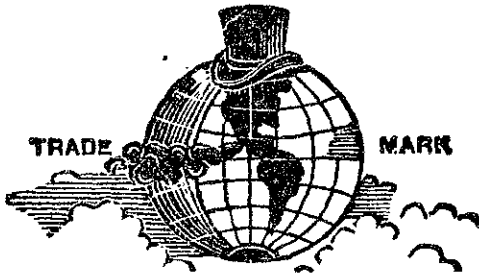


Entered at the Post-Office, Boston, Mass., as Second-Class Matter.

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.

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

SPECIAL PRICES TO INSTITUTE STUDENTS.

JOHN EARLE & CO., TAILORS,

CHAMBERS, 330 WASHINGTON STREET, BOSTON.

*The "Co-operative Discount" made as usual to all Students of the M. I. T., on
Cash Purchases.*

EARLY SELECTIONS SOLICITED.

DRESS SUITS LOANED FOR OCCASIONS.

Remarks We Hear Concerning Our Crawford Shoe.

"The most comfortable shoe I ever wore."
"Easier than shoes I have had made for me."
"Can't understand how you do it."
"No more \$12 shoes for me."
"Hope you will keep your Crawford Shoe up to its present high standard."
"Wouldn't have believed I would ever have worn a shoe costing only \$4."
"How do you sell so good a shoe for only \$4?"
"Have never had a moment's discomfort from your shoe since I first put it on."
"Can you do a profitable business on the Crawford Shoe alone?"

These Shoes can only be obtained at

CRAWFORD SHOE STORES

UNDER UNITED STATES HOTEL, BOSTON.
611 WASHINGTON STREET, BOSTON.
38 PARK SQUARE, BOSTON.
45 GREEN STREET, BOSTON.
2164 WASHINGTON STREET, ROXBURY.
56 MAIN STREET, CHARLESTOWN.
231 BROADWAY, CHELSEA.

"Do you mean to say that even your \$3 Shoes are made of the best Stock you can buy?"
"How can you sell your Hand-sewed Shoes at the same price of a machine-made shoe?"
"I have always had trouble in breaking in a shoe. Your Crawford Shoe requires no breaking in."
"I have never before had a shoe fit my foot, unless it was made to order."
"I find a new pair of Crawford Shoes as easy as the old ones I take off."
"All my friends wearing the Crawford Shoe praise it."

BOUVÉ, CRAWFORD & CO., Makers of the Crawford Shoe and Proprietors of the Crawford Shoe Stores.

A. SHUMAN & COMPANY.

WE INVITE YOUR INSPECTION OF OUR LARGE AND VARIED STOCK OF

CLOTHING

For Young Gentlemen's Wear.

Manufactured by us from **Fine All-Wool Fabrics**, of both Domestic and Foreign make. All our garments are made in a style

EQUAL TO CUSTOM PRODUCTION,

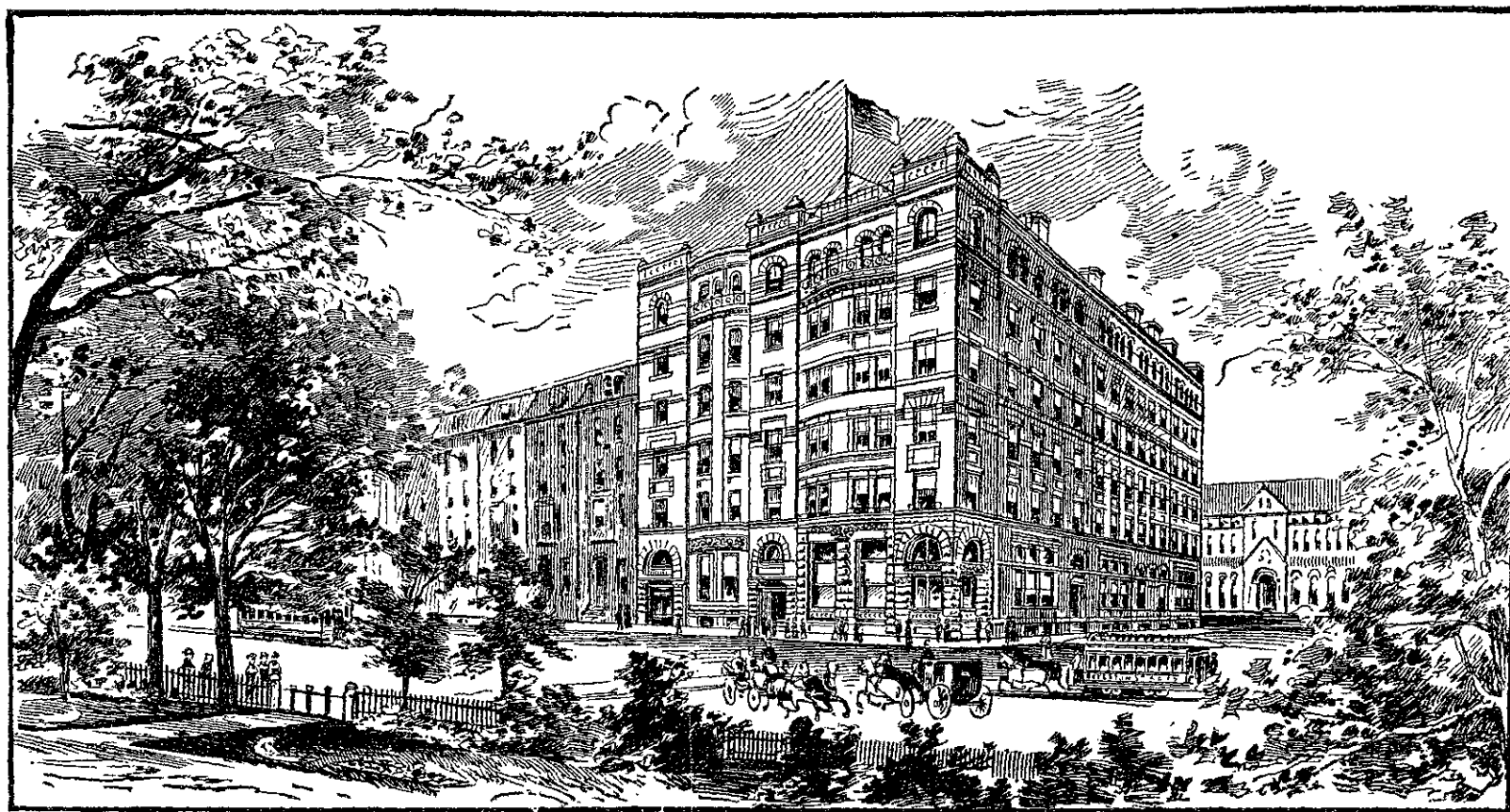
—AND A—

PERFECT FIT IS ASSURED

A. SHUMAN & COMPANY, Manufacturing Clothiers,

Washington Street, cor. Summer,

BOSTON.



❖ THE THORNDIKE ❖

European Plan,

BOYLSTON STREET, OPPOSITE PUBLIC GARDEN, BOSTON, MASS.

G. A. & J. L. DAMON, Proprietors.

PRIVATE DINING PARLORS FOR CLUB DINNERS.

BUY YOUR UNDERWEAR,

NATURAL WOOL, CAMEL'S HAIR, SILK, ETC.

FARLIN'S,

FINE FURNISHINGS.

ADAMS HOUSE.

Students will receive special attention and prices.

THE TECH QUARTERLY.

Published by the Students of

The Mass. Institute of Technology.

ITS CONTRIBUTORS ARE

*The Corps of Instructors, The Advanced Students, and
The Alumni.*

The Leading Scientific College Paper in the Country.

Subscription Price, \$2.00 a year in advance.

SINGLE NUMBERS, 60 CENTS.

Send Subscriptions to the

TREAS'R TECHNOLOGY QUARTERLY, MASS. INST. OF TECH.

For Advertising Rates, Address the Advertising Agent.

Hair Cutters to Tufts College and Boston University.

ALLAND BROS.

ARTISTS AND PHYSIOGNOMICAL

HAIR CUTTERS.

Hair Cutting "A LA POMPADOUR" a Specialty.

19 TREMONT ROW, SCOLLAY SQUARE,

Opposite Brattle St.

BOSTON.

• 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.

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.

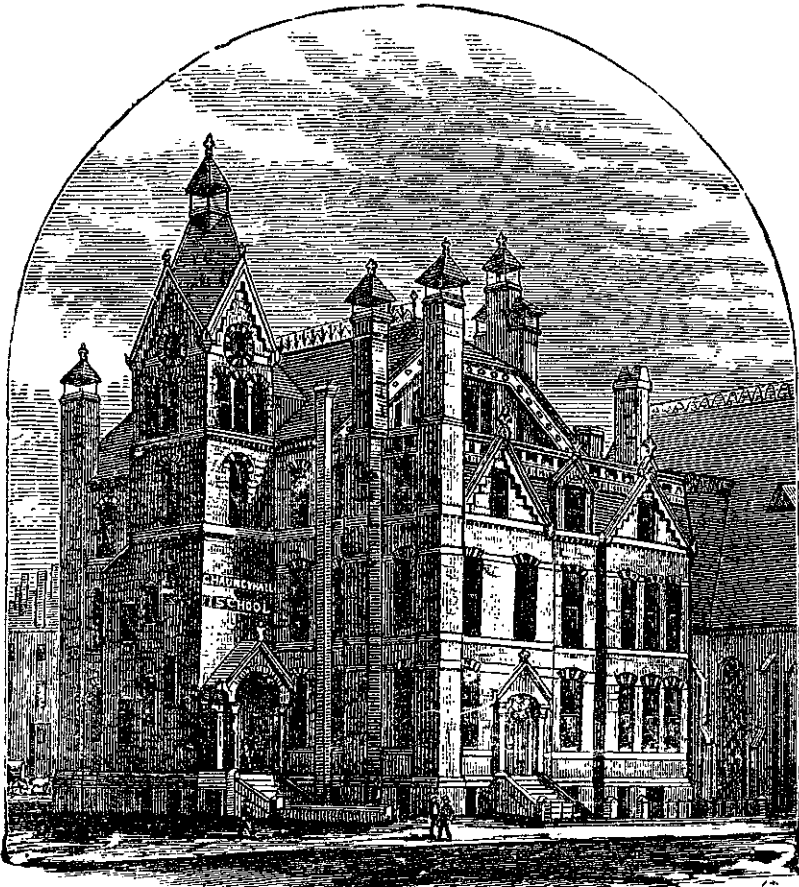
Surveying instruments are provided for field-work in civil and topographical engineering. Extensive shops have been fitted up for the use of both hand and machine tools, and a laboratory of steam engineering has been established as a part of the instruction in mechanical engineering. Several steam-boilers 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.

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.

The Sixty-first Annual Catalogue will be sent on application.

M. Grant Daniell.

CAFÉ WAQUOIT.

249 COLUMBUS AVENUE.

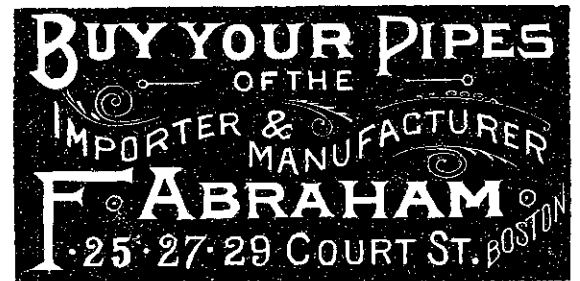
FIRST-CLASS RESTAURANT.

TABLE BOARD \$4.00 PER WEEK.

MONUMENT AND COQUIT OYSTERS.

OPEN TILL 11 P. M.

LOUIS FRENKEL.



PIPES, Etc.,

Of every description MADE and REPAIRED on the premises.

"Tech" Special.

WE ARE

Tailors to the Tech Co-operative Society.

EXCLUSIVE LONDON STYLES

For students' wear our specialty, with prices moderate, and credit allowed.

∴ MACKINTOSHES IN ALL SIZES ∴

All goods warranted for excellence of make and superiority of colors.



MESSENGER BROTHERS & JONES,

TAILORS AND IMPORTERS,

No. 388 Washington Street, Boston.

LONDON.

PARIS.

The Tech.

VOL. VIII.

BOSTON, JANUARY 17, 1889.

NO. 8.

THE TECH.

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

BOARD OF DIRECTORS, 1888-89.

F. W. HOBBS, '89, *Pres.*
J. H. TOWNE, '90, *Sec.*
L. M. HILLS, '90, *Treas.*

HOLLIS FRENCH, '89.
C. H. MUHLENBERG, '91.
F. I. DAVIS, '92.

EDITORS.

JAS. THORNTON GREELEY, '89, *Editor-in-Chief.*

J. LAWRENCE MAURAN, '89. | W. H. MERRILL, JR., '89.
A. L. KEAN, '89. | JAS. W. CARTWRIGHT, JR., '89.
J. L. BATCHELDER, JR., '90. | ALLEN FRENCH, '92.

J. LAWRENCE MAURAN, *Advertising Agent.*

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

FRANK WOOD, PRINTER, 352 WASHINGTON STREET, BOSTON.



HIS is the season of the year when a few marks on a man's cuffs may avail him more than many lectures. So it is that the ingenious student, who scorns to grind, puts himself to work to devise means of escape from impending FF's. It is one of the necessary evils of the present system, when a good examination will atone for a deal of half-done term work, that cribbing flourishes, in spite of the obstacles in the way of its success. For it is no easy thing, even for a man of experience, to have about him, convenient for easy reference, a condensed mass of knowledge covering fifteen weeks' work in mathematics, still less so to stow away a syllabus of his course in geology or literature; and if one begins to select, it is an even chance that the wrong set of questions turns up, and one finds that he has selected what will be as useless to him as the pictures in his last box of cigarettes.

The examiner, also, may not always be absorbed and unmindful of affairs around him; in fact, he is often very much alive to the situation: then what does it profit a man if he has all the wisdom of the ancients on his person, the use of which, for prudential reasons, he is obliged to forego?

Still, as has been said, cribbing is a time-honored institution not more in vogue at Tech. than elsewhere, and perhaps not less. There are no statistics regarding it; for obvious reasons its brilliant successes, as well as its melancholy failures, are matters of tradition, not of record. If they were not, it is probable that they would go to prove that, as a royal road to credits, it is most frequently no thoroughfare, and that—a fact that needs no demonstration—few are they who get more honors than are due them.

WHEN we have so much else to think of, it seems only fair that we should remind our readers of the competition for the prize poem, which is still open. Studies should, and do, come primarily in importance in our minds, and especially at this season of the year; but some work in a lighter vein serves to awaken new energies and latent talent hitherto untapped. Now why should you not devote some part of the vacation or the early part of the coming term to writing a poem for THE TECH, —a song worthy of our perceptress, or both?

You never know what you can do till you sit down, with malice aforethought, and try. Try, and if you don't get there the first trip, follow the maxim. The prize of—dollars would make an excellent lining for your waistcoat pocket, or at least would suffice to send marked copies of THE TECH to all your best girls and admiring relations.

The fact that we have purchased a new and commodious basket for the sanctum should not damp your ardor, for everybody will have a fair show, and only true talent reap the laurels and the attendant "scads."

We have spoken of the Tech. song and prize before as well as this, and merely reiterate it to jog your memory, in hopes of a flood of brilliant effusions.

THE endeavor to make the Freshmen the butt of a senseless joke, when on parade before their friends and the eye of a critical public, cannot be too strongly condemned. Anything as utterly pointless and flat as the Sophomores' witticism at the '92 battalion drill, reflects more on the perpetrators than on the helpless "victims."

Don't drag class feelings or local gags before the gaze of an unappreciate and unsympathizing throng. If the time-honored custom of rendering the Freshman ridiculous must be perpetuated, let it be at a time and place better suited to render the grind a success.

NOW that there is to be a new building, and the Mechanicals and their machinery are to be moved out of the basement of Rogers, it is to be hoped that some more suitable place may be found for the heavy machinery of the Miners than its present position, which, while it may be eminently satisfactory to the Miners, is a source of great annoyance to the Biological Department, which is situated directly over them, as whenever the machinery is in motion, it is impossible to carry on any work which requires delicacy.

FOR a scientific publication of a general nature, the *Technology Quarterly* holds a very high position. Although not confined to any one branch of science, it does not, as might

be supposed, slide over that which is treated. Everything is treated in a very thorough manner. A glance through the last number reveals, in its two hundred and seven pages, articles of mechanical, architectural, and chemical interest, by men of recognized ability. Useful and interesting to the chemist are pieces upon "Nitro-benzyl-Hydroxylamines," by P. S. Burns and J. P. Grabfield; "An Index to the Literature of the Butines and their Halogen Addition Products," by Arthur A. Noyes, S.B., A.M.; "On the Loss on Ignition in Water Analysis," by Thomas M. Drown, M.D. For the Architect to peruse, there are two articles: "A Few Hints about Drainage," by F. W. Chandler, and "A Critical Study of the Heating and Ventilation of the New Building, Massachusetts Institute of Technology, II." There are essays upon "Momentary Depression of the Elastic Limit of Steel at two Critical Temperatures," by Henry M. Howe, A.M., S.B., and "Some Tests of the Strength of Cast Iron Made in the Laboratory of Applied Mechanics of the Massachusetts Institute of Technology," by Gaetano Lanza, S.B., C.E., M.E.

Besides these, there is an able piece by Prof. Wm. P. Atkinson, A.M., entitled, "Who Made the Massachusetts Constitution?" The latter is of interest to the general reader, as well as to the student of physical science. The typographical work in the book is beyond adverse criticism, and the popularity of the work is unquestioned.

THE first of next term '91 will elect her "Technique" board, and there will probably be no small amount of excitement if the experience of '90 vouches for anything.

In the election of a "Technique" board too much care cannot be exercised, as there are so many class cliques who try to elect their men regardless of their abilities, and in consequence

the entire work falls upon the shoulders of one or two men. This fault could be entirely obviated by making the "Technique" a continuous annual; that is, have each board elect from the next class the succeeding board. This, at first, may seem rather a bold idea, but consider the fact that the existing board is in a position where it is far more able to judge the material in the next class than the class itself, because it has received work from its members. In this way a greater interest is developed in the lower classes, a competition will spring up, more men will work for the board, and a better edition cannot help but be the outcome, which is our sole aim. But this end cannot be obtained at the first. This year let '90's board elect a committee who shall meet '91's nominating committee, and do all in their power to aid '91 in selecting a board of editors who will be capable of doing justice to the work; and let it be understood that next year '91's board will appoint the "Technique" editors from '92. We hope that '91 will carefully consider this matter.

AS we are to have a new building, the name "New Building," which still clings to the building so designated, in spite of all efforts to change it, becomes doubly absurd. Various names have been suggested, but to all there seem to be some objection. Last autumn the name Nichols Building was suggested; and, as no objections were made to it, THE TECH ventures again to bring it to notice, as not only a very suitable name, but also a way of perpetuating the late Professor Nichols' name in the Institute, where he passed so many years of his life. Since the name "New Building" has stuck by the present new building, it is to be hoped that the Corporation and Faculty may see the advisability of giving the building which they are about to build a name at the start.

The Song of the Season.

Flunk, flunk, flunk,
 On each and every exam.
 And oh! could I but remember,
 Half that I try to cram.

Ah! well for the janitor's boy,
 As he climbs up the Institute stairs;
 No semies has he to think of,
 And is free from a world of cares.

Ah! well for James at his desk,
 As he copies the F's in a book;
 Little he cares who they're meant for,
 So he gives them scarcely a look.

Ah! well for the Faculty all,
 As they sit in their easy-chairs;
 But, oh! for the weary student,
 S. B.-less in spite of his cares.

Flunk, flunk, flunk,—
 I have flunked again to-day;
 Shall I flunk then again to-morrow?
 O who—O who can say?

A Story.

CHAPTER III.

TWO months had come and gone since that afternoon in the Chellingworth woods. The week's hunting had passed, a great success, and the men had come and gone away again, with a delightful impression of the hospitality of Oakley and the pleasures of the Chellingworth covers. They had carried away another impression, also; that was, that Lena Dysart was one of the loveliest women they had ever met, and that Jack Darcy was one of the luckiest of men. As for the "luckiest of men," he lingered at Oakley long after all others had taken their departure, and for a few fleeting weeks was supremely happy. But the time came when he, too, could stay no longer; and he found himself back once more in smoky, foggy London. Frank Dysart returned with him, and took up his residence at the club; while Jack returned to his old quarters. It was not an unhappy returning; all the old familiar things received a new glamour,—the glamour with which love brightens even the most commonplace of objects. He was very

happy. Almost every post brought a square-shaped envelope from the country, and, also, almost every post carried one back. And thus we find him at the opening of our story, leading his old careless life, but made brighter and better by the knowledge that there was one good, true woman who loved him, and whose love was worthy the guarding. We left him riding rapidly toward his hotel, after reading the message which seemed to have contained such startling news. As he rode along he reopened it, and read it a second time.

TO MR. JOHN DARCY, ROYAL CLUB, CITY:

Dear Sir,—I have taken the liberty to call at your apartments for you, as I wish your help in a very urgent matter. Not finding you, I send you this message, which the people here say will reach you at your club. Please come at once. I am in serious trouble. I have come from Egypt to see you. I will await you at your hotel.

Yours truly,

MRS. CORDELLA DARCY.

“*Mrs. Cordella Darcy!*” Great heavens! what could it mean? Cordella was not married! How then could this woman— But the note said that she had come from Egypt, and Cordella was in Egypt! “I am in serious trouble.” There was some awful mystery, and Jack’s heart sank within him as the thought flashed across his mind. The moment the cab stopped he sprang to the pavement, and, hastily paying the driver, he hurried into the hotel. On the landing he met a servant. “There is company in your parlor, sir,” she said; but without answering her he hurried on. A moment later he stood in the open doorway. What he saw was this: In a chair near the window sat a small figure dressed in plainest black, with a heavy black veil thrown back over a little bonnet. The face, turned to the window, was away from him, and he could not see it. In the bow-window, half hidden by the heavy curtains, stood a golden-haired little girl, her attention absorbed in watching the sights in the busy street below. What a beautiful little head it was, Darcy thought to himself, as he stood unobserved, and what a glorious lot of golden hair! Instinctively he

glanced at the figure in black; her hair was dark. Then he stepped into the room, and both occupants turned round simultaneously.

Then Darcy experienced two distinct surprises. The child was wondrously beautiful. The great eyes were deepest blue; the nose, a decidedly saucy one, and the little mouth, set in a circle of dimples, added winning sweetness to the whole face, which, in its heavy framework of wavy golden hair, made Darcy think of the little elves he had seen in fairy picture-books; and it was a very sweet face which the little black figure turned to him, but how inexpressibly sad! The eyes, which he saw were like the child’s, seemed to speak of some great, overshadowing sorrow; and the face, pale and pinched as it was with great suffering, had evidently been very beautiful. Now, its very sadness and sweetness touched Darcy’s heart instantly. As she discovered him she arose to her feet, in spite of his quickly indicated protest.

“You are Mr. Darcy?” she asked, in a low tone; and Darcy, as he bowed acquiescence, mentally told himself that her voice was as sweet and sad as her face. He felt instinctively that she was a lady. “Allow me to introduce myself,” she continued; “I am Mrs. Cordella Darcy, as you have probably learned from my note.”

Jack looked at her almost incredulously. “I do not think I understand,” he finally said. “My brother has never informed us that he had married,—and, you must pardon me,—but a man of his position and title would scarcely take such a step without acquainting those who would naturally be interested with the fact.”

An indescribable look of pain came over the pale little face, and she seemed to catch her breath quickly, as she answered: “I know, I know,” she said, “all that you would say has been said before. But it is a long story, and you cannot judge justly until you have heard it. I am too ill”—here her voice grew pleading in its tone—“to defend myself or *him*, now. I need a friend and encourage-

ment. Where shall I get them if you fail me?" and even as she spoke great tears gathered in the sweet eyes.

In that moment Jack Darcy felt like a brute. His heart went out to the lonely woman, and deep down in that heart there dawned a conviction that his brother Cordella was in some way responsible for the woe in this pretty face.

During his rapid drive to his rooms, there had flashed across Jack's mind the memory of a youthful escapade of his reckless brother; and the thought that something of the kind had been, or was about to be repeated, caused his heart to sink within him. The more he thought of it the more convinced he had become, until his excited mind pictured his brother in the power of some bold, coarse, unscrupulous woman, and he actually had prepared himself to encounter such a one in the coming interview. And so it was not strange that his feeling of relief should readily lend itself to sympathy, as he looked down at the gentle face confronting him. He was prompted to answer impulsively, but he merely said: "Won't you sit down, please? You look too ill to remain standing." His tone was gentle, even kindly, and she looked gratefully at him as she resumed her seat in the big arm-chair. Jack gravely seated himself opposite her, and waited for what further might be coming. The little golden-haired girl came and put her arms about the lady's neck, while the big blue eyes seriously regarded Darcy. In obedience to a request from her mother, however, she went back to the window, and the big curtain, falling softly into place, half concealed her from view. The mother turned to Darcy, and asked, "Shall I begin at the beginning?"

He answered, "Yes, if you please." And then, in a very clear and sweet voice, she commenced; while her listener, with head bowed over clasped hands, listened to the story of a wronged and ruined life,—to the story of his brother's villany and disgrace, and to the death-knell of his own bright hopes.

It is not necessary to follow minutely the

details of that long story, the recitation of which continued all the long afternoon, growing, as it neared the end, darker with the gathering dusk, and wrapping its dark influence close around the heart of the silent listener. It was the old, unwelcome story of love and perfidy, of woman's trust and man's cowardice, which has been the theme of the years since time immemorable.

CHAPTER IV.

May Emerson was an American girl, of excellent parentage and education. Brought up amidst luxury, with a loving mother and indulgent father, she knew nothing of unhappiness until her girlhood days had been almost put behind her. Then trouble stepped for the first time across her happy life. The mother died. The father, stripped of his fortune by financial embarrassments, which but precipitated the failing of his health, was obliged to avail himself of opportunity to provide support for himself and daughter in a subordinate position. After awhile the cloud on their horizon lifted again. The offer of the management of a branch house in Europe, of the great importing establishment with which he was connected, was eagerly seized by the father. Miss Emerson was loath to leave America, but her father's joy at his prospects and his health caused her to yield her consent. They left America, and took the long journey to Egypt. Siout was the place at which the branch house was to be established, and thither they went. Within a few months they had thoroughly accustomed themselves to the life in that country, the business was successfully inaugurated, and they were fairly content. The society of Siout was, of course, for them, limited to the consulate and the small American and English colony around it, and also (and by no means least) the English garrison. The men of the —th *Cuirassiers* were the life, socially, of Siout, and of course, were welcomed everywhere. Among the first of

them to become acquainted with Miss Emerson, was Captain Cordella Darcy. The captain was undoubtedly a brave soldier, and a good officer, but extremely unpopular among his brother officers. However, little of this was known outside of military circles, and his handsome face, tall and graceful figure, and gentlemanly manners, made him a favorite with the ladies. The effect of first acquaintance with him was exactly contrary to that with his younger brother. With Jack the liking improved with acquaintance, but with Cordella, first impressions were always the best. In fact, the difference between the brothers was marked in more respects than this one. To be plain, Captain Cordella Darcy was a worldly, selfish man, living for himself and for his own pleasure, and unscrupulous as to how he acquired that pleasure. From the moment he set his handsome eyes on May Emerson he laid siege to her heart.

He became the father's warmest friend; both father and daughter were the recipients of innumerable kindnesses on his part, and in every way possible he sought Miss Emerson's favor. He discovered that she had a fondness for riding,—the best horse in his set was placed at her disposal. He learned her liking for relics and curios, and he emptied his pockets in emptying the curiosity shops for miles around of their treasures. Her favorite flowers were ever on the table, and Mr. Emerson was overwhelmed with business courtesies.

Then fortune favored him. Mr. Emerson's recovery of his health was only a temporary one. The hard climate began to tell upon him. His business became a secondary consideration, and finally he was unable to leave his room. Poor May's cup of misery was pretty nearly filled to overflowing. Then did the captain avail himself of his opportunity. He fairly compelled the girl's love, by his untiring devotion to both her sick father and to herself. He procured the best of nurses, and personally watched Mr. Emerson's business interests. He was so thoroughly good, and

kind, and all-considerate, that May learned to look upon him with very tender eyes indeed. And so when the end came, as it did sooner than any one had expected, and Captain Darcy offered the lonely and friendless girl his love and protection, she accepted, both because it was the only way out of her difficult position and because she loved and trusted him.

They were married very quietly, there being only one witness besides the clergyman himself. For reasons which Captain Darcy assigned to his regimental connections and duties, and which May believed implicitly, the union was kept a secret. May continued to live in the house rented by her father, with their one faithful servant. She occupied herself in painting and study, as did dozens of others around her—tourists and residents,—in order, as Darcy suggested, that no one might suspect the truth before they were in a position to have it known.

If Captain Darcy's fellow-officers were rendered at all suspicious by their comrade's frequent visits to the house in town, they remembered his intimacy with Miss Emerson's father, and either thought nothing of it, or wisely kept their thoughts to themselves. There is an unwritten code among their class of men, in which regimental honor and pride admits of no idle impeachments among themselves.

For a little while May was happy,—but it was only for a little while. Darcy's manner underwent a change. It was by a very slow process, but there was a change, nevertheless, and his wife was quick to see it. It seemed to her that he grew tired of her. His kind and gentle attitude toward her gradually disappeared, and in its place there settled an irritable indifference. He stayed away for days at a stretch, and was even surly on occasions. At last the poor woman awoke to the truth; he no longer loved her. The misery which the thought brought with it was the greatest of all that she had borne that year. She pursued just the policy calculated to make matters worse, if possible. She carried her

misery into his presence; she told him that he did not love her; she accused him of deceiving her. Her tears and supplications, threats and entreaties, only irritated and angered him; they did not move him.

It was all true. Ceased to love her! He had never loved her. The trouble culminated in a stormy scene a year after the marriage, in which the man's utter heartlessness and baseness were unveiled, and he revealed himself in his true character to her. He struck her down with a hideous revelation. She was not his wife! There had been no marriage; it was a mock ceremony. Coldly, and with fiendish deliberateness, he told her this. He laughed at her anguish; he took her roughly by the wrist and shook her from him, forbidding her to come near to him again; and after telling her with threats of his intention to desert her, he went away, leaving her unconscious on the floor where she had fallen at the last moment. But the end was not yet. Captain Darcy obtained leave of absence for six months, and disappeared. A child was born to the deserted woman. For months she lingered between life and death. When she recovered, the —th *Cuirassiers* had departed on an up-country expedition.

She wrote letters,—threatening letters, entreating letters. They came back unopened. How she lived through that period before the return of the troops, she hardly knew. At last they came back. But in the meantime something happened,—something that changed her misery to a semblance of happiness; her hate to love. The —th *Cuirassiers* encountered service on the African frontier. Capt. Cordella Darcy was seriously wounded,—as he thought, wounded to death. Evidently his conscience smote him. This was the story May was told many months later, when the —th *Cuirassiers* once more marched into quarters at Siout. The wounded man had sent for his colonel, who was a very dear friend of the family, and unfolded a tale into his superior's ear.

When Colonel Erhart left him that night, he knew what May did not know,—that she was Cordella Darcy's lawful wife, and that she had been made the victim of a shameless, heartless lie. He had scarcely been able to believe his own ears. That one of his officers,—his own friend and the future Lord Chellingworth,—should be capable of anything so dishonorable, so despicable,—if an outsider had told it him he would have given him the lie. He went back to his quarters utterly dazed by the keen sense of disgrace. He hardly knew what he should do. He almost felt a sense of relief that Darcy would probably die. He could not get so far as to think what should be done for the wife waiting in far-off Siout.

The days passed, and Darcy lingered; he began to rally, and finally the surgeon pronounced him out of danger. In his weak state he was nothing but repentant. But his superior officer had decided upon his course. Indeed, there was only one open for him. The honor of his regiment must be preserved. Besides, justice must be done to the one who had been wronged so deeply. His friendship for Darcy but made him the more decided.

As soon as he was able to get up, Capt. Cordella Darcy was summoned into the presence of his chief. There he heard his sentence. It was in vain that he appealed to Erhart's friendship; in vain he stormed. His colonel was firm. He was finally convinced that the course laid out for him was the only one whereby he could conceal his own disgrace, preserve the honor of the name he bore, and satisfy his colonel's sense of justice. And these were the terms to which the unhappy man acceded. Having utterly refused to recognize the woman he had caused so much misery as his wife, to take her to his father's home and atone for what he had done,—having refused to do this, it was decreed that he should sell his commission and depart from the regiment forthwith. For the sake of his friendship to the family, Colonel Erhart agreed to be silent. But he had a price for that silence.

The proceeds from the sale of Captain Darcy's commission were to go to his wife; also a certain quarterly sum, all of which was to be paid through Colonel Erhart.

Fortunately there was an officer at the supply depot at Cairo, who was waiting for a chance to exchange. It took but a fortnight to effect the sale of commission, and then one morning, without so much as saying good-bye to his men, Captain Darcy collected his traps together and departed, and the new man took his place. Whatever lack of regret there might have been in the officers' quarters, there was no lack of curiosity and amazement. But no one knew anything about it; the Colonel alone could have enlightened them,—and the Colonel was silent.

(To be continued.)

A Ballad of '92.

The autumn leaves were falling fast,
As up the steps the Freshman passed,
And on the mat beneath his foot
Read, "Massachusetts Institute
Of Technology."

"Waste not thy time," the Sophomore said,
"To cast a smile on that Co-ed;
For knowledge is her sole pursuit
In the Massachusetts Institute
Of Technology."

"Beware the boys who do the town,"
A Junior warned him, with a frown;
"Life is a grind without dispute
At the Massachusetts Institute
Of Technology."

"The coming man that comes to stay,"
The Senior cried, "must work his way;
'Honors are easy'—to compute—
At the Massachusetts Institute
Of Technology."

The Freshman smiled, and passed them by,
And fondly believed that he was fly;
For Freshmen long for that repute
At the Massachusetts Institute
Of Technology.

The Semies came,—his tale was told,—
The Secretary cut him cold;
And so he left—the quickest route—
The Massachusetts Institute
Of Technology.

COMMUNICATIONS.

The Editors do not hold themselves responsible for opinions expressed by correspondents.

JANUARY 7, 1889.

DEAR TECH:—

It's been so long since I have heard a word from you—I suppose because I didn't "ante up" two dollars for the privilege—that I am not sure whether you are alive or not. You may be surprised to get this, it's been so long since I wrote you—in fact, too long to slight an old friend; but I hope you will overlook the delay and forgive me, as I want to keep on your good side if only as a means of advertisement. Excuse my candor.

I haven't a great deal to tell you; only a few "squibs," and a little about the doings of the North-Western Association of the M. I. T. I will touch first on the last meeting and banquet of the above Association, and "dally" with the "squibs" later, as they say they are pretty good served with dessert and fizz.

About forty old Techs were present at the second annual meeting and banquet of the N. W. A. M. I. T. (God bless the man who first brought initials into use)! Taking out a few "fillubdubs," *they* (you see I am not classed now) were a pretty good looking set. There was the good little boy, and the little boy to whom the Devil, when he died, willed all his wickedness, which in the meantime had been bearing interest; there was the funny boy and the quiet boy, the lean and the fat. They didn't have that tired look a Tech. man usually carries—at least, not at first; that appeared later, with the fizz.

At one end of the board sat our President, E. C. Potter, '80, looking dark and gloomy. He knew his hour had come, and he felt as Grover will feel on March 4th, when he *marches forth* to his fishing grounds in Kalamazoo. On his right sat Fred Greeley, '76, fat and jolly, and bubbling over with the wit which he let out later. Away down at the other end sat an old patriarch who beamed on every one, and gave to all a hearty welcome. He it was who told us all about Tech. in its olden days, when it had quarters on Summer Street. Let me give you a "knock-down" to Mr. Russell H. Curtis, '70, first Vice-President. On Mr. Potter's left sat T. W. Robinson, '84. Mr. R. resides at Joliet now, and it was only by special permit that he

attended the banquet. Just beyond was a fine looking buck. Everybody knows him, at least by reputation. '86 knows him best, however, for he was ringmaster at one of their annual baths. He is unmarried, but is one of a large family, "Hadley" being his stage name. H. Ward Leonard is now attempting a rôle in "Shining Light." Morris was there, too—whiskers, glasses, and voice. He sang later "The Tale of Woe"; but, sad to relate, "his notes went to protest." He had just heard "Nadgy," and thought he could make a hit. Morris L. Greeley is all right, but when it comes to singing "The Tale of Woe" there are no sandflies on LaRose. (Tim Sprague can tell you all about sandflies. He is New England representative for the *Electrical Review*, at 178 Devonshire Street.) [Note: He paid me for this]. A man who showed up in great contrast to our President was F. K. Copeland, '77. He knew he was going to be made Treasurer, as he was on the election committee, and had worked the wires all right. If any of you fellows want to join us I'll give you one straight tip now—look out for F. K. He is no jay when it comes to getting a dollar a year out of you. His name begins with C, too; and although I am not superstitious, Canada is not annexed yet, and I am going to put a chain on my dollar. H. W. Chappell was there. He is a '78 boy, and a Chemist; but I'll bet a new hat that if '92 saw him enter that back room on the fourth floor, they would all yell, "Look at the dude!" Low, '86, was on hand, but, thank goodness, he left "Sweet" at Chelsea. The Technology Glee Club was the only one who could stand the combination. There was a fellow named *Wells* there, and, jingo! you would know he was plural by the amount of fizz he got away with. Sez he, "Here's to 'er"; "no heeltaps." And this at every clip, and the clips were often. He'd almost "a skate" when he quit. We drew on poor old St. Louis for one man, and there was no Missouri mud on him either. Mr. Rosenheim, '81, was the prize. "Josie" was there, too. J. B. is almost a bank president now. He will probably "do" me, but I have got to give you one on Loewenthal. It seems he went down to the charity ball. Just as he got in he spied his girl, and took a long breath—it cost him a dollar. Then he sneezed—he was dead broke, and his watch gone, too! There were also present Messrs. Raeder, '76, Whitmore, '87, Schmidt, '87, Stone, '78, Rosing, '82, Mosman,

'87, Harvey, '88, Cobb, '86, Reynolds, '86, Emmer-ton, '72, Sargent, '87, Brainerd, '86, Fry, '85, Hammet, '82, Bosson, '79, Norris, '87, Thompson, '83, Perkins, '86, Zimmerman, '80, Fitch, '84, Ware, '68, Currier, '87, Brown, '86, and Burling-ham, '86.

By the way, I forgot to tell you a good one on Tom Fry. As you all know, Tom is quite a benevolent looking old gent with his glasses. It seems he took enough interest in a Fresh Air Fund to go up and see how the youngsters were quartered at Lake Geneva. Desiring to be gracious, he condescended to pat one of the little boys on the head, and remark, "You are one of the little Fresh Air boys, are you not?" The youngster looked into his eye a second, and then drawled out, "Well, I'm not so d——d fresh, now, as you may think." Tom is not teaching in Sunday-school now.

We elected the following for officers for 1888-89: President, Fred Greeley, '76; first vice-president, W. F. Sargent, '75; second vice-president, Julian A. Kebler, '78; secretary and treasurer, F. K. Copeland, '77; executive committee: chairman, R. E. Richardson, '85; T. W. Fry, '85; F. W. Perkins, '86; R. E. Schmidt, '87; L. A. Ferguson, '88.

During the evening the toastmaster introduced Messrs. Potter, Wells, Fitch, Robinson, Curtis, Ferguson, and Rosenheim, who responded to toasts in a lively manner, and did much to render the evening pleasant.

These affairs are annual, and right here I want to ask any of TECH's friends to join us this year. The next meeting will probably take place in September, and if any Institute man happens to be nosing around Chicago and West Lake Street, he might drop in at No. 74 and pay Copeland a visit and price of plate. F. K. doesn't receive on New Year's Day and on November 11th. In the first instance because Boston says it's "dooeed vulgar;" in the second, because that's Anarchists' Day, and the police have to keep tab on C. for fear he will make bombs on the cutè. You will all like him, though—a jovial fellow, and good talker; the longer you stay the more he will get out of you. I have seen him rake in a pot on five aces "just as if nothing had happened."

Well, I must stop before I have to get on the subject of the weather; but in closing I want to wish you, dear TECH, a prosperous New Year, and

I want to impress on '89 that our Association is open to all of its members, and we would be only too glad to welcome you. We have some men in our ranks—not rank men—who have only taken drill, so there is lots of show for you fellows who got black eyes in Chemistry and Physics. You can go right along here just as if nothing had “dropped”; so join us in September, and whoop her up for “Technology.” Cordially yours,

SOLOMON STURGES.

TO THE EDITOR OF THE TECH:—

I desire through your columns to express to the officers and members of the Corps of Cadets, my great appreciation of their faithful efforts during the past few months to master the elementary principles of military tactics.

The exhibition drill of last Saturday was a gratifying result of close attention to details, and reflects much credit upon the corps.

HOBART MOORE,

Military Instructor, Corps of Cadets, M. I. T.

JANUARY 7, 1889.

The following, from the *Collegian*, may be of interest to Course IX. :—

Oh! dewy, dewy was the room,
And dewy was the night,
When first I hailed these college halls
In a Senior's garb bedight.

But woeful would have been my case
Had I known what now I do,
That in this part of the universe
It's “Dewey” the whole day through.

Noticeable Articles.

THE December number of the *Nineteenth Century* contains a paper on our Presidential election, by Sir Lyon Playfair, which is worthy of attentive study by every student of American politics. Sir Lyon is not only an eminent man of science and an active Liberal member of Parliament, but he has married an American wife, and his frequent visits to this country have made him well acquainted with our affairs. We do not believe he is right in thinking that it was the un-

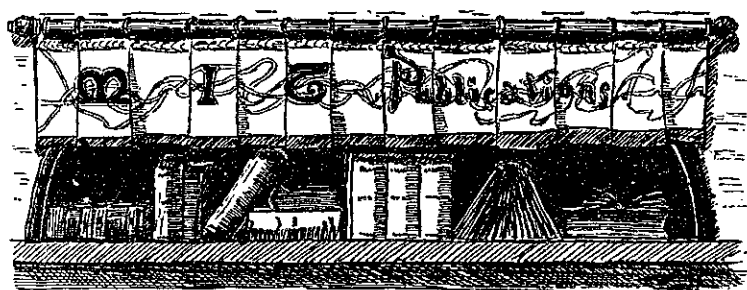
lucky three R's—“Rum, Romanism, and Rebellion”—of Dr. Burchard that led to the defeat of Mr. Blaine in 1884; it was something deeper than that; but in other respects his views are full of instruction. He does full justice to Mr. Cleveland's “independence, honesty, and ability,” but he is severe on the wholly unsuccessful “attempt to give a twist to the British lion's tail” by the treatment of the fisheries question, though he charitably allows room for a belief in a higher motive on the President's part; and he is severe, too, on the “cunning trap” laid for the British Minister. “It has been only owing,” he says, “to the good sense of the American people that the threats of retaliation and annexation have been discounted at their proper value as electioneering cries.”

But it is on the subject of free trade and protection that his article is most instructive, and we should think—speaking for our own part as an earnest opponent of the iniquitous protective system—that he would give any honest believer in that system much to ponder. He points out how the gigantic manufacturing combinations called “trusts”—“conspiracies,” President Cleveland calls them—are one of its natural outgrowths, and how Protection *lowers* wages and concentrates profits among a few monopolists. “Protection itself,” he says, “is necessarily the biggest of Trusts, because its effect is to keep the laborer poor in order to make the rich capitalist richer,” and he points out how the highest wages are paid in the unprotected industries. By a most instructive comparative table he shows how much greater was the progress of the United States during ten years of a low than during ten of a high tariff, and, as has been often shown before, how the protective system shuts us out from competition with other nations in the great markets of the world. “A domestic market assures the conditions of national existence, while an export trade is necessary for industrial prosperity. A nation cannot buy without selling, or sell without buying. The glut of commodities produced by the limitation of markets causes the stoppage of many of the factories for three or four months in the year, because they produce in seven or eight months as much as is required for the consumption of twelve”; that is to say, the home consumption for the protected article is produced at too high a cost to compete with foreign products in the great market of the world. “The workingmen have been inclined to attribute

this cutting down of their employments not to its true cause, but to connect it with the importation of cheap foreign labor, which competes with the dearer foreign labor. In one sense they are right, for the *protected* industries substitute native by cheaper foreign labor," as he shows by remarkable statistics. "Experience has certainly proved," he says, "that protection is not inconsistent with high wages; but this is a very different proposition from the statement that protection is the *cause* of high wages. The industries protected by a duty of 100 per cent pay no higher wages than those which have only 25 per cent." General Lieb, in his recent work on the tariff, gives a table of wages in twelve staple industries under protection, and of twelve which are protected. Besides being higher, the wages of the unprotected workmen during the six years ending 1886, have increased from 10 to 35 per cent, while those of the protected laborers *fell* from 5 to 35 per cent." But he says, "The influence of protection on wages is too large a question to discuss in one article. I have chosen it as a subject for a speech to my constituents at Leeds, and have given my reasons for believing that protection is a force which *lowers* the rate of wages."

Far from being discouraged at the result of our Presidential election, Sir Lyon says: "The general lesson of the election is, that the people have begun to think for themselves on the subject of the tariff, and that in a few years they will thoroughly realize that protection is not the true source of their prosperity. It is lucky for England that this gradual change in belief will take a considerable time for its development, because it still leaves our country its foreign trade without serious American competition, and it gives us time to meet it when the inevitable struggle arrives." One of the oddest of delusions has always seemed to us to be the one that is so sedulously fostered by protectionists, that England is anxious to have the United States adopt free trade. There is nothing that, from a selfish point of view, their manufacturers dread so much. They are well pleased to see us destroy our own commercial navy, and tie our own hands against competing with them in foreign markets. But, as the writer well remarks, the recent discussion of the subject has been a great economic education to the people, and it is an education that is bound to proceed at an accelerated rate of speed during the coming years.

W. P. A.



MASS. INSTITUTE OF TECHNOLOGY.—Twenty-Fourth Annual Catalogue of the Officers and Students, etc. Pph., 8vo, pp. 184. Boston, 1888.

—— President's Report. Dec. 12, 1888. Pph., 8vo, pp. 50. Boston, 1888.

—— Course IX. Department of General Studies. Pph., 8vo, pp. 15. Boston, 1888.

ALUMNI ASSOCIATION. Annual Report for 1888. Pph., 8vo, pp. 12. Boston, 1888.

—— Report of the Committee on Amending the Constitution. Pph., pp. 4, n. d. [December, 1888.]

COOLEY, HELEN ('87). Comparison of Methods of Testing Indigo. *Jour. Anal. Chem.*, II., 129.

FAUNCE, G. ('82). Determination of Antimony in Hard Lead by Means of Specific Gravity. *Jour. Anal. Chem.*, I., 121.

HOLMAN, S. W. ('76). Discussion of the Precision of Measurements. Lecture Notes. Pph., 8vo, pp. 57. Boston, 1888.

—— Physical Laboratory Notes. Pph., 8vo, pp. 28 and 132. Boston, 1888.

HUNT, A. E. ('76). Some Recent Improvements in Open-Hearth Steel Practice. *Am. Inst. Min. Eng.*, XVI., 693.

NORTON, L. M. (Prof.) and Noyes, A. A. Note on the Butines. *Am. Chem. Jour.*, X., 430.

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

PICKERNELL, F. A. ('85). Notes on Telephone Batteries. *Elec. Eng.*, VII., 482.

VANIER, G. P. ('85). Measuring Apparatus. *Jour. Anal. Chem.*, II., 144.

Don't laugh at the man who slips on the sidewalk, Bobby. His fall only makes the snow harder for you to scrape off.—*The Christmas Puck*.

The melancholy days have come, the saddest of the year;
The Semies now will have their run; Mechanics, too, is
here.

O grind away on Heat and Vent, and fiercely soak the
head,

And try to catch up in a week with all you haven't read.



Walt. Renton Ingalls, '86, Mining Engineer, Leadville, Col.

Victor Ray, '88, Chemist, Anaconda Smelting Works, Anaconda, Montana.

E. W. Rollins, '71, President Rollins Investment Co., Denver, Col.

We hope your report on the exams. will show a goodly number of honors.

Have you one of the beautifully engraved calendars for 1889 yet? If not, why not?

The K₂S hold a meeting at Young's on Friday, January 18th.

A Freshman was recently overheard telling a fellow-student "how saltpetre burns."

Quite a number of the Institute men are members of the new Boston Athletic Club.

The '89 Electricals and Civils have been out to monkey with the railroad signals at Riverside.

The Technology Gun Club will hold a blue-rock shoot on the last day of the exams. or in the early vacation.

The fourth year Chemists are working on preparations, a sort of preliminary study, before undertaking their theses.

The Freshman drill took place on Saturday, January 5th. A very creditable showing was made. The increase in size was very marked.

(In the editor's sanctum): See the editor! Does he write for THE TECH? O no, my child, but he washes the windows.

The new Boston Athletic Club has a liberal sprinkling of Tech. men upon its roll of membership.

The latest fad at the Institute is to write 1888 when you date a letter, scratch out the last 8 and substitute a 9 in its place. Everybody does it.

Mr. E. S. Webster, '88, is now with the banking firm of Kidder, Peabody & Co. It is said that he can add three columns of figures at once.

Professor Allen very touchingly referred to the thesis of Mr. Fukuzawa, our Japanese friend of '88, while lecturing to the fourth year Civils.

A gentleman accosts Williston, '89, in the corridor, saying, "Is this Professor Clark?" They say that the '89 man's hat has been too small ever since.

All reports that our Faculty is negotiating for the purchase of the new Athletic Club for the use of the students, we wish to emphatically denounce as base and malignant slanders.

Some men work for honor,
And some for credits aim;
A plain little pass is enough for me—
It gets there just the same.

We are happy to see the new rubber mat, with "Massachusetts Institute of Technology" on it, in Rogers' corridor; it is a considerable improvement on the old one.

2 G Society met January 1st, 1889, at the Parker House. Mr. W. E. Weston, '91, was initiated. Mr. B. T. Wilson read an interesting paper on Leadville deposits.

We hear of a number of lucrative positions having been offered to several '92 men, on *condition* that they be accepted within a fortnight. We wish them all a Happy New Year.

A Senior suggests that the Faculty christen the building which is to be erected for the Mechanicals and Civils "Ninety-Two," because it will be the newest thing we have.

Mr. Fred L. Hopkins, '89, is doing some very elaborate dyeing in the Dyeing Department. His work is to show the difference caused by the use of various mordants upon the same dye.

It is indeed difficult to get up a "Local Column" with Mech. Eng., Physics, Electricity, Peabodydynamics, and the like whirling through one's brain in a sort of Tam O'Shanter like rush.

Small boy to father, reading on the title page of his father's rare book, "Apology for the Life of Mr. Colley Cibber: by himself," "What does that mean, father—'scuse me for living?"

Every one should ponder over that idea of an Institute song book. Stir up the Muse during vacation, and reflect credit on yourself and your college. Never mind the prize, but strive for the honor connected with it.

A young man who was very tough,
In poker once put up a blough;
But "I'll fill you with lead,"
The other man sead,
And calmly raked in all the stough.

Overheard at the '92 drill: "Let's go upstairs now, before they rush us." How about that, '91? In fact, there is something rather suspicious in your scattering so soon after your little demonstration.

Now is about the time when everybody, from the "grave and reverend Senior," who has been through six fires, down to the trembling Freshman, is running under a full head of steam, and spends his time cramming his;

The Canoe Club enjoyed a very pleasant evening last week. The 1,000 miles of cruising done together was gone over again before the open fire, and many a laugh at the expense of the different members was indulged in.

R—ts, '90—(translating): "Schwang sich wieder hinauf durch die reizenden Fluten und entfloß dem drohenden Tode,"—leaped again on it through the furious waves, and escaped death by drowning. Tumultuous applause.

From a mountain, remarkably high,
A young man looked up to the skigh:
"Oh, could I inveigle
Some powerful eidle
To carry me there when I digh!"

W. H. Bunce, '84, has resigned his position as Financial Agent of the Morning Star Consolidated, Evening Star, and Ward Consolidated Mining Companies, and has become Superintendent of the Central Public Sampling Co., Pueblo, Col.

In the Fourth Year designs for a School for Vocal Music, the drawings were unfinished, from lack of time. No mentions were awarded, but they were placed as follows: 1st, Mauran; 2d, Kilham; 3d, Hooker; 4th, Edwards.

The proposed building on Trinity Place is to be 50 feet front and 140 feet deep. When definite plans and arrangements are made, THE TECH will publish plans and a full description of it. We shall have to call it New Building No. 2. Let the good work go on.

The small boys who infest the steps of the Rogers Building, making a toboggan slide of the side inclines, are a nuisance. They take all the students for that class of the *genus homo* who indulge in cigarette smoking, and besiege them for a cigarette or the picture.

Professor Sedgwick delivered the first of his lectures on Bacteriology, in the Lowell Free Course, Monday, January 7th. The course is one of unusual interest, and should be well patronized, for the subject is rapidly becoming one of the most important questions of the day.

It was rather hard on Professor Atkinson when he found that Jimmy had left the key of the safe, which contained the Third Year examination papers, home on the piano. The papers were fifteen minutes late, but the boys did not mind a little thing like that.

That "Razzle-dazzle" recently made in the Industrial Lab. is curious, to say the least. The professor in the Physical Lab. sent down the other day to stop the hammering which jarred the instruments. It was only the "General," trying to break MacGregor's soap with a sledge-hammer.

Mentions on the last problem in the Architectural Department have been awarded as follows: Third Year, Design for a Campanile—First: 1st, Miss Hayden; 2d, Ripley; 3d, Ford. Second: 1st, Alden; 2d, Walker; 3d, Boynton; 4th, Warren. Third: 1st, Simon; 2d, Pennell; 3d, Gaenslen; 4th, Yardley; 5th, Emery.

Why this gaping, wondering throng?
 From whence come they? Where belong?
 Why their ghastly looks prolong,
 Gazing breathless out into the distance far?
 Has some foul fiend done a deed
 Of which all the world will read
 With trembling awe? No, indeed!
 'Tis the trial trip of the Electric Car! M.

THE TECH office was honored by a call from Mr. Geo. C. Wales last week. Mr. Wales, formerly with '89, is now with the architectural firm of Peabody & Stearns. Just now he is working on the detail for Professor Cross' new house at Brookline. He might work in a neat little scroll of H's, C's, P's, L's, F's, and FF's to advantage.

A Freshman was heard telling a companion on the steps of Rogers, after the Chemistry exam., "Won't mother be glad when she knows how well I got through that Chemistry!" But, alas! that hopeful youth was counting his chickens before they were hatched. When he gets older he will learn that "there's many a slip." There are many F's given out in the first Chem. exam. to men who were sure they passed all right.

The battalion has done very well this year in the short time given to it. The fife and drum corps was very fine, and presented a favorable contrast to those of the preceding years. Altogether, the affair was successful, and came off very well. After a little unavoidable delay the dance began, with music by the Salem Cadet Band. The floor was immediately crowded, and the dancers stayed till late in the afternoon, leaving at last, however, for their different homes.

Perhaps our readers will be interested in the following table of the football scores made this year by other elevens than our own. The games are arranged as nearly as possible in chronological order.

Harvard	70	Worcester Tech.	0
Univ. Penn.	48	Stevens	0
Exeter	36	Tufts	0
Princeton	80	Stevens	0
Yale	34	Univ. Penn.	0
Yale	44	Wesleyan	0
Harvard	39	Exeter	6
Harvard 2d	0	Phillips-Andover	10
Yale	39	Amherst	0
Harvard	34	Wesleyan	0
Yale	30	Williams	0
Princeton	38	Univ. Penn.	0
Exeter	14	Harvard 2d	10
Harvard	14	Williams	6
Yale	69	Stevens	0
Harvard 2d	12	Andover	12
Harvard	68	Worcester Tech.	0
Harvard	74	Dartmouth	0
Exeter	12	Dartmouth	10
Amherst	0	Trinity	0
Andover	14	Dartmouth	4
Yale	58	Univ. Penn.	0
Harvard	102	Amherst	0
Williams	48	Rutgers	0
Trinity	6	Stevens	0
Yale	44	Wesleyan	0
Dartmouth	36	Williams	6
Trinity	16	Amherst	0
Harvard	50	Wesleyan	2
Yale	105	Wesleyan	0
Williams	42	Stevens	4
Princeton	18	Harvard	6
Stevens	30	Dartmouth	4
Harvard	42	Univ. Penn.	0
Dartmouth	40	Amherst	0
Yale	10	Princeton	0

The number of touchdowns made by the members of our team:—

Duane, 11; Germer, 5; Dame, 4; Godchaux, 3; Willard, 3; Roberts, 2; Kales, 1.

Now the sturdy Senior doth scratch his head and endeavor to wring therefrom a decision with regard to his graduating thesis. In four months more he will be through his course of education; and will strive to move the world by his accomplishments. Never mind the idea put forth in "Technique" that the gates will be shut to him; if he cannot sit down and work out a formula that will break those gates all up, then his mathematical education at the Institute has been neglected. Amen. So be it.

The drill of the Freshman Battalion began at two o'clock, January 5th, in the Winslow Rink. The hall was closely packed with spectators. The movements of the battalion were the same as in former years. First the companies, and then the battalion formed, and then came battalion drill. The movements were executed with snap and vigor, and were well applauded. Then, after a short rest, came the dress parade, under command of Major Wales. As the drum corps sounded off, the class of '91 sent in two boys each, with a goose under his arm, and carrying a banner inscribed, "Quack, quack, for '92!" who followed the '92 drummers in their promenade up and down the hall, much to the amusement of the spectators. At the close of the dress parade the commissions and warrants were presented by General Moore. The companies then marched off the floor, but immediately assembled again to cheer for the class and the Institute.

EXCHANGE GLEANINGS.

The first number of *The Collegian* is out, and contains a hundred pages of matter interesting to every college student. Besides an article by Edward E. Hale on "Harvard Reminiscences of Fifty Years Ago," and some excellent stories, it contains pickings from the different college journals and articles by undergraduates of various colleges. Mr. Abbott is certainly to be congratulated on the

fine appearance of his first number. The subscription price is fixed at three dollars a year: office of publication, 34 Temple Place, City.

It is reported that the manager of the New York nine has written to Campbell, of last year's Harvard team, offering him the position of shortstop, left vacant by Ward.

The Union Grounds, on which the Tech. eleven have been accustomed to play, has been converted into building lots. This may make it impossible for the Tech. to support a football team in the future.—*Harvard Crim-son*.

The Troy *Polytechnic* states that one of the sections at the Paris exposition next summer will be devoted to college journalism.

The Athletic Committee of Harvard has voted to allow the nine to play with professionals.

The Harvard crew has been rowing on the Charles, near the Shawmut Club House, during the past two weeks.



MARJORIE.

Her hand in mine I gently pressed,
With mingled hopes and fears unguessed,
And dread despair;
She did not speak, or blush betray,
She did not draw her hand away,
Or seem to care.

My wayward heart cried, "Haste! make haste!"
My awkward arm stole round her waist;
Could fate be false?
The music's measures were forgot,
And then I asked her,—you know what,—
"Is this a waltz?"

—*Lampoon.*

Mentions on the last problem in the Architectural Department have been awarded as follows: Third Year, Design for a Campanile—First: 1st, Miss Hayden; 2d, Ripley; 3d, Ford. Second: 1st, Alden; 2d, Walker; 3d, Boynton; 4th, Warren. Third: 1st, Simon; 2d, Pennell; 3d, Gaenslen; 4th, Yardley; 5th, Emery.

Why this gaping, wondering throng?
 From whence come they? Where belong?
 Why their ghastly looks prolong,
 Gazing breathless out into the distance far?
 Has some foul fiend done a deed
 Of which all the world will read
 With trembling awe? No, indeed!
 'Tis the trial trip of the Electric Car! M.

THE TECH office was honored by a call from Mr. Geo. C. Wales last week. Mr. Wales, formerly with '89, is now with the architectural firm of Peabody & Stearns. Just now he is working on the detail for Professor Cross' new house at Brookline. He might work in a neat little scroll of H's, C's, P's, L's, F's, and FF's to advantage.

A Freshman was heard telling a companion on the steps of Rogers, after the Chemistry exam., "Won't mother be glad when she knows how well I got through that Chemistry!" But, alas! that hopeful youth was counting his chickens before they were hatched. When he gets older he will learn that "there's many a slip." There are many F's given out in the first Chem. exam. to men who were sure they passed all right.

The battalion has done very well this year in the short time given to it. The fife and drum corps was very fine, and presented a favorable contrast to those of the preceding years. Altogether, the affair was successful, and came off very well. After a little unavoidable delay the dance began, with music by the Salem Cadet Band. The floor was immediately crowded, and the dancers stayed till late in the afternoon, leaving at last, however, for their different homes.

Perhaps our readers will be interested in the following table of the football scores made this year by other elevens than our own. The games are arranged as nearly as possible in chronological order.

Harvard 70	Worcester Tech. 0
Univ. Penn. 48	Stevens 0
Exeter 36	Tufts 0
Princeton 80	Stevens 0
Yale 34	Univ. Penn. 0
Yale 44	Wesleyan 0
Harvard 39	Exeter 6
Harvard 2d 0	Phillips-Andover 10
Yale 39	Amherst 0
Harvard 34	Wesleyan 0
Yale 30	Williams 0
Princeton 38	Univ. Penn. 0
Exeter 14	Harvard 2d 10
Harvard 14	Williams 6
Yale 69	Stevens 0
Harvard 2d 12	Andover 12
Harvard 68	Worcester Tech. 0
Harvard 74	Dartmouth 0
Exeter 12	Dartmouth 10
Amherst 0	Trinity 0
Andover 14	Dartmouth 4
Yale 58	Univ. Penn. 0
Harvard 102	Amherst 0
Williams 48	Rutgers 0
Trinity 6	Stevens 0
Yale 44	Wesleyan 0
Dartmouth 36	Williams 6
Trinity 16	Amherst 0
Harvard 50	Wesleyan 2
Yale 105	Wesleyan 0
Williams 42	Stevens 4
Princeton 18	Harvard 6
Stevens 30	Dartmouth 4
Harvard 42	Univ. Penn. 0
Dartmouth 40	Amherst 0
Yale 10	Princeton 0

The number of touchdowns made by the members of our team:—

Duane, 11; Germer, 5; Dame, 4; Godchaux, 3; Willard, 3; Roberts, 2; Kales, 1.

Now the sturdy Senior doth scratch his head and endeavor to wring therefrom a decision with regard to his graduating thesis. In four months more he will be through his course of education; and will strive to move the world by his accomplishments. Never mind the idea put forth in "Technique" that the gates will be shut to him; if he cannot sit down and work out a formula that will break those gates all up, then his mathematical education at the Institute has been neglected. Amen. So be it.

The drill of the Freshman Battalion began at two o'clock, January 5th, in the Winslow Rink. The hall was closely packed with spectators. The movements of the battalion were the same as in former years. First the companies, and then the battalion formed, and then came battalion drill. The movements were executed with snap and vigor, and were well applauded. Then, after a short rest, came the dress parade, under command of Major Wales. As the drum corps sounded off, the class of '91 sent in two boys each, with a goose under his arm, and carrying a banner inscribed, "Quack, quack, for '92!" who followed the '92 drummers in their promenade up and down the hall, much to the amusement of the spectators. At the close of the dress parade the commissions and warrants were presented by General Moore. The companies then marched off the floor, but immediately assembled again to cheer for the class and the Institute.

EXCHANGE GLEANINGS.

The first number of *The Collegian* is out, and contains a hundred pages of matter interesting to every college student. Besides an article by Edward E. Hale on "Harvard Reminiscences of Fifty Years Ago," and some excellent stories, it contains pickings from the different college journals and articles by undergraduates of various colleges. Mr. Abbott is certainly to be congratulated on the

fine appearance of his first number. The subscription price is fixed at three dollars a year; office of publication, 34 Temple Place, City.

It is reported that the manager of the New York nine has written to Campbell, of last year's Harvard team, offering him the position of shortstop, left vacant by Ward.

The Union Grounds, on which the Tech. eleven have been accustomed to play, has been converted into building lots. This may make it impossible for the Tech. to support a football team in the future.—*Harvard Crimson*.

The Troy *Polytechnic* states that one of the sections at the Paris exposition next summer will be devoted to college journalism.

The Athletic Committee of Harvard has voted to allow the nine to play with professionals.

The Harvard crew has been rowing on the Charles, near the Shawmut Club House, during the past two weeks.

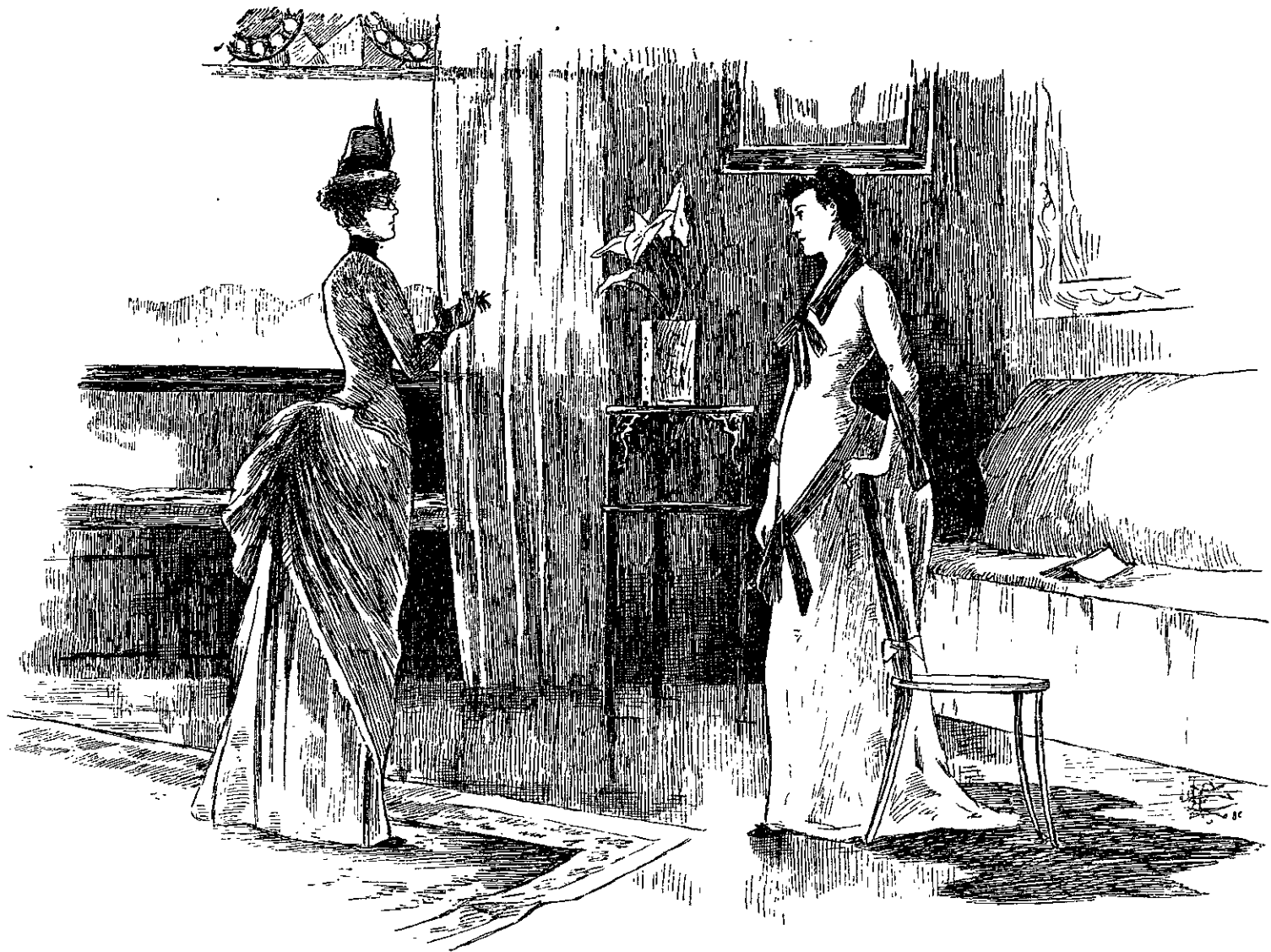


MARJORIE.

Her hand in mine I gently pressed,
With mingled hopes and fears unguessed,
And dread despair;
She did not speak, or blush betray,
She did not draw her hand away,
Or seem to care.

My wayward heart cried, "Haste! make haste!"
My awkward arm stole round her waist;
Could fate be false?
The music's measures were forgot,
And then I asked her,—you know what.—
"Is this a waltz?"

—*Lampoon.*



Mrs. Lately McBride (sympathetically): "AND IS IT TRULY SO, DEAR, THAT LATELY USED TO TALK SWEET NONSENSE TO YOU BEFORE I MARRIED HIM?"

"Dear" (who was a close second on Lately): "HE NEVER SAID BUT ONE SWEET THING TO ME IN MY LIFE, DARLING."

Mrs. L.: "AND WHAT WAS THAT, LOVE?"

D.: "HE SAID YOU WOULD CERTAINLY MARRY SOMEBODY BEFORE LEAP YEAR WAS OVER."

It was well enough, Mr. Richelieu, to say in your unprogressive time, "The pen is mightier than the sword"; but now we remark that the type-writer is more puissant than the Gatling gun.—*Puck.*

Captain: "Well, what do you make it out to be?"

Miss Culture (of Boston): "Why, it is a feline vessel, a Grimalkin craft."

Captain: "Oh! yes; we call 'em cat-boats."—*Ocean.*

"Say, Sam! when you proposed to Miss Shekels did you get down on your knees?"

"No, old man, I couldn't; she was sitting on them."—*Spectator.*

AN UNREASONABLE EXPECTATION.

Mrs. Cross (2 A. M.): "Henry, what's the matter with you? You have left the latch-key on the outside of the door!"

Chris. Cross: "Well, m' dear, you didn't expect me t' unlock the door from th' inside, did y'?"—*Puck.*

Tommie.—Do you suppose Gen. Harrison is a betting man, mamma?

Mamma.—I don't know, dear. Why?

Tommie.—Because if he is, perhaps he bet a new hat on the election, and then, you know, he wont have to wear that horrid old thing of his grandfather's in Washington.—*Life.*

**ALLEN SOLLY & CO.'S
LONDON**
High-Class Hosiery and Underwear,

IN
Pure Lamb's Wool, Merino, Balbriggan,
and Silk, in White, the Famous
Brown and the Natural Gray.

All Weights and Sizes, 28 to 50 inches, at popu-
lar prices, at

NOYES BROS.

Blanket wraps for the nursery, the bath
the sick-room, or steamer travelling, for men
women, children, and the baby, at Noyes Bros.

Morning and evening wed ding outfits in shirts,
collars, cravats, and gloves, a specialty at Noyes
Bros.

English mackintosh coats for ladies and gen-
tlemen, at Noyes Bros.

English silk umbrellas in gold, silver, and
natural wood handles, ladies' and men's, \$2.75 to
\$35.00, very rare and choice designs, at Noyes
Bros.

English travelling rugs, for railway and steamer
use, \$3.75 to \$50.00, at Noyes Bros.

English dressing-gowns, study coats, house
coats, office coats, and long wraps, \$5.00 o \$45.00
in stock or to measure, at Noyes Bros.

NOYES BROS.,

Hosiery, Glovers, and Shirt Makers,
WASHINGTON AND SUMMER STS.,
BOSTON, MASS., U. S. A.



BLANKET WRAPS
FOR MEN, WOMEN, AND CHILDREN
\$3.75 TO \$65.00.

DRESS SHIRTS
FOR RECEPTIONS, FOR WEDDINGS,
FOR DINNER PARTIES.

The present fashion of Shirts with Linen
Cords, Embroidered Figures, and Spot Bosoms.
may be had of **NOYES BROS.**, most thor-
oughly and elegantly made.

REPAIRING DEPARTMENT.

We have a Special Department for Repairing
Shirts, Hosiery, Underwear, Gloves or any
article belonging to gentlemen can be **Laun-
dered and Repaired** at short notice at Noyes
Bros.

Genuine English Buck Gloves at Noyes Bros.
Genuine "Coon's Fur" Gloves at Noyes Bros.
English Silk and Cashmere Mufflers, \$1.00 to
\$15.00 at Noyes Bros.

Choice Umbrellas and Canes for presents, at
Noyes Bros.

English Holdalls, indispensable to travellers,
at Noyes Bros.

London Tan Street Gloves at \$1.35, warranted,
at Noyes Bros.

Mourning Gloves for street and driving, at
Noyes Bros.

Dress Gloves, and special Morning and Even-
ing Wedding Gloves, at Noyes Bros.

Health Bands, a protection to the bowels from
cold, for men and women, at Noyes Bros.

Ladies' Silk Umbrellas in fancy colored
stripes, plaids, and large figures, new, stylish,
and desirable, at Noyes Bros.

The last London production in Ladies' Eng-
lish Waterproofs are to be had at Noyes Bros.,
\$7.50 to \$45.00, just opened.

Gentlemen's English Waterproof Coats, in
the Ulster, the Argyle, and the McFarlain, every
size and quality, at Noyes Bros.

Pajamas, and long flannel Night-Shirts, for
the home or travelling; they are a safe-guard
from colds,—at Noyes Bros.

New English Neck-wear, Collars, Cuffs, and
Dress Shirts, in every possible style and quality
at Noyes Bros.

Blanket Slippers for the sick-room, the bath,
or dressing-room, for men, women, and children,
at 75 cents per pair, at Noyes Bros.

Ladies will find most useful, sensible, and
reasonable Christmas presents at Noyes Bros.,
and it's none to early to get them now.

NOYES BROS.,

Hosiery, Glovers, and Shirt Makers,
WASHINGTON AND SUMMER STS.,
BOSTON.

T. E. MOSELEY & CO.,

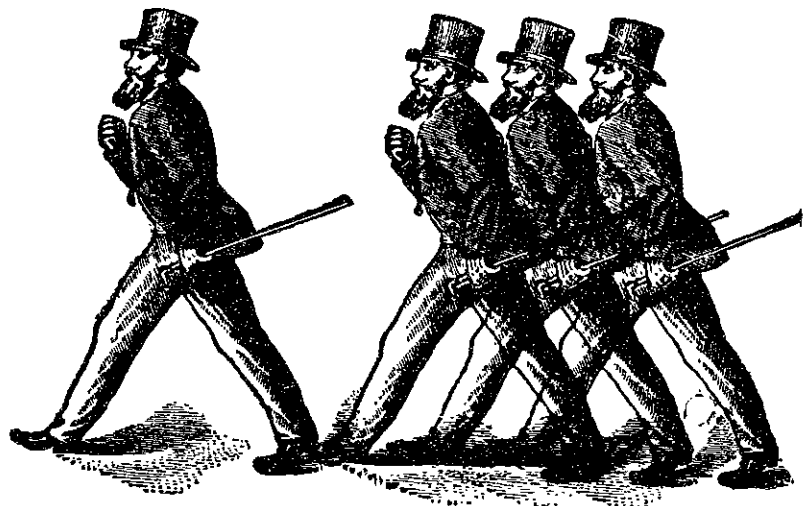
Boots and Shoes

469 WASHINGTON STREET,

Invite the special attention of gentlemen to their very large stock of
Lace, Congress and Button Boots, from lowest prices to the finest
grades. We are the original importers of the celebrated

WAUKENPHAST GOODS,

And have constantly a great variety for sale. Also, a large assortment
of **HERTH'S PARIS MADE BOOTS and SHOES.** Large lines of
Tennis, Base-Ball, and Gymnasium Shoes, some at **VERY LOW PRICES.**



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 FINE CONFECTIONS.

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.

PROPRIETORS TECHNOLOGY BOOK EXCHANGE.

ARCHITECTS', SURVEYORS', AND ENGINEERS', STATIONERY.

FOR SALE

YOUNG MEN'S TAILORS.

CUSTOM DEPARTMENT.

The latest Novelties in Suitings, Trouserings, Ulsterings, Fancy Vestings, etc. Dress and Cutaway Suits a specialty.

READY-MADE DEPARTMENT.

Dress and School Suits, Overcoats, Ulsters, etc. A full line always in stock. Our own make, and of imported cloths.

DRILL JACKETS A SPECIALTY.

Special arrangements made for Bicycle, Camping Outfits, etc.

L. P. Hollander & Co.

•••
Tailors and Outfitters,
•••

82 AND 83 BOYLSTON ST.

BOSTON.

FURNISHING GOODS.

ENGLISH NECKWEAR A SPECIALTY.

FINE SHIRTS TO ORDER and READY MADE,
HOSIERY, NECKWEAR, ETC.

HATS AND CAPS.

Christy's English Derbys, and a full line of the
Best American Makes.

WOOL CAPS AND GLOVES FOR WINTER WEAR.

DRILL CAPS, ETC.

Our idea of a strong-minded person is one who can read the advertisement of a patent medicine, and yet not have the disease.

The Tennessee clergyman who lately inherited a fortune of \$8,000,000, asserts now that the story of Dives is an "interpolation."

KIMBALL'S
STRAIGHT-CUT-CIGARETTES

Unsurpassed in Quality.

Used by people of Refined Taste.



HIGHEST AWARD

AT BRUSSELS, 1888.

The Finest Smoking Mixtures are of our Manufacture.

FIFTEEN FIRST-PRIZE MEDALS.

WM. S. KIMBALL & CO.

ROCHESTER, N. Y.

DRAFTING INSTRUMENTS

Of our own importation, and also those of the best American manufacturers, including T. ALTENEDER'S.

Drawing and Blue Process Papers,

Triangles, Curves, T Squares, Scales,

FINE COLORS, BRUSHES, PENCILS, ETC.

Special Discount to Students.

WADSWORTH, HOWLAND & CO.,

82 AND 84 WASHINGTON STREET,

BOSTON.

263 and 265 Wabash Avenue, Chicago.

G. Waldon Smith

• PHOTOGRAPHER •

145 TREMONT STREET, between Temple Place and West Street.

ELECTED PHOTOGRAPHER

TO THE

Class of '89.

LARGEST STUDIO IN NEW ENGLAND.

ESPECIALLY adapted for the taking of groups. Special low rates to introduce our work. Cards entitling holders to the "Class Rates" procurable from Ayer, Hobbs, or Hart, of '89.

WALTER C. BROOKS & CO.

TAILORS

6 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 variety.
Children's Hair cut in the
neatest style.

1888-1889.

GOOD THINGS MUSICAL.

Whatever they are, the music to
perform them, to understand them,
to enjoy them, will be found in the
immense establishments of OLIVER
DITSON & CO., who have on hand

Concert Songs, Gospel Songs, Sacred
Songs, School Songs, Sunday-school Songs,
Comic Songs, College Songs, Jubilee Songs,
Popular Songs, Choir and Congregational
Music, Tonic-Sol-Fa Music, Catholic Mu-
sic, Anthems and Choruses, Part-Songs and
Glees, Opera, Oratorio and Cantata Music,
Collections of Music for Piano, Organ, and
all other instruments, and in fact every
kind of Music that is made.

All this is in the shape of Sheet
Music (3,000,000 pieces), Octavo Mu-
sic (3,000 kinds), or of music col-
lected in well-bound books (4,000
kinds). Send for Lists, Catalogues,
Descriptions, and Advice. Any
book mailed for retail price.

OLIVER DITSON & CO., Boston.

THEATRE NOTES.

At the Globe Theatre, the London
Gaiety Burlesque Company appears with
undiminished success, for the last week of
the engagement. Secure seats early if you
wish to get in at all. Next week, January
21, J. W. Tillotson's Company in the side-
splitting comedy, "Zigzag."

At the Boston, the favorite Ideals give
their farewell performances this week.
Monday, Jan. 21st, Edwin Booth and
Lawrence Barrett, in their grand master-
piece of "Othello." This opportunity to
witness the two foremost tragedians of the
day on the boards at the same time,
should not be missed.

If you read this others will also. This space for read-
ing notices for sale for advertising matter of all descrip-
tions. For terms, write to Advertising Agent of THE
TECH, Mass. Institute of Technology, Boston, Mass.

D. TOY,

Tailor,

IMPORTER,

-11-

Charles Street,

BEACON STREET.

A large Stock of *Foreign*
and *Domestic Goods* always
on hand.

AGENT FOR

WINCHESTER, SON, & FLOWERS,
No. 17 Maddox St.,
LONDON, W.

Boston Young Men's Christian Association,

CORNER BOYLSTON AND BERKELEY STREETS.

Entertainments, Receptions, Evening Classes,
Reading and Recreation Rooms,
Library, Parlors, etc.

The Library offers superior facilities to Students as a place for study.
Membership Fee (including all of above privileges), \$2.00.

ASSOCIATION GYMNASIUM.

DR. G. A. LELAND, Medical Director.

H. L. CHADWICK, Superintendent. L. F. SMALL, Manager.

Classes Morning, Afternoon, and Evening. Special attention to mem-
bers not in classes. Medical and physical examinations.

Persons engaged in sedentary occupations or in study will find just
the class of exercises to insure perfect health, as well as symmetrical
development. New bathing facilities. Blackman exhaust ventilation.
Terms, including Association Membership, Box, Measurements, Personal
and Class Instruction, \$8.00 per year; \$5.00 for three months. Manual,
25 cts. VISITORS WELCOME.

W. C. DOUGLAS, { Secretaries. A. S. WOODWORTH, President.
G. M. STOWELL, }

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.

Autumn and Winter Opening, 1888-9.

DAVID MYERS,
TAILOR,

175 TREMONT STREET, EVANS HOUSE, BOSTON,

RESPECTFULLY calls your attention to his large and well-selected stock, comprising the *Latest Novelties*, imported direct by him from London, and consisting of the latest European styles for high-class Tailoring.

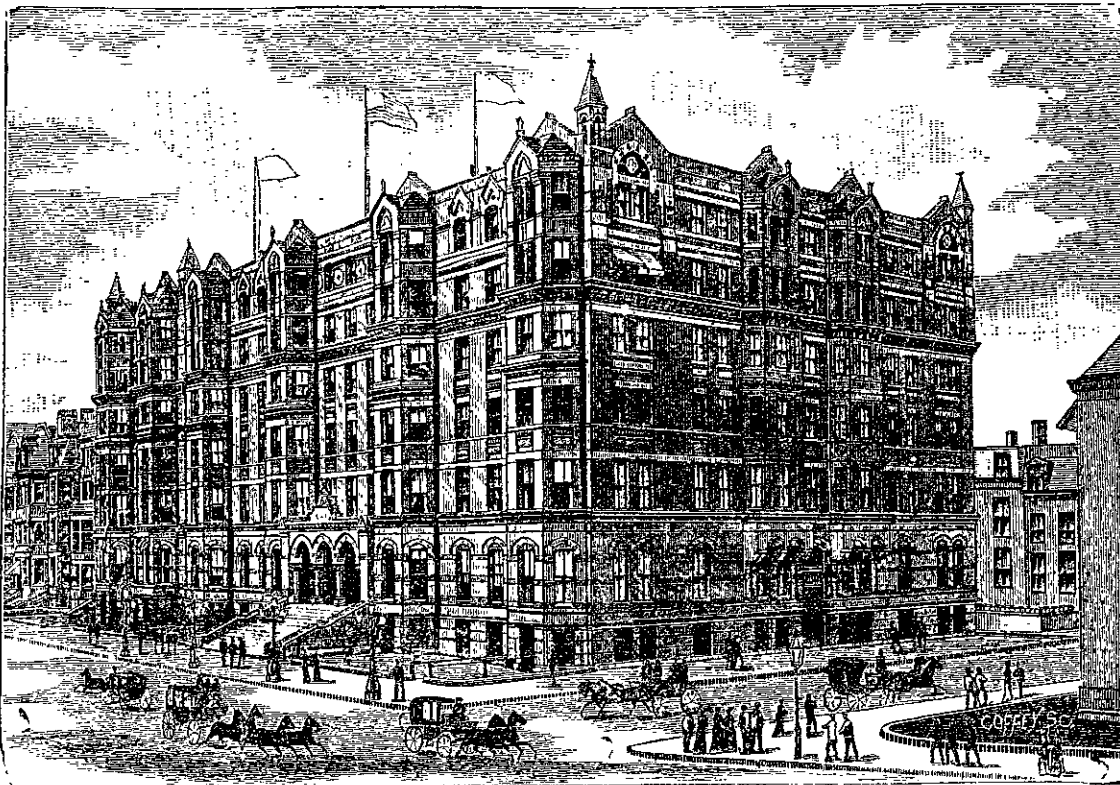
THE
BRUNSWICK

(American Plan.)

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

BOSTON'S
Grandest Hotel

BARNES & DUNKLEE,
Proprietors.



THE
VICTORIA.

(European Plan.)

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

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

STUDENTS'

Note-Books, Paper, Envelopes, Stylo. Pens, and
Fairchilds Unique Pens, etc.

H. H. CARTER & KARRICK, 3 Beacon Street.

"CO-OPERATIVE STORE."

* ALBERT CAUTO *

HAS TAKEN THE

BRUNSWICK HAIR-DRESSING ROOMS.

20 Cts. a Shave. Six Shaving Tickets for \$1.00.

MANDOLIN, BANJO, AND GUITAR.—

J. A. LEBARGE, Director and Soloist of the Imperial Quartet,
Teacher of Mandolin and Banjo. EDMOND FOSTER, Soloist of the
Spanish Students' Quintet and the Imperial Quartet, Composer and
Teacher of Guitar music, 164 Tremont Street, Boston.

BOSTON FOREIGN BOOK-STORE.

CARL SCHOENHOF

144 TREMONT 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.



The Richmond Straight Cut No. 1 Cigarettes

Are made from the brightest, most delicately flavored, and highest cost **Gold Leaf** grown in Virginia. This is the **Old and Original Brand of Straight Cut** Cigarettes, and was brought out by us in the year 1875.

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

ALLEN & GINTER, Manufacturers,
RICHMOND, VIRGINIA.

Frank Wood,
Printer,

352 Washington Street, Boston.

JOSEPH GILLOTT'S
Steel Pens

JOSEPH GILLOTT & SONS, 91 John Street, New York, HENRY HOE, Sole Agent.

FOR ARTISTIC USE in fine drawing,
Nos. 659 (the celebrated Crowquill), 290 and 291.
FOR FINE WRITING, Nos. 1, and 303 and Ladies', 170.
FOR BROAD WRITING,
Nos. 294, 389 and Stub Point, 849.
FOR GENERAL WRITING, Nos. 332, 404, 390 and 604.
Sold by ALL DEALERS throughout the World.
GOLD MEDAL PARIS EXPOSITION, 1878.

BARKER & STARBIRD,
55 Bromfield Street, Boston,
HEADQUARTERS FOR

AMATEUR PHOTOGRAPHERS'

Apparatus, Dry Plates, and Chemicals.

SPECIAL RATES TO TECHNOLOGY STUDENTS.

WHITE STAR LINE

Every Wednesday from New York.

MAURY'S LANE ROUTES TO

QUEENSTOWN AND LIVERPOOL.

The steamers of this Line are celebrated for the regularity of their passages, and are, collectively, the fastest fleet crossing the Atlantic.

RED STAR LINE

Every Week, from New York.

TO AND FROM ANTWERP.

New, large and powerful steamers just added to the fleet. This line offers unusual inducements to passengers bound for the Continent. Cabin rates include free passage Boston to New York. THE ADAMS CABLE CODEX, our own publication, giving a cipher code for cable messages, of much value to travelers, can be had by sending 27 cents in postage stamps to our address, as below.

Send for circulars of the trip. For sailing rates, cabin plans, passage rates, drafts, and full information, apply to or address

E. A. ADAMS & CO., Gen'l Agents,
115 State, cor. Broad St., Boston.

\$3 TO NEW YORK FOR FIRST-CLASS LIMITED TICKETS
FARES REDUCED.
ALL RIVER LINE.

Express trains leave Boston from Old Colony Station, week-days only, at 6 P. M. (Sunday trips will be resumed in April), connecting with steamers due in New York at about 7.30 A. M. Connection to Brooklyn and Jersey City by Annex Boat.

Steamers PROVIDENCE and OLD COLONY in commission. Steam heat in staterooms. AN ORCHESTRA on each vessel throughout the year.

Baggage checked from hotel of residence to destination. Returning steamers leave New York daily, Sundays excepted.

Tickets, staterooms, etc., secured at the line office, No. 3 Old State House, and at the Old Colony Station.

J. B. KENDRICK, Gen'l Manager. GEO. L. CONNOR, Gen'l Pass. Agt.
L. H. PALMER, Agent, 3 Old State House.

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,

Tailor and Outfitter,

21 AND 23 BEACON ST., UNDER HOTEL BELLEVUE.

Exclusive London Styles for Young Men.

— DISCOUNT MADE TO COLLEGE MEN. —

DAME, STODDARD & KENDALL,

(Successors to BRADFORD & ANTHONY)

— Importers and Dealers in —

FINE CUTLERY, OPERA GLASSES, THERMOMETERS,

Dog Collars, Fancy Leather Goods,

374 Washington Street, opposite Bromfield Street.

JOHN R. FARRELL,

— **TAILOR** —

No. 765 Washington St., 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,

AND FINE TAILORING IN GENERAL.