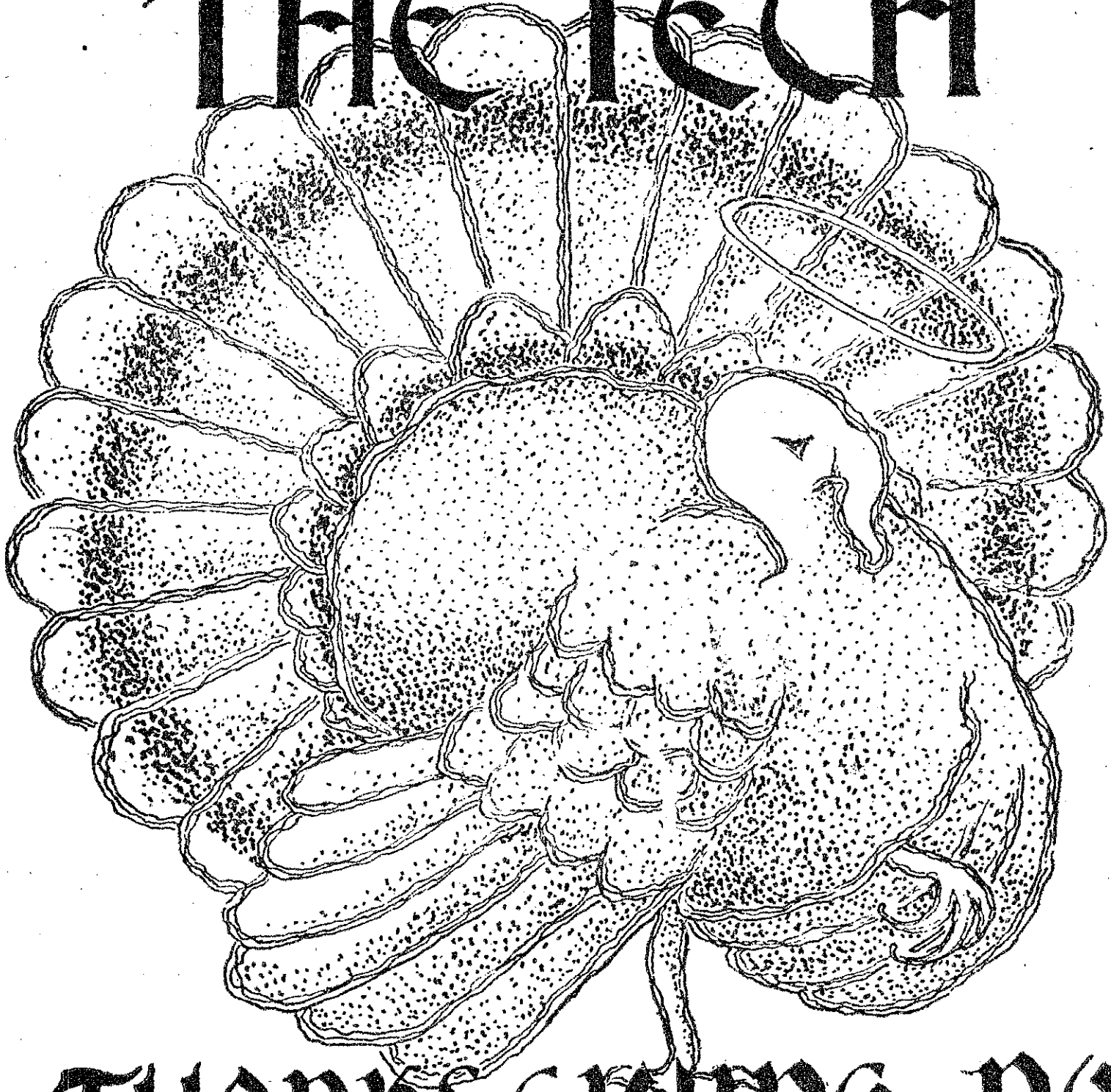
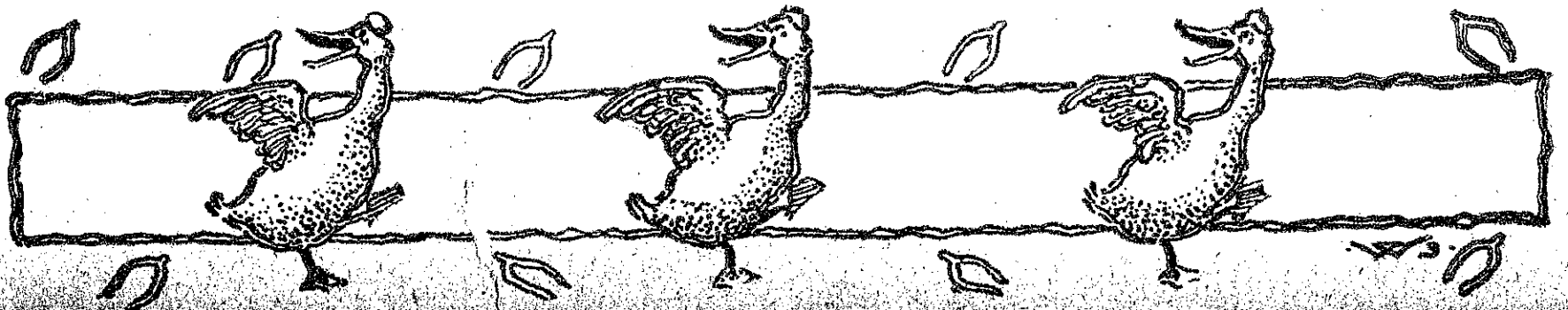


# THE TECH



THANKSGIVING NO.

BOSTON · NOV · 26<sup>th</sup>





(SUCCESSORS TO HASTINGS)

Strictly High Grade  
Photographs AND Portraits.

146 TREMONT STREET,  
BOSTON.

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

## OAK GROVE CREAMERY COMPANY, DAIRY LUNCH ROOM.

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

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

**EVERYTHING FIRST CLASS.**

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

**NELSON L. MARTIN.**

## STUDENTS' SUPPLIES.

### Drawing Instruments and Materials of all kinds

Lowest Prices and Finest Quality of Goods Guaranteed.

All kinds of Note and Class Books on hand.

Everything needed in the Drawing Room.

At Room 10 Engineering Building and Basement of Architectural Building.

**R. J. NORMAN.**

## GYMNASIUM.

Physical Culture. Keep in Condition by using our Gymnasium.

**BOSTON YOUNG MEN'S CHRISTIAN ASSOCIATION,**

Boylston and Berkeley Streets.

**TERMS, \$10 PER YEAR.**

INCLUDING ALL OTHER PRIVILEGES of the ASSOCIATION.

MEDICAL SUPERVISION.

FINE APPARATUS.

CONVENIENT LOCKERS.

FREQUENT CLASSES.

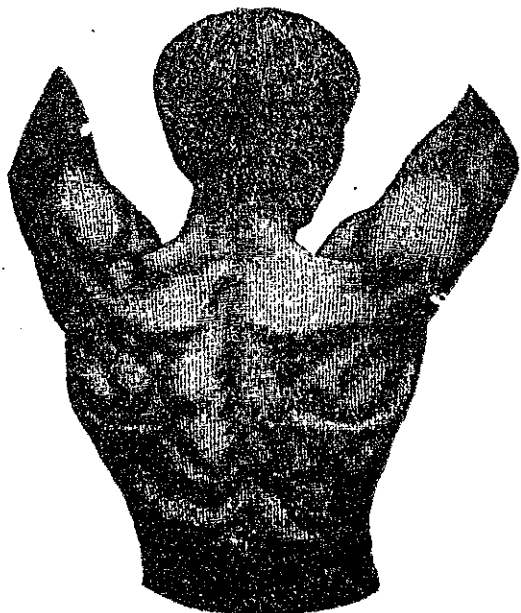
NEW SHOWER, SPONGE, SPRAY, AND STEAM BATHS.

FREE INSTRUCTION.

OPEN, 9 A. M. TO 10 P. M.

MASSAGE DEPARTMENT—SERVICES REASONABLE.

**R. J. ROBERTS, Director. GEO. L. MEYLAN, M.D., Medical Director.**



# L. P. HOLLANDER & CO.,

## YOUNG MEN'S CLOTHING.

Recognizing the fact that economy in dress is one of the results of the present condition of affairs, we are endeavoring to supply a demand for FINE READY-MADE CLOTHING that in all essentials is equal to custom work, yet at HALF THE PRICE. Everything we offer is of our own make and of the best materials.

**Sack Suits, \$18 to \$30 ; Full Dress Suits, silk lined, \$40 ; D. B. Frock Coats and Vests, \$35 to \$40 ; Winter Overcoats, Kerseys, Melton, etc., \$25 Upward.**

202 to 212 BOYLSTON STREET AND PARK SQUARE.

### THE HAT OF THE SEASON.



STYLE PRICE,  
1616 \$2.00.

**Special 1616**

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

### SPECIAL ATTENTION

Given to Technology Uniforms.

THE LARGEST STOCK IN BOSTON OF  
NOBBY + SUITS + AND + OVERCOATS.

## CONTINENTAL CLOTHING HOUSE,

COR. WASHINGTON AND BOYLSTON STREETS.

# ST. BOTOLPH HALL CAFÉ,

38 ST. BOTOLPH STREET.

PRICES:—Regular weekly board . . .	\$6.00	Regular weekly Luncheon . . .	\$1.50
“ “ Breakfast and		Single Meals, Breakfast . . .	.40
“ “ Dinner . . .	5.00	“ Luncheon . . .	.25
“ “ Breakfast . . .	2.50	“ Dinner . . .	.50
“ “ Dinner . . .	3.00		

21 MEALS TICKET, \$7.00.

MEALS TO BE TAKEN WHEN DESIRED.

Patrons are assured that everything served in this Café is the best of its kind in the market.

Thanking students of the Institute for their past support, I respectfully solicit a continuance of their esteemed patronage.

**M. DWYER.**



## J. C. LITTLEFIELD,

### Tailor · and · Outfitter,

21, 23 BEACON STREET, BOSTON.

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

**GOLF BREECHES, RIDING BREECHES, AND DRESS SUITS A SPECIALTY.**  
DISCOUNT TO STUDENTS.

TRADE MARK

**COLLINS & FAIRBANKS**  
CELEBRATED

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

**HATS**

STYLES CORRECT  
QUALITY UNEQUALLED

381  
WASHINGTON ST. BOSTON

**Wm. Brooks & Co.**  
Importing Tailors

15 MILK STREET.  
OPPOSITE OLD SOUTH CHURCH.

BIRTHPLACE OF FRANKLIN.

BIRTHPLACE 1706

LONDON OFFICE, 6 SAVILE ROW, W.

THE LARGEST ASSORTMENT OF FOREIGN WOOLLENS SHOWN IN BOSTON

M. I. T. CO-OPERATIVE.

# THE TECH

VOL. XVI.

BOSTON, NOVEMBER 26, 1896.

NO. 8

## THE TECH

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

CHARLES-EDWARD AMORY WINSLOW, '98, *Editor in Chief.*

CLARENCE RENSCHAW, '99, *Assistant Editor in Chief.*

THOMAS EDDY TALLMADGE, '98, *Secretary.*

HARRY DRAPER HUNT, '97.

MORRIS KINNARD TRUMBULL, '97.

WARD WELLINGTON WARD, '98.

HAROLD WELLINGTON JONES, '98.

GEORGE REED WADSWORTH, '98.

WILLIAM EATON WEST, '99.

W. R. STRICKLAND, '98, *Business Manager.*

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

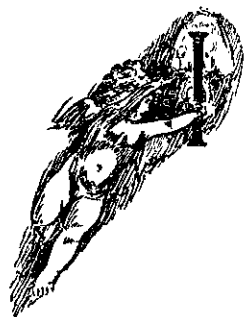
Subscription, \$2.50 per year, in advance. Single copies, 10 cts. each.

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

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

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

How as ye joyous, festive daye  
Arrives on speedie wing,  
And alle ye busie student throng,  
Aside ye bookes do fling;  
Ye Teche, with greeting, bids ye lose  
No time in idle talke,  
But bravelie maule ye turkie bone,  
With hardie knife and forke.



It may be that the Editors of THE TECH feel more keenly the blessings of holiday time than other Institute men, because to them it means respite from the scissors and the blue pencil, as well as the T-square and the retort. To all, however, these three days in mid-term are precious, and the wisdom of the Faculty in providing such a break in the half-year's work is deeply appreciated.

THE TECH wishes, then, to all Institute men the fullest enjoyment of the New England festival, including a good digestion afterwards; and hopes that all will return with a renewed

determination to keep Technology at the front in every enterprise, more or less serious, in which she may embark.

THE visit of the members of the Electrical Engineering Society to the Central Power Station of the West End Street Railway Co., which is described elsewhere, is an extension of the scope of this Society which deserves commendation, and which might well be followed by the other professional organizations of the Institute. A great deal of benefit may be derived by the students, whether Sophomores, Juniors, or Seniors, from visits to places where the principles which they are studying or will study, are put to practical uses. To the Sophomore they give a better idea of what his future profession really is; to the Junior they afford an opportunity of seeing on a larger scale the operations with which he is brought in contact in the laboratories; while the Senior finds in them a chance to become acquainted with the most improved methods of modern engineering.

The number and variety of industries grouped in and around Boston, in many of which our graduates hold prominent positions, make such trips comparatively easy to arrange, and they might be made a valuable part of the work of our engineering societies.

AT an Executive Committee meeting of the Track Athletic Association, held last Thursday, the matter of the debt under which the Association is now laboring was brought up by Mr. Allen, who strongly urged its payment at the earliest possible date. After a careful consideration of the subject in all its phases, it was decided to put subscription

papers in the hands of the class captains, to be circulated through the Institute, the Committee feeling that in placing this matter before the students at large, it would be in safe hands. Not a college in the country calls upon its undergraduates to manifest their loyalty in this direction less frequently than does Technology. Through the disbanding of the 'varsity football team, our athletics have now narrowed down to one representative organization,—the Track Athletic Association. In the bringing out and training candidates, no management could be more active. With every prominent member of last year's team back in college, and this number augmented by promising candidates from the entering class, our prospects of winning the Intercollegiate Meeting at Worcester in the spring were never brighter. Let every man, then, in the Institute show his college spirit, or at least his appreciation of what is being done by Association officers as well as the athletes themselves, and subscribe for the cancellation of this debt in a free-hearted manner.

IT is a fact to be deplored that the Boston papers do not see fit to take some notice of Western athletics. Teams representing the athletics of such universities as those of Michigan, Illinois, Wisconsin, Chicago, Northwestern, and Minnesota are in the first rank, and fully merit the attention of the Eastern press. The rivalry in the West is intense, and as all those mentioned are so nearly on a par, the outcome of the season's schedules is always looked forward to with the most intense interest, fully as much as is manifested by the East in the result of the crack teams this side of the Alleghanies. Wisconsin's and Michigan's splendid showing in Boston last year attests their strength, and should open our eyes as to what can be done in football and baseball outside of New England. Before many years are past we hope to see some Eastern-Western championship series arranged for.

In the West a conclusion can be arrived at by the end of the season as to which is the best team, whereas in the East this is impossible, for the reason that so many leagues exist, making it extremely difficult to gauge the merits of the several pennant winners.

GREAT confusion has existed recently in consequence of conflicts between the meetings of various societies. In setting the date for a meeting no attention is paid by each club to what may be going on in other circles of Institute men, and the result is that very often the same hour is selected by two organizations. To insure good attendance one of the meetings must then be changed, and perhaps, through want of co-operation, both may be postponed. All this working at cross-purposes would be avoided if the secretaries of the various clubs made it a point to use the bulletin case placed in Rogers corridor, under the charge of the Institute Committee. If this were in general use one could see at a glance what will occur on a certain date, and when it will be profitable to hold a meeting which will not interfere with others.

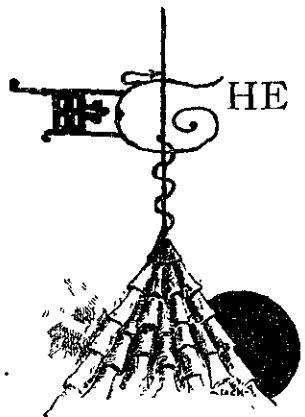
WITH the announcement of a play and entertainment by L'Avenir, and the decision of the Walker Club to again tempt fate with a play, the prospects for mild social excitement this winter seem to be increasing. If the entertainments are sufficiently separated, there is no reason why both should not pay well. Of their success from a dramatic and artistic standpoint we have no doubt, for plays have been one of the things that Tech. men have always been ready to work for and take an interest in.

PASSING by the entrance of the Public Library the other day, it was surprising to note the large number of Technology men entering the building. Could it be that Tech.

students had only just awakened to a knowledge of the treasures at their disposal in this magnificent library? Evidently they had, for a look of eagerness and suppressed excitement was visible on all faces. Instead of mounting the marble steps, however, they turned to the right and entered the court, where they were found standing in rapt contemplation before the statue of the Bacchante! Truly, "*Dux femina facti.*"

RECENT events make it necessary to remind a certain class of Tech. men, luckily small, that the college and school exchanges placed in the general library of Rogers Building are for public, and not private use. Several exchanges have been missed lately; so many, in fact, that the loss of them can hardly be due to accident, and there is little doubt that some men are acting on the "help yourself" principle. A sign was placed over the Exchange shelves with the hope that further purloining might be avoided, but the papers still disappear. If this continues as at present the editors will be obliged to keep all exchanges in the office, where personal application will be required to obtain their use.

#### One Thanksgiving Night.



HE pride of his college and the glory of his class was Jack Loring. Captain of the 'varsity Football team, and a prominent athlete, with his six feet of thoroughly congenial humanity, it was no wonder that he was a favorite. The Thanksgiving holidays were on, and Jack was not going home; and this all on account of a certain eccentric professor, just at a time when home was particularly attractive.

O yes, there was a girl in the question, and to be cut off from it all just at the last moment was really too hard.

On this Thanksgiving evening Jack was on the way to his club, where he and a few friends were to have a sort of consolation dinner.

Walking through Copley Square he soon came to "Old Rogers," and cast a look, almost of affection, up at the old familiar steps, and then passed on into the older part of the city.

The streets were almost deserted, except for the occasional pedestrian, and the chance cab, which rattled noisily over the pavements.

As he walked along, holding his head bent slightly forward against the frosty night wind of late November, thinking of the perverseness of fate and of the probability of the awfully dull Thanksgiving in store for him, his thoughts turned homeward, and he pictured his father at the head of the table looking over the faces of the family, gathered for the feast of Thanksgiving.

And then, as though the pendulum must swing as far in the opposite direction, he shuddered as he thought of the cold, cheerless city, and muttered, "What a Thanksgiving!"

Just then, from a sheltering doorstep near by, there came a faint, plaintive cry of "Please, Mister, buy some matches." Looking down, Jack saw the face of a child upturned to his own.

It might have been the face of one of Raphael's cherubs, as they look up to the face of the Madonna, except that this face upturned to his own was woefully emaciated.

Buy some matches! Would a few pennies gained for matches restore to its natural plumpness the face of the child? Would the same pennies buy clothing to keep the wintry blasts from the little form, which was even now trembling with cold?

In an instant the better part of the man was flowing into the heart of Jack Loring as it never had before.

Picking the child up tenderly in his arms he carefully wrapped the cape of his great-

coat about her, thinking only of making more comfortable the tiny form, which, unsuspecting and childlike, was nestling closer to his warm body, and of driving away that haunting look of starvation.

Soon the lights of his club appeared, and without a thought of his unique position, he stepped into the warm hall, where twenty or so of his fellows were lounging before an open fire, and tenderly placed the child in a huge chair.

He put off the amused comment of his friends, saying that he would explain later, engaging himself wholly with his ward's comfort. Quite like a little queen she looked, seated in the great chair, with a great man on his knees beside her,—except that her scant clothing gave evidence of most unqueenly poverty.

Her large eyes glanced about the strange room, with its seeming fairy-like splendor, rested for a minute upon the faces gathered about her, and then turned to her benefactor.

He asked her if she were not hungry, and what she would like to eat. With a look of rapture in her little face she said, "Some sausage and cake." She was given her sausage and cake, and some warm milk, and other things, which Jack thought, with fatherly judgment, were fitting for so young a guest.

After she had finished he ordered a cab, and taking the child in his arms hurried out, with a "So long, fellows, don't expect me back to-night."

When they had reached the mean little house which served for the home of his little protégé, he carefully took her from the carriage, and putting a bright silver dollar in her hand, opened the door of the house, stood the child inside, and then turned to go. Looking back and seeing the little form with such a wistful face still looking up at him, he stooped down and kissed her; then giving the cabby the address of a lady who was prominent in charity, he stepped into the cab with dim eyes and a light heart.

As an hour or so later, while eating his lonely dinner at an uptown restaurant, Jack thought of what had just occurred, he decided that although he was away from home, and although things had seemed rather mean generally, still he had shared a little of the Thanksgiving spirit after all. G. R. W.

---

### COMMUNICATIONS.

---

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

---

TO THE EDITORS OF THE TECH:—

The action of the Junior Class in going beyond the passive sympathy and support which it is customary for them to extend to the Freshmen, and taking a part in the cane rush, which was active and aggressive beyond all precedent, was most unfortunate. Had this action been confined to a few men, it would not be worthy of notice, but participated in by many of the most prominent members of the class, it has caused a natural feeling of resentment on the part of the Sophomores which is likely to continue long after the usual excitement caused by the rush has been forgotten. In a place like the Institute, where the ties which bind the students as a whole together are none too strong at best, such a condition of affairs is to be regretted.

R. E. N.

TO THE EDITORS OF THE TECH:—

I wish to express my thanks, through your paper, to Mr. George Ulmer, '98, for the excellent coaching he has given the Freshman Football team. It is due to his coaching that we played such a close game with '99. I wish also to thank Messrs. Mansfield and Emery for the coaching they did.

Yours truly,

WALLACE J. PAGET,  
*Captain of 1900 Football team.*

TO THE EDITORS OF THE TECH:—

The young ladies at the meeting of the Y. M. C. A. were present by special invitation, on account of their interest in the particular subject treated, and are not, of course, members of the organization. The Lounger's remarks of last week, therefore, seem to me out of place.

G. I. FISKE,  
*Pres. M. I. T. Y. M. C. A.*

### The Man from Yale.

I ALWAYS pitied Tom, because he had such hard luck with his love affairs. He was continually getting smitten with some girl, going through the usual agonies of doubt, jealousy, and all that; and then, finally disillusioned, he would settle down to sensible life till the next girl came along, which was generally in about six months. I hadn't laid eyes on the man for two years; and when I met him at the club one afternoon last November—it was the day before Thanksgiving—his cheery “Hello, old man! By Jove! but I'm glad to see you!” sent the old-time enthusiasm of a college friendship like a thrill into my heart. He looked robust and hearty; no more nonsense about girls for him, I opined.

Then he began: “Do you know, old man,” with a rather quizzical look, “I was pretty hard hit last summer.”

His face bore the old confidential expression, and my heart sank. I knew I'd got to listen, so I started a fresh pipe and leaned comfortably back.

“I met lots of girls last summer. There was a girl at Bar Harbor, who seemed afterward to be so sweet on that Harvard chap,—I've forgotten his name,—but she didn't count. Neither did that blonde one at Marblehead, who used to go sailing with Jim Trask so much. You remember Jim,—big, dark-skinned fellow, who played on the 'varsity when Thomas was captain. The girl I mean was the one at Islesboro,—lovely soft, brown hair, and great deep eyes that looked you right through; you know the kind.”

“We seemed to get along well from the very first. I remember I danced with her four times the first night I met her, and got myself disliked for it by all the other men. Jealous, you see. That didn't bother me any, nor her, for that matter, for we used to have most of the dances together at every hop. We went to walk a lot, too, and—well, hang it, you know how a fellow gets to feeling when he is

thrown much with a nice girl. I cared for her a great deal. I had been soft on girls before,” charming frankness, I thought, “but this was so different,”—like all the rest, I contradicted, mentally.

“Of course everybody made a pile of talk, but I was the happiest man in all Maine, till along came a man from ——”

“Let me finish your yarn for you. Along came a man from Yale.”

“Yes; I believe he was a Yale man, but ——”

“No buts, please. This Yale man was good-looking?”

“Yes.”

“Athletic?”

“Rather.”

“Got quickly into her good graces ——”

“Wait, I tell you. He ——”

“No, I'll go on. They were together a great deal?”

“Now, see here, you're the biggest ——”

“And I dare say he used to take her hand now and then?”

“You're a perfect ch ——”

“Even kissed her?”

Tom looked as though he would have liked to eat me. I was simply taking the wind out of his sails, and he didn't like it.

“And was always the last one to say good night to her,—in short, cut you out entirely, and was safe at last in calling her his own. Honestly, old man, I'm dead sorry for you. I've been used that way myself.”

I smiled good-naturedly. I dearly love to spoil a man's story, though it's mean, I admit.

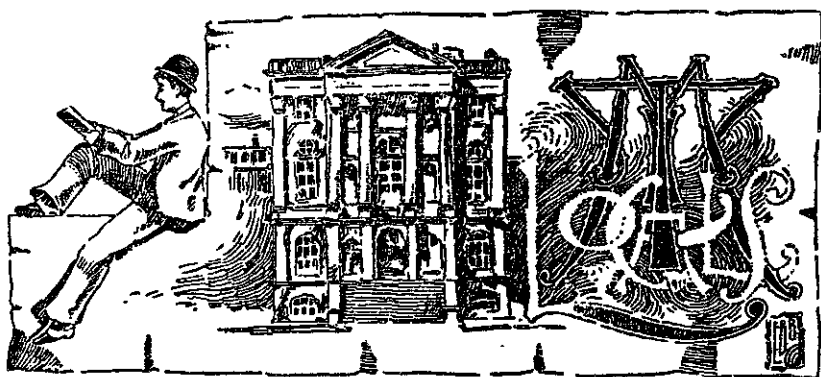
Tom looked hard at me for a minute.

“You're a born fool!” he said, deliberately. “If you'll let me, I'll finish my story myself, and finish it straight; and if you'll take dinner with me to-morrow I'll prove it.”

“Delighted, I'm sure!” said I.

“Now,” said he, “I married that girl last October. That Yale man was her father, Class of '69.”

And I didn't say a thing.



Again ye cycle rolleth round  
 To festive dayes of ease,  
 And cometh now that sacred time  
 For appetite's appease.  
 Ye Teche doth gladly greete ye alle,  
 And wish ye well for aye,  
 In hope ye respite will include  
 "Ye best Thanksgiving Daye!"

Mr. P-k (explaining problem in mechanism), "Now, if I had wheels, —"

The picture of the '99 Football eleven was taken at Elmer Chickering's, last Monday.

At the regular meeting of the Mandolin Club on Wednesday, November 18th, Mr. M. W. Hall, 1900, was elected leader.

At the last meeting of the Biological Club, Mr. H. W. Marshall, '97, read a paper on "Special Sense Organs of Lumbricus."

Observation for Time and Latitude was made by a few Course I. '97 men on Friday noon, November 20th. Very fair results were obtained.

The class in Industrial Biology has finished yeast and vinegar, and will now take up milk, cream, butter and cheese, the so-called Dairy Bacteriology.

The Fourth-year men of Course VI. have finished their work in the laboratory of Applied Mechanics, and the men of Course I. and XI. have begun.

A blackboard has been purchased by the Athletic Association, and Athletic notices will not hereafter be posted on the bulletin boards of other societies.

Mr. R. Suter, 1900, who won the two-mile run in the fall Meet, is suffering from an attack of pneumonia, which prevented his starting in the Cross Country.

Last Thursday, Dr. Mulligan, while working in the private office of the Organic Laboratory, was badly hurt by the explosion of a combustion tube containing caustic potash.

The drawings for the chess tournament were made at a meeting of the Club last Tuesday. They are posted in Rogers. The first round must be played off before November 30th.

Many 1900 men are not aware how important it is for them to call often at the "Cage" for their mail. Many notices from the office are left here, and they should not be allowed to accumulate.

The appearance of the board steps to Rogers Building is still another reminder that winter has come. (This local is put in not as "news," but solely with the view of preserving one of the precedents of THE TECH.)

While Professor Sedgwick was lecturing on the earthworm, one rainy day, lately, he asked for volunteers to go out and collect specimens. As a result, 200 big ones were obtained in half an hour from the lawn between Rogers and Walker.

At a meeting of the Architectural Society, held Tuesday, Nov. 17th, the following men were elected to membership: Tucker, '98, Gerber, '97, Morton, '99, Dwyer, '97; Richmond, '98, Baumann, '97, White, '99, Little, '98, Putnam, '99.

At a meeting of the E. H. S. Club last Thursday, the following officers were elected: President, H. I. Lord, '98; Vice President, Fitch, 1900; Secretary, Chapin, '98; Treasurer, Pray, '99; Member of the Executive Board, Humphreys, '97.

A number of upper class men took a ride on the famous Vim tricycle last Thursday

afternoon. The machine was obtained through the kindness of Geo. Sherman, '94. A run was made to Watertown arsenal, where a spread was given the boys by H. Jamieson.

The Sophs are contesting the right of the Freshmen to carry canes as the result of the recent tied rush. On Tuesday morning every Freshman who appeared with a cane was pounced upon by a pack of hungry Sophs, and if he had any friends near a small rush ensued.

In the Mining Laboratory, two successful trials have been made with the True Vanner. Silver ore was used, the object of the work being to extract the sulphurets, and to find how much of the silver of the ore was contained in the sulphuret and how much in the rest of the ore.

A couple of Course IV. men, with charcoal and blocks, and an eye for beauty, forsook the classic and dignified antiques of the Art Museum last Tuesday, for the rather more lively attractions of the far-famed Bacchante in the library opposite. The artists attracted quite as much attention as the bronze.

The following dates have been scheduled for the Glee, Banjo, and Mandolin Clubs:— November 30th, Every Day Church, Boston; December 4th, Fall River; December 16th, Salem, Mass.; December 19th, Colonial Club, Cambridge; December 30th, Home Concert; January 1st, Salem, Mass.; January 19th, Wellesley.

The first meeting of the Geological Club for this year, was held in the Geological Laboratory on Friday, November 20th, at 4 P. M. Professor Niles and Mr. Grabau gave an account of last summer's excursion of the Geological Society of North America, for the study of Pleistocene Geology in Central Western New York.

A meeting of the Co-op was held last Friday, at which several students were recommended by the Secretary for scholarship. He also asked the Society to take charge of the

“stores” for the sale of supplies, which have formerly been run by the janitor of Walker, and Engineering. A committee was appointed to investigate these two points.

The Class of '98 has been assessed fifty cents per member, and the following men have been appointed in their courses to receive the assessments: L. Alland, Course I.; G. A. Hutchinson, Course II.; H. B. Collins, Course III.; J. S. McIntyre, Course IV.; E. S. Chapin, Course V.; C. E. A. Winslow, Course VII.; E. F. Russ, Course IX.; W. C. Fownes, Course X.; S. F. Hewins, Course XIII.

Course I. '97 men have just started their work in the Mechanical Engineering Laboratory. Four of the men were initiated into the secrets of the Emery Testing Machine, and by the time the afternoon had expired were juggling seventy-five thousand pounds of compressive force as handily as if they were squeezing lemons. This is a novelty to the Course I. men, for very little laboratory work has heretofore been met with in their schedule.

A number of specimens of cast-iron pipe, four feet in diameter, have been received by the laboratory of Applied Mechanics from the Metropolitan Water Board, to be tested for crushing strength. The only compensation which the Board will receive for the specimens used will be the results obtained. The pipe from which the specimens were selected is to be laid quite near the surface of the ground, and hence it is necessary to consider the effect of heavy teams passing over it.

A business meeting of the Glee, Banjo, and Mandolin Clubs was held on Wednesday, November 18th, at one o'clock. In the absence of the President and Vice President, Mr. A. C. Lamb, '97, was chosen temporary chairman. The Clubs then proceeded to the election of officers for the ensuing year. The following were chosen: President, Mr. F. E. Coombs, '98; Vice President, Mr. F. M. Blake, '98; Secretary, Mr. G. R. Anthony,

'98; Treasurer, Mr. W. H. Sutliff, '99. The "Tech. Quintette" applied for admittance to the Association of Musical Clubs, but their application was refused.

The field work of the third year Course I. men, consisting of the survey and layout of a branch road to connect the N. Y., N. H. & H. Railroad at Roslindale with the B. & A. at Chestnut Hill, is nearing completion. Notwithstanding the time necessarily lost on account of bad weather, the work has gone on rapidly, until now a part of the road is staked out for the actual building. The work is characteristic of all the practical work carried on at the Institute in connection with the various courses, as the plan is a perfectly feasible one, and it is not entirely out of reason to say that this very layout may be adopted in the future.

Technology continues to prosper in its numbers as in efficiency. For, notwithstanding the unpropitious business outlook at the opening of the term, she has more than equaled her last year's record. According to the Secretary's figures the Institute now numbers 1,213,—an increase over last year of 26. They are distributed as follows: Graduate students, 77; Fourth-year, 194; Third-year, 198; Second-year, 183; First-year, 291; Specials, 339. The present Senior Class has gained 5 and the Junior Class, 1, while the Sophomore Class has lost 89 since last year. The entering class is larger by 19 than that of last year, while there are three less graduate students and three more specials.

The Boston Society of Civil Engineers held a meeting at 715 Tremont Temple, on Wednesday evening, November 18th. President Swain was in the chair. Mr. E. L. Corthell, of New York, spoke on the Tampico Harbor Improvement Works of Mexico, and illustrated his talk by many beautiful slides. Mr. Corthell had charge of this enterprise, which consisted in the construction of two jetties, each a mile or more in length. These

jetties are parallel and about six hundred feet apart. The Panuca River by their assistance has now cut a navigable channel so that vessels of heavy tonnage can enter the Tampico Bay, and trade with the merchants who make the city of Tampico their center, is now easily practicable. A number of the students of Technology were present and thoroughly appreciated the valuable information given by Mr. Corthell. No work is given in Course I. on Harbor Improvements, so that those who went feel fully repaid.

The engine which will be used to drive the new dynamo plant in the Electrical Engineering laboratory, which has already been described in THE TECH, will be a Westinghouse compound engine. The diameter of the high-pressure cylinder is 11 inches, the low pressure 19 inches; the length of the stroke is 11 inches. The fly wheels of the engine are 52 inches in diameter, and make 300 revolutions per minute. An accurate indicating rig will be fitted for use at any time, and the exhaust steam may either be turned out of doors or into a surface condenser, from which it can be received in weighing tanks. Steam will be taken from the boilers in the Rogers Building through a separate pipe, so that any pressure above that of the regular service pipe and up to the capacity of the boilers may be used. At 100 lbs. the engine will develop 80 H. P.; at 125 lbs., 100 H. P.; and at 150 lbs., 130 H. P.; the cut-off in each case being at from one quarter to one third of the stroke.

#### The Great Question.

What was it, fair Bacchante, tell me, pray,  
Plain beer, gin fizzes, or absinthe frappé?  
Amontillado, or a wine more old,  
Covered with cobwebs, dust, and ancient mold?  
Was it straight whiskey? No? You would not deign  
To wet those lips with less than bright champagne!  
Or was it some strong nectar of the gods,  
A cocktail, mixed by Zeus, we mortal clods  
May never hope to taste?  
Her laughing lips are silent; like a sphinx  
She guards the secret of just what she drinks.

T. E. T.

### Electrical Engineers' Outing.

A WEEK ago Saturday about thirty members of the Electrical Engineering Society paid a visit to the Central Power Station of the West End Street Railway Company. Starting from the Walker Building about two o'clock, the party, under the guidance of Messrs. Faught and Lord, '98, went in a body to the Albany Street entrance of the station. Here they were obliged to wait about a half hour while the necessary passes were made out and signed. This being disposed of, the party was taken in charge by Mr. R. W. Conant, '91, who is at the head of the electrical department of the company, and inspected the machine shop, boiler house, and dynamo room. Mr. Conant pointed out the most interesting features, and cheerfully answered all the questions of the members.

This station is probably the largest railway power station in the world. The boiler house contains a double row of boilers, aggregating twenty thousand horse power. The generating plant consists of six 1,200 kilowatt machines, each directly connected to a 1,500 H. P. triple expansion engine, and two 1,500 kilowatt machines, each connected to a 2,000 H. P. cross compound engine, making the total capacity of the station about 13,000 electrical horse power. The last two machines are the largest size railway generators built. All of the engines are of the Allis-Corliss type, and the electrical apparatus throughout was made by the General Electric Company. An interesting feature of the station is the flat fly wheels, which are built up of a number of steel plates bolted together.

The history of this station is interesting, as showing the rapid development of electric railways and the great advances which have been made in the manufacture of electrical machinery, as regards the size of the units. As originally built, six or eight years ago, the station was equipped with 80 kilowatt machines, belted from a countershaft. These proving unable to supply the increasing de-

mands for power, were soon replaced by machines of 500 kilowatts each, which were then thought very large. Owing to the enormous extension of the system, these, too, soon proved insufficient, and the company began the installation of the present equipment, which has been but recently finished.

### Freshman Themes.

#### I. A CANE RUSH.

THE cane rush of the year of '93 is over, but for a number of days many of us carried about forcible reminders of that great event, and here and there may still be seen a scratched face or a black eye. Above my mantel piece, drooped gracefully over a picture, is the best half of a white sweater; and in all probability in the room of some Sophomore may be seen what was left of my jacket, for I surely do not possess it. We all worked hard enough, there is no doubt about that; but what could such a small number of us be expected to do against that great crowd of bloodthirsty Sophomores, who had had the experience of one cane rush? Before we knew it they were coming against us; three masses struck our little knot of men, and then the struggle commenced.

We were pulled, and hauled, and torn, all in the same instant. Some great Sophomore would fling me out of the ring, and before I could see where I was the upper class men would throw me back. My shirt came off in a second, and if I had not had several more on, I should have been in a sad state. I was not long in getting even, however, and soon owned a sweater. Toward the last of the struggle it was quite dark, and it was hard to tell who was '97 and who '96, and before time was called the lamps in the streets were lighted.

W. C. P., '97.

#### II. NIGHT AT SEA.

A dead calm rested on Massachusetts Bay. The moon, partly hidden by a light haze, made a silvery lake of the vast expanse of

waters. The sails of pilot boat No. 2 were flapping idly, and she did not have steerage way on. The boat, to use a pilot's expression, was "manned out," and was returning to Boston. Four of us were down in the comfortable cabin having a quiet game of cards; suddenly the voice of the man at the wheel was heard, "Do you want to see a steamer?" We surely did; for any sign of life on such a night would seem welcome. We all went on deck and saw directly astern a bright white light. The steamer was then about six miles away. As a sailing vessel under way carries no light that can be seen from a point directly astern, the lookout on the steamer could not see us. She gradually came near enough for us to see her green and red side lights. On and on came those terrible side lights, glaring like two wild eyes. Although the boat keeper thought there was no danger, I began to feel rather nervous. If she struck us we should all go to the bottom. Nearer and nearer, until she seemed to be almost upon us. Then, as with a sudden impulse, she swerved to the left and passed within a stone's throw. The throb of the engines could be heard distinctly, and the great black hull, with its many glistening lights, seemed like some huge monster. A warning cry from the bridge told us of our narrow escape.

G. H. P., '99.

### III. HOW I GOT ON IN CHEMISTRY TO-DAY.

I got on exactly the same as usual in Chemistry to-day, and for that reason, and not because it was an exceptional two hours, I wish to say a word about it.

In the first place I was late. I am always late to everything except meals and football games,—then I am most punctual. After putting on my jacket I dashed for my desk, and discovered that I had left my keys at home. With much difficulty I obtained a key, and unlocking my cupboard set to work.

For an hour and a half I ran to the supply room and back again, fought in the struggling

crowds for "five grams of  $\text{Ca Cl}_2$ ," swallowed hydrochloric acid fumes and smashed apparatus, till eleven o'clock found me greatly exhausted. Summoning up what little strength I had left, I dove into a mass of clothes bags, students' hats, and other articles, in the vain hope of finding my coat. The cane rush would seem baby play beside this struggle, and I was truly glad when the door of the laboratory closed behind me for another week.

W. T. P., '97.

### IV. ANECDOTE.

Our instructor says that there is one subject that has been thoroughly exhausted by the daily themes, and that is the West End Street Railway. But there is one anecdote connected with it that I wager he has not heard. A pretty young woman got into a car on Boylston Street, with a letter in her hand. After settling herself down comfortably in a seat, she opened it and began reading it. The various expressions of surprise, delight, and pleasure that successively passed over her face, were a matter of great interest to the men sitting opposite. As the conductor finally reached her and stood in front of her, holding out his hand, she looked up absent-mindedly, and said, "Yes, it's a boy!"

M. C. M.—S., '99.

### One Blossom.

Between the rows of pink sweet peas  
My lady walked;  
Her hand, stretched out some bud to seize,  
Itself a flower seemed enstaked

Between the rows of pink sweet peas.

Between the rows of pink sweet peas  
My lady glanced;  
Her cheek was bright from morning's breeze,  
Her soft brown eyes with mischief danced,

Between the rows of pink sweet peas.

Between the rows of pink sweet peas

What was my part?

While o'er the blossoms hovered bees

To that sweet maid I lost my heart

Between the rows of pink sweet peas.



FROM the above it will be noted by all that this column has come to stay. The Alumni Editor feels greatly encouraged by the support he has so far received, and looks forward to yet greater interest to be displayed by those who have information of Technology's graduates. Let all the classes be heard from.

'81. Amos Binney, of Course V., is one of the members of the Real Estate Exchange of Boston, and is doing an extensive business in real estate in this city.

'81. Ira Abbot, of Course I., after resigning as Vice President and Assistant Engineer of the Dominion Bridge Company, of Montreal, has taken up the sale of railway specialties, and is now located in New York.

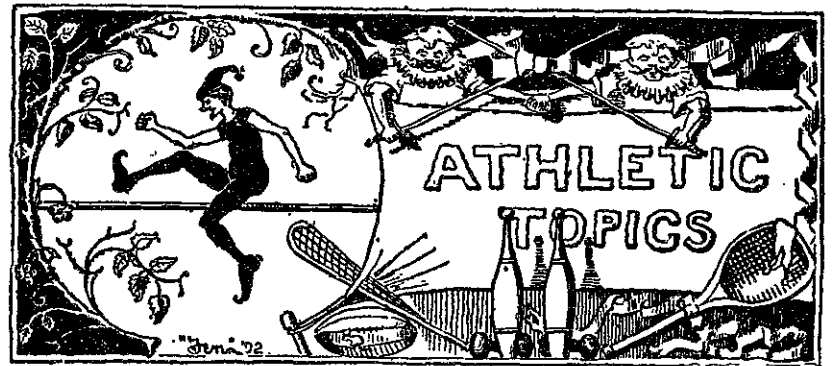
'91. Geo. A. Holmes, of Course X., recently returned from his wedding tour through Europe. Mr. Holmes married Miss Margaret Robbins, of Chicago, last August. He is engaged in business with the Consolidated Fastener Company, and when last seen was staying at the Beacon Annex.

'93. Class catalogue notices have been sent to all members of '93, requesting them to fill out circulars stating their locations in business, etc. It is desired by the committee that all should respond by December 1st. To defray the expenses of publication several pages are at the disposal of the members of the class for advertisement at reasonable rates.

'96. Geo. Fresch is with Clark and Brigham, Architects at the State House.

'96. Moritz Sax is with Walter J. Paine, Architect, Beacon St.

'96. Joseph Ward Clary, Course XIII, has accepted a position as assistant draughtsman of the United States Bureau of Naval Construction and Repair, at Newport News, Va.

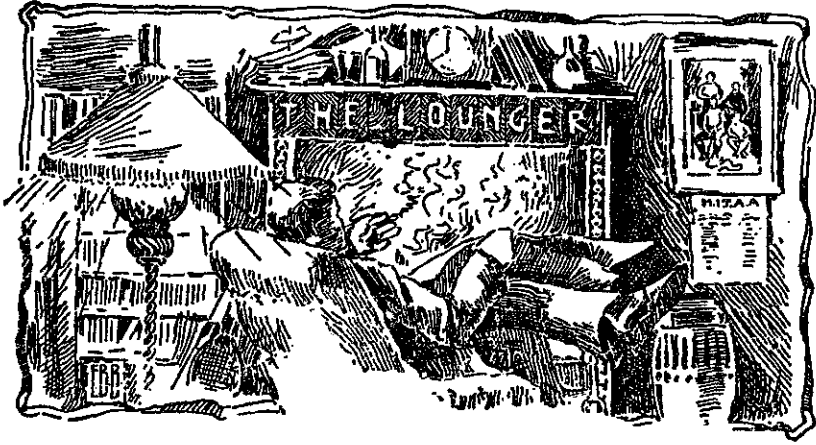


A. W. Grosvenor's time of 4 sec. in the 35-yard dash, has been accepted by the A. A. U. as a world's record.

Six of the Chicago Athletic Association Football Team have been expelled for professionalism and insubordination.

The Hare and Hounds has now a membership of over thirty. The new men who have joined in the last week are: Bakenhus, '96; Magee, '99; Richmond, '98; Foote, Gillson, '99; Pugh, '97; Reed, '97; Osgood, '97; Stebbins, '97; Hall, '00; Wentworth, '00; Butterworth, '00; Hubbard, '98; Butcher, '98; Bodwell, '98; Lathrop, '99; Gray, '97; Campbell, '99; Emery, '98; Harris, '98.

The indoor Class Championship Games will be held in the Tech. Gymnasium, Saturday, December 12th, at 8 P. M. An entrance fee of fifty cents per man must be paid for the first event entered, and twenty-five cents for each succeeding event. Competitors will make their entries to class captains. The entries close December 10th, and no entry will be accepted after that time. No one will be allowed to compete in any event unless his name is on the list of entries handed to the Secretary of the Athletic Association. The order of events is as follows: first, pole vault (begins at 7.30 sharp); second, 35-yard dash (trials); third, putting shot; fourth, potato race (trial); fifth, high jump; sixth, 35-yard hurdles (trials); seventh, 35-yard dash (finals); eighth, fence vault and standing broad jump; ninth, potato race (final). All competitors must be members of the Athletic Association. Tickets may be obtained of H. W. Allen, R. R. Rumery, and Mr. Boos.



If there is one thing which the Lounger dislikes above others, it is to be hurried, flustered, disturbed in the usually placid course of his existence. It was, therefore, with quite inappropriate feelings that he received the mandate of the Editor in Chief that his festal effusion must be composed this week a day ahead of time. The result of this derangement of the usual order is, that, instead of lying back to muse in orthodox manner upon the joys of the Puritan Christmas with the befitting accessories of soft Morris chair, sea-coal fire, and Havana cigar (see cut supra), the Lounger is forced to record his blessings at a hard desk in THE TECH office in the unpoetic afternoon light of Boylston Street. Nevertheless, great moralists have held that pleasure lies largely in expectation; and of joys of that kind the Lounger possesses great store.

He looks forward then, first, to leaving Technology behind him, and forgetting even its very existence for three short, blessed days. He sees visions of a kingly bird at least three feet long, and of pumpkin pies with a radius of many inches. He can take from his pocket a card to a regal dance; and as he gazes on it he seems to feel a soft hand upon his arm, and to look into sweet blue eyes. Perhaps some of the Lounger's readers may remember his mention of a Freshman friend to whom "for family reasons" he must be attentive. These same blue eyes were the "reasons"; for she is that Freshman's sister, and his gratitude will cause her to be more than usually propitious in these holidays.

The pessimistic, if such exist at this happy season, may object that all these things are fleeting; that Monday will bring back with it its cares and labors. But even in this dimmer future the Lounger sees grounds for possible enjoyment. Have we not the gentle summons of the Secretary always at hand to show that in this selfish world there is still some one whose sole desire is to "see" us "at once"? Is

there not the Institute Committee ever ready to care for us, to advise, to commend? Is not the new lunch-room girl passing fair (and also passing fare)? Has not the old lunch-room girl learned ever new charms of manner? and is she not even more deft, more true of eye and heart, than of yore? Is the Freshman more vain of his panoply of battle than of old? Is the Soph. more bumptious? Is the man of '98 more serenely self-satisfied? Is the Senior less public-spirited? The Lounger trows not. For the grind, are there not prospective C's to be obtained by conscientious labor and scientific jollying? For the athlete is there not Hope eternal, and Worcester about forty miles away? For THE TECH Editor is there not the subscriber, few, but select? Has not the Bacchante been accepted by the Art Commission?

By the above train of argument, for whose general interrogative form the Lounger is indebted to a gentleman named Socrates, who died some time since, he hopes to have proved conclusively that there is abundant cause for rejoicing. Let all, then, hie them home merrily to the genial turkey, and enjoy life while they may, for they will be a long time dead.

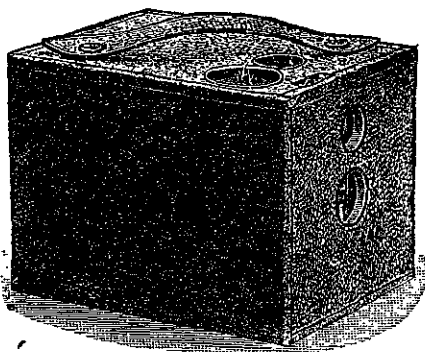
The cane rush, that absorbing drama enacted by the two lower classes for the amusement of the rest of the Institute, was this year of a peculiarly edifying description, inasmuch as it spread over several days. Boylston Street on the day after the principal event was a scene of frightful carnage, and many stout ash cudgels were broken rudely in twain. Nineteen hundred has earned great renown by its gallant struggle, and the tradition that every other even-numbered class is invincible holds still its force. The result is a mighty tribute, too, to the cherry-tree-like veracity of '99. This is the first rush in years in which the Sophomores have had an odd number of hands. The Class of '98 took an unusually active part in the proceedings, and the Lounger is sorry to see that so many distinguished Juniors have not yet put away childish things. The spectacle of certain men of high position in the Institute entering into personal contest at the South End grounds, was not an edifying one.

---

A record is the athlete's goal,  
He struggles hard to make it;  
But when its made, he turns around  
And straightway tries to break it.

# Photography Simplified.

Picture taking with the Improved Bulls-Eye camera is the refinement of photographic luxury. It makes photography



easy for the novice—delightful for everybody.

**LOADS IN DAYLIGHT** with our light-proof film cartridges. Splendid achromatic lens, improved rotary shutter, set of three stops. Handsome finish.

Price, Improved No. 2 Bulls-Eye, for pictures 3 1/2 x 3 1/2 inches,	\$8.00
Light-proof Film Cartridge, 12 exposures, 3 1/2 x 3 1/2,	.60
Complete Developing and Printing Outfit,	1.50

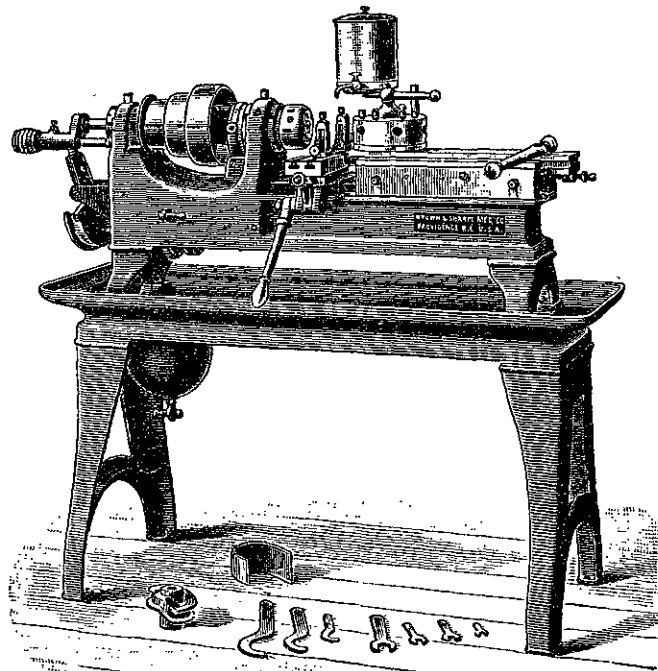
**EASTMAN KODAK CO.**

Booklet Free.

Rochester, N. Y.

**BROWN & SHARPE MANUFACTURING CO.,**  
MACHINERY AND TOOLS,  
PROVIDENCE, R. I.

Screw Machines with Automatic Chuck



and Wire Feed Usually in Stock.

(Patented July 30, 1895.)

**No. 1** has hole 17-32 inch diameter through Spindle, and turns any length to 3 inches.

**No. 2** has hole 13-16 inch diameter through Spindle, and turns any length to 4 inches.

We are pleased to mail circulars or catalogue (366 pages) upon application.

## In the Equipment of a Student's Room,

It is generally conceded that a stringed instrument is almost an absolute necessity. To secure the greatest enjoyment from the purchase get the best your money will afford. Expert judgment pronounces the "Bay State" instruments the finest in the world. An excellent instrument is the



### BAY STATE S10 BANJO.

We have in stock cheaper banjos than this, but for a substantial, serviceable instrument, at a low price, no other instrument manufactured can compare with it.

SEND FOR ILLUSTRATED CATALOGUE.

**JOHN C. HAYNES & CO.,**

453-463 Washington Street, Boston.

## If You Draw,

PURCHASE YOUR . . .

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

FROM THE MANUFACTURERS.

**Wadsworth, Howland & Co.,**

INCORPORATED,

Branch Store: Grundmann Studios,  
adjoining Architectural Building.

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

Factories: Malden, Mass.

SPECIAL RATES TO STUDENTS.

**ALBERT BENARI,  
Tobacconist,**

33 TREMONT STREET, - - BOSTON, MASS.

Agent for the Bohemian Mixture.

FINE LINE OF FRENCH BRIAR PIPES ALWAYS  
ON HAND.

**New Tech Pin.**

**HENRY GUILD & SON**

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

433 Washington St., Boston.



**WRIGHT & DITSON,**

New England's Leading Athletic  
Outfitters.

**FOOTBALL SUPPLIES**

OF EVERY DESCRIPTION.

New and improved lace front canvas and moleskin Jackets and Trousers, Head Harness, Morrill Nose and Mouth Guard, Stockings, Jerseys, Shoes, etc. Send for Catalogue.

Estimates and Samples for college, school and club supplies cheerfully furnished. Special attention to mail orders.

Football for practice and Match Games. Official Football Guide, edited by Walter Camp, 10 cents.

**WRIGHT & DITSON,**  
344 Washington Street, Boston, Mass.

**MANDOLIN, Banjo and Guitar Lessons.**

Instruments, Best Strings, Latest Music, etc.

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

Ask for Mr. Lansing.



**MESSENGER & JONES,**

Makers of

**Men's Clothes,**

388 Washington St., Boston.

**RIDING, KNICKER AND GOLF WORK**  
A Specialty.

**STUDENTS**

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

Your patronage is respectfully solicited.

**ERNEST M. ALEXANDER,**  
Copley Square Hotel.

**Hair Dressing Parlor,**

Cor. Exeter Street and Huntington Ave.

**THE BRUNSWICK**

**BOSTON.**

Boylston and Clarendon Streets,

(Adjoining Copley Square)

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

**KEPT ON BOTH AMERICAN AND  
EUROPEAN PLANS.**

**BARNES & DUNKLEE, Proprietors.**

**H. H. BARNES, Manager.**



**Scientific Books** }

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

**CLASS-DAY INVITATIONS,**

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

**Bookbinding**

IN EVERY STYLE.

ALEX. MOORE, 3 School Street, BOSTON.



Week beginning November 30, 1896.

**Boston Theatre.**—The Mapleson Opera Company will begin. The repertory for the first week is as follows: Monday, "Aida;" Tuesday evening and Saturday matinee, "Lucia di Lammermoor;" Wednesday, "Andrea Chenier;" Friday, "Faust;" Saturday, "Il Trovatore." Sunday evening the company will give a grand sacred concert.

**Park Theatre.**—Primrose and West's unrivaled minstrels, with a host of new jokes and songs.

**Boston Museum.**— "Sue," a romantic drama by Bret Harte and T. Edgar Pemberton.

"Sue" is as pretty a story as Bret Harte ever told. It is the story of a girl born and bred in a mining camp of the Sierra Nevada. Miss Annie Russell will appear in the title role, assisted by Mr. Joseph Haworth and others.

**Hollis Street Theatre.**—David Belasco's great play "The Heart of Maryland." It is a war drama without smoke or battle. It is so constructed that it enlists the sympathy of Southerners as well as Northern people. The cast includes Mrs. Leslie Carter, Mr. Herbert Kelcey, Mr. John Kellard, Miss Helen Tracy and others.

**Tremont Theatre.**—Mr. E. S. Willard will begin the third and last week of his engagement. It is probable that he will present some of his old successes during the week, among them "The Middleman," in which Mr. Willard made his first impression on the Boston public.

**Castle Square Theatre.**—A grand revival of "Il Trovatore." Miss Lane is at her best in this opera, and Murray is also very fine. The chorus, as usual, do very good work, the chorus of men's voices in the last of the second act being especially good. Friday evening will be the 600th performance, and every lady will be given a silver souvenir.

**LEADING OUTFITTERS** —

OF

**High Grade Mackintoshes**

AT POPULAR PRICES.

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

**CLEVE & KRIM,**

Metropolitan Rubber Co.

49 Summer Street, Boston.

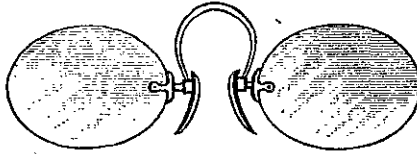
**Six Floors of Stationery.**

We occupy the entire building, Nos. 49 and 51,  
for the Stationery Business. Buy direct  
of the manufacturers.

**SAMUEL WARD COMPANY,**

No. 49 Franklin Street,  
Boston.

# Rimless Glasses.

25 per cent  Discount.

CO-OPERATIVE LIST

Oculists' Orders Filled.

FACTORY ON PREMISES.

MAIL ORDERS A SPECIALTY.

CATALOGUES MAILED ON APPLICATION.

## C. E. DAVIS,

Manufacturing and Prescription Optician,

2 PARK SQUARE - - - BOSTON.

I FLIGHT. ELEVATOR.

# HIBBARD & MASON

(INCORPORATED)

## Tailors,

### MUSIC HALL PLACE,

Telephone 579.

Off WINTER STREET.

BOSTON.

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

Dress Suits to Let.

## Frank Wood,

Printer,

352 Washington St.,

Boston.

## Boots and Shoes.

All styles in Calf, Winter Russet,  
and Patent Leather.

Rubbers and Overshoes  
of all kinds.

PRICES REASONABLE.

Our \$4.00 and \$5.00 Shoes are  
of superior style and quality.

DISCOUNT TO TECHNOLOGY.

### T. E. MOSELEY & CO.,

469 Washington Street.



# The Richmond Straight Cut No. 1 Cigarettes.

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

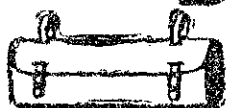
These Cigarettes are made from the brightest, most delicately flavored, and highest cost Gold Leaf grown in Virginia. This is the Old and Original Brand of Straight Cut Cigarettes, and was brought out by us in the year 1875.

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

**ALLEN & GINTER**

**THE AMERICAN TOBACCO CO., SUCCESSOR,**  
Manufacturer, **RICHMOND, VIRGINIA.**

FOR THE  
BICYCLE.



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



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

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

**AVOID SUBSTITUTES - Weak, Watery, Worthless.**

**POND'S EXTRACT CO., 76 Fifth Ave., New York.**

## O'KEEFE HIGH GRADE FOUNTAIN PEN.

If cannot obtain at your **Bookstore**, to introduce Pen in your College, on receipt of cash with order, will send by register mail one Pen at 20 per cent discount Clubs of five at 25 per cent discount. Clubs of ten at 30 per cent discount.

No. 2, No. 3, No. 4,  
**Price . . . . . \$2.50, \$3.00, \$3.50**

**UNLIKE ALL OTHERS IN  
Construction and  
Combination of Parts  
EVERY PART NEW AND NOVEL,  
COMPLETE AND PRACTICAL.**

Call at office of your College paper and see illustration of Pen, and opinions relative to same. Address

**Wm. H. O'Keefe, 60 Main St., Lockport, N. Y.**

Advise if fine, medium, or coarse pointed pens are wanted.

Established 1843.

Incorporated 1895.

## "STUDENTS," ATTENTION!

LARGEST STOCK AND LOWEST PRICES

... ON ...

# MATHEMATICAL INSTRUMENTS

AND DRAWING MATERIALS OF ALL KINDS, at

## FROST & ADAMS COMPANY'S,

IMPORTERS AND WHOLESALE DEALERS,

**37 CORNHILL, - - - - BOSTON.**

"SPECIAL RATES TO COLLEGES."

NEW ILLUSTRATED CATALOGUE FREE.

**THE Union Gymnasium**

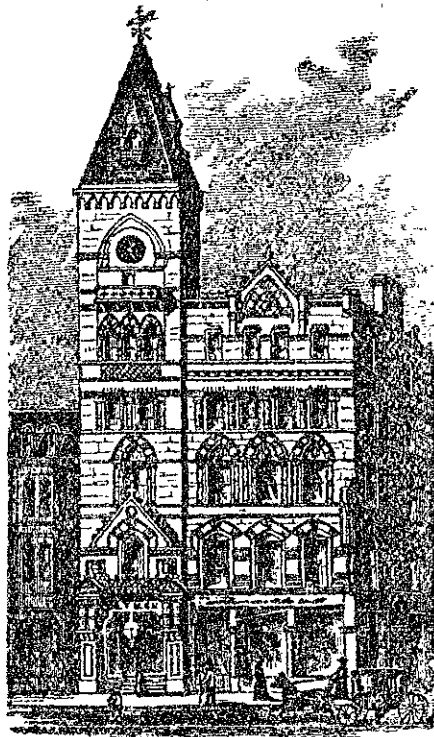
48 BOYLSTON ST. (near Tremont).

PRACTICAL.

Complete Modern Apparatus.

Popular Classes.

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



POPULAR.

Extra Large Lockers.

Competent Instructors.

No Extra Charge for Instruction

**BOSTON YOUNG MEN'S CHRISTIAN UNION.**

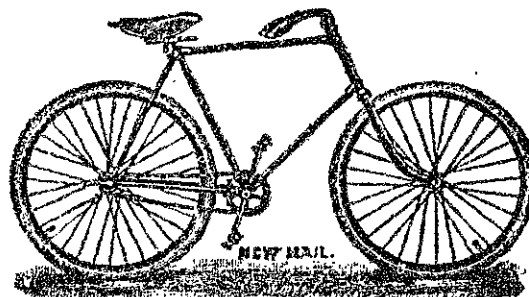
WM. H. BALDWIN, Pres.

GEORGE PEIRCE, Sec'y.

**NEW MAIL**

HIGHEST GRADE LIGHT ROADSTER.

**\$85.**



MEN'S AND LADIES' pattern . . . \$85

Also **TEMPLAR** medium grade Men's Wheel . \$60

**ATALANTA**, Ladies' Pattern . . . \$60

Boys' and Girls' Wheels . . . \$15 up

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

Catalogue and Secondhand list.

**WILLIAM READ & SONS**

107 WASHINGTON STREET, BOSTON.

*Elmer Chickering*

**The Leading Photographer.**

SPECIAL RATES TO STUDENTS.

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

NECKWEAR

UMBRELLAS

**THE L. E. FLETCHER CO.**

**College Hatters and Outfitters.**

Latest Styles and Popular Prices. Custom Shirts a Specialty.

M. I. T. CO-OPERATIVE SOCIETY.

No. 158 Boylston Street, Boston.

GLOVES

CANES