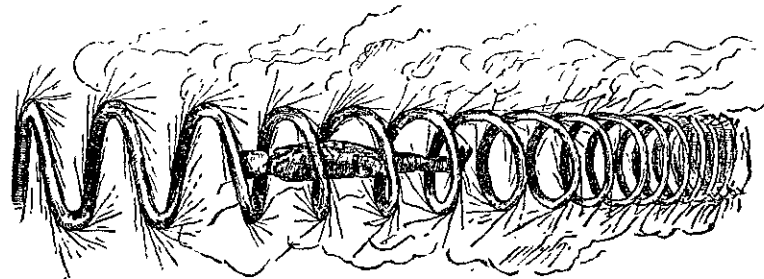
The predominance of the spiral form was remarkable in all my visions. I walked on long spirals, and lay floating in the axis of a helix that stretched out like a long corkscrew to infinity, or breathed in double-ended spiral atoms till my throat and mouth were parched and hot.

After the force of the drug had reached its height these visions became less and less distinct, till three hours after the first attack I fell

into a stupor, from which I slowly awakened with a feeling of nausea, attended by extreme fatigue and weakness for several days. With a larger dose since taken, the effects were frightfully intensified; for through carelessness, a dose was taken which must have been four or five times the former one, and the agony of terror experienced while the action was at its height was almost unbearable, and death seemed inevitable. Many of the symptoms universal to a moderate dose were changed, and the action was throughout more violent and spasmodic as well as swifter than in the previous case.

Among the more general conclusions we proved, at least to our own satisfaction, was the fact that the effects of haschisch give rise to sensations invariably wild and fantastic in detail, a certain number of which, however, are found, almost without exception, in every case; and that these effects may be depended upon as being practically of the same class and power, up to a certain point, after which the real becomes undistinguishable in the mind of the patient from the unreal, and the excesses to which the action is carried differ in character in individual cases.

Finally, the effects of haschisch differ widely with the quality of the drug, for it is frequently adulterated, often with opium or worse; with the peculiarities of the patient, for on some it has no effect; and most of all with the dose taken, the same dose almost always producing a similar result. And although this modern version of its powers scarcely realizes the expectations founded on the Count of Monte Christo, or the works of Theophile Gautier, yet its effects will convince the experimenter of its undreamed-of potency, and leave recollections of one of the strongest experiences of a lifetime.



Renunciation.

A smile, a sigh, a laughing eye,
A whispered word with no one nigh,
The mute caress of a silken dress:
Just these, no more, I must confess,
Have touched my heart with Cupid's dart,
And made me — sentimental.

She does not dream, my radiant queen,
With golden hair and eye serene,
What direful havoc she has made,
And what a sudden, dashing raid
On the heart of an unsuspecting Tech;
And little I fear that she would reck
If she knew that she had done it.

But, blissful, bewitching she,
Blissfully ignorant shall be;
For a Junior Tech to speak of love,—
Ye gods of prudence that dwell above,
Forbid the thought—forbid the act!
Yes, farewell to all save plainest fact
Of science unromantic.

J. T. G.

A Railway Experience.



FF for a few days' careless sauntering, before the regular business expedition of the vacation should begin. No definite place in mind; nothing but rest, change, and the agreeable "*dolce far niente*."

Somehow I drifted oceanward, in a car filled with the usual types of humanity. The mad rush of the train pleased me; my solitude, also, was grateful. I longed, with Carlyle, for "silence, silence, silence." A morbid condition for youth? "Yes; but the nerves become tense with too continued a strain of application, and the rebound must come."

The train slackened, and I was mentally remarking that the gradual slowing was unaccompanied by the usual dislocating jerks, when my attention was arrested by the sweet tones of a feminine voice in my vicinity. Glancing upward, I saw, in the seat just before me, a face so exquisite in its beauty, that I find it hard, even now, to believe that it could ever have been surpassed. The contour of the face, and each feature in detail, was classic in its regularity;

and yet the expression, the animating life, was the supremest charm.

My seat was such that, while apparently intent upon the changing panorama from the window, I could yet perceive all the varying shades of sunlight and shadow which broke in succession over the exquisite face. Now laughing dimples and mirthful eye, and anon the long heavy eyelashes shading the fair cheek, and expression serious, almost pathetic. The hair, too — blue-black, and curling slightly and naturally, in delicate tendrils, around the low brow, in striking contrast with the bushy locks or artificial frizzes of the ordinary woman.

To beauty she added grace, as every movement plainly showed. Her refinement was perceptible in her dress, and a certain air of elegance more easily perceived than described.

She opened her hand-bag when apparently wearied of the conversation with her traveling companion, and I felt that the forthcoming literature was to be the final test. Should it be the *Waverly Magazine*, or "My Heart's in the Highlands," I must, after all, confess appearances to be deceitful, and believe that sometimes a pretty milliner-girl may aptly counterfeit the lady. But no; the dainty hand takes out and opens a most appetizing volume — fair print and good edition of an old favorite, "Essays of Elia." So she loves poor Lamb, also; another bond.

On rushed the train, and the revivifying odors of the salt-sea foam, in close proximity, was just suggesting something like terminus to my bewildered senses, when the car stopped, and the beautiful unknown, with her female companion, arose to depart. I followed. Crowds of ill-timed and uninteresting people rushing hither and thither, with vulgar haste, intercepted my view. Just a glimpse of her dainty head in a carriage, and a hat — a hat to be envied, and to be proud — uplifted in passing.

Strange — the wearer of the happy hat turns his head, and reveals the face of Tom Hains — old Tom of '88. Never before had Tom seemed so desirable an acquaintance, so coveted a friend. The unwonted warmth of my manner

strikes him as unusual. I notice it, but am undaunted. At once I break into my subject. "Who is she?"

"Who? What *she*? To whom do you refer? Really, I have quite an acquaintance among the gentle sex, and cannot at once understand which one you intend to honor by your inquiry."

"She—the B. U.—the only beautiful, graceful, intellectual, soulful woman I ever met. You bowed to her just now as her carriage rolled away. Who is she?"

"O yes; didn't think of her. That's Mrs. Blake; regular beauty, of course; might have been a society belle, and all that, but she held herself a little aloof. She was a Van Deusen—real blue blood—always tells, you know; and last winter married Geo. Blake,—Blake and Brothers, bankers, New York. Visiting her mother at the beach here. Will introduce you; deucedly pleased, you know."

"No, thanks; only here for a day's rest."

No; I would never see her again. Her imperial soul had found its mate (in commerce), and my admiration of her (so rapidly kindled) was so intense, that I would not imperil my happiness by a closer contemplation.

But one more glimpse, by accident, next morning, on the beach, confirmed the impressions of the previous day. She was walking with the ease, and freedom, and grace of an English lady, and with an entire unconsciousness of her superb beauty. After all, was not that simple, unconscious air her greatest charm?

I have never seen her again. She remains to me, and ever will, the highest ideal of all that is lovely in her sex. She is one of nature's noblewomen—"a creature not too bright or good for human nature's daily food," and yet uplifting.

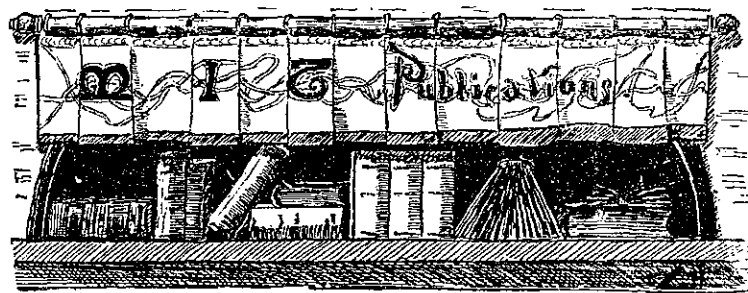
Soon after this episode—the only one in my life to which the term romantic could, with any propriety, be affixed—I embarked upon what was to be *the* feature of the vacation,—a visit to the Adirondacks. I respectfully refer my readers to the imaginative "Murray" for all items of interest regarding this region. Suffice it now

to say, that two months passed away most delightfully in congenial and elevating companionship amid novel and varied scenes.

More than once I had a mind to confide to a dear lady friend and relative the story of the "boofer lady," but could never quite make up my mind to do so; and now, and on paper, to my fraternal Techs, it is for the first time revealed.

"Bah! And is that all?" says my indulgent chum, kindly listening to the above MS. "Why, there is no event—no *denouement*! Why all this if no more?"

Alas! Must one alway tell a story—the bad all killed, the good all pleased—love-making and wedding-bells—and perhaps waking up, and tears and misery? May not one chronicle an impression, a rare and imperishable episode?



MASS. INSTITUTE OF TECHNOLOGY.—Entrance Examinations, June, 1886. Circular, 4 pp.

——— [Description of] Department of Civil Engineering. Circular, 12 pp. 1886.

——— Entrance Examinations, September, 1886. Circular, 4 pp.

BACON, F. H. (Stud. 1875-77.) American Explorers in Assos. *The Century Magazine*, October, 1886.

CROSBY, W. O. ('76). Guides to the Museum of the Boston Society of Natural History. Mineralogy. Svo., pp. 184. Boston, 1886.

——— Common Minerals and Rocks, Svo., pp. 205. Fourth edition, Boston, 1886.

——— Notes on Joint Structure. *Proc. Boston Soc. Nat. History*, XXIII., 243.

CROSS, C. R. ('70). Experiments on the Melting Platinum Standard of Light. *Proc. Amer. Acad.*, XXII., 220; *Electrician and Elec. Engineer*, November, 1886; *Electrician (London)*, October, 1886; *Telegraphic Journal and Electrical Review*, October, 1886.

———and SHEPARD, W. E. ('86). The Inverse Electromotive Force of the Voltaic Arc. *Proc. Amer. Acad.* XXII., 227; *Electrician and Elec. Engineer*, September, 1886; *Telegraphic Journal and Electrical Review*, September and October, 1886; *Electrical Review (New York)*, November, 1886.

DROWN, T. M. (Prof.) Coal and Iron in South-West Virginia. *Bradstreets*, Aug. 7, 1886.

HOLMAN, S. W. ('76). Heat. Lecture Notes prepared for the use of the Students of the Mass. Institute of Technology. Pph., 8vo., pp. 52. Boston, 1886.

HOWE, H. M. ('71). The Effect of Slag on the Fibrousness of Arrester Steel. *Eng. and Min. Jour.*, September, 1886, p. 218.

MINOT, C. S. ('72). Darwin's Biography. *Science*, VI., 27.

——— Review of "The Microscope in Botany." *Boston Med. Surg. Jour.*, September, 1, 1885.

——— Structure of the Human Skin. *Amer. Naturalist*, 1886, 575.

——— The Physical Basis of Heredity. *Science*, VIII., 125.

——— The Early Stages of Human Development. *N. Y. Med. Jour.*, 42, 197, 396.

——— Report on Histology and Embryology. *Boston Med. Surg. Jour.*, 113, 30, 114, 460.

——— The Number Habit. *Proc. Amer. Soc. Psych. Research*, 1, 86.

——— Notes on Histological Technique. *Zeit. f. wiss. Mikroskopie u. f. mibr. Technibr*, 3, 173.

——— Zur Kenntniss der Insehtenhaut. *Arch. f. mikr. Anatomie*, XXVII., 37.

NORTON, L. M. (Cert. '75) and NOYES, A. A. ('86). On the action of Heat upon Ethylene. *Amer. Chem. Jour.*, 8, 362.

NOYES, A. A. ('86). See L. M. Norton.

PORTER, D. (Inst.) The Water Power of the Region Tributary to Long Island Sound. *Tenth Census U. S.*, Vol. XVI.

——— The Water Power of the Hudson River Basin, and Lake George Outlet. *Tenth Census U. S.*, Vol. XVI.

——— The Water Power of the Region Tributary to Lake Ontario, and of the New York State Canal. *Tenth Census U. S.*, Vol. XVI.

——— The Water Power of the Eastern Gulf Slope. *Tenth Census U. S.*, Vol. XVI.

SWAIN, G. F. ('77). Water Power of the United States. A General Introduction to Vol. XVI. of the Tenth Census.

——— The Water Power of Eastern New England, *Tenth Census U. S.*, Vol. XVI.

——— The Water Power of the Middle Atlantic States. *Tenth Census U. S.*, Vol. XVI.

SHEPARD, W. E. ('86). See C. R. Cross.

WELLS, W. ('73). Academic Algebra, 12mo., pp. 357. Boston, 1885.

——— Plane Geometry, 12mo., pp. 232. Boston, 1886.

WINSLOW, A. ('81). Report on Pyrites in North Carolina. *Report N. C. Ag. Exptl. Station*, 1885, 93.

WOODBURY, C. J. H. (Stud. 1869-73). Automatic Sprinklers for Protection against Fires. Pamph., pp. 11. Boston, 1885.

Noticeable Articles.

UNDER the enigmatical title of "Not at Home," Mr. John O'Neill gives in the *Nineteenth Century* for October a variety of highly curious statistics in regard to emigration from the various countries of Europe and Asia. "The vast scale," he says, "of the emigration of the Teutonic, Scandinavian, and Latin races of Europe, and of the Chinese, must inevitably, as the years roll on, become still more gigantic. Even now it is almost hopeless, by any system of statistics, to keep pace with the eternal come and go of all the millions of human beings of all countries and all languages who are constantly crossing and re-crossing the oceans and continents of this globe."

Imperfect as such statistics must be, our writer estimates that there is now a total of no less than 18,741,000 human beings who are "not at home" to those who may search for them in their native land. Natives of Great Britain take the lead, of whom

there are now 4,200,000 native-born living in other countries. Add to these 215,374 soldiers and sailors abroad on foreign service, and we arrive at the almost incredible fact that every eight persons of the home population are now represented abroad by a native born "Britisher." And yet we know from other sources that the population of Great Britain, after deducting all this vast emigration, is increasing at the rate of 400,000 per annum.

The contrast is very great when we turn to France, which seems almost like a country whose vitality is exhausted. The slender yearly increase of the French population proper is only 29 per 10,000. As near as can be estimated, "about 483,000 French born in France are in the position of emigrants all over the world," while there are 1,077,136 foreigners resident on French soil. If this should go on, it would seem as if the French were in danger of being displaced by strangers on their native soil.

We return to the Teutonic race when we pass to Germany, and here the figures are surprising. There are 2,601,000 native-born Germans outside their fatherland, and a round two million of these are in the United States, while Germany harbors only 293,000 natives of other countries.

In Scandinavia we are still among Teutons. The population of Denmark, Sweden, and Norway together is a little under eight and a half millions living at home, while of the existing generation there are in addition 795,000, or 9.4 per cent, living abroad. Of these, 440,000 are in the United States, and 306,500 are Swedes living very near home in Russian Finland.

It is natural that, in emigrating, natives should seek latitudes and climates similar to those they leave, and this law we find verified by Italian emigration. Italy comes next to Great Britain and Germany among the great emigrating countries. She has 1,077,000 of her native residents in foreign lands, while there are only 60,000 foreigners resident in Italy. South American States absorb the larger portion of her emigrants,—namely, 403,000; the United States have 176,000. Italian emigration increases every year.

The paper is full of curious statistics. "United States immigration, which first sprang into great activity in the decade 1841-50, reached its highest point, 730,000—2,000 a day—in 1882. In 1884 it had sunk, temporarily no doubt, to 461,000." "The

emigration from Canada to the States is noteworthy, a million having crossed the frontier before 1884, and 48,000 more in that year." Mexico now holds 2,000,000 born Europeans, or 38 per cent of her population. Brazil showed an immigration at Rio de Janeiro, in four recent years, of 93,000 Europeans, chiefly Portuguese, Italians, and Germans; but this is far surpassed by the Argentine Republic, which received in the same years 278,000 immigrants, mainly from Italy, Spain, and France.

Turning to literary subjects, we find in the *Contemporary* for October a discriminating criticism of Mr. Swinburne's poetry. The following seems to the present writer a very just estimate: "We find Mr. Swinburne's poetry and criticism a mass of turgid rhapsody, only relieved here and there by a gush of pure and brilliant light whenever the rays of his torch fall upon the rigidly limited portion of life within his ken." . . . "That Mr. Swinburne is the most artificial of British poets, must be evident to any careful reader. The execution is everything with him; however diminutive are the jewels of poetic truth in his works, we may always expect to find them cut and set with rare and subtle skill. He is more a literary lapidary than an intellectual miner. He clothes his mind's progeny in verse's most glistening raiment. The soft alliteration, the recurrent burden, the apt repetition, the softened clink of ear-pleasing shyness, combine with carefully arranged cadences to build up forms in which the greatest poet might be glad to enwrap his thought; all the keener, therefore, is the disappointment to find them often mere mansions of the dead, inhabited only by ghosts of ideas. It is painful to find so gifted an author guilty of the deadly literary sin of diffuseness; to find him more and more, as he grows older, getting into the habit of involving a minimum of matter in a maximum of tangled sentences. It thus happens that many of his most elaborate poems are very dull reading. They do not keep the intellectual faculties awake, for the interest which they excite is only that of watching the skillful manipulation of words, and that soon satiates. The mill is all that could be desired, but it grinds little corn."

Browning is better than this. Much of his poetry is a very dark mine, but there is ore there to be had for the digging. His mill creaks dreadfully, but it grinds something besides chaff.

W. P. A.

The League Meeting.

THE League Meeting in Springfield, November 23d, was a most stormy one. The bone of contention was the legality of the Boston meeting, at which it was decided that the first Williams-Amherst game should be played over. After wrangling for several hours, in which nothing was done, and in which the Williams chairman would not recognize our men when on the floor, Amherst and Tech withdrew. Then Tufts voted Williams the championship, and it is said Tufts was given second place. They then voted Trinity in. Meanwhile the Trinity delegates had been interviewed by Mr. Dempsey, and the result was that they pledged themselves to form a new league with Amherst, and Tech, and to ask Stevens Institute and Wesleyan to join. It was decided to hold the first meeting December 7th, at Springfield, when delegates from all the colleges will be present. A constitution will then be adopted and officers elected.

Foot-Ball Summaries.

THESE may be interesting as furnishing grounds from which to draw conclusions.

In the championship games we have scored 62 points to our opponents 61. If we had played the other game with Tufts, this might have been a better showing. The following list shows who made the points: For total games the number of touch-downs made by Duane was 6; Devens, Dearborn and Tracy, 3 each; Ladd, Vorce and Goodhue, 2 each; Herrick and Bemis, 1 each. Duane kicked 3 goals, and Bemis 3. For championship games Devens made 3 touch-downs; Duane, Dearborn, and Tracy, 2 each; Herrick, Bemis, Ladd, and Goodhue, 1 each. Vorce made the first touch-down scored this year.

For total games played, eighteen of our opponents have been disabled to six of our own men. No one on our side has been seriously injured.

Of the regular team, there are five men from '88, and two from each of the other classes.

The following men have played on the team

this year, though the regular eleven has usually been the same for all championship games. Herrick, Vorce, Ladd, Bartlett, Taintor, Dame, Tracy, Goodhue, Duane, Dearborn, Devens, Fish, Kimball, Bemis, Durfee, Wadsworth, Draper, Sterns, Ellis, Green, LaRose, Clement, Gross, and Kendrick.

The team has practiced 30 afternoons, and played 12 games, which, counting in traveling, probably required about 140 hours' time.

The rush-line averages about 162 pounds, the whole eleven averaging about 157.

Bartlett and Tracy carried off the honors at the training-table.

Four of the twelve games have been played in the rain.

Harvard vs. Technology.

THIS game of the 17th was played under disadvantages, as Ladd, Dame, and Devens were unable to play, and Harvard had the strongest team they could select.

We had the kick-off, and kept the ball for fifteen minutes, Duane doing most of the rushing. Finally, on a fumble by Dearborn, Harvard got the ball, and Porter made the first touch-down, from which Brooks kicked a goal. Our team again rushed the ball, but lost it again on a fumble. Harvard had hard work to gain ground, being thrice compelled to lose ten yards; this was due mostly to Vorce's fine tackling. Next Goodhue caught the ball which was intended for Holden, and made a fine rush; Harvard regained the lost ground, and Fish made a safety. Porter then made a second touch-down, and a third soon after, from both of which Brooks kicked goals. Again the Techs slowly lost ground, and Holden made a touch-down just before time was called.

In the second half Harvard increased the score considerably, but, as in the first half, many of the points were made more from our errors than by their play. Our rush-line did very well, considering their weight. Nothing especially brilliant was done on our side except a good run by Dearborn. Our men tackled finely, ex-

cept when they tried Porter. The total score: Harvard, 62; Technology, 0.

Kimball and Bartlett did well in the rush-line, and Vorce and Herrick tackled in great style. Fish had a good time with Harding. Harvard still lacks the necessary team-work, though their large amount of training has improved them considerably.

Tufts vs. Technology.

THIS game was played the 19th of November, at College Hill. A high wind blew directly down the field, so a rushing game was played by both sides in turn. We had the disadvantage the first half. At the kick-off Bartlett rushed, and then Duane and Dearborn forced the ball ahead, Dearborn making the first touch-down in two and a half minutes. It was impossible to kick a goal. Tufts soon got the ball, and Ames and Galletly gained ground by rushing. Galletly's foot then lifted the ball into an air-current, and it sailed to Devens, who, by a long run, brought it back again. By the efforts of Duane, Devens, and Tracy the ball was forced to their line, where Ladd rushed it over. This time a goal was kicked. Ames was next finely tackled by Fish. Duane made a catch, and after good rushing by Taintor, Dearborn, and Ladd, Duane made a touch-down. In the try for a goal the wind blew the ball back, and Devens made the fourth touch-down.

In the second half the ball was kept in the center, until by runs of Ames and Galletly it was close to our line. Here Tracy made a run the whole length of the field, which was not allowed. Edgerly was pushed over the line, making a touch-down for Tufts, and on the failure for a goal the ball was again rushed over. Our men now braced up, and the invincible Ames did not again get by the half-backs. He was severely hurt tackling Duane shortly, and then Tufts lost ground, and Dearborn made another touch-down. Soon after, Duane also secured one, which ended the scoring. The game was discontinued just too late for the crowd to take the train. Total score: Technol-

ogy, 26; Tufts, 8. Tufts played a very square game, and did some splendid work. Our backs rushed finely, and Herrick and Vorce tackled well. A large crowd accompanied the team, and were well repaid for their journey.

'89 vs. '90.

THE foot-ball match between the Freshman and Sophomore classes, is the first contest of its kind ever held at the Tech. Its success in awakening class feeling will probably make it a traditional custom in after years. It was a hotly contested game throughout. '89 first rushed the ball, but lost it shortly, and Tracy and Goodhue forced it back. Durfee injured his ankle, and had to leave, which was a serious loss to his side. Neither gained any decided advantage until Tracy took the ball away from Wadsworth, and made a touch-down just before time was called. In the second half the ball was in '90's territory most of the time; but owing to the lack of a good quarter-back, '89 lost the ball when it was thrown, and '90 kept it most of the time. Owing to good rushing and fine tackling, '90 prevented '89 from scoring, though the chances were greatly in their favor. The total score was 4 to 0 in favor of the Freshmen. Kerns and Tracy did the best work for '90, and Duane and Clement for '89. After the game '90 was greatly excited, and gave vent to their feelings in such a way, that '89, maddened by defeat, rushed at them, and a general scrimmage occurred. Then '90 held aloft a cane as a challenge, and again '89 went for them, and a hard fight resulted, which lasted for about twenty minutes. The outsiders interfered whenever any one showed any bad blood, so that no one was injured. It was decided that '89 had the best of the rush, as they captured the stick. This in some measure appeased their wounded feelings, and after cheering, each side disbanded. There will probably be a boom in the hatter's trade on account of this conflict, which was death on Derbys. Both classes should now begin work selecting and training their tug-of-war teams, as '89 still has a chance to redeem herself.



C. M. Wilder, '86, is in the city.

The CB₃A Society dined at Young's, November 19th. •

Richard Devens, '88, has become a member of Alpha Tau Omega.

A. L. Cushing, formerly '87, gave a freedom party recently at Berkeley Hall.

It cannot now be said that there is a lack of class spirit in the lower classes.

The Juniors have finished heat. This explains their frigid bearing of late.

Nathan Durfee and A. W. LaRose have been elected members of the Gymnasium Committee from '89.

The Senior Electricals have started upon the study of dynamo-electric machines under Prof. Cross.

Many Technology men were at the Yale-Harvard game, and two or three were also at the Yale-Princeton game.

A series of fraternity dances, similar to those of last winter, will be given in the gymnasium, beginning in December.

Mr. Blodgett, of the Boston & Albany Railroad, is lecturing the Senior Civils and Electricals on electric railway signals.

The Glee Club holds rehearsals on Monday and Thursday afternoons. The club numbers sixteen voices and an accompanist.

At the last meeting of the Biological Club, papers were read by Prof. Sedgwick, Dr. Gardiner, and Messrs. Harris and Bartlett.

Messrs. Conant, '87, Gross, '88, Fukuzawa, '88, R. L. Russel, '89, and Lyman Brown, '89, have joined the Theta Xi Fraternity.

The Freshman Eleven played the combined High Schools Eleven on November 15th. The game resulted in a tie, six points being scored by each side.

The Freshmen have purchased a bulletin-board similar to '89's. It disappeared on the day after the rush, but was recovered through the efforts of '89.

A party of seven Civils passed last week in making the preliminary and final surveys for a line of railroad from Charlemont, Mass., to the Davis Sulphur Mines.

Canes were in demand last week among the Freshmen. One enthusiastic member of the class wished to buy out Badger & Co.'s stock on the day after the game.

The Foot-Ball Association held a meeting November 20th, and elected Messrs. Bartlett, Dearborn and Dempsey delegates to the convention of the Inter-Collegiate Association.

The Chess Club met at Young's, Thursday, November 18th. A report of the relative standing of the members in last year's tournament was read, and the members adjourned to the tables.

The K₂S met at Young's, Friday, November 19th. Messrs. Smith, '88, Merrel, '88, and Cartwright, '89, were initiated. A paper on Indigo, by Mr. Clark, '87, was read. Supper was served, and the meeting adjourned.

The January meeting of the Society of '87 will be held a week earlier than the usual time. This change will bring the meeting upon New Year's Eve, and the year of 1887 will be ushered in with appropriate exercises.

The last problem given to the Architects was a design for the Architectural Society's cut in the *Technique*. Many very tasteful drawings were handed in, noticeable among which were those of Messrs. Kimball, Parker and Bosworth. Mr. Kimball's design was selected.

The Alpha Tau Omega fraternity recently gave a spread at Dooling's to their new members. Addresses were made by Messrs. Harris, '87, Peters, '87, Robb, '88, Dearborn, '88, and Warren, '88. Mr. Frank W. Hoadley, formerly '88, was present.

The Biologicals made a trip to Beverly bridge with Dr. Gardiner on the 11th, and were initiated into the mysteries of gum boots and the art of capturing crabs, polyps, star-fish, etc. Such occasions as this are decidedly more interesting than peering through a microscope all the afternoon.

The '88 Architects and Mechanicals played a game of foot-ball on the Union Grounds, November 19th, which resulted in favor of the Architects, by the score of 8-4. Sidney Williams, '87, refereed. The '88 Electricals recently defeated the South Bostons, but they will not play in the Junior class series, as several of the best players are too busy to play. The Architects have, therefore, won the championship.

On November 23d, Messrs. Lane, Hadaway, Brace, Fish, of '87, and Greeley, Bigelow, Clafin, and Warren, of '88, met in THE TECH office to discuss the feasibility of starting an Institute publication to be devoted entirely to scientific articles. Messrs. Bartlett, '87, and Dempsey, '88, were unable to be present. There was considerable discussion about the matter, but no final settlement was arrived at. It was decided that the paper should be published by editors from the two upper classes, the ten gentlemen named above being the first board of editors. More will be admitted when the affair has progressed further. Messrs. Greeley and Lane were appointed a committee to draw up a circular stating the objects of the publication, which circular is to be printed and distributed. Mr. Warren was appointed to draw up a constitution. No name was decided on, but "Technology Review" was mentioned. Mr. Greeley was elected temporary president, and Mr. Brace temporary secretary. The meeting then adjourned until November 29th.

The Foot-Ball Association held a meeting November 24th, to hear the report of the delegates to the Springfield meeting of the Northern Inter-Collegiate League. Mr. Dempsey spoke at length, and was frequently interrupted by applause. A telegram was read from the manager of the Williams team, saying that Williams

hoped Technology would not resign. Mr. Dempsey said that this was evidently the desire of Williams, as one of the Williams delegates told him, when at Springfield, that Williams was very sorry that Technology had resigned. The action of the delegates was unanimously sustained, and the same delegates appointed to go to Springfield to form the new league with Amherst, Trinity, Stevens Institute and Wesleyan, should the last two care to join. There was a large attendance at the meeting, and the general sentiment was very bitter against Williams, on account of her action at the meeting. This feeling is to be deplored, as the relations between Technology and Williams have always been of a most friendly character.



The Amherst Student, though not containing much reading-matter, is well edited. We would suggest a little more attention to typographical correction. Its college news is by no means fresh.

The Argus contains one very well written story. Foot-ball occupies too large a share of the editor's time, and there is an entire lack of news from other colleges.

The Cadet is one of our most welcome visitors. One only regrets that in place of fourteen, there are not twenty pages.

If maturity be the great *desideratum*, *The Illini* is all but perfect.

The Dartmouth has the honor of being our most inaccurate exchange.

The covers of *The Tufsonian* would lead one to expect but little between them. This is, however, a mistaken idea.

The Bowdoin Orient presents a very ethereal appearance. It improves, however, on acquaintance, and is now one of the first of our exchanges to occupy our attention.

In regard to the editorial and literary departments of *The Pennsylvanian*, comment is unnecessary, as it occupies the first rank, in that line, among college journals. Its college news is, however, anything but what it should be.

The Trinity Tablet is a spicy little college organ. It contains a rather long but interesting account of the laying of the corner-stone of its new gymnasium. Its information in regard to other colleges is, to say the least, decidedly inferior.

The Exonian Extra, issued in honor of the second victory of Exeter over Andover at football, is very bright and witty.

They have great reason to rejoice over the game, it being the first time they have beaten Andover on "her own toboggan-slide."

THE COLLEGE WORLD.

HARVARD.—The foot-ball match between Harvard and the Univ. of Penn. took place Thanksgiving morning, at Philadelphia. After the game a special train took the members of the eleven to the place of holding the Yale-Princeton game, which took place in the afternoon of the same day.—The shooting-club meets on the alternate Thursdays and Fridays.—Harvard, though rich in books, land, buildings and students, is very poor in ready money.—Guy Richards, '87, has been elected captain of the Columbia Varsity crew.—Mr. Moody held a series of revival meetings in Memorial Chapel, during the third week in November.—The necrology list for the past six months contains forty-six names.—The attendance at chapel has diminished somewhat.—There is talk of a Freshman cricket team.—There are offered to the student at Harvard 189 courses of study.

YALE.—There are four "Japs" in the Law School.—The Yale Law School is the only one in the United States or England whose course is four years in length, and gives the degree of L.L.D.—There has been a deplorable lack of interest in lacrosse among the students this fall.—The Faculty have decided that hereafter no promenade concerts shall be held during term-time, except during the two weeks immediately following the Christmas recess. This rule goes into effect next year.—The *Yale Record* presents a cut entitled "The President and Fellows of Yale." Pres. Dwight is in the center surrounded by prominent athletic men in glasses. The cut is a suggestion for the "title-page in the forthcoming catalogue."

PRINCETON.—The gate receipts at the Harvard-Princeton game netted \$645.00.—A conference committee of students and professors is to be appointed at Princeton.—Prof. Francis L. Patton will probably be transferred from the chair of Philosophy to the chair of Theology, made vacant by the death of Prof. Hodge.—The "Country Girl" was produced at Princeton the third week in November.

\$800,000 has been obtained to found a school of technology at Chicago.

A man named Timothy Dwight has been elected President of Yale College. He is said to be a man of considerable ability, but is entirely unknown in sporting circles.—*Chicago Times*.

Washington is to have a Roman Catholic University. \$800,000 has been promised already.

WESLEYAN'S quarter-back, Steelman, weighs only 104 pounds.

AMHERST will limit the number of students to 300. The tuition has been raised from \$100.00 to \$110.00 per annum, to go into effect at the beginning of next term.

THE UNIVERSITY OF THE SOUTH has its vacation in the winter, in order to save the expense of fuel.

UNIVERSITY OF PENNSYLVANIA.—Six of last year's players are still at the University. Three

men who have played on other college teams, besides very promising players in the Freshman class, will make excellent material from which to select next spring's nine.

COLUMBIA denies that she will enter an Inter-Collegiate Base-Ball League composed of the University of Pennsylvania and Dartmouth. If she enters any league it will be the one of which Harvard, Yale, and Princeton are members.—The library has been increased by twenty thousand volumes during the past two years.

The income of the colleges of the United States is \$4,500,000 dollars.

THE UNIVERSITY OF MISSISSIPPI has petitioned for the removal of the twenty young lady students attending that institution.

In response to the wishes of the leading Presidents of the Eastern colleges, the students of the University of Pennsylvania presented "The Acharnians" a comedy of Aristophanes, in the New York Academy of Music, on Friday evening, November 19th. The price of reserved seats was \$3.00, and the money derived from the entertainment will be used as an endowment fund of the American School of Classical Studies, situated at Athens.

THE UNIVERSITY OF VIENNA has, for the first time, conferred the degree of Ph.D., *honoris causa*, on an Oriental savant, a professor of Persian at the Deccan College, Poona.

COLUMBIA will send two tug-of-war teams to the Seventh Regiment games to be held on the fourth of December.

BOWDOIN.—The new gymnasium is of brick, with freestone trimmings. It is heated by steam, and lighted by the electric light

The Inter-Collegiate is the name of the new paper to be published by the Inter-Collegiate Y. M. C. A.

DARTMOUTH talks of presenting a drama similar to the one presented last spring.

It is reported that the college of WILLIAM AND MARY is to be transplanted to Lynchburg, Va. Washington, Jefferson, Madison, Monroe and Scott graduated from this institution.



A CONTRAST.

The Civil climbs up the mountain
With stakes and chain weighed down,
And he thinks of the work before him
With many a heavy frown.

And he looks at the careless Freshman
At play in the field below,
And heaves a sigh of deep regret
For the days of long ago.

But the Freshman looks with envy
At the poles with their stripes so gay,
And he thinks of the distant future
When he, too, shall go off that way.

And he looks forward with pleasure,
And he thinks 'twill be mighty fun
To take a survey of the brewery,
When his afternoon's work is done.

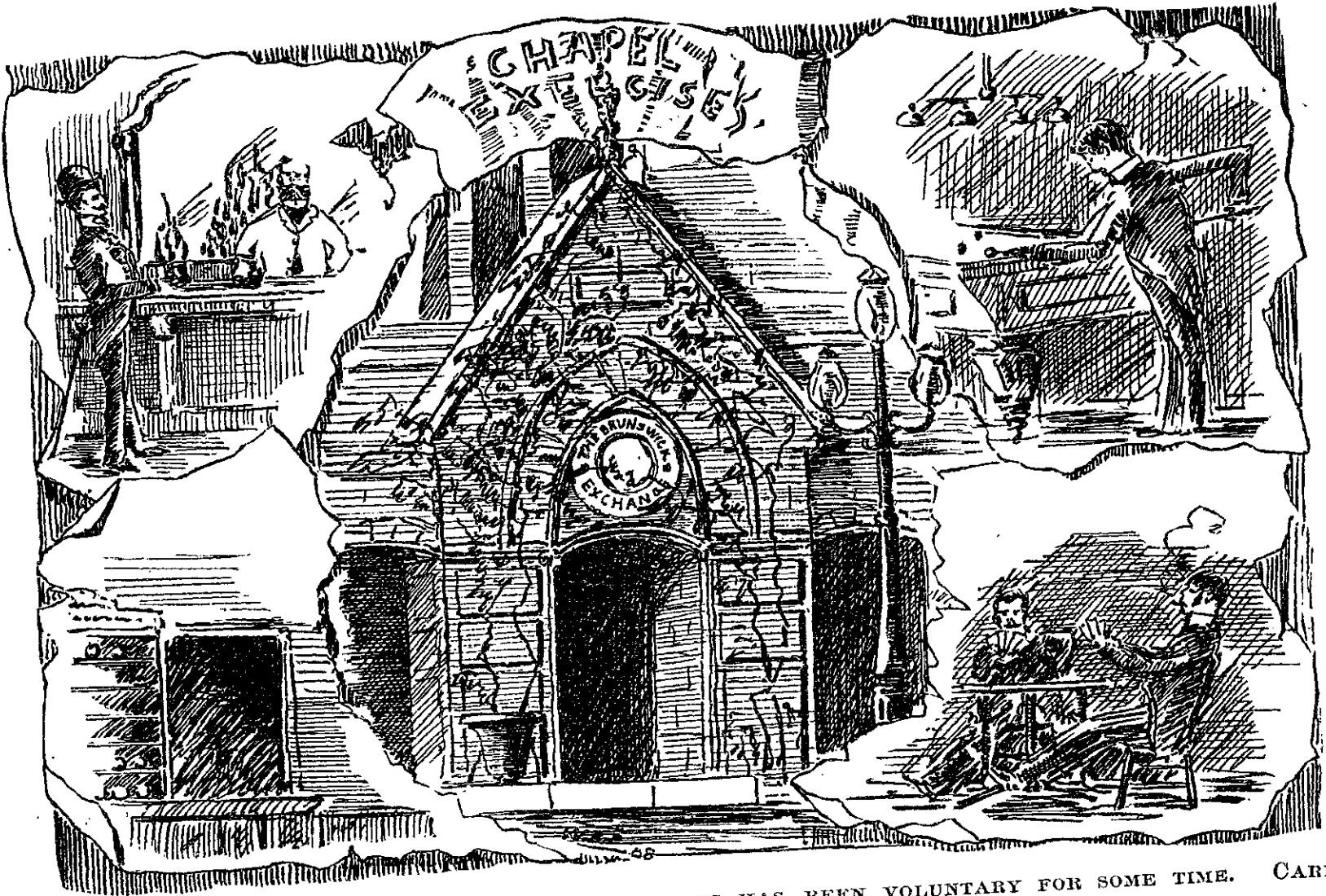
—Lehigh Burr.

We are indeed much flattered to have the Freshmen send us contributions and take a kindly interest in our welfare. We feel the deepest gratitude for such well-meant endeavors, but we fear there will be a great loss of life in the Freshman class if we receive anything more like the following:—

Said S. Chester de Lyon, "Oh dear!
I'm getting quite reckless, I fear;
I've revelled as late
As quarter-past eight,
And drank a whole glass of birch-beer."

Said Sheeny Foster, "Vas der costa
To go into dat vorter?"
" 'Twill cost you, sir, to take a bath,
A little silver quarter."
"So hellup me! by gosh," said he,
"I really vas too poorer;
I keep my little kvohter, sir,
Und svim me in der sewer."—Ex.

The Vassar girls are said to be so modest that they will not look at a clothes-line when the clothes are off.—Ex.



AT THE TECH, ATTENDANCE UPON CHAPEL EXERCISES HAS BEEN VOLUNTARY FOR SOME TIME. CAREFUL STATISTICS SHOW THAT THEY ARE ALSO LARGELY ATTENDED.

"NON EST."

We once knew a Freshman,
So young and so fair,
With his dancing blue eyes
And his light, wavy hair.

But we see him no longer,
Our brightest and best;
For he sat on the fence —
And they've laid him to rest. G.

"NIPPED IN THE BUD."

A daring young freshman at Yale,
On the banjo tried to prevail;
From A. M. till night,
With zeal and with might,
He thrummed till endurance must fail.

There is quiet by night and by day:
Would you like us the wherefore to say?—
Well—he raised such a din,
That we sophomores dropped in,
And he's climbed up the golden stairway.
— Yale Record.

UNSUSPECTED LOADS.

A little lad,
A pistol bad,
A bang! Egad!
The upshot's sad,
A ma' half mad,
A weeping dad —
He didn't know it was loaded.

A man; the same
I will not name,
Of dice a game,
With gold for aim,
Dead broke! a shame!
He was to blame —
He didn't know they were loaded.

A man out West,
Who doth invest
In mine of gold,
But thinks he's sold;
He sells the mine,
It turns out fine —
He didn't know it was loded.

— Illini.

Henry H. Tuttle & Co.

would call the attention of Students to their stock of Seasonable Footwear, new and novel styles, some of which are *exclusive with us*. Prices as low as consistent with good stock and workmanship.

**435 WASHINGTON ST.
BOSTON.**

FRENCH SHIRTINGS,

English Cheviots,

ENGLISH AND FRENCH FLANNELS,

Silk and Wool, and Pure Silk Shirtings,

For Lawn Tennis, for Steamer Traveling, for Hunting and Fishing, for Railway and Yachting, always in stock or made to special measure, at

NOYES BROS.

DRESS SHIRTS,

For Weddings, for Receptions, for Dinner Parties, with Collars, Cuffs, and Cravats, in the latest English styles.

Plain French Bosoms,

Fine French Plaits and Cords.

Jurors' award for beauty of workmanship and design, and distinguished excellence in the manufacture of shirts.

NOYES BROS.

— ENGLISH —

DRESSING GOWNS JACKETS, AND WRAPS.

LAWN TENNIS SHIRTS, COATS, and HOSE

Tennis Belts and Caps
in stock and made to measure from elegant styles of

ENGLISH FLANNELS

ENGLISH NECKWEAR, \$1.00.

London Tan Street Gloves, warranted, \$1.35.

WEDDING OUTFITS A SPECIALTY.

NOYES BROS.,

Washington, corner Summer Street, BOSTON, U. S. A.



Fine Pottery, Glass, and Lamps.

THE subscribers invite attention to their stock of the above branches, which we dare say is not excelled on this continent. One of our firm visits the Potteries of England, France, Germany, China, and Japan, seeking the best products from original sources. We have also specimens from the best home manufacturers, comprising desirable exhibits of useful and ornamental wares, to which WE INVITE INSPECTION. Six floors, wholesale and retail.

JONES, McDUFFEE & STRATTON,
120 Franklin Street, corner Federal.

N. B. — Our exhibit of Lamps, Bed-room Sets, Smokers' Sets, and choice Gems in Cut Glass and China for Wedding Gifts, is extraordinary. From the old Wedgwood Pottery we have Plaques, Plates, Mugs, Jugs, Tiles, and Coffees, decorated (under glaze) with Boston scenes (including cut of the Tech Institute), which may be found desirable as souvenirs.

SMOKE

RICHMOND

STRAIGHT CUT

CIGARETTES.

STUDENTS' SUPPLIES.

A FULL LINE OF

Mathematical Goods, Blank Books, Figuring Blocks, Stylographic Pens, etc., and all varieties of Drawing Papers.

Also, the LATEST NOVELTIES in

CHOCOLATES, BON-BONS, and GLACÉ FRUITS.

C. M. & J. W. COX,

Wholesale and Retail Dealers in

Artists' Materials and Fine Stationery,

214 CLARENDON STREET, BOSTON, MASS.

Menus and Orders for Class Suppers and Dances.

GRAND UNION HOTEL, NEW YORK CITY.

OPPOSITE GRAND CENTRAL DEPOT.

GUESTS' BAGGAGE TO AND FROM GRAND CENTRAL DEPOT FREE.

Over 600 handsomely furnished rooms at \$1.00 per day and upward. European Plan.



FIRST-CLASS Restaurant, Dining-Rooms, Café, and Lunch Counter, a la carte, at moderate prices.

Travelers can live well at the

GRAND UNION

for less money than at any other first-class hotel in New York.

W. D. GARRISON,
Manager.

NEW ART GALLERIES

79—BOYLSTON ST.—79

WILLIAMS & EVERETT

INVITE ATTENTION TO THEIR EXTENSIVE AND
CAREFULLY SELECTED STOCK OF

PAINTINGS,

FINE ETCHINGS,

RARE ENGRAVINGS, CARBONS,

PHOTOGRAPHS, ETC., ETC.

SPECIAL ATTENTION TO ARTISTIC FRAMING.

OLD PICTURES RESTORED. OLD FRAMES RE-GILT.

79 BOYLSTON ST., BOSTON.

AGENTS FOR ROGERS' GROUPS.

BOSTON FOREIGN BOOK-STORE.

CARL SCHOENHOF,

144 TREMONT STREET, BOSTON.

AMATEUR PHOTO-OUTFITS.

DISCOUNT TO STUDENTS.

Send for lists to

CHANNING R. SELEE,

56 Bromfield Street, Boston.

Hardy **P** **Photographic Studio,**
493 WASHINGTON ST.
Cor. Temple Place.
By having your Holiday Orders filled
now you can avoid the usual
Christmas rush.
You are respectfully invited to call
and examine our large variety of
superior photographic novelties.

Life Size Camera Portraits, only \$15. Duplicates, \$5 each.

T. E. MOSELEY & CO.

ORIGINAL IMPORTERS OF

THE CELEBRATED

English

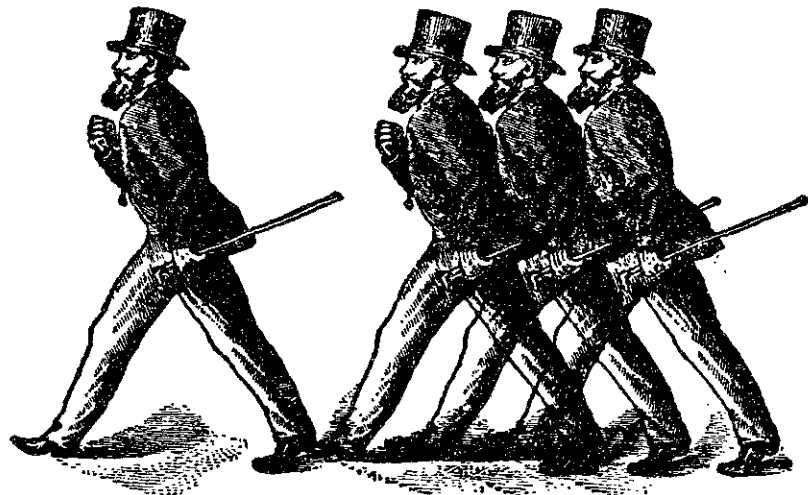
Waukenphast

Boots and Shoes.

FRENCH and AMERICAN GOODS in great variety.

A very large assortment, particularly adapted for young men, at
prices from \$4.50 upward.

469 WASHINGTON STREET, BOSTON.



TOOL DEPOT.

CALL AND EXAMINE THE LARGEST ASSORTMENT

—OF—

MACHINISTS' TOOLS

AND SUPPLIES

To be found in New England.

A. J. WILKINSON & CO.

184 and 188 Washington Street, Boston, Mass.

FLORENCE

SILK UNDERSHIRTS AND DRAWERS

FOR GENTLEMEN AND LADIES.

The attention of those persons who wish to promote health and
comfort is invited to the advantages this Underwear has over that
made from other materials.

Silk Underclothing has long been recommended by eminent phy-
sicians for its warmth and its magnetic quality.

For further particulars as to size, price, etc., etc., send address
to us, and receive free, by mail, our descriptive circular on this
subject.

NONOTUCK SILK CO., Florence, Mass.,

Or 18 Summer Street, Boston.

WALTER C. BROOKS & CO.

TAILORS

8 UNION STREET, - - - - BOSTON.

Stock selected Particularly for Young Men's Wear.

GERLACH & STEUER

(Formerly Jacob Gerlach),

Ladies' and Gents' Hair Cutting.

54 TEMPLE PLACE,
BOSTON.

Manufacturer of Ventilating or
Gossamer wigs and toupees.
Ladies' Hair Work of every va-
riety. Children's Hair cut in the
neatest style.



Black Stockings

Money refunded if they stain the
feet. Every pair stamped with
our warrant.

THE F. P. ROBINSON CO.,

49 West Street, Boston.

A Girl of Mettle.

BY H. C. DODGE.

I met a lovely girl one day
Who glanced her iron me
In such a sweet, mischievous way
That I felt ore fully.

Ah! how could I dis pewter right
To steel my heart away;
Her silver tongue gave such delight
That I was lead astray.

I summoned all my brass to plead
My love for her was gold;
"If you have any tin — agreed,"
She answered, oh! so cold.

I thought I'd zinc when she began,
For I had not a "copper,"
But ere her web bronze round a man
I hope old Nickel stop her.

D. TOY,

* TAILOR *

-11-

Charles Street,

NEAR BEACON ST.

A large Stock of Foreign and
Domestic Goods always on hand.
Agent for Winchester, Son, &
Flowers, 17 Maddox Street, and
Whitaker & Co., 43 Conduit Street,
London, W.

THE ASSOCIATION GYMNASIUM,

Corner Boylston and Berkeley Streets.

R. J. ROBERTS, Superintendent.

H. L. CHADWICK, Assistant Superintendent.
L. F. SMALL, Clerk.

CORPS OF COMPETENT VOLUNTEER INSTRUCTORS.

Classes Morning, Afternoon, and Evening.
Special Attention to Members not in Classes.

The newest and most complete Gymnasium in regard to
Apparatus and all other appointments.

Terms, including Box, Measurements, Personal and Class Instruction,
\$8.00 per year; for three months, \$5.00.

Young men purposing to join a Gymnasium are invited to inspect
this Gymnasium thoroughly.



London Trouser-Stretcher.

Takes bagging out of knees and restores
pantaloons to original shape. Price,
\$2.50. AGENTS WANTED. Send
for Circular. The best Present you can
make to any gentleman. Sole Wholesale
Agents in the United States,

G. W. SIMMONS & CO.,

32 North Street, Boston, Mass.

BRUNSWICK HAIR-DRESSING ROOMS

ROBERT LINK, Proprietor.

Six Shaving Tickets for \$1.00.

DAVID MYERS,

TAILOR

175 Tremont St.

*I have a Large and Well-Selected
Stock of ENGLISH CLOTHS for*

BUSINESS SUITS,

DRESS SUITS,

FANCY WAISTCOATS,

TROUSERS, and

OVERCOATS.

Special Prices to Students.

THE
BRUNSWICK

BOSTON'S

Grandest Hotel

BARNES & DUNKLEE,

Proprietors.



NEAR the Public Garden, Common, and Public Library, Museum of Fine Arts, New Old South, Trinity (Phillips Brooks's) Church, and OPPOSITE INSTITUTE of TECHNOLOGY.

Beacon, Dartmouth Street, and Huntington Avenue, and all Back Bay Cars, pass the Hotel for either up or down town, every three minutes.

WOODBURY'S CAFÉ,

—FOR—

LADIES AND GENTLEMEN,

196 Tremont Street,

Second door
South of Boylston Street,

Boston, Mass.

Open Sundays from 8 A. M. to 8 P. M.

HAMMON WOODBURY, Proprietor.

Students' Tickets at Special Rates.

Lux Engraving Co.

OFFICE, 31 EXCHANGE ST., BOSTON.

Designing and **E**ngraving

of every description, for Schools and Colleges, by our new Photo-Engraving method, and on Wood.

STYLISH NECKWEAR,

COLLARS AND CUFFS FOR YOUNG MEN.

F. W. SEAVEY, - - - - 53 WEST STREET.

C. H. CODMAN & CO.

Manufacturers and Wholesale Dealers in every variety of

Photographers' Materials, Dry-Plate Amateur Outfits.

Sole Agents for the New Ortho-panatic Lens.

34 Bromfield St., Boston, Mass.

Frank Wood,
Printer,

352 Washington Street, Boston.

JOSEPH GILLOTT'S
Steel Pens

FOR ARTISTIC USE in fine drawing,
Nos. 659 (the celebrated Crowquill), 590 and 591.
FOR FINE WRITING, Nos. 1, and 303 and Ladies', 170.
FOR BROAD WRITING,
Nos. 294, 389 and Stub Point, 549.
FOR GENERAL WRITING, Nos. 332, 404, 390 and 604.
Sold by ALL DEALERS throughout the World.

GOLD MEDAL PARIS EXPOSITION, 1878.
JOSEPH GILLOTT & SONS, 91 John Street, New York, HENRY HOE, Sole Agent.

PREPARATION for the INSTITUTE of TECHNOLOGY,
and for HARVARD COLLEGE without Greek.

Private School, 18 Boylston Pl., Boston.

ALBERT HALE.

For 1877. CALENDARS AND DIARIES,
ELEGANT STATIONERY,

THE BIJOU DIRECTORY,
(Beacon Hill, Back Bay, and South End.)
CAPEN'S GEOLOGY OF NEW ENGLAND,
Folio, with superb Colored Illustrations.

For 1877.

G. E. RIDLER, Corner Boylston and Berkeley Sts., Boston.

PRIVATE SCHOOL FOR BOYS,
23 Temple Place, Boston.

Preparation for College, INSTITUTE OF TECHNOLOGY, and
Business. Thorough Instruction given in Elementary
English Studies.

Native French and German Teachers.

LEROY Z. COLLINS.

JOHN EARLE & CO.,

Tailors to the Co-operative Society,

330 WASHINGTON ST., BOSTON.

Dress Suits loaned for occasions.

Note Books and Students' Supplies,

At lowest possible prices.

FRED W. BARRY,

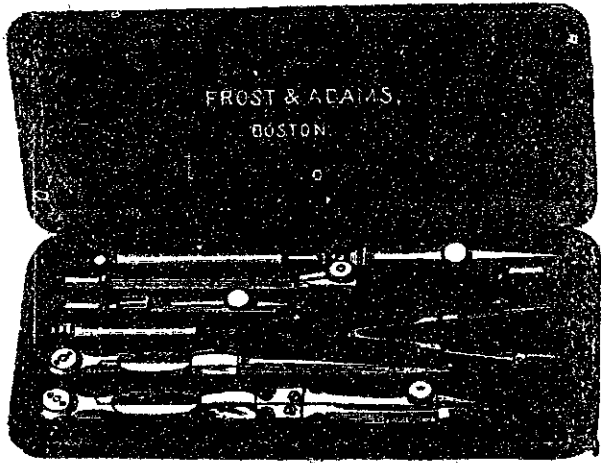
108 and 110 Washington Street, Boston.
Corner of Elm Street.

FOR THE HOLIDAYS!!

EXQUISITE GLACÉS, DELICATELY-TINTED PASTELS, LIFE-
LIKE and EFFECTIVE CRAYONS, CRYSTAL TABLETS, and
PLAIN and ARTISTICALLY WATER-COLORED CABINETS,

BY





FROST & ADAMS,

IMPORTERS OF

Drawing Instruments

AND

Supplies for Students, Architects, and Engineers.

Designers' Colors a Specialty.

SEND FOR ILLUSTRATED CATALOGUE.

No. 37 Cornhill, . . . BOSTON.

J. C. LITTLEFIELD,

Chambers,

➤ FINE TAILORING ◀

2A Beacon St.

The Latest Novelties of the Season.

DRESS SUITS A SPECIALTY.

HARRINGTON

JOHN R. FARRELL,

≡ TAILOR ≡

No. 14 Boylston Hall, Boston, Mass.

Finest line of Foreign and Domestic Fabrics constantly on hand, to be made in the best styles, at reasonable prices.

MILITARY SCHOOL JACKETS, CHEVRONS, and UNIFORMS.