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# The Tech.

CHRISTMAS NUMBER.

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## THE TECH.

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

### BOARD OF DIRECTORS, 1884-5.

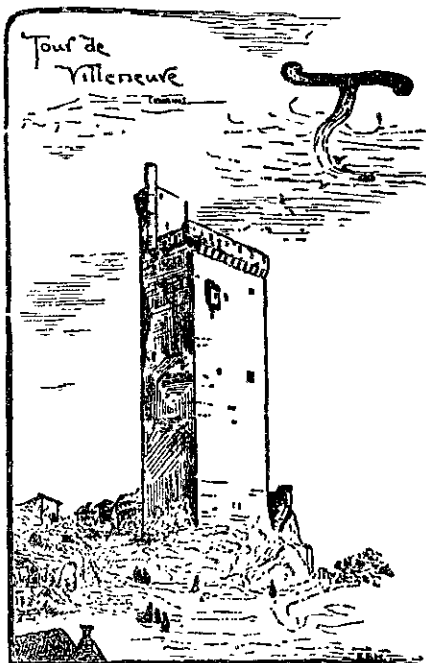
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THE first of December found another foot-ball season has passed without bringing any laurels to the eleven from the Institute. As before, an all but unbroken series of defeats is recorded to our credit—rather, discredit. The record of the team, this year, is even worse than that of last, for then we played one game only, but in that made a creditable showing compared with the results of the games last fall.

It is a question in our minds as to whether foot-ball should not be banished from our sports, if we cannot do more with it. Still, this is the only game which we can attempt to play, and in which we can compete with our sister colleges. Base-ball or lacrosse cannot succeed here, because our spring term closes so early in the year; boating is out of the question on account of lack of facilities; and we have no grounds whereon to play tennis. Foot-ball, then, alone remains.

Now, what reason is there why we should not have at least a fairly good eleven? The Union grounds, only five minutes' walk from our main buildings, are suitable to play on, and can be obtained if the students will do their share toward the support of the Foot-Ball Association. There is time for a moderate amount of practice, after our afternoon work and lectures are through; and, most important of all, we certainly have good material here from which to select a team. This year, for example, five men had previously played on our own team, and four at Andover and Exeter. This ought to have been a nucleus from which to make a strong team.

Now as for the prospects next year. But one man on the eleven will graduate with '85. There is a fair possibility of securing a few good men from the next Freshman class. We can have grounds on which to practise, and upon practice the whole matter rests, for it is here that our teams have always failed.

Then let us give foot-ball one more trial. Let the manager of the association canvass the foot-ball men, and see if he can secure enough who will promise to practise next fall to make it worth the while to form a team. Let every man join the association and subscribe to its support, to the best of his ability, and thus put it on a firm financial basis.

If after this last trial, the team again shows itself to be such an absolute failure as it has heretofore, and continues to reflect discredit on the Institute, then let it be understood that foot-ball, the last on our list of sports, is also to be abandoned.

THE class of '88 has elected Mr. Edwin O. Jordan as its representative on the Board of Directors of THE TECH. An editor from that class will soon be chosen.

THERE are a great many occasions in a man's business and social life when to be able to preside over a literary, scientific, political, or any kind of meeting would be a great convenience to himself and others. Any one is liable to be called upon to perform such a duty, yet it is a matter of fact that comparatively few possess the knowledge of parliamentary principles, which, besides power to control, clearness of mind, quickness of judgment and decision, is necessary to a good presiding officer. It is a very general opinion that this knowledge can be gained only by long experience. Such, however, is not the case, except in regard to some legislative bodies, or where a great deal of business, with the accompanying wrangling of opposing parties, must be transacted, requiring a very thorough familiarity with all the minute details of parliamentary rules. As an officer or member of the most common meetings, a good general knowledge of the principal kinds of motions is all that is necessary.

Let any one secure Robert's or Cushing's small manual of Rules of Order, and devote to it two or three hours, at odd moments, and he will be surprised to find how easy it is to acquire information which, when applied to the business of a meeting, will greatly facilitate its transaction, besides avoiding, by correct methods, any difficulties due to carelessness or misunderstanding. The class, society, and mass meetings at the Institute would be an excellent field for practice in this matter, and if a few will take the initiative, the results will be of great value.

THE lack of interest in athletics at the Institute, much to be deplored as it is, can scarcely be considered unnatural. To be sure, a gymnasium is open to the students, in which they may practise if they wish; but here the Faculty's interest in the physical well-being of the students ceases. They offer no inducement to the students to take regular healthy exercise. The gymnasium is open; but it is too open and at the same time not open enough. Any one can go in, and if he sees fit, or ignorantly, he

may do himself any amount of harm; there is no instructor to tell him what he needs, or restrain him from what he does not need; on the other hand the gymnasium is practically closed to those who feel their inability to judge of their own requirements, because of their inexperience in things of the sort. These latter are for the most part the very ones who need the exercise most, yet the ones whom the gymnasium almost entirely fails to benefit. Some of these go to other gymnasiums; but the greater part devote themselves entirely to brain work, and neglect the foundation of brain capacity, bodily health. The hours of work in preparation for recitations are carefully regulated, in theory, by the Faculty; but no arrangement is made in this scheme for an hour's active exercise.

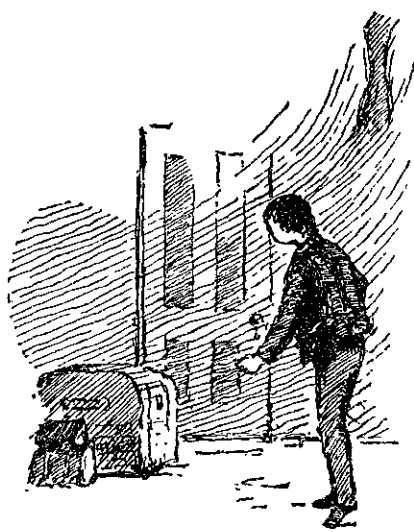
There is a very general impression that an average of the men of the Institute, taken at their graduation, would show a smaller amount of health and strength than most of our first-rate colleges would give. Whether this feeling would be borne out by impartial statistics, we do not know; but if it be so or not, the responsibility resting on the Faculty is the same. One does not give a child fire-works to do with as he likes; but, though a gymnasium unwisely used is acknowledged to be a very dangerous thing, inexperienced students at the Institute are offered one without any sort of authorized or responsible instruction.

Any one making a drawing for THE TECH will please apply to Mr. C. H. Woodbury, '86, for some standard paper for the purpose. Contributions of drawings should be addressed to Mr. Woodbury.

We beg leave to inform some of our exchanges that our title is THE TECH, not "The Teach"; it is an abbreviation of Technology, and not an attempt at phonetic spelling.

The Sunday *Herald* of Dec. 7 copies from THE TECH Mr. Rotch's account of the Blue Hill Observatory. We are glad that the article was considered of interest to the public, but regret that the *Herald* omitted to state that it was written for THE TECH.

## The Mystery of Miss Cissy Lister.



SAY, Roger," exclaimed I, softly, but with earnestness, as I hastened into my friend's room (then I looked carefully to see if the door was securely closed), "will you believe it? The fair neighbor is from Mundsport!"

"From Mundsport!" cried Roger, with as much surprise as I myself felt.

"And her name is Miss Cissy Lister," I added, both to revive his memory and to gratify my own taste for alliteration; "I saw it upon a letter for her on the hat-tree."

"Miss Cissy Lister, from Mundsport," repeated Roger, cogitating; "there's no family of Listers in Mundsport."

"Strange, is it not?" I asked; "and yet —"

"And yet, as you say," interrupted Roger, who is always taking the words out of my mouth and turning what might have been bright coming from me, into what is utterly commonplace coming from him, — "and yet, as you say, it is hard to believe that these rooms have fallen into the hands of any but Mundsport people. Half a dozen years is a long time for three rooms in a lodging-house to remain in the possession of one set whose individuals are constantly changing. Do you recollect how bitterly we wept when we discovered that a stranger, as we thought, was actually about to invade our sacred precincts? But now those tears were all in vain." And Roger shed a few pearly drops at the thought of all the tears that had been wasted through a mistake.

"But remember," said I, — for I am always inclined to the bright side of affairs, — "remember, too, our joy in finding that the new comer, though, as we then thought, not from Mundsport, was, nevertheless, a lovely creature of feminine flesh and blood, instead of the intolerable ogre we had but too good reason to expect."

"Ah, yes!" replied Roger, when he had recovered from the first poignancy of his grief; "how beautiful she is, how graceful, how — how modest, how angelic. Oh, but to think of the insuperable obstacles that separate us from her!" And the poor fellow again gave way to overpowering emotions.

"Insuperable! No! *Mehercule!*" cried I; "you shall hear, Roger, and you will rejoice as I do that the obstacles are no longer insuperable. This afternoon, as I was sitting in my room with the door into the hall open as usual so that I might see her when she passed out, I heard a loud and interesting rustling in her room. Presently her door opened, and, with that indescribable noise which women make when they move, — a sound like that of the breath of the morning stirring the poplar leaves, — she came forth. Involuntarily I started from my place. The motion was reflex, unintended, unknown, until I perceived that I had startled the nymph, the fairy, the goddess, — call her what you will, so that she be divine. For a moment she bent her limpid eyes upon me; then, with a rising blush, she turned to go her way. But fate would not permit that this encounter should be productive of no more ultimate relationship. Before she reached the stairs her dainty *mouchoir* was wafted from her unconscious grasp upon the eddying breeze of her advance. Quicker than thought, — yes, swifter than the lightnings of Jove, — I sprang to return the perfumed fabric to its owner. Fain would I have preserved it as incense to be offered to my heart; but the faint scent did but salute my nostrils, then went to soothe her fairer ones. One instant I breathed the perfume of her presence; one instant looked upon a goddess; one instant tasted the sweetness of her smile; and then I was alone.

"Two amatory doves that perched and billed in effigy upon her bonnet's brim, two silver clasps that bound her cloak about her breast, two threads that drew her gloves with greater closeness to her wrists, two lowly buckles that fastened her dainty arctics, — not one of them felt for the other such yearning as then arose, within my heart, for her.



"But I must not tarry; listen. I stood and watched her hand, still following the railing of the stairs, as she descended; then, as I turned away, my eye fell upon a trunk that stood in the storeroom at the end of the hall. The door was open, and the light from my window penetrated as far as this, revealing distinctly upon the end of the trunk the last three letters of a name, — ORT. The trunk was not mine; my heart told me it was hers. With feverish anxiety I tore away the valises and rubbish which hid from my devouring gaze the rest of the word that ended in ORT. Imagine my surprise, delight, exultation, when I read in capital letters,\*

### MUNDSPORT.

"And can it be, Roger? Speak to me, and tell me it is so without a doubt. Is she from Mundsport, from the home of my childhood, yet unknown to me? How has she escaped so effectually from being known to you or me, who know, without exception, every person in the town? Oh, it is impossible! and yet — and yet —"

"And yet, as you say," said Roger, affected by my impetuosity, as I led him to the unconscious cause of part of my emotion, — "as you say, there must be some explanation."

"This is the trunk," said I, beneath my breath, and I sat upon it reverentially.

"Is that the trunk?" asked Roger, who seemed to have sustained some shock to his sensibilities; his self-restraint gave way, and for the third time he burst into tears, as he cried in a voice broken with emotion, "That — is my — trunk."

"So you think your son smokes, Mrs. Jones?" "I am sure of it, Mrs. Brown. I've found pieces of tobacco in his pockets." "Dear me, dear me, I'm sorry. My son has no bad habits. I never find anything in his clothes but cloves and coffee beans." — *Somerville Journal*.

\* Owing to a difficulty in printing, the letters are not reproduced here in *fac-simile*. It should, however, be stated that they bore superficial evidence of having been made by one who had received the first year instruction in lettering at the Institute.

### A Christmas Carol.

#### STAVE ONE.

SCROOGE was a Senior, — a grave, sedate, and hard-working Senior. All the hilarities of his former life had long since been buried in years of hard study. Gym. dances, theatre parties, class suppers, rushes, and torchlights, — all were forgotten, for Scrooge was at work on his thesis.

Scrooge's room had as gloomy an aspect as he himself. Books and drawings and papers covered with long calculations were scattered about everywhere; but no gaudy lithographs of popular actresses and no surreptitiously stolen signs adorned its walls; only in one corner there hung a bedraggled and soot-covered gown, with the inscription '85 on its breast. This was the only ornament that the room boasted.

It was Christmas eve, the gay holiday time when every one lays aside work for festivities and merriment, — every one except Scrooge; but he was still studying, — that is to say, he had been; but he felt tired this night, so that before he knew it he was dozing away over his book. A door down-stairs closed with a loud bang, and he suddenly started up. "But what is that strange sound I hear?" thought he, — clank, clank, clank, as though a chain was slowly being drawn up the stairs. Yes; it is coming nearer, and nearer, and towards his own room, until there it stops. Then Scrooge perceives something like a cold, damp mist blow into the room through the keyhole in the door, and gradually begin to take shape. Terrified, he turns away his face; but curiosity impels another look, and now, to his intense astonishment, he sees a well-dressed young man, with a bundle of papyrograph notes in his hand, standing before him.

"Who are you?" gruffly asked Scrooge, his courage returning.

"I," replied the ghost, for such he was, — "I am the shade of Hadley, — J. G. Hadley. An untimely fate cut short my earthly days, and now my spirit is compelled to haunt the old familiar scenes about the Institute, as a will-o'-the-wisp for Freshmen. But I have come for you, Scrooge; you must follow me!"

Just then the clock on the shelf struck midnight.

## STAVE TWO.

An irresistible power seemed to compel Scrooge to follow at the ghost's bidding. He had no time to snatch any covering as he was drawn out into the cold, frosty air; but he did not seem to feel its sting. Apparently he was floating along through a dark, fathomless vacancy, when gradually things began to make themselves distinguishable, and finally he perceived that he was in the well-known chemical laboratory, where he had passed so many dismal hours. Proceeding as though he was familiar with things here, the ghost now led the way down an innumerable number of stairs, — so it seemed to Scrooge, — through long halls and down more stairs, and finally out in the open air over to Rogers Building.

"Look," said the ghost, and with his right hand he waved a glass stirring-rod, which Scrooge had not noticed until now. Scrooge looked, and could he believe his eyes! a number of merry, laughing fellows were singing gay songs, and with joined hands were dancing about a young sapling.

"What is the meaning of this?" cried Scrooge, unable to repress his amazement, for he recognized himself among the crowd.

"Jolly Juniors," replied the ghost; "it is their class tree."

## STAVE THREE.

As this faded from his view, the ghost took Scrooge by the arm, and again he seemed to be floating through immense space; but did his senses deceive him, for now he saw that he was walking through a large park, with beautiful, stately trees, which he knew must be the Common?

The ghost touched Scrooge on the shoulder, and pointed to the left. There, under the wide-spreading branches of an old elm, a rollicking crowd of young men was seated around a table, drinking, apparently with much thirst, a dark-brown, foaming liquid. A gay-looking youth, who looks very much like Scrooge, climbs up on the table, and, holding aloft his glass, cries out,

"'Rah for '85!" while the others join in with the cheer.

"Sophs, of course," laconically remarks the ghost.

## STAVE FOUR.

The cheer dies away in the distance, and Scrooge again finds himself at Rogers Building. He goes into the entrance hall, which he finds to be filled with a throng of innocent-looking boys, who are all evidently strangers to each other, and are feeling very uncomfortable on that account.

Yes; there is Scrooge himself again, standing alone in a corner, but much younger looking than before.

"You were a Freshman then," said the ghost.

A mist or fog gradually crept in and covered this scene, breaking away, however, in a few minutes. Scrooge this time discovers a brilliantly lighted hall, where a crowd of pleasant-looking young men and handsome young women were dancing to the inspiring strains of a waltz. Around the ball-room in groups stood a number of unhappy-looking youths, all clad in the same kind of a sombre-blue military jacket, with black bone buttons. Suddenly a grin o'erspread their faces, as they suddenly burst into a cheer, "'Rah for '85, the last class to give a Freshman ball."

Scrooge awoke with a sigh; his book had fallen from his hands. The candle on the table was burning low; it flickered and went out just as Scrooge fell back in his chair with a gasp.

Scrooge was dead. The spirit of '85 had gone to join that of '84, never to return.

The clock had stopped at midnight.

An inspection of the Catalogue for 1884-5 shows no essential changes in the text, which, as usual, describes the courses of instruction given by lectures, recitations, drawing, field and shop-work and laboratory practice. The Faculty has been increased to twenty-nine, and there are, in all, fifty-eight officers of instruction. The names of those composing the visiting committee are published; these committees were created last year, and will visit the lecture and drawing rooms and laboratories during class exercises.

### A Thunder-Storm in the Oil Country.

THE past week had been unusually hot, and that day surpassed all before in sultriness. About noon distant thunder was heard, and, looking toward the west, we saw a low, straight line of black cloud-mass rapidly approaching. As the dark curtain swept over our heads, the accompanying wind-storm, from a breeze, suddenly increased nearly to a hurricane and threatened to overturn our carriage. We had no need to urge our horses, as they had shown uneasiness even before we had noticed the clouds, and, in spite of the heat, had pressed on with unusual vigor. In going over a little ridge, the road passed close to an old derrick. Its guy-wires, which should have been fastened to a stump, were hanging loosely, probably untwisted by some careless teamster, who wished to pass close to the engine house. From a little distance we could see that the top of the derrick swayed as the gusts of wind struck it, and we felt some hesitation about getting near. However, in the increasing uproar of rushing winds and cracking trees, the horses were almost unmanageable, and we dashed by. Looking back, we saw the whole framework, struck by a sudden gust, start forward and fall with a crash into the travelled way.

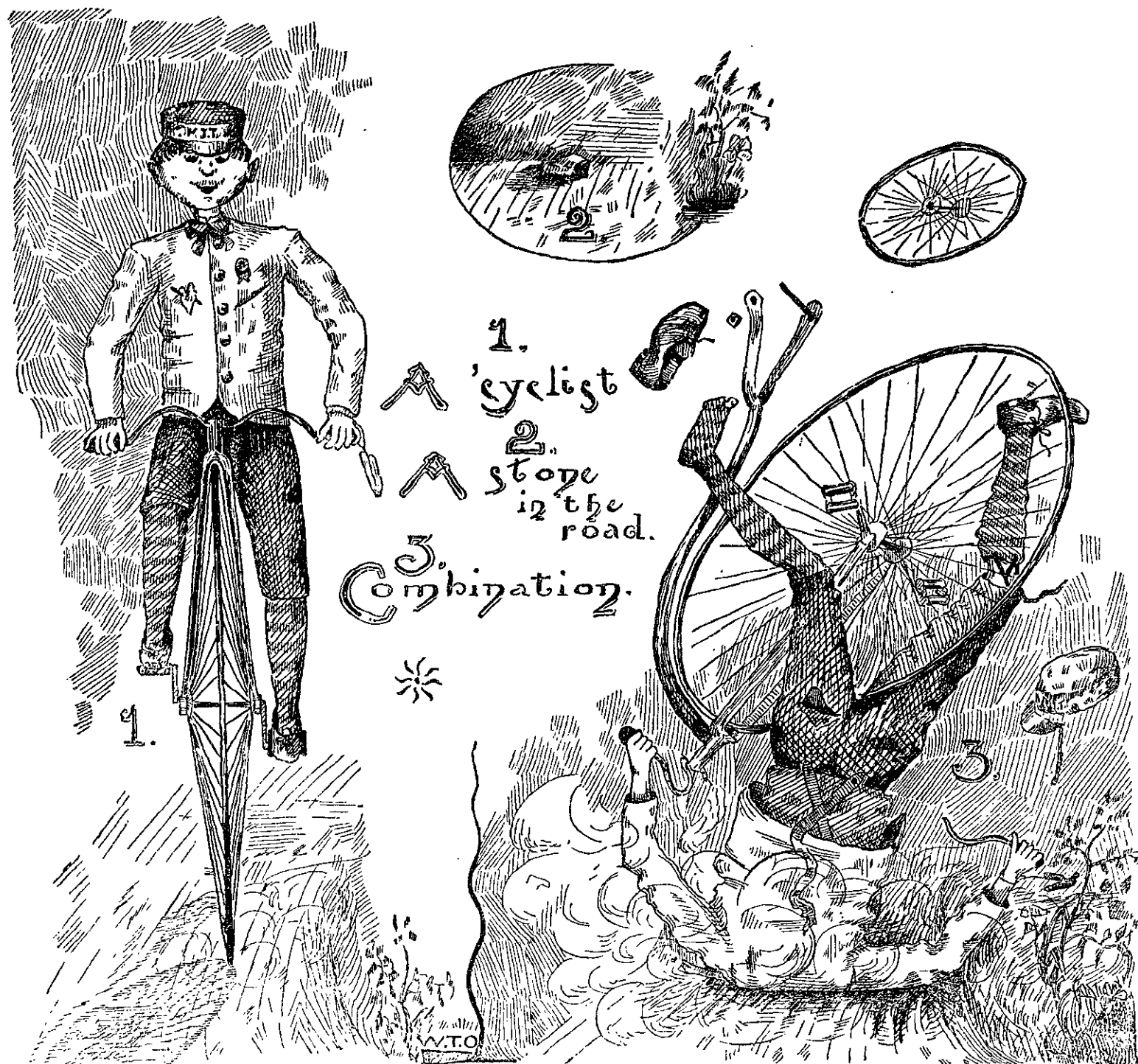
An unusually sharp flash of lightning, immediately followed by a terrible report on our right, caused us to look toward the south, just in time to see the roof boards of a tank-house flying in all directions. The lightning had evidently struck a derrick and had followed the connections into the tank, igniting the gas, which always is rising from the fresh oil. Immediately following this flash, the black smoke began to roll out sluggishly, and little red flames crept out of every crack. Eager to see the fire, we turned our horses down the valley and left them at the nearest barn. By the time we got to the well the oil was running down hill in a flood, as though the tank had burst. The burning oil was pushing on directly toward a ravine which, usually dry, was now filled by a miniature torrent. A man was making ineffectual attempts to turn the course, but the oil, halting

for a moment behind his little dam, would burst through, and, by its intolerable heat, drive him from his unfinished work below. The tank was of two hundred and fifty barrels' capacity, and, judging from the amount of oil running down, must have been full. Soon the fiery fluid reached the water, and seemed to burn with added vigor, converting the brook into a stream of fire. Without stopping to watch the burning tank-house and derrick, we followed the oil to see where it would go. By some mischance the mouth of the ravine had been blocked up, and, instead of flowing into the low marsh, the stream turned abruptly to the right and spread out over the alluvial plain. Here, on a large smooth farm, were six iron storage tanks, about eighty feet in diameter and twenty-five feet high, each holding 30,000 barrels of oil. The burning oil spread with fearful rapidity over the level surface, and finally touched the sides of the nearest tank. At first it seemed to have no effect on the iron plates, and we hoped that the fire would burn away; but soon the thick oil on the surface of the plates and along the riveted seams began to smoke, and a little line of fire crept up to the top, then disappeared for an instant. Suddenly, with loud explosion, the heavy plank and iron cover of the tank was thrown into the air, and thick smoke rolled out. The sight was grand. The storm having done its mischief had passed over, and the heavy billows of black smoke rolled up into the clear sky in an almost vertical column, about one hundred feet in diameter and probably one thousand feet high, at top spreading out into a huge umbrella, or, at times, driven by a gentle upper wind, trailing off in a sinuous line.

Already the news of the fire had been telegraphed to the central office of the Pipe Lines, and all its available men and teams in the neighborhood ordered to the scene. The foremost now began to arrive, and before long men were swarming in from all directions.

The old ditches and mounds around the tanks had become almost levelled by time, so several gangs of men were set to work throwing up earthworks around the tank, and another gang





digging a trench to carry the oil away from the direction of the other tanks. The pumps at the nearest station were urged to their greatest capacity, and we could hear the hoarse aspirating of the huge Worthingtons pumping the oil from the bottom of the doomed tank. Night was coming on, but there was no need of lanterns, for the fire, like an enormous smoky torch, cast a reddish light over the whole country, and the glare could be seen twenty-five miles away.

Suddenly, with great hissing, the flames shot up to unusual height, and the spectators shouted, "It is going to foam." At this the workmen

near the tank ran for the hillside. The hissing and boiling grew louder and fiercer, and the fiery oil flowed over the edge on one side and then on another, forming blazing pools all around on the ground. The tanks, now heated on the outside as well as inside, foamed and bubbled like an enormous retort, every ejection only serving to increase the heat. At last, with surpassing brilliancy and scorching heat, half the contents of the tank, in great rolls and geysers of fire, rushed up and up to — but we did not stop to calculate how high, for catching a glimpse of a column of fire about to fall in our

direction, the crowd, panic-stricken, turned and fled up the hillside, little heeding briars or fences. When, panting, and with clothes wet and torn by the blackberry vines, we stopped to look around, we saw the spot we had just quitted, a perfect hell of fire. The writhing masses of black smoke were streaked with reddish flames and white steam from the little pools of water. The area of the fire rapidly extended and soon loud explosions in quick succession told that the two nearest tanks had caught. These tanks, surrounded by fire, in turn boiled and foamed, and the heat, even at a distance, was so intense that the workmen could not approach near enough to dig ditches between the remaining tanks and the fire. All force was now concentrated in the endeavor to keep the oil from the little river. Ineffectual attempts were made at a place just above the tanks to turn the main flow of the water through a long unused bayou away from the fire. The men would rush into the water, work with might and main for a few minutes, till they could no longer stand the heat, then retreat to some shelter.

At the same time a surface dam and sluiceways were being built across the stream below the fire, so that when the oil got on to the water it, floating on top, should be held back while the underflowing water could escape through the sluices below.

The oil continued to spread, running into all the little depressions, thus giving greater surface for combustion; and the heat increased till at last the nearly completed dam below had to be given up. A new one was started farther down in a less favorable spot, but this labor was in vain, for the oil at last finding a little gully, poured out upon the river. Now it burned with increased fierceness, sputtering and sending up clouds of steam. On it swept, pausing only for an instant at the two dams, and then flowing into the belt of woodland below. The course of the stream was well shown by the forked flames waving above the tree-tops. Beyond the woods the water spread out into a mill-pond. Here the stone dam with its water-soaked booms, held back most of the oil, the little escaping

being consumed before it did much damage below. But the old mill was doomed; and although a steam fire-engine was at hand, little could be done; for, with the river on fire, water could only be had from the springs.

To a spectator on the hill-top the sight now must have been grand indeed; from the three burning tanks, surrounded by flaming pools, stretched a belt of fire one half mile long to the broad mill-pond, with blazing mill and lumber piles.

By this time arrived the long looked for cannon; for oil fires, like battles, are fought by artillery. Since the great destruction is caused by the oil becoming overheated, foaming and being projected to a distance, it is usually desirable to let it out of the tank to burn on the ground in thin layers; so small cannon throwing a three inch solid shot are kept at various stations throughout the region for this purpose. The cannon was placed in position, aimed at points below the supposed level of the oil and fired. The marksmanship at first was not very good, and as many shots glanced off the iron plates as penetrated, but after a while nearly every report was followed by an outburst. This shooting caused more uneasiness among the farmers than the oil fire, and with some cause, for in one case a stray ball went through a small house, knocking the cooking stove into junk, and scaring the old housewife, who was working over it, almost into convulsions. The oil in the three tanks was slowly drawn down by this means and did not again foam over the top, and the supply to the river being thus cut off the fire then soon died away.

The oil continued to burn fiercely during the next day and that succeeding, when unfortunately a stiff gale sprung up, blowing the flames over towards the three remaining tanks, setting fire to them in succession.

It was not till the sixth day from that on which we saw the first tank ignited that the columns of flame and smoke disappeared from the valley. During this time 180,000 barrels of crude oil had been consumed, besides the six tanks, costing each \$10,000, destroyed.

## An Xmas Technic.

'T is Christmas eve. The wind, with icy plaint,  
Vainly seeks entrance to ten thousand homes  
And firesides where pendent stockings wait —  
Like ambush'd beggars — for the patron saint  
Who up and down the earth at Yule-tide roams.

In a small chamber, carpetless and plain,  
A knot of students hold high carnival;  
The merry jest and boist'rous refrain  
Drown the incessant rattling of the pane;  
Below, the mistress of the house lays plots  
Of gastronomic vengeance direful  
Upon the luckless host, who little wots  
The schemes within that sleep-desiring brain.  
A dozen candles, picturesquely stuck  
On shelf and mantel, furnish ample light,  
And serve a baser purpose — to ignite  
That very naughty thing, the cigarette;  
For every guest the noxious tube doth suck  
In intervals when feelings of regret  
At thought of home rejoicings far away,  
Sadden one moment of his holiday.

"Now, something lively, fellows, wake the dead!"  
The little study table fairly quakes;  
The load of text-books it so long has borne  
Lie carefully concealed beneath the bed;  
Their sight no gloomy memories awakes,  
To make their owner or his guests forlorn.  
A novel burden hath the table held,  
Upon this night of gay festivity,  
Of dainties, whose variety excelled  
Their wholesomeness, still more, their harmony,  
Since each youth furnished what his taste impelled.  
Woe to the eater, who, an hour hence  
Shall toss on wakeful couch in pain and penitence.

"Just one more song." In revelry like this  
Who asks who can, or who can *almost*, sing?  
Their college song makes all the glasses ring  
A silv'ry knell to the festivities.  
And the landlady breathes a grateful prayer  
At sound of footsteps clatt'ring down the stair;  
Without, they pause, a parting cheer is given,  
The "'rah, 'rah, 'rah" resounds across the way,  
While startled neighbors wish them all in — heaven;  
The cheerers calmly take their homeward way  
To dream weird tunes and ghostly jokes till break of day

The host returns to his deserted room,  
Extinguishes his Christmas lumination,  
Whose absence seems to magnify the gloom,  
And seeks in sleep the needed relaxation.  
Alas, uncanny shapes confront his sight;

The slighted text-books, underneath the bed,  
Distil their vengeance near his restless head,  
And fill his dreams with terror and affright.  
What need to tell his tortures manifold?  
Sometimes extends before his heated brain,  
Boundless and colorless, a dusky plane,  
Where myriads of diagrams unfold  
All facts and theories, both new and old;  
These must he copy without hesitation,  
And list to the instructor's explanation  
At the same time — or dread a visitation.  
Then circle round him in procession slow,  
A file of phantoms, garbed in white and black;  
Their stern-lined visages he well may know;  
He sees them close, like bloodhounds, on his track.  
Annuals, semis, intermediates, —  
Synonymous with all the student fears and hates.

Still wilder grows the dream. All tasks and tests  
Of college life, from shade personified,  
Float o'er his bed like weirdly winged guests  
In some malignant mission occupied.  
*Furious F's Flit Fierce and Fast* around;  
A mighty host of spectres beckon him —  
The pallid ghosts of all who e'er lost ground,  
Then place, then name, on college records grim;  
With mocking laugh they nod, and mutter, "*Come,  
Join us, you must, you shall!*" With horror numb,  
He seems, on some dense laboratory fume,  
Borne off to meet th' inevitable doom, —  
A frenzied start — a gasp — and he awakes,  
And all the comfort of the waking takes;  
A subtle perfume greets his ravished sense,  
Whereat he leaps forth on the chilly floor,  
And searches as he never searched before,  
Until he finds the hidden fountain, whence  
The soothing influence doth emanate, —  
Only a tumbler left by heedless guest,  
Half full of HCl and FeS,  
Standing beside his books in friendly state.  
Out through the window doth the mixture fly,  
The sufferer, on the cold damp floor, consigns  
A certain guest to regions warm and dry;  
Then to his couch more hopefully resigns  
Himself, and the long-sought repose at last he finds.

C.

The Glee Club associate membership project has met with hearty approval among the students and bids fair to be a source of much enjoyment at the Institute. The Club is rehearsing three afternoons a week until after the first concert. The orchestra rehearses Friday evenings.

### It Might Have Been.

"Of all sad words of tongue or pen,  
The saddest are these — it might have been."

The following note will explain itself ; we are glad to have Mr. Dent's communication, which was handed to us by Mr. Pell :

MR. THADDEUS PELL :

*My dear sir,* — My attention has recently been called to a short story published in THE TECH, and signed with your name, which has forcibly recalled an occurrence in my own family, the details of which I have taken the liberty to send you.

Very truly yours,

C. H. D-N-T.

HOLHURST, MASS., Dec. 10, 1884.

WE were sitting by the open fire after tea, one evening, at Prof. Dent's, and we had been relating strange experiences which had befallen us ; but our tales fell into insignificance when the Professor's brother, Mr. Grantley Dent, was one of our number, as on the present occasion ; for he always brought with him a store of strange stories and reminiscences of by-gone days, when he came for one of his rare visits, until we really came to associate him in our minds with a weird sort of life, different from that of other men. He had been for years a great traveller, wandering hither and thither, seldom pausing long in any one place, but coming back ever and anon, for a day or two at his brother's ; and "Uncle Grant's" visits were hailed by us all with great delight

There had fallen upon us a little silence, this evening, after a pathetic story of a young gypsy girl, that Mr. Dent had just finished, when Fred exclaimed, "O Uncle Grant, you've never yet told us that story about the Grantleys' old coachman, Cæsar, that you promised us when you were here before, and this is just the time for it."

"Why, did n't I tell you that, after all ? Well, let me think ; it must have happened over sixty years ago, for I was a young man when my mother's half-brother, Robert Grantley, told me, and it occurred years before that. Well," as he slowly knocked the ashes from his cigar, and

settled himself comfortably in his chair, "at that time the Grantleys lived at the old homestead on Oak Street. I've told you what a long, rambling house it was, and Cæsar, the old colored coachman, had for years occupied the little room in the third story, at the head of the back stairs ; and for years he had walked in his sleep, night after night, always carrying his candle lighted in his hand. The family had become so accustomed to his nocturnal wanderings about the house, that they had long ceased to give them a thought. But one night Robert Grantley woke suddenly out of a sound sleep, and heard slow, muffled sounds which he recognized as Cæsar's somnambulistic footsteps. Acting on one of those sudden impulses that we sometimes feel, he rose, and hastily throwing on his dressing-gown and slippers, went out into the hall ; there, sure enough, he beheld old Cæsar, who had come through from the back part of the house, slowly going down the front stairs, carrying his lighted candle before him, his wide-open, unseeing eyes staring fixedly into space. Noiselessly he followed the old man down the stairs, through the hall, through the dining-room, across the little entry that separated it from the kitchen, through the kitchen, and out into the wood-shed beyond, the sleeper never running against anything, but carefully, as if awake, avoiding all obstacles in his path.

"Having reached the wood-shed, his curiosity changed to a thrill of expectant horror, as Cæsar took up the axe, laid it over his shoulder, and returned as he had come, setting down his candle as he fastened the wood-shed door. Back he went, upstairs, followed by Robert, who dared not awaken him. At the second story he turned, and went straight to Robert's room, walked up to the head of the bed, set his candle on a chair, and raising the axe high above his head, brought it down with sickening force upon the pillow where so lately had lain the head of the horror-stricken man behind him.

"Blow after blow followed, cutting the pillow into pieces. Then Cæsar picked up his candle, carried the axe back to its place in the wood-shed, and returning to his little room at the

head of the back stairs, lay down in his bed again. Robert at once wakened his father, and they both went up and attempted to rouse Cæsar; but the old man only muttered something sleepily, as he turned over in bed. In the morning, however, Dr. Grantley told him what had happened, and poor old Cæsar was completely overcome with grief and horror, at the sight of the mutilated pillow, as he realized how near he had come to committing unconsciously an awful crime. Of course the doctor had to dismiss him, for it was no longer safe to keep him in the house. But Robert said he never went through the hall at night, without recalling his midnight following of old Cæsar, and shuddering, as he invariably thought, 'What if I *had n't* waked in time, as I did, that night.'

### Communication.

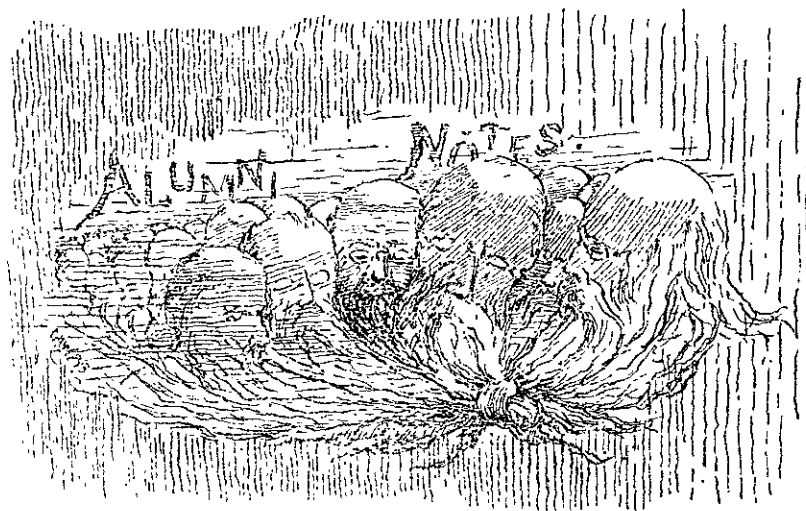
*(The editors do not hold themselves responsible for opinions expressed by correspondents.)*

EDITOR TECH: If you will kindly allow me the use of a small space, I would like to state a few facts as regards the financial condition of the Foot-Ball Association. There is at present in the treasury about \$15, and we have debts amounting to \$125. As the season is over, it is only possible to clear up this debt by the contributions of the Institute men. It seems to me, when other colleges, *one third* the size of the Institute, contribute as much as \$1,000 to the support of their teams, the Institute should at least be able to subscribe as much as \$500; but such, I regret to say, has not been the case this year. I earnestly beg all those who have not as yet contributed, to do so at once, so that at the end of this year we can be clear of all debt. Subscriptions can be made to the undersigned. Yours respectfully,

SOLOMON STURGES,  
*Treasurer.*

Boston, Dec. 13, 1884.

At the recent city election President Walker was elected to the School Committee by a practically unanimous vote, his name being on all tickets.



Charles D. Sawin, '78, is a practising physician in Charlestown. After leaving the Institute he went to the Harvard Medical School for two years; was then Home Physician and Surgeon in the Boston City Hospital for two years, and afterwards studied medicine and surgery for one year in Vienna.

Edward G. Gardiner, '82, who has been studying zoölogy, etc., at Leipzig since his graduation, has recently received the degree of Ph. D.

The class cup of '82 has been presented to Clark Carson, son of Thos. B. Carson; born Oct. 15, 1884. Carson, Sr., is now vice-president and manager of the Moline Screw Company, Moline, Ill.

Wm. B. Fuller, '83, is assistant engineer of track, bridges, and buildings on the Yellowstone and Montana Division of the Northern Pacific R. R.

W. H. Kerr, '83, recently made a short visit to friends at the Institute. The bobbin and shuttle mill at Durham, N. C., the building of which he has had charge of, has just been completed, and he is now preparing the plans, etc., for a large woollen mill to be built at the same place.

H. Ward Leonard, '83, electrical engineer in the engineering department of the Edison Electric Lighting Company, New York City.

William Gilmore, '84, with M. W. Carr & Co., tool makers, Boston.

Rufus F. Herrick, '84, chemist at the Merrimack Mills, Lowell, Mass.



## Noticeable Articles.

THE *North American Review* for December contains a paper by that eminent jurist, Judge Cooley of Michigan, on Labor and Capital before the Law; and in the *Fortnightly* for November may be found, under the head of the Future of Industry, a discussion of the advantages of the association of Capital and Labor by the system of Industrial Partnerships. [Students of the labor question will also find, in a little book just published by Cassell, entitled "Workingmen Co-operators," a very full account of the surprising results produced by English workmen, by the system of co-operation among themselves.]

The *North American* contains Notes on Railway Management, by W. R. Ackermann. It also contains a paper on the British House of Lords, from an American point of view, by Mr. George T. Curtis, the historian of the United States Constitution. While *Macmillan* for November contains a paper by Mr. H. D. Trail on the alleged deterioration of the British House of Commons.

In the *Fortnightly* is a paper on Carlyle's life in London, by Mr. G. S. Venables, an intimate personal friend; while *Macmillan* contains one under the title borrowed from Carlyle's own lectures on Hero-worship, the Hero as a Man of Letters, which concludes thus: "The life of Emerson at Concord, and of Mill at Blackheath and Avignon, tend more to edification than the life of Carlyle with all its tumultuous emotions and all its strange celestial imaginings."

The *Fortnightly* has an anonymous paper on Mr. Gladstone, and 1st Summer's Phi Beta Kappa address at Harvard, by the English Professor Jebb, entitled Ancient Organs of Public Opinion.

The *Contemporary* for November has a paper by Sir E. J. Reed, the great naval constructor, on the British Navy, about the weakness of which the *Pall Mall Gazette* has recently got up a great scare. Prof. Seeley has a third paper on Goethe, and there is an interesting one by the eminent Belgian economist, De Lavelaye, entitled "Wurzburg and Vienna." "Going to Vienna to collect books and documents, with the intention of studying the results of Bosnia's occupation by Austro-Hungary, I take the Rhine route and stop two days at Wurzburg to see Ludwig Noiré and have a talk on Schopenhauer." Noiré invites him to subscribe to a statue to Schopenhauer, but he declines. "I feel persuaded," he says, "that two notions which at the present day it appears are very old-fashioned — I speak of a belief in God and in the soul's immortality — are at the basis of all social science."

There is a paper by Mr. Freeman on Greek cities under Roman Rule; one by Prof. Bryce, "Do we need a Second Chamber?" and one by Dr. Geffcken on Contemporary Life and Thought in Germany.

The *Nineteenth Century* has also a paper on the British Navy.

W. P. A.

## Department Notes.

Two small steam engines are being constructed at the shops by mechanic arts students.

The Senior miners are having a course of lectures in metallurgy from Mr. H. M. Howe, the distinguished metallurgist.

The third-year miners are having a course of lectures from Mr. Clark, of the Mining Laboratory, on explosives and blasting.

Rich veins of gold have been discovered in Lake County, Minn., on the northern shore of Lake Superior. The discovery promises to be a valuable one.

Alvan Clark & Son are finishing the largest lens in the world. It has a diameter of thirty-eight and a half inches, and when completed will cost \$20,000.

The department of mining engineering has received two rock-drills, loaned by the Burleigh and Ingersoll rock-drill companies, from which the third-year miners are to make drawings.

One of the third-year miners determined his alkalies in feldspar by mixture with carbonate of sodium. After weighing, he came out of the weighing room gently whistling, "We draw the line at that."

The largest locomotive in the world has just been completed at the railroad works at Sacramento. Its weight is more than one hundred tons, and it is propelled by five large drivers on each side.

Apropos to what was said in one of the late issues of THE TECH concerning the use of petroleum as fuel in Russia, there is an interesting article upon the subject on page 869 of the *Railroad Gazette*.

The architects are to have, this winter, a life class, meeting Wednesday nights, and a class in drawing from the cast, meeting Monday nights. Mr. Mills gave instruction at the first meeting of the life class, and Prof. Létang will take charge of drawing from the cast. Such things as these are deservedly popular, for they give, as nothing else can, accuracy of eye, and strength and freedom of touch.

Mr. H. A. Hill, of Hill, Clarke & Co., a gentleman who has had a great deal of experience in steam engineering, spoke to the Senior Mechanicals Thursday morning about Steam Engine Indicators, and will probably address the class again after Christmas.

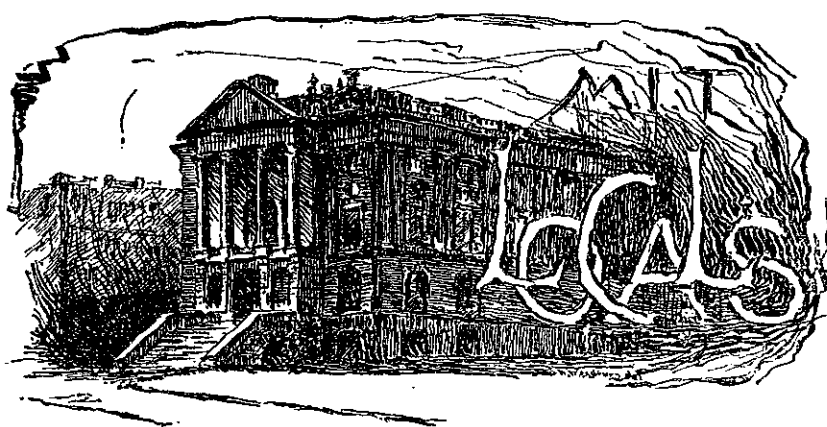
Mr. Woodbridge took the Architectural Class in Heating and Ventilation to see the Chauncey Hall School House last week, where the principal very kindly showed them over the building and explained the apparatus.

The second-year architects have been working up the six-column problem this month, and there is even greater diversity in the designs this year than usual. The possibilities of the problem are evidently not yet exhausted.

The first of the fourth-year boiler tests took place on Wednesday and Friday of this week, from 5.30 A. M. to 5.30 P. M. It is intended to have several more tests next term, when the effect of different kinds of coal and different kinds of firing will be determined.

At the recent Health Exhibition at London, several thermometers were exhibited, put to uses to which the instrument had never before been applied. One was adjusted with electric apparatus so that a bell could be rung, when the temperature rises or falls beyond any desired point. The famous instrument makers, Negretti and Zambra, exhibited a dry and wet bulb thermometer, which would ring a bell at any required temperature. Thermometers devised to indicate fires have been in use for some time.

The New York elevated railways are considering the advisability of supplanting steam locomotives with electric motors. A committee has been chosen to ascertain the comparative merits of five different motors,—the companies owning them to unite in a single company, utilizing the best features of each motor. The committee consists of Prof. Sir William Thomson, of Glasgow; Geo. B. Roberts, president P. R. R.; James H. Rutter, president N. Y. C. R. R.; Robert Harris, president N. P. R. R.; and Prof. Charles R. Cross, of the Institute.



Merry Christmas!

Go to the Athletic games to-day.

Our Christmas carol—Papyrographs have gone.

Mr. F. B. Richards, '83, is acting as assistant in the Freshman chemical laboratory.

C. L. Burlingham and E. J. Wilson, both of '86, have been initiated into the 2 G Society.

Two Juniors have been suspended from the analytical laboratory, and a number of Sophomores and Juniors have been warned.

A Freshman in the chemical laboratory asked an assistant where the powdered *anatomy* was kept? Powdered antimony, he meant.

The Junior Class has elected Borden and Stebbins members of the Gymnasium Committee. W. L. Dearborn and J. G. Ray represent the Freshmen.

The record of the Foot-Ball Eleven during the past season was as follows:—Harvard, 43; M. I. T., 0. Tufts, 4; M. I. T., 6. Williams, 10; M. I. T., 0. Harvard, 42; M. I. T., 0. Tufts, 29; M. I. T., 0.

The action of certain members of the Junior Class in leaving the room and breaking the quorum at a recent class meeting, because some things voted did not suit them, was childish, at least, not to say ungentlemanly.

It is rumored that the Miners and Chemists of '86 are to petition the Faculty to have the laboratory open on Sundays from 6 A. M. to 9.30 P. M., with the exception of an hour for prayers at eleven o'clock. In this way they expect to satisfy the authorities, and at the same time improve on the old method of climbing in on the fire-escape.

The manager of the Foot-Ball Association reports that a number of men have not yet paid their subscriptions. As the association is considerably in debt, these men will confer a favor upon the manager by settling with him at once.

The latest slander on the Freshmen is that one of them recently mistook the wire fence between the Rogers and Kidder buildings for a system of wires connecting the alarm gong, telephone, and chronometrical systems.

RECITATION IN SOLID GEOMETRY. — *Sarcastic Professor (who has been helping confused Student through an entire proposition):* "That will do now, sir; but please remember in the future this is not *Plane Geometry*."

*Confused Student.* "Evidently not, sir."

*First Freshman.* — "Have some lemonade?"

*Second Freshman.* — "Certainly not. I never indulge in such a *l'eau* beverage.

*First Freshman.* — "Oh! that's why you get *high* so often, is it?"

*Second Freshman* disdains any reply.

A repetition of the series of afternoon gymnasium parties of last year was opened last Saturday most successfully. For three hours and a half Baldwin's Cadet Orchestra made light the feet of eighty couples of dancers, by their rendering of some choice selections. The party was voted by all as the most enjoyable affair of the kind they had ever attended, and much praise was tendered to the managers, — C. R. Richards, '85; Chas. Wood, '86; A. L. Cushing, '87; J. V. Wright, '88.

A striking example of the *survival of the fittest* recently occurred in the biological laboratory. Last May, a box containing some one hundred and fifty frogs for dissection was received at the laboratory. In the hurry and bustle of the closing hours of the term the box was laid aside and forgotten, not to be thought of again until the opening of the laboratory at the beginning of the present term. The box was opened, with the expectation of finding the putrefying remains of the hundred and more frogs when, to the great surprise of all, out jumped *one enormous fellow*, apparently in good health. He had survived the whole summer upon his comrades! Thus goes the story.

When the upper-class men went to the bulletin board the other day and saw "That the exercises of the School would be suspended on the Friday and Saturday following Christmas," a look of surprise gradually passed over their faces. To have the thing so long petitioned for in vain now granted voluntarily! It seemed too good to believe.

A certain Freshman "chemist," having received an even 100 in two successive chemistry examinations, thought himself prepared to undertake work of original investigation in his chosen profession. The solubility of carbon was the problem selected. The apparatus used in the first and, at the same time, last experiment, consisted simply of a glass tube, closed at one end. Into this was placed a fragment of carbon, and some carbon bisulphide. The other end of the tube was then sealed and the whole heated over the naked flame of the Bunsen lamp. When the explosion came, Mr. Fresh. was not quick enough to get out of the way of the flying pieces of glass, and so now wears his face covered with plaster. When his interest in chemistry revives he will devote his energies to obtaining more honors in his examinations, but will leave original work alone for the present.

On Saturday evening, Dec. 6, the Class of '85 held a meeting at Young's Hotel. The business transacted was as follows: Mr. M. L. Greeley was elected secretary, *vice* Mr. R. E. Richardson, resigned; the treasurer was authorized to purchase a frame for the '85 class picture, which had been presented to THE TECH; committees were appointed to report upon class photographs and albums; to agitate the subject of exercises, consisting of class poems, history and prophecies, and musical entertainment, on the evening before graduation; and to prepare a programme for the next meeting. After the business meeting the class orchestra, consisting of Messrs. Robinson, Talbot, Plaisted, Homer, and Merrill, played several selections, and Mr. W. L'E. Mahon read a paper, entitled "A Visit to the Cheneaux Islands"; these were well received by the small number present, and, after refreshments, singing was indulged in till adjournment.

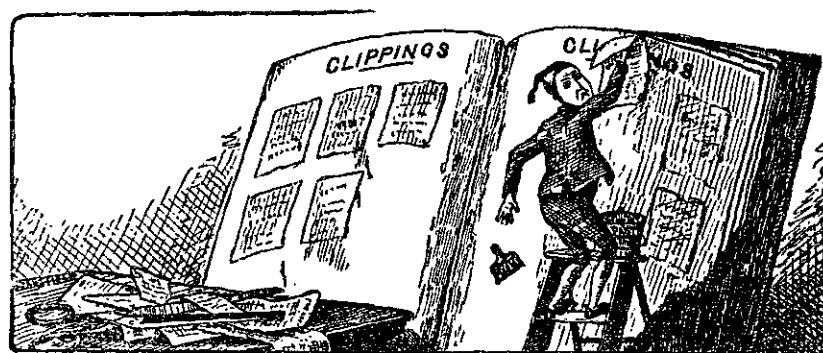
## The College World.

HARVARD. — The Faculty at Harvard seem determined to crush out certain branches of athletics there. The Committee on Athletics are endeavoring to put a stop to foot-ball on account of its roughness. They have informed Capt. Storrow of the crew that the employment of Col. Bancroft as coach will not be permitted on account of the expense, and because he is a professional. And now, the trapezes and other "aerial" apparatus in the Hemingway Gymnasium is to be removed on account of the danger incurred in using them. — It has been estimated that eighty-five per cent of the students at Harvard attend the gymnasium. — *Yale News*. — A petition is being circulated asking that attendance at prayers be voluntary for students over twenty-one years of age. — The Faculty Committee on Athletics went to New York to see the Yale-Princeton foot-ball game. — Several good hare and hounds runs have been held this fall.

CORNELL. — Cornell University has devoted the sum of \$155,000 from the University funds to the establishment of thirty-six new scholarships and seven fellowships. — *Yale News*. — Cornell has never bestowed an honorary degree. — A magnetic observatory for delicate experiments in magnetism is to be built.

YALE. — The foot-ball management are said to have received \$615 as their receipts from the Harvard game, and \$1,800 from the Princeton game. — Terry is said to have made more touchdowns this season than any other player on record. The number is twenty-two. — The Freshman eleven declined to play Harvard this year.

IN GENERAL. — Efforts are being made to introduce military drill at the University at Michigan. — The Senior class at Williams has voted to wear the cap and gown at Commencement. — Wesleyan has received a bequest of \$40,000. — The base-ball nine at Amherst has begun winter practice in the gymnasium.



### Croaking.

The dreary, weary croaker  
Will have to die some day.  
Perhaps he'll go to heaven,  
And walk the golden way;  
But, when the shining pavements  
His gloomy eyes behold,  
He'll shake his head and mutter,  
"I — d-o-n't be-lieve they're — gold." — *Ex.*

Off on a "bat" — the *full* moon.

Can patent horse medicine be called a stable compound.

Captain of the crew, translating: *Ma coupe est remplie*, — My stroke is full.

It was a thrifty Scotch maiden, who, having been discarded by one lover, married another, and then sued the former for breach of promise.

*Aunt (severely)*: — "Don't you know it's wicked to make such ugly faces?"

*Little Niece (innocently)*: — "Was God wicked when he made yours?" — *The Fudge*.

"Every time I enter this place it reminds me of a circus," he remarked. "How is that?" asked the crockery dealer. "Why," was the rejoinder, "wherever I look I see tumblers."

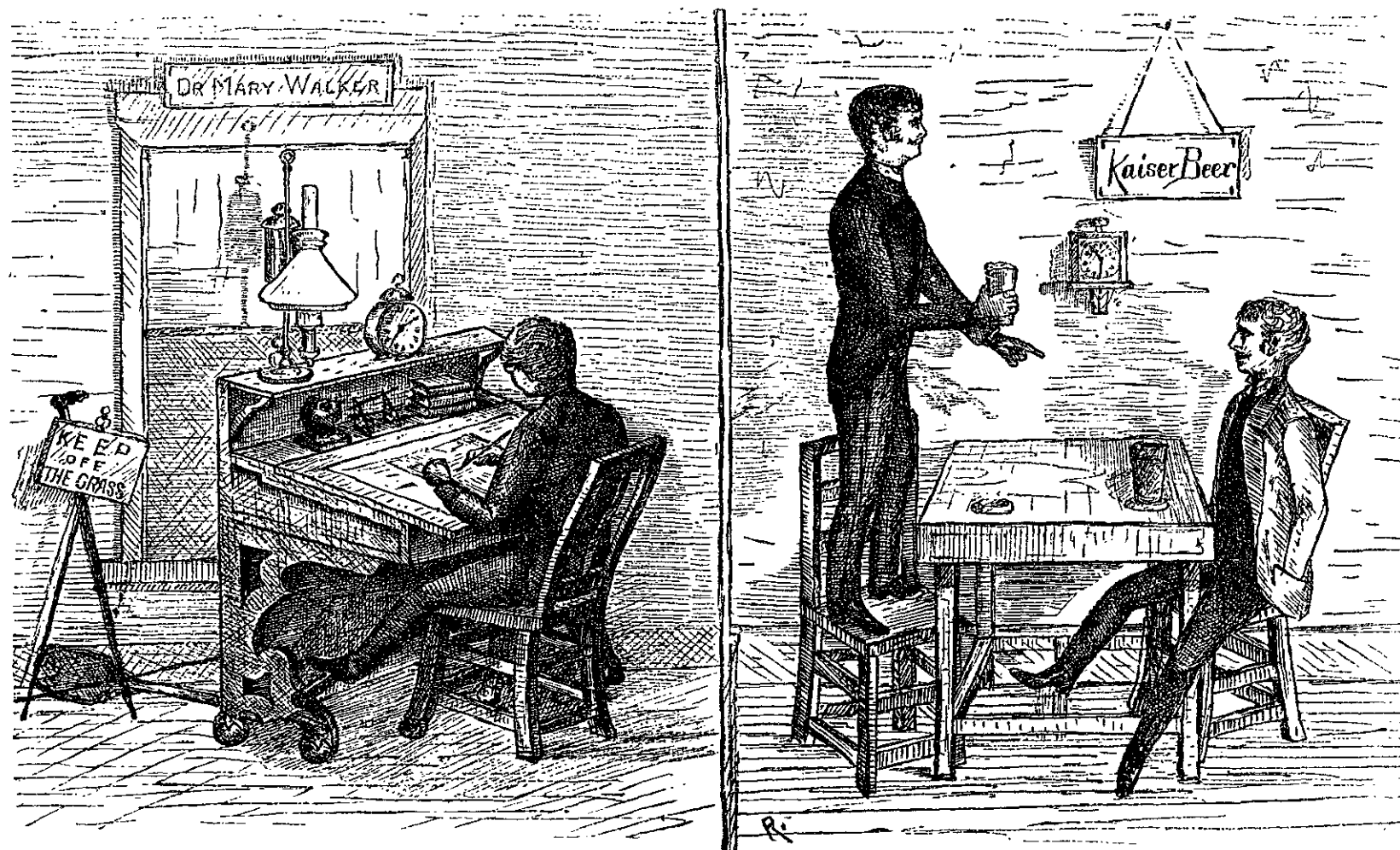
### ISOLATION — OFF THE ORKNEYS.

*Southern Tourist*: — "Get any newspapers here?"

*Orcadian Boatman*: "Ou aye, when the steamer comes. If it's fine she'll come ance a week; but when it's stormy, i' winter, we dinna catch a glint o' her for three months at a time."

*Southern Tourist*: "Then you'll not know what's goin' on in London?"

*Orcadian Boatman*: "Na; but ye see ye're just as ill off in London as we are, for ye dinna ken what's gaun on here!" — *London Punch*.



HARRY, WRITING HOME: "THE AMOUNT OF WORK I AM PUTTING IN, EVENINGS, IS TREMENDOUS."

YE OLD ELM.

Sardou hired a house in the country to pass the last summer, and went in search of a farmer who had a milch cow. Having found one, he said: "My good man, my servant will come every morning to buy a pint of milk." "All right; it is eight sous." "But I want pure milk, very pure." "In that case it is ten sous." "You will milk in the presence of my servant." "Then it is fifteen sous."

HOW IT IS DONE.

(Scene — Western newspaper office. Enter compositor.)

*Compositor:* Boss, we want more copy for to-morrow's issue.

*Editor:* Burn a child in Hoboken.

*Compositor:* I've done that, but there's still space left.

*Editor:* Well, contradict it then. — *Life.*

Ambiguous.

*Smilcsey (desperately).* — "Yes; I have been wanting to — er — speak to you for some time, and, when I saw you coming down the street, I — I resolved to embrace the opportunity, and —"

*Miss Yielding (rather disdainfully).* — "Is that all?"

AT THE SALON.

*1st Friend (who does n't want to parade his ignorance of French, and has just discovered a fifth picture marked "Hors Concours"):* "Bless me, here's another of 'm; seems to be a favorite subject over here!"

*2d Friend:* "H'm! — yes — but still capable of a great variety of treatment, I should say."

(Each wishes he could only ask the other what the deuce it means, anyhow.) — *Life.*



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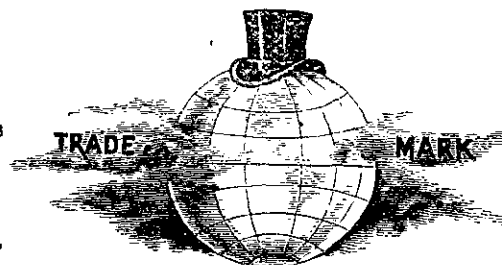
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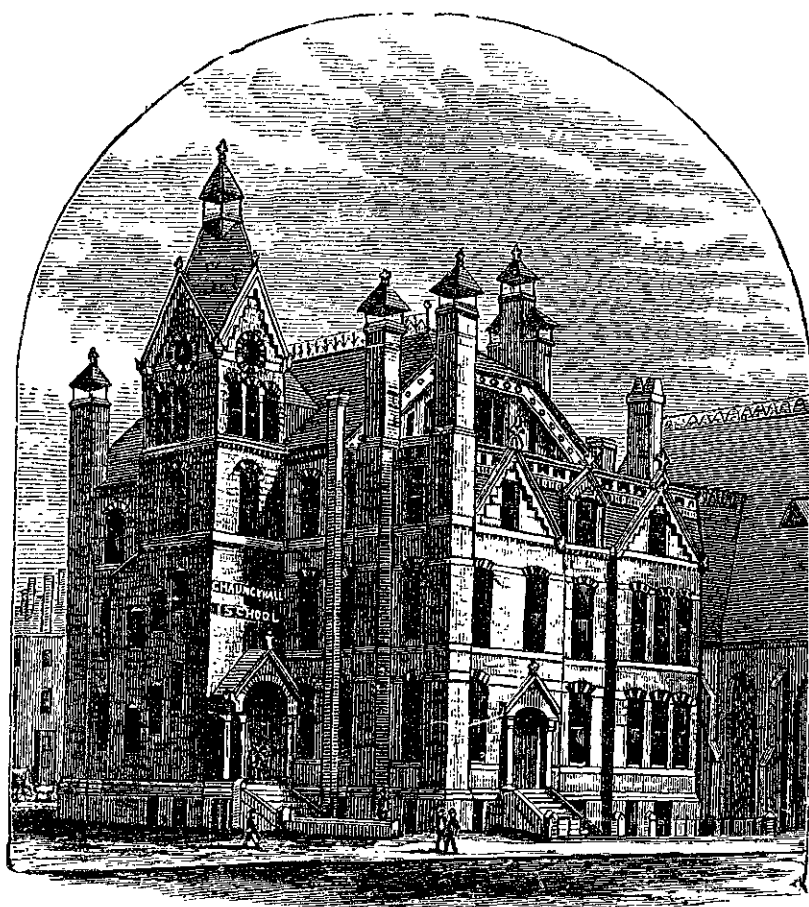
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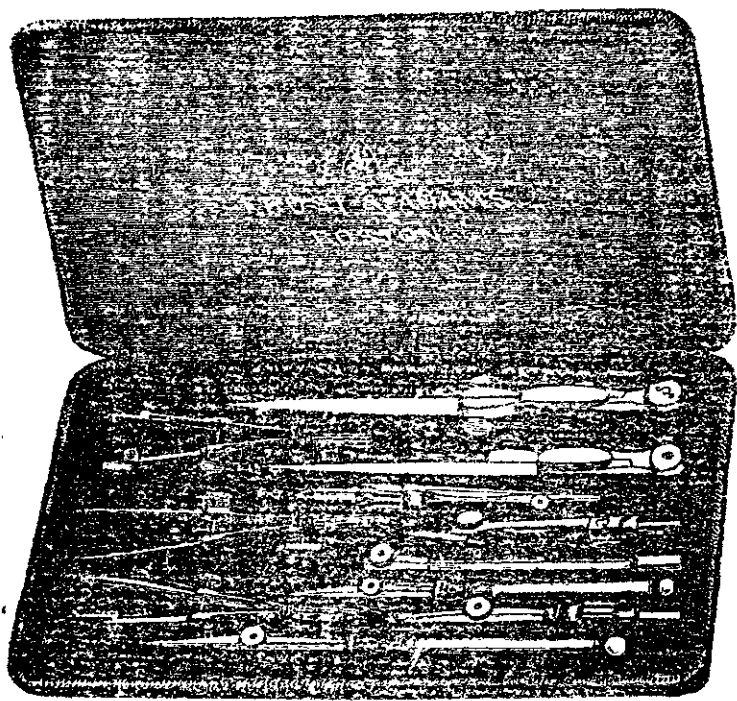
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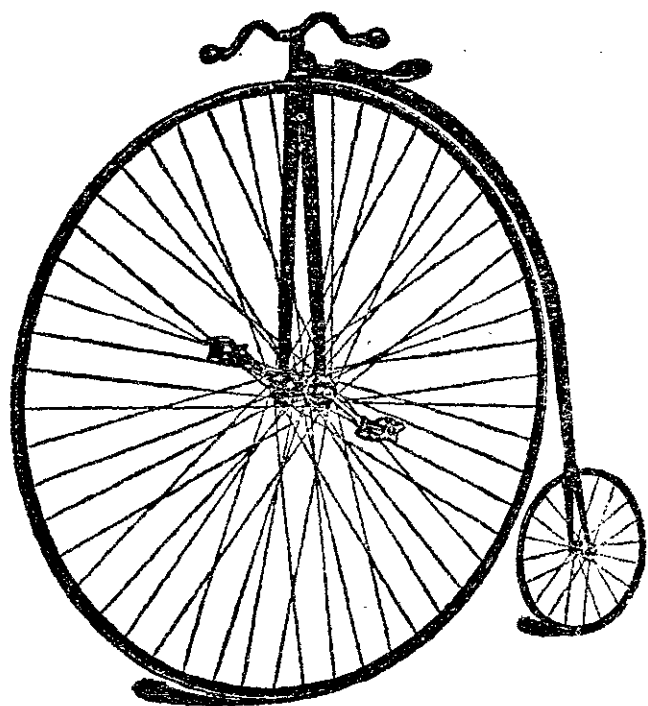
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