

The Tech.

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VOL. I.

THE TECH.

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IT is with sincere regret that we have noticed the recent output of the 2G Society. For a mining society gotten up and mostly composed of Juniors to solicit recruits, and then compel them to pass through such a performance, seems rather out of place for the Institute. We were, however, highly gratified to see that two students had the self-respect and courage to withdraw from a continuance of the initiation. How the wearing of a shoestring about one's neck is going to increase his love or respect for the society is beyond us. Another and still worse performance was required, which cannot but result in a positive injury to the school. We know that such initiations are elsewhere carried on, yet they do not seem to be consistent with the principles and teaching of the Institute. We do not want the reputation

of aping other colleges. The Institute ought to stand independent and a model for all other colleges, schools, and seminaries in the country.

We at the Institute are one brotherhood of honest, hard-worked students. We have a reputation to make, and our reputation makes that of the school. It behooves us to put aside everything having a backward tendency, and build for our Alma Mater a solid reputation in which no flaw can be found, even by the most severe critic. It is our hope, then, that the example of the two Sophomores will be followed whenever like initiations are imposed by any society in the school.

THE resolve of the Athletic Club to open at least four of the events in the games to be held in the gymnasium April 1 to members of outside clubs, notably the Harvard Athletic Association, the Union Athletic Club, and the Jamaica Plain Boat Club, is a step in the right direction, and shows a confidence that we hope will be verified in the ability of its members to uphold the honor of the club against most worthy adversaries.

Certainly the other clubs cannot accuse ours of unfairness in the selection of events, for they all have equal and some far greater advantages than ours for the practising of them. Then, too, with one exception, its records are nothing to brag of; and while at the same time the club does not doubt that it can better them, it would very much like its neighbors to compete with its members before the club gets too high in the scale of athletic prowess, — in fact, before it gets to such a height that an invitation to its games exercises the chilling effect that one to run with the best "sprinters" in the country does on men that have only the advantages of a gymnasium track, — twenty laps to the mile.

We most sincerely hope that the club's invitation may be accepted in the spirit with which it is given; and our neighbors, should they see fit to accept, may rest assured of a most hearty welcome.

Contributions.

"Each Man's Work shall be made Manifest."

JOHN D. RUNKLE, the second president of the Massachusetts Institute of Technology, was born in the town of Root, Montgomery County, in the State of New York, Oct. 11, 1822. His early educational advantages were those furnished by the district school of that period, and like other country boys, he discontinued study in summer as soon as he was old enough to be of use on the farm. At the age of sixteen, he attended a select school for three months, where he began the study of algebra and geometry. For the next ten years his time was spent in farm work, school keeping, and study, when in 1848, by the advice of the late Prof. Benjamin Peirce (under whom he studied mathematics), he entered the Lawrence Scientific School; also devoting some time to the study of astronomy at the Observatory, under Director W. C. Bond. He was appointed to a position on the American Ephemeris and Nautical Almanac in September, 1849, which he still retains; being, since the death of Prof. Peirce, the oldest in length of service on that work. He graduated from the Lawrence Scientific School a Bachelor of Science in 1851, receiving the same year from Harvard College the honorary degree of Master of Arts. In 1855, he published in the "Smithsonian Contributions to Knowledge" a paper of one hundred and twenty-seven quarto pages, entitled "New Tables for determining the Values of the Coefficients in the Perturbative Function of Planetary Motion, which depend upon the Ratio of the Mean Distances." He also established, in 1858, the *Mathematical Monthly*, which was

discontinued at the close of the third year, on account of the breaking out of the civil war.

Prof. Runkle was early interested in the plans for the establishment of the Institute of Technology, and was one of the first teachers in the school, which was held temporarily, during the erection of the present building, in rooms on Summer Street. On the establishment of the school in its new quarters, in the spring of 1865, he was elected professor of mathematics, which position he still holds. In the autumn of 1868, in consequence of the illness of President Rogers, he was elected by the corporation acting president, and president in 1870, which position he resigned in 1878.

During these ten years of service, besides the extension of the quantitative chemical laboratory, the following new departments were established under his direction:—

The physical laboratory in 1869.

The mining laboratory in 1871.

The Lowell School of Practical Design in 1872.

The Dixwell engine and calorimeter in 1874.

The mineralogical laboratory in 1874.

The drill hall and gymnasium in 1874.

The woman's chemical laboratory in 1876, with the co-operation of the Woman's Educational Association.

The organic chemical laboratory in 1876.

The mechanic arts shops and School of Mechanic Arts in 1876, by the aid of the Mechanics Charitable Association.

The biological laboratory in 1877.

In addition to the labor consequent on the introduction and development of these important features, he was called upon to make still more manifest his unusual pluck and energy. The great fire, which dealt such a severe blow to the commercial interests of this city in the autumn of 1872, was followed, as is well known, in the subsequent years by the long and widespread depression in the business of the country at large. The resources of Boston being thus doubly taxed, many of the earnest supporters of the Institute were unable to aid its

cause as formerly. This circumstance, together with the decrease of income from students, owing to the general business depression everywhere prevailing, seriously checked the onward progress of the Institute. President Runkle, by virtue of his occupancy of the executive chair, was called upon during this dark period to bear the chief burden of these reverses. But as will be seen above, not only did he carry the institution safely through this critical period, but also largely increased its educational facilities. He had constantly in mind the development of the school on the basis of the original plan and scope, with the spirit of which he was so thoroughly imbued. The devotion and energy which under such adverse circumstances could establish one new departure for every year of administration should be held in grateful remembrance by all who profit by these increased facilities. Throughout, his watchword seems to have been, "Whatsoever thy hand findeth to do, do it with thy might."

The mining laboratory was conceived and planned by President Runkle. With a view to making the students of the Institute acquainted with those who might be their future employers, and thus opening up a channel of communication for mutual benefit, he organized expeditions of students and professors, in the face of great difficulties, and visited Colorado and other mining regions of the West in two successive summer vacations. As a result of this undertaking, he conceived the idea of a practical mining laboratory, which he immediately put into execution.

The establishment of the School of Mechanic Arts is also due entirely to the exertions of President Runkle. In a visit to the Centennial Exposition, held in Philadelphia in 1876, his attention was attracted by the unique exhibit of the Russian schools at Moscow. He was quick to perceive the practical value of this method of teaching, consisting of instruction in the use of tools, as distinguished from the art of construction. The Russian commissioners, observing his appreciation, presented him with

the greater part of their exhibit; and, aided by this, he at once prepared plans for the erection of a building in connection with the Institute for the purpose of teaching this system. These plans were speedily executed, and a report prepared two years later was sent to Russia, and resulted in the presentation to the Institute of a still more complete set of models, by the command of the Czar.

The incessant strain both of mind and body caused by these untiring efforts for the support of the institution, whose interests he had made so entirely his own, compelled him to resign in 1878, and take a well-earned rest by a two-years' visit to Europe. Even then, always mindful of the cause of technical education, he made a valuable and thorough examination of the Continental schools whose specialty is instruction of that nature. The result of these observations he embodied in a paper read before the Society of Arts shortly after his return, a full report of which was published in the *New England Manufacturer* for April 15, 1881.

In 1880 he returned to the Institute, to resume his duties as professor of mathematics.

The Steam-Engine Indicator, and what it indicates.

II.

THE following diagrams have been taken this school year by members of the Senior Class in Mechanical Engineering; and as each diagram has some special feature, we hope the explanation will prove interesting.

The diagrams shown in Fig. 1 were taken at the same instant from both ends of the cylinder. The diagram on the left shows a very bad adjustment of the steam valve, — a defect which the indicator alone can show, as the engine to all outward appearance was running perfectly. The admission valve does not open until the piston has started on its stroke, hence we have the curved steam line E C A. From the point of cut-off A we have a fair card up to the point E on the return stroke.

While the piston is changing its direction of motion at the end of the stroke, the pencil of the indicator falls to the lower point of the line E, showing that the compressed steam has escaped in some way, either through the packing rings of the piston or through the exhaust valve, — probably the latter. The diagram on the right of Fig. 1 is a fair card in every way, although more compression would have improved it; and if the steam valve had opened sooner, we should have had a square corner at D instead of the round one shown. The greatest pressure obtained in the left-hand diagram was 39.4 lbs., while in the right-hand diagram the greatest pressure was 48.7 lbs. This difference is due to the late admission of the steam, the piston, in reality, running away from the steam, so that the maximum pressure was not reached before cut-off occurred. The mean effective pressure for the left-hand diagram was 18 lbs., while the same for the other diagram was 19.5 lbs.; and although there is little difference between the mean effective pressures, yet if we look at the points of cut-off A and D, we see that a larger portion of the cylinder volume has been filled with steam in the former than in the latter case. The left-hand diagram shows us that 42.2 lbs. of water were evaporated per hour for each indicated horse-power, while the right-hand diagram used only 33.2 lbs. per horse-power. For the same amount of work there is a gain of about 22 per

cent in favor of using the steam as indicated in the right-hand diagram. This difference is caused entirely by the wrong setting of the valve; for after adjusting the valve, the diagrams from both ends of the cylinder differed in no essential part.

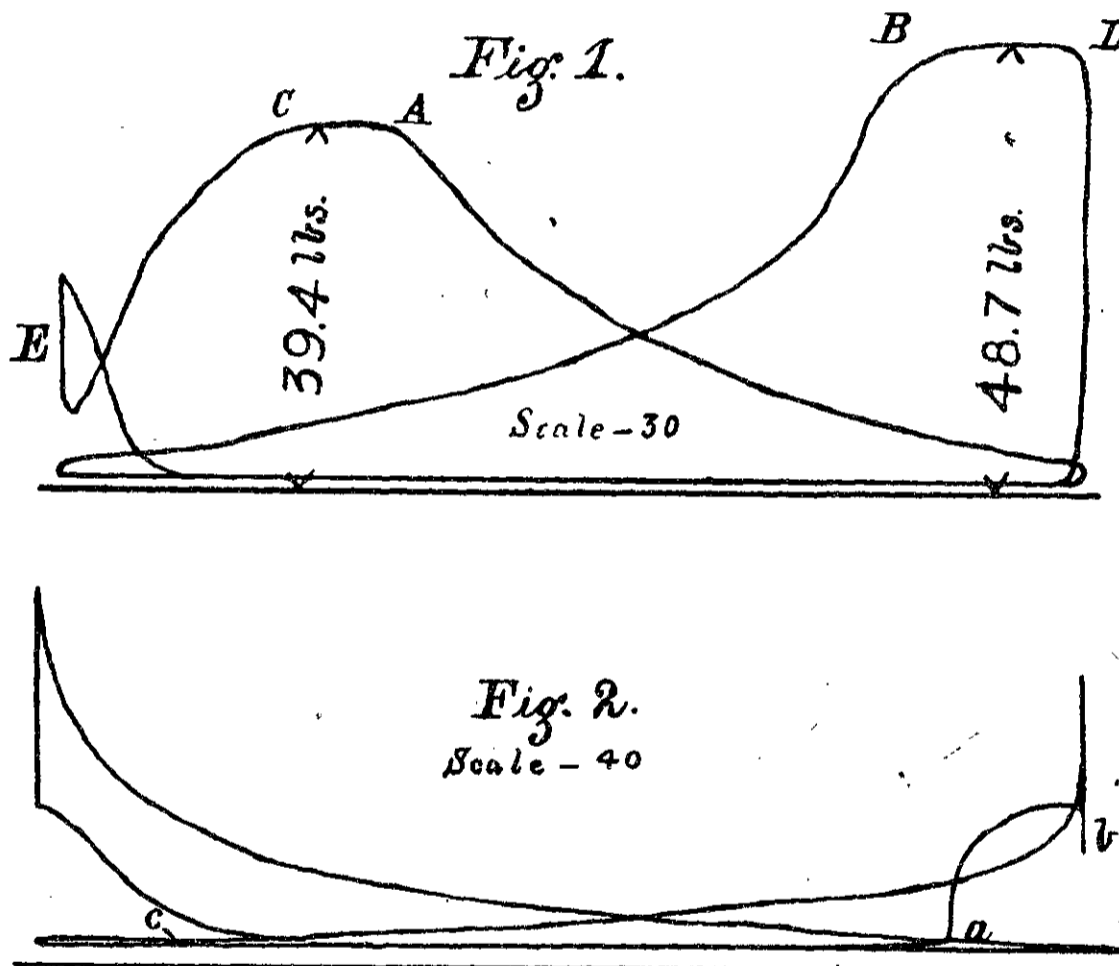
The diagram shows exactly the amount of steam used in the cylinder, but does not indicate the amount of water carried along with the steam from the boiler. The actual amount of water passing through the cylinder can only be determined by weighing the amount fed into

the boiler and evaporated. But although the diagrams do not tell us precisely the quantity of water evaporated, yet they do show us the great difference existing in the manner of using the steam.

The diagrams shown in Fig. 2 were taken from an engine doing its ordinary work, although at times it is called upon to do considerable more than is here

indicated. The steam used by this engine is supplied through the Holly system of underground pipes, the steam being generated at a central station. The engine is situated on the lowest ground to which steam is run, and considerable trouble is caused by the condensed steam getting into the cylinder in large quantities at every stroke. A very small quantity of steam was required to do the work, hence the steam valves opened but an instant, and the work was done by the expansion of the steam.

The most striking feature of the diagrams is



the peculiar compression curve *a b*. This was at first thought to be the fault of the indicator; but the instrument was new and worked perfectly well on other engines, and gave this line at three distinct tests, the indicator working perfectly on other engines between these tests. The corner *a* was not so sharp at times, and the trouble was undoubtedly due to the large quantity of water in the cylinder not having the means of escaping as freely on this end as on the other, the quantity of water varying at times. The piston of the engine striking the water on the return stroke caused a sudden rise in pressure, which became so

great that the water was forced through the piston rings and exhaust valve, the falling of pressure to *b* at the end of the stroke indicating such leaks. Owing to the lost motion in the stem of the steam valve of the right-hand diagram, the valve was not fully opened, and the pressure being on this account reduced, we do not get so high an admission line as on the other diagram. The rise at *c* in the expansion curve of the right-hand diagram was undoubtedly caused by the steam blowing through the piston rings as soon as compression commenced on the other side of the piston.

The diagram in Fig. 3 was taken from a large beam engine in the rolling mill of the Bay State Iron Works at South Boston. The engine drives the iron rolls, and when the iron runs through, has to do a large amount of work; but when the iron drops out, the engine has nothing to do but drive the rolls. The figure shows in reality two diagrams, the pencil being held to the paper during two consecutive revolutions; the diagram above the atmospheric line being taken while the iron was in the rolls, and the iron rolling out on the return stroke. The diagram for the next stroke for this end of the cylinder was the one shown below the atmospheric

line. The governor controls the engine by opening the steam valves more or less as occasion requires. When the iron was out of the rolls, very little steam was needed, and the pencil rose only to the point *f*; so that as the piston receded from the end of the cylinder, the pressure dropped by expansion below the atmospheric line. In this case, during the latter part of the stroke the atmospheric or back pressure on one side of the piston is greater than the steam pressure on the other side, and

hence tends to stop the engine, which is just what is wanted to prevent the engine from running too fast when the iron is

out of the rolls. It will be noticed that the back pressure lines of both diagrams meet at *g*, and coincide on the return stroke. The diagrams were taken just before the engine stopped working, and the steam pressure was low.

H. G. M.

Fig. 3.



Book Notices.

HAMLET: A Tragedy. By W. Shakespeare.

The plot and execution of this production, though excellent in some things, are nevertheless open to grave objections. The hero, a hypochondriac Dane, is altogether too sluggish to suit modern ideas: he has nothing of the dash and vigor of Oliver Doud Byron in "Across the Continent." The dialogue and rhetorical figures are also quite faulty in several places. For instance, this same Dane asks whether he shall "take arms against a sea of troubles," when everybody knows a man would say, "Dam a sea of troubles." Another evidence of the poor taste of the author is his excessive use of quotations. However, he is doubtless young; and if he should conclude to try his hand again at dramatic writing, his growing wisdom will, we hope, prevent a repetition of these crudities.

THE CANTERBURY TALES. By Geoffrey Chaucer. New York: Dappleton & Co.

The above is the title of a collection of metrical stories, which are evidently the work of some callow youth who never went to school, but was "educated at home." The spelling and wording of some of these effusions are simply heart-rending. Errors, which it is to be hoped are partly typographical, occur on almost every line. Thus in one short paragraph he spells summer, "somer"; green, "grene"; when — but we will spare our readers. For the rest, the stories are rather interesting, but occasionally a trifle broad. We cannot predict for them any great popularity.

BALLADS AND JINGLES, Old and New, for Very Little Folks. By M. Goose. Boston: Levi Shepard.

We can cordially recommend this work to all parents of Freshmen. It contains nothing which could offend the strictest delicacy, or instil in the heart of childhood anything but good. The sublimest sentiments and profoundest truths are expressed in language so direct and simple that the infant mind cannot fail to comprehend them. Bound in full calf, gilt edges, \$3.00.

We have also received the following recent publications: —

THE INGRATITUDE OF REPUBLICS; or, The Roaming Ranger of the Western World. By Dan'l Pratt, G. A. T. Sold only by subscription.

OLEOMARGARINE.* "What's-in-a-Name" Series.

VANITY FAIR; or, The Evils of Cigarette Smoking.

THE VALUE OF TIME. 50 cents in paper; 75 in cloth.

THE COLLEGE JOKE-BOOK. Printed from stereotyped plates. Illustrated by cuts from the "Larvard Harpoon."

* This is not a treatise on the manufacture of the article, but merely the story of a pet goat who was a bad butter.

Mining and Chemistry.

THROUGH the courtesy of Mr. T. T. Morrell, head chemist at the Cambria Iron Works at Johnstown, Pa., Mr. Norris, of the Class of '81, has been enabled to send to Prof. Wing, for use in the quantitative laboratory, a complete set of notes on the methods of analysis used there. These methods were devised by Mr. Morrell, and are used only at those works. The notes are to be papyrographed, and introduced here in the laboratory for the benefit of the students. The thanks of all interested in the quantitative laboratory are due to Mr. Norris for his pains, and especially to Mr. Morrell for his kindness in allowing his own special method to be sent here.

Prof. Wing has on hand a considerable amount of "Orange No. 3" for purposes of quantitative analysis, and in the interest of chemistry would be glad to supply any laboratory desiring some of the article. This was first manufactured as an aniline dye, but was found useless for that purpose, and the manufacture of it in this country ceased in consequence. It is still manufactured in small quantities in Germany for use in chemical analysis, as it has been found very valuable in that capacity.

The *Mining Record* of New York says, concerning the ozokerite (mineral wax) deposits of Utah: We are glad to see that a company has been organized in Boston, with their office at 82 Devonshire Street, to develop the invaluable deposits of mineral wax and oil shale in Spanish Fork Cañon, Utah County, in the Territory of Utah. From this rare mineral substance may be made with profit paraffine candles, burning and lubricating oil, sealing wax, axle grease, paraffine vaseline, substitute for beeswax, heel-ball, shirt polish, aniline dyes, and the product can be used in the manufacture of rubber goods.

Bicycles are out again, and the courtplaster trade is looking up.

Science Notes.

THE report of the director of the mint says that the total yield of gold and silver in the United States for the past year was \$75,000,000, against \$80,000,000 in 1879. Colorado comes first, California next.

Masks for the protection of glass and metal workers are now manufactured of mica. They are quite transparent, and have in front of the mouth an air tube leading behind the head, and terminating in a funnel in the bottom of which is a moist sponge.

Recent experiments seem to show that the electrical resistance of iron and steel wire is a measure of the power of the wire to resist tensile strain, and of the amount of combined sulphur, silicon, and phosphorus.

An able article on *Science and the Woman Question*, by Miss M. A. Hardaker, in the *Popular Science Monthly* for March, will do much to dispel the foolish sentimentalism attending many "Women's Rights" agitations. The article is doubly interesting from the fact that it was written by a woman.

The American Journal of the Medical Sciences for January has a most interesting article *On Hypnotism, or Mesmerism*. Besides giving the results of the most trustworthy experimenters on human subjects, it describes the curious phenomena arising when the hypnotic state is induced in animals.

Experiments of the Russian chemist Kajander indicate that the rate at which a metal dissolves varies as the electric conductivity of the acid varies.

Nature for Feb. 23 has an abstract of a valuable paper on *Influence of Stress and Strain on Action of Physical Forces*.

Arthur Stradling makes the curious statement in *Nature* that in cases of mental emotion, hysteria, acute poisoning, and tetanus, women always clinch their hands so that the thumb comes inside the fingers, while with men the thumb comes on the outside.

Sporting Notes.

THE games to be given by the athletic club April 1 in the gymnasium will consist of the following: Tug-of-war, teams of four men, total weight limited to six hundred pounds, and tug-of-war, teams of four men, weight unlimited; running high kick; two-handed vaulting and pole vaulting, — open to members of any regularly organized amateur athletic association in New England, — and running high and standing high jumps; putting the shot; and climbing the rope, — open only to club members. A silver medal will be given to the winner of each event, and a second medal of bronze in each event having five contestants. Entries will close a week before the games.

In the fourth winter meeting of the Yale Athletic Association, in the college gymnasium, the records in the different events are as follows: Tug-of-war (final pull), 1, '83, by 5 inches; 2, '84, vaulting 6 feet 1 inch; running high kick, 8 feet 1½ inches; running high jump, 5 feet (won easily). At Harvard, March 11, putting the shot, 34 feet 9 inches.

Prof. Burris is getting up a class for dumb-bell work in the gymnasium. He proposes to teach the method devised by Mr. Roberts, of the Young Men's Christian Association; and we most heartily recommend him to every man that desires the best possible system for general development.

The seventh annual games of the Inter-Collegiate Athletic Association will take place May 7 at the Manhattan Polo Grounds, New York City. The events will be: 100-yard, 220-yard, quarter-mile, half-mile, and mile runs; 120-yard hurdle race; one-mile walk; running high and running long jumps; pole vaulting; putting the shot; throwing the hammer; and tug-of-war, teams of four men, total weight limited to six hundred pounds. Special medals will be given to each winner that beats previous collegiate records; and the college that scores the most points will have a set of colors in addition to the custody of the championship cup.

In General.

SEVERAL of the pledged subscriptions of the Freshman ball are still unpaid. Such delay is hardly pardonable.

The chiropodist dates from William the Conqueror.

Major Alexander is making many needed reforms in the C. C. M. I. T. battalion.

The class of '83 has elected a committee of three on the annual ball.

The battalion will drill in the open air as soon as the weather becomes settled.

The new pulley weights and dumb-bells were a much-needed addition to our gymnasium.

Daniel Pratt is developing the characteristics of the Hoosac Tunnel and becoming a great bore.

Mr. Ripley, president of the Athletic Club, has been prevailed upon to withdraw his resignation.

Do the misguided youths who promenade Tremont Street in mortar-boards consider themselves sublime?

A Tech. Freshman was overheard to decline an invitation because his "studies at the 'University' are so severe."

Covers have been provided for THE TECH exchanges in the library. They — the covers — should be treated with respect.

Let him who says America has no distinctive literature read the latest sensational story, — "Merciless Ben, the Hair-Lifter."

Æstheticism will doubtless be making rapid strides in the Institute, since it has been taken under the fostering care of the 2 G.

Mr. D. A. Sargent, of the Hemenway Gymnasium at Harvard, has consented to act as referee in the coming Athletic Club games.

Edwin Arnold's poem, "The Light of Asia," has been published in a three-cent edition; at that rate, it is considerably cheaper than kerosene.

We have received a copy of the directory of the Class of '77. The list includes both regulars and specials, there being fifty-six names.

A Freshman was seen in the third-year laboratory anxiously inquiring for "Hadley." He merely wished to see him on a small matter of business.

The Soph. who had been around to see some friends, and walked home with difficulty, wrote to the family that he had been studying the theory of gravitation.

They had quarrelled, and she was waiting for him to begin the peace; at length he said, "Je t'adore." "Shut it yourself," said she. He did, and she is still waiting.

One of our professors says that he don't believe there is another building in the country where there is more going on and where there are more students than at the Institute.

Most of the C. E.'s have finished the requisite number of plates in stereotomy. Prof. Vose has pressed the work forward in order that they may take advantage of the coming pleasant weather for out-door work.

Scene: German recitation. Two students sitting back to back.

Professor: "Mr. B., translate the first sentence."

Mr. B. hesitates and breaks down.

Professor: "I am afraid Mr. F. does not afford you a good support."

Great applause by the class.

The negative of Prof. Runkle's portrait has been kindly lent us by Mr. E. J. Foss, of Malden, who was formerly the Institute's class photographer. His "Garden Studio" is a model of convenience and adaptation to the needs of a large business.

The special lectures of Prof. Cross on electricity are getting highly interesting. They deserve a better and larger attendance of the students of '82 and '83. Prof. Cross has just commenced the subject of telephony; so now is

the time to hand in your name if you want to hear about this important subject.

NOTES FROM MINING LABORATORY. — Mr. Ross finds a trace of gold in his galena from Colorado. Mr. Mansfield has commenced his gold ore from near Lisbon, N. H. Mr. French obtained a gold button worth about \$54.25 from his jeweller's residue. Mr. Faunce and Mr. Munroe have each one more smelt on the copper ore.

There is being run on the Evans table, in the mining laboratory, some of the jigged products from the Revere Copper Works. The brass and copper which are to be obtained are mixed with slag, cinder, etc., of very nearly the same specific gravity; hence it will be a good test for the table.

Yes, I went to church one day
With some money,— by the way,
I'd been saving from my pay
For some socks;
But *she* sat across the aisle,
And she sunned me with a smile:
So I placed my little pile
In the box.

According to Seubert, the mean value of eight experiments, corrected and reduced to vacuum, give 194.34050 as the atomic weight of platinum.

Broke, Broke, Broke.

BROKE, broke, broke,
In this city by the sea!
And the thought of the unpaid Bursar's bill
Is a thought that maddens me.

Alas for the washwoman's boy,
As he sings in the hall so gay,
And coolly presents his bill,
Which he daily implores me to pay!

And the stately bloods go on
To the club-house over the hill;
But, oh, for the touch of a vanished V,
And the sound of a chink that is still!

Broke, broke, broke,
In this city by the sea!
But the welcome sight of a check from home
Will make a new man of me.

C. A. H.

Exchanges.

THE *Mechanical Engineer* has recently enlarged its space, both for reading matter and advertisements, by the addition of covers, which considerably improve the general appearance of the paper. The *Engineer* now becomes a journal of sixteen pages, published fortnightly, and devoted, as its title indicates, to mechanical engineering and the allied arts. It is especially a paper for practical men, and contains descriptions of new machinery, hints and shop kinks, which often prove invaluable to men who aim to do their work by the best and quickest methods. The last number, March 15, gives an account—of special interest to our students—of the "summer school of engineering" as carried out by the professors and students of the Columbia School of Mines.

The April *Atlantic* gives us the conclusion of Lathrop's short serial, "An Echo of Passion," in chapters IX.—XIII., while Elizabeth Stuart Phelps begins a new serial story, "Dr. Lay," which cannot fail to attract attention, the name of the author being sufficient to insure a host of readers. Two chapters of "The House of a Merchant Prince," and the first paper by E. W. Hilgard on "Progress in Agriculture by Education and Government Aid," complete the continued papers of the number. For short stories we find Miss Woolson's "In Venice," and Mr. Denning's account of "Jacob's Insurance." The leading article by John Fiske, "Europe before the Arrival of Man," will be found of great scientific interest, while Edward Farrer contributes a very engaging article on "Folk-Lore of Lower Canada." These, with other interesting articles, poems, reviews of recent books, and a diversified Contributors' Club, complete a number which maintains well the high standard of the magazine.

The *Sunbeam* appears to have taken "Master TECH" under her maternal protection, and prophesies a fine growth for the child "whose wisdom already exceeds its years." Did the

precocious youth desire a protectress who might shield him from the jeers and jealousies of this unfeeling world, perhaps he could not do better than accept this guardianship; but we think he has proved his ability to walk alone, and feel obliged to return the flattering proffer with thanks — much.

Che Beacon continues to put in an appearance with the noticeable error in its heading unremedied.

We congratulate the *Oberlin Review* on the improved typographical appearance of its last issue. Clearness of print and beauty of form are as requisite as entertaining matter in college journalism; and in preceding issues, the *Review* has been sadly lacking in these respects. We shall look for the good word from Oberlin with increased interest.

Congratulations to the *Yale Record* are in order for its improved appearance in its new cover. If college papers must have advertisements on their first pages, by all means let us have them concealed by tasty covers; and we hope to see others of the fraternity follow the *Record's* example. We might suggest a somewhat stronger binding as an additional improvement.

A list of the present technical exchanges may be interesting to readers of THE TECH. The list includes some of the foremost journals in the country, that are regarded as authorities in their respective departments. The privilege of access to these papers, which are placed in the reading-room and open to all students, is alone, it seems to us, well worth the subscription price of our own paper: —

Railroad Gazette, American Machinist, Scientific American, Boston Journal of Commerce, Mechanical Engineer, Leffel Mechanical News, Textile Record of America, Van Nostrand's Engineering Magazine, Engineering and Mining Journal, Mining Record, Mining Gazette, Mining Review.

Butter is strong, but cheese is mitey. — *Ex.*

It is no longer "pass it back," but "throw it home."

Seventeen men are in training for the nine at Brown, and twenty-two at Yale. — *Ex.*

There is every indication that we shall have a good batting nine this year. — *Princetonian.*

The Society for the Prevention of Poets proposes to raise the price of poetic license. — *Ex.*

Within the past year \$19,000,000 have been given to educational institutions by private individuals. — *Herald.*

A Boston artist is credited with having painted an orange peel on the sidewalk so naturally that six fat men slipped down on it. — *Ex.*

"Eat onions, sis," is the *Post's* advice to the maiden who asked how to avoid having a mustache on her upper lip.

An exchange asks: "Who will teach Harvard how to read the turkey tracks on tea chests, now that her Chinese professor is no more?"

She: "What a remarkable run Hazel Kirke had at Madison Square last winter!"

He: "Indeed! I had not heard of it, What time did he make?" — *Student.*

Mr. Haven Tenney was called as a witness in a Delaware court; and when the judge asked him his name and he answered, "Haven Tenney," the judge remarked that every man has a name, the witness was trying to insult the Court, and was therefore fined \$10. — *Ex.*

I dearly love at early dawn in May
To wander forth far from the haunts of men,
And in some quiet and sequestered glen,
Watch Nature's face under her cloud of gray;
And note, as slowly the soft mists give way,
How the hills doff their cloud-caps one by one,
Tinged with the color of the rising sun,
Till all is lighted up by the new day.
And then my wandering eye returns to scenes,
Though near, no less inspiring, no less grand:
See yonder boulder rear its towering crest,
That this sweet glen from garish brightness screens;
And see those words traced by a giant's hand,
Urging me strongly to "Chew Jackson's Best."

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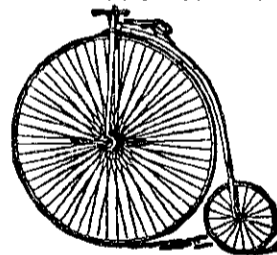
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