

CONTENTS.

Editorials 1	01
Our Educational Progress I	04
Sinking Tubular Wells 1	06
College Journalism 1	07
A Night on the Ocean I	og
The Emergency Lecture 1	10
Directors' Meeting 1	12
Athletics 1	13
An Editor's Groan 1	14
Scientific Notes I	14
College News 1	15
Exchanges 1	16
Personals 1	17
Technicalities 1	18
Museum of Antiquity 1	20
	_

WORCESTER POLYTECHNIC INSTITUTE

EDUCATES

Mechanical Engineers, Civil Engineers, Chemists, Electricians, Designers, Draughtsmen, Teachers, &c.

The two peculiar and advantageous features of the training of this school are—(1) that, in addition to the general course of study and to the regular work of all students in the chemical and physical laboratories, each student devotes ten hours weekly to practice in the department he has chosen, and—(2) that the practice of the students in the department of Mechanical Engineering is in well-equipped shops in which a manufacturing business is carried on.

Construction accompanies Instruction at every step.

Instruction is given by Recitations and Lectures, and in Practice. The General Course of Study comprises

Mathematics, English, French and German, Physics, Chemistry and Geology, Free-Hand and Mechanical Drawing, and Theoretical and Applied Mechanics.

TWO NEW BUILDINGS FOR LABORATORIES ARE SOON TO BE ERECTED.

For Catalogue containing other information, including list of graduates and their occupations, manufactures of Washburn Shops, etc., apply to

HOMER T. FULLER, Principal.

F. A. CLAPP COMPANY, Hats and Athletic Goods, HAVE REMOVED TO

385 MAIN STREET,

7 Doors from Old Stand.

Directly opp. "Telegram" Office.

REBBOLI,

CONFECTIONER

-AND

CATERER,

6 AND 8 PLEASANT STREET,

Worcester, Mass.

CARTER'S STUDIO.

ARTISTIC

PHOTOGRAPHY

IN ALL ITS BRANCHES.

Special Rates to Graduating Classes.

A. E. DAVIS.

(Successor to MILTON T. CARTER,)

Cor. Main and Park Sts. Worcester.

J. L. BURBANK.

Successor to

M. B. Green & Co.

APOTHECARY

And Dealer in Drugs, Patent Medicines, Perfumery, Etc.

376 Main St., cor, of Elm, Worcester, Mass.

H. L. FISK, Manager.

Physicians' Prescriptions a Specialty.

REED & PAGE,

Headquarters in Worcester County for

ELECTRICAL APPARATUS

And General Electric Work.

Private Residences, Churches, Hotels, Stores, Public Bulldings, and Manufacturing Establishments fitted with Electric, Gas and Gasoline Lighting. Burglar Alarms, Electric Bells, Watchman's Electric Clocks, Speaking Tubes, Electric House, Office and Elevator Calls, Etc. "Acoustic" Private Line Telephones. "Magneto Calls" with Hand Telephone. All kinds Outside Line Work a Specialty.

REPAIRING PROMRTLY ATTENDED TO.

28 Pearl Street, - Worcester, Mass.

FRANK REED. Telephone 45-5. CHAS. H. PAGE.

WORCESTER COLLAR LAUNDRY, 13 Mechanic Street, Worcester, Mass.

Collars and Cuffs Laundered in Superior Style.

Special attention given to Shirts and Gents' Underwear. Work called for and delivered without extra charge, in all parts of the City.

C. B. COOK,

PROPRIETOR.

CHAS. HAMILTON,

BOOK, JOB, CARD, POSTER AND NEWSPAPER

PRINTER,

NO. 811 MAIN STREET, - - - WORCESTER, MASS.



WALTERS & HOLDEN,
FURNISHERS AND HATTERS,
Custom Shirt Makers,
ATHLETIC SUITS,
175 Main Street.

BAY STATE HOUSE.

Under the new management this Hotel has been thoroughly reorganized and will be conducted on a

FIRST CLASS BASIS

In every particular.

We solicit a trial of our hospitality.

DOUGLASS & BROWN,

Proprietors.

W. F. GILMAN, D. D. S., Dental Office,

11 Pleasant Street, Worcester, Mass.

ODD FELLOWS' BLOCK.

Office Hours: 9 A. M. to I P. M; 2 to 5 P. M.



CALL ATTENTION TO

Fall & Winter Suits

In the Greatest Variety ever shown in the City.

\$10, \$12, \$14, \$15, \$18, \$20, \$25, & \$28.

Many of these garments are made to our order. All are cut and made in the most correct manner. Be sure and see these goods.

W. A. LYTLE & CO.,

409 Main Street, Walker Building, Worcester.

Vol. III.

WORCESTER, MARCH 15, 1888.

No. 6.

THE WPI.

Published on the 15th of each Month, during the School Year, by the Students at the Worcester Polytechnic Institute.

BOARD OF EDITORS.

C. L. GRIFFIN, '88, Editor-in-Chief,

F. W. SPEIRS, '88.
A. P. ALLEN, '89.

J. J. DONOVAN, '82. E. C. RICE, '90. C. K. PRINCE, '9

H. V. BALDWIN, '89. H. C. STOWE, '89.

C. K. PRINCE, '90. S. H. ROOD, '90.

F. H. METCALF, '91. H. E. RICE, '88, Business Manager.

Terms: One Year, \$1.00.

Single Copies, 15 Cents.

**Exchanges should be made to the Business Manager.

Exchanges should be addressed to the Exchange Editor, E. C.

RICE, 9 Oread Place. Communications with regard to all other
matters should be directed to the Editor-in-Chief.

** Single Copies may be obtained at Sanford & Co.'s, 364
Main Street, or at Walters & Holden's, 175 Main Street.

Entered at the Post-Office at Worcester, Mass., as secondclass matter.

CHAS. HAMILTON, PRINTER, SII MAIN ST., WORCESTER, MASS.

ITERUM ITERUMQUE.

"LET drive your arrow at the sun,
And prove your craft on the heart of day,
Though a hundred fail, at last shall one
Cleave to the core its eager way!"

-Harvard Monthly.

WITH the present number begins the second half of the editorial year. Half-way through! Truly it seems as if those words had a ring in them as never before. We stand midway up the slope. As we pause for an instant and look back over the ground we have traversed, and then again at the steep ascent which, in rough outline, lies before us, the contrast is great indeed. Difficulties conquered group themselves together with their best sides toward us, and form one connected whole. Diffi-

culties unconquered lie before us, and, with their angular and distorted forms, offer anything but a smooth road to follow. And as we rest thus for a moment to collect our energies for the final tug, may we be pardoned if we but briefly review a few topics suggested by our short experience.

It is a matter of much regret to us that we have been unable to secure from the alumni a more manifest expression of interest in our attempts at journalism. Whether this is the result of thoughtlessness or from an idea that, as alumni, they have no part in the present record of the Institute, we are unable to say. It has always been our desire, and will continue to be, that the W P I shall be an exponent of the Institute as it is, and we should dislike to say that its graduates do not to some extent still represent it. It seems to us that it should be scarcely necessary to suggest that correspondence from the members of the alumni would form a very interesting department of the paper, and one which we should much like to see developed.

That the present members of the Institute do not respond as freely as they should, both as regards subscriptions and also with respect to other contributions, seems to be a deeply in-rooted evil. When the time shall come, as we believe it will sometime, that the publishing of articles shall be governed merely by respective merit resulting

from a lively competition, then will our journal have reached the criterion of its existence. Our communication column is especially designed to induce an effort in this direction, and we should like nothing better than to see a lively discussion on any school or general topics started through its agency.

Fair and honest criticism on the tone of the paper is highly conducive toward securing such a variety of topics as will interest every reader. It is frequently the case that outside suggestions arouse a line of thought, which may arrive at a most useful and desirable end.

One of the most unpleasant duties which falls to the lot of the Board of Editors is that of rejecting the whole or part of an article which may have been received, and in the exercise of this privilege their action is frequently misunder-An admirably written essay stood. may be entirely unfit for publication in a college journal, and conversely, a light and taking production could scarcely fill the place of a thorough-going essay. It is the exercise of careful discrimination in subject matter, which makes a paper Though the judgment of the readable. Editors may be of no higher quality than that of many others, yet it can but be allowed that they stand in a much better position to make a proper selection of the publishable articles.

We believe that the WPI has won an enviable reputation in its two years and a half of existence, but we do not want the progress to cease. It takes a good stiff breeze to make the fastest vessel show her speed. We cannot afford to let our journalistic boat lie becalmed.

THE interest manifested in the recent emergency lecture serves as an index of the feeling of the students toward anything which varies the monotony of our dull routine of work. No system of education is complete which does not make variety one of its most prominent features, and when variety can be introduced in such a profitable manner through an instructive lecture course, it seems as if no efforts should be spared to accomplish this desirable end. do not hesitate to say that the hour spent at the recent lecture became doubled and even trebled in value from the practical knowledge gained. It is most earnestly to be hoped that this movement, so well started, will be continued, and that the committee who have the matter in charge may fully realize the benefits to be derived from a series of lectures upon practical and every-day topics. Such a series would surely be the right thing in the right place.

IN our last number we had the pleasure I of announcing to the friends of the Institute the admission of the W. P. I. as a member of the New England Intercollegiate Athletic Association, of which Amherst, Williams, Trinity, Wesleyan, Brown and Dartmouth are members. This, we believe, is a forward move in the fortunes of the Tech, and will be hailed as such by all its friends, especially by the alumni and undergraduates, who have taken part in our field-sports, and have marked the steady advance which our athletics have made the last Our field-days have been few years. models of their kind, well managed,

and never closing before several records have been broken, and new ones made. As an example of this we refer to last October, when nine records out of eighteen were broken. And although there is still room for great improvement in many things, yet we feel sure we have some record makers who will hold their own against the other colleges. and we look forward to the meeting next May with a good deal of interest, feeling assured that, although the championship may be beyond our reach, there are several first and second prizes which are not, and which we must have if it is a possible thing.

But besides the start it will give to our athletics, we think the whole school will be benefited by this contact with the outer world. It will give us a place, which we have never had before, among the colleges of the country. To be sure. a diploma from the Worcester Polytechnic Institute, even if it is not real sheep-skin, is worth more than a diploma from most institutions, but still the school is not as well known as it might There has been considerable said lately in regard to how much athletic supremacy affects the success of a school or college, and many opinions have been expressed, but most people will confess that it does affect it considerably. do not believe in neglecting studies in order to excel in athletics, but, on the other hand, we do not think such a course necessary. As a general thing we think the best athletes stand well in their classes, and this is true of most colleges. Once in a while, of course, a man will be found who neglects his studies almost entirely for some neer may need an assistant, as his duties

favorite sport; but such is rarely the

Moreover, athletics have a good moral effect on a college for the simple reason that athletes cannot be dissipated and keep their standing. What condition would a fellow be in on field-day if he spent his time out of school smoking, drinking, sitting up late nights, etc.? Would he be likely to get first prize in a two mile run or 440 yards dash?

Therefore, all things considered, we think the Tech has done a wise thing in joining the Association, and we hope it will prove to be so. Let us at least make this first year of our membership a successful one in every respect. Inter-collegiate Championship is worth striving for, is worth hard work to obtain. But let us plan that work so as to make it an aid, and not a hinderance, to our school work.

TATHY is our practice in the boiler and engine room at the shop carried into the Middle year? To the lazy man whose ambition is satisfied in wheeling half a dozen barrows of coal and polishing up a few pieces of brass as a day's work, the scheme is a god-send. But to the average man, who takes an interest in his machine shop work, the practice is useless drudgery. We grant the importance of a knowledge of the management of steam, but, since the course in firing is not designed to graduate men with the degree of fireman or coal heaver, it seems as if our Junior practice in that department was suffi-The chief object in the Middle cient. year practice seems to be to help out the engineer. Now we grant that the engiare many and varied, but we fail to see why we as students should be required to fill the place.

TO our subscribers: In accordance with a quite generally expressed desire, a room at the Institute has been secured in which our numerous exchanges will be kept on file. Prof. Gladwin has kindly given his model-room for the purpose, and it will be open during the day to any of our subscribers who care to avail themselves of the privilege offered. The plan is purely an experiment, resting merely upon the interest shown to warrant its continuance.

OUR EDUCATIONAL PROGRESS.

TWO centuries and a half ago education in the United States received its first direct and positive impulse. was but eighteen years after the landing of the Pilgrims that John Harvard, by his bequest of £700, created the nucleus of the present Harvard University. settlers of the new world were essentially a race of educators. No more solid basis for the liberty of government, which these early pioneers crossed the ocean to secure, could have been found than that of education, and even in that early period of colonization, this principle was recognized. John Harvard, in his munificence, merely did what his fellow-settlers, on account of their slender purses, were incompetent to do. The success with which the scheme was carried forward, and the readiness with which other settlements took up the idea, —Yale being founded soon afterwards, is clear proof of the common working of the public mind in the most vital direc-

tion of popular education. Nor did this almost feverish desire cease with the generation which inaugurated it. Rather does it seem to have gained strength and richness with each succeeding generation. The little classes at Harvard increased, and scattered abroad their influence. The plan kept unfolding itself, new possibilities were made realities, till at length the system began to assume colossal proportions and take on national characteristics; its continuance was assured.

Thus has come down to us the great and universal system of to-day. It has been a growth, nothing more, and, like all other institutions which are the result of a healthful adaptation of the human faculties to the problems of the times, it exhibits nothing abnormal in its devel-We can scarcely believe that opment. John Harvard could have foreseen the immense resources of the University of to-day which does honor to his name. Yet we can believe that, so thoroughly was the spirit of educational progress imbued into his mind and into the minds of his fellow-workers, could he look today at the structure standing upon the foundation which he laid, he might conscientiously say, "It is beyond belief, yet by all means possible."

The fact of this gradual educational development according to special needs should be carefully noted, for in its misconception lies the cause of so much of the superficial reasoning against our schools and colleges, which is so needlessly prevalent at the present time. It should be remembered that we are trying but few experiments in the education of our English-speaking population, to which class this

article is restricted. The great teacher, experience, never offers anything but facts, and these alone we are now studying, to find, if possible, new and valuable applications. Should the great class of uninformed croakers at our present system of education keep this in mind, it would save for better purposes many a long-drawn out and elaborate argument, which has no basis to rest upon.

Since our remarks thus far have been in a somewhat general vein, let us now turn briefly to some of the particular lines of advancement in which our educational progress is leading us.

Firstly and pre-eminently we would notice the higher education of women. Taking the merits of this step as selfevident, it is highly gratifying to see a steady movement forward in this direc-Vassar, the pioneer of female colleges in the United States, has given the impetus for the founding of Wellesley, Smith, the Harvard Annex and others, all of which are increasing with great rapidity, both in facilities and number of students. With such women as Miss Freeman, the late President of Wellesley, to espouse the interests of female education, we may safely anticipate a most rapid growth in this department within the next decade. For the past century the great educational transparency which has stood at the head of our civilization has had upon all of its sides "What shall we do with our boys?" We are highly pleased to see to-day that one panel, at least, and that a large one, is exclusively devoted to the inscription, "What shall we do with our girls?" And we hope that its import may be fully realized.

A second scarcely less important step forward is that in the direction of techni-This subject has been cal education. so fully reviewed in all the periodical literature of the day, that it will be merely mentioned here. We would distinguish most carefully between the manual training school, on the one hand, and the strictly scientific school, on the other, for just in the combination of the principles of these two, lies the special merit assigned to technical training. The extremely rapid development of institutions of this description is most remarkable, and is of peculiar interest since it serves as an index of the tendency of the present generation toward a system of practical education. many's example in this direction has been most wisely followed on this side of the Atlantic, and at the rate of our present progress but few years will be required to place our technical institutions on a par with any on the European continent.

The introduction of a system of manual training into our public schools scarcely needs comment. It is a bold advance in an altogether new direction, yet one which, it would seem, was justified by a popular demand. success attending the step has been quite marked, and in this success it is to be hoped that the limit of practicability will not be over-reached. The special manual training schools which are springing up all over the country with such fair prospects of success should be the agents for the great part of the instruction in The public schools cannot do more than turn the susceptible student's mind in this direction. To attempt more would be at the sacrifice of the more valuable mental training which in no wise can be dispensed with. The manual training influence exerted by the public schools, coupled with the opportunities which are offered by the special schools of trade, opens up an avenue for the exercise of the youthful ingenuity of the rising generation, which must eventually lead to a high degree of aptness in the arts of invention.

The great advance in the methods of our numberless collegiate and academical institutions, even within the past twenty years, affords such a broad field for discussion and comment that it cannot be presented here. The universal tendency seems to be toward the specializing of courses. The college student now really begins his college training when he enters the high school. Likewise, the student with mechanical genius receives the rudimentary principles of his chosen art in the same institution. The high school is becoming to a certain extent a preparatory school, thus implying an increasing desire for a higher degree of education.

And, indeed, "Education" is the cry from every quarter. And be it much to our pride that we are fast becoming a nation of teachers and pupils, a fact which is indisputably keeping us in the front rank of the civilized nations of the world. SINKING TUBULAR WELLS.

A LARGE part of our population is dependent upon wells for their water supply, and often for large cities, as Brooklyn and Albany, the best available source is from the ground water, revealed by sinking tubes sometimes to very considerable depths. These tubes are usually of wrought iron, from 2 inches to 12 inches in diameter, and perforated by holes at the lower end, these holes being of such size that while water enters the tube freely, sand and gravel are kept out. There are four principal methods in use for sinking these tubes: 1st, those of small diameter may be shod with a steel point and driven down to the desired depth; 2d, the larger ones may be sunk, as was formerly usual with artesian wells, by withdrawing the material from the inside by suitable appliances after this has been reduced by drilling or otherwise to the proper state; 3d, in any case it has been found that by a free use of water let in the top of the tube the finer material is rapidly softened, and if a current is formed by delivering the water at the base of the large tube by an auxiliary tube inserted in the middle, the loam, sand or gravel is rapidly removed and the tube sinks by its own weight. The 4th method acts on the same principle, but differs in using steam at a rather high pressure in place of The process, which has been recently patented, was used in connection with a small water-works system in Kansas with which the writer was connected. Eight 6-inch tubes of galvanized wrought iron with screw joints were sunk in this way to from 54 to 60 feet

[&]quot;See, father," said a son, with the proud consciousness of duty done, "I have saved \$500 from my year's allowance." "Good," exclaimed the old man; "you are a wise young fellow, Charley." "Yes, father, and I wish you'd add \$500 to it; I've got to pay some debts."—The Epoch.

below the surface of the ground, steam at about 120 lbs. pressure being introduced through a 2-inch gas pipe. The material was rapidly removed and the tubes generally sank by gravity, but occasional use was made of a heavy log or timber dropped on the end and raised, as in a pile driver, by a small hoisting engine.

The patentee, who is putting in a plant at Memphis, claims that the last method is more expeditious than the others, and that the yield of water is greater by reason of the action of the steam in removing the finer silt and sand from about the bottom of the tube. This of course would not affect the total supply of water available, but in a soil otherwise compact, as a sandy clay, the open space formed would act as a storage reservoir, equalizing the flow and supplying a greater quantity of water on short notice. The process is evidently of the greatest service where a supply of water is not at hand for the third method, and if it were not for the comparatively expensive and cumbersome plant necessary it would generally be preferable.

In the works described there are eight wells in two rows, located so as to form three squares 80 ft. on the side. The contract price for sinking them, including a guaranteed supply of 500,000 gallons per day, was \$4,600.00. The supply was found to exceed this, and is of a pure and soft water. Kenneth Allen.

COLLEGE JOURNALISM.

It is a well-known fact that the position of editor of a college paper is accepted with great reluctance by the average college man. This is more especially true in the case of a paper that offers no financial inducements to its editors. The reason for this is, perhaps, that the advantages arising from a position on the staff of a college publication are not generally known. What, then, are the advantages derived from college journalism?

First, it encourages young writers by giving them a chance to get into print.

Second, it makes known to its followers the secrets,—so-called—of the sanctum and printing-office.

Third, in the case of the daily papers, it schools one in the actual, routine work of the modern newspaper office,—of course on a somewhat smaller scale.

By giving untried writers an easy chance to see their effusions in cold type, college journals save numberless editors all over the country each year an incredible amount of anguish, suffering and blue lead pencil. Some college editors are so hard up for copy that they will print anything in the news or literary line that is sent to them. As the paper has a limited circulation, the outside world is spared the infliction of this wretched work, but it serves its purpose in stimulating the author of it to better exertions. Who knows the number of bright writers that have had their future work tarnished and their literary growth stunted by receiving their manuscript back from New York or Boston editors accompanied by a printed slip saying,

[&]quot;One single combination
O'erclouds our recreation,
Pursues without cessation,
Fills us with great vexation,
And has for its formation
Six letters whose relations
Cause wildest meditations,—"
"Theses!"—Ex.

"The editor of — regrets that he cannot use the enclosed," or something to that effect? The trouble with these literary adventurers is that they have thrown themselves into deep water, and find for the first time that they have not been taught how to swim. College journalism does just this. It is a training-school.

The reader has by this time inferred, perhaps, that all college journals are Some are, and some are not. bad. One trouble with college writers is their tendency to imitate. The popularity of Stevenson and Haggard has caused the greater part of the fiction lately printed at the large colleges to be of an exceedingly weird and ghostly nature. "fiction" is meant legitimate fiction, as distinguished from news of that character, for it may be said that some of the news, also, has been of a weird and ghostly nature. The Harvard Lampoon is another case of imitation. The Lampoon can never equal Life, which it seems to be trying very hard to do, but it can put into its columns some of the piquancy of which a paper published outside of a college has no conception.

Some time ago, a joke, having for the basis of its laugh the "chestnutty flavor" of college papers, went the rounds. The point of the jest was well taken. College papers are "chestnutty" in the jokes and "college notes" that they print. The same old, gray-haired puns and moss-covered items appear from year to year. This is bad enough, but the worst of it is that each editor touches up the "joke" to suit his pet ideas of humor. The October W P I had in the local column a play on the word "cente-

narian," a student being represented as saying that a "centenarian" is "a bug with a hundred legs that inhabits tropical countries." Straightway an Indiana editor pounced on it, gleefully ran his scissors around it, substituted the word "humbug" for "bug," and finally sent the resulting pointless jest to the printer without giving credit, even to "Ex." The "joke" was too delicate at first to stand rough handling, but this editor cut the point completely off with his bungling shears.

Some college papers, especially the back-county ones, have distorted ideas of humor. A case brought to mind recently is that of the Peabody Reporter joke of the hen drawn so true to life that when thrown into the waste-basket, it "laid there." We will not attempt to say when this witticism was started on its wanderings, or when it will cease to be clipped by hayseed editors. At this writing it appears to be hale and hearty, with lots of life in it yet. The wording of the "joke" is familiar to everybody who lives in a civilized country, so we will not inflict it on our readers. In its wanderings, even the wording has been changed from "the fat reporter," that well-known dweller in newspaper offices, to "a fat reporter." It is a small matter. but it shows more than anything else the utter inability of some persons to appreciate the conditions under which the "joke" was made.

The funny column of the college paper, if it has one, should be either original or fresh. If the editor can't make it original he can make it fresh by investing in a copy of *Puck* or *Life*, and using his shears and paste-pot scientifi-

cally. With some papers we know of, a year's subscription to Life ought to go with every newly-elected editorial board.

These are a few of the ways in which college journalism can be improved. The existence of these faults, however, does not affect to any great extent the advantages derived by the college editor. He is a hard-working individual, certainly, and frequently gets no reward for his labors except the consciousness of having benefited himself. A paper published at a leading university recently stated that it was the custom of students there to "mock and jeer and rail at the college papers." This is true at every college of some students who do not happen to be connected with a paper which they can run after their own improved ideas. There are croakers everywhere, and, as a rule, the editor of such a paper knows what his readers want better than they do themselves.

In the present agitation for a "chair of journalism" at some of the colleges it should not be forgotten that the best chair of journalism is that of the editor of the college journal. Journalism has but little theory, -it is mostly practice. A general college course is better than any special course that could be devised, and the college paper will do the rest.

A NIGHT ON THE OCEAN.

WE are on board of one of the finelyappointed steamers of the - S.S. We have enjoyed the sail down Boston harbor under the glorious sunset, we have proved the excellence of the ship's cuisine, and now we are ready to go on deck again. We climb the stair-

ourselves upon the hurricane deck. The full moon shines from a clear sky, and the crested waves flash back its sparkling rays. Far away to the left lies the coast, its bold outlines merely suggested in the dim light. To the right, the sparkling ocean rolls unobstructed to the shores of sunny France. Scattered here and there about the deck are little groups of passengers conversing in low tones or sitting in that silence which is more eloquent than words, drinking in the beauty of the night. Even you intensely practical, sentiment-hating business man, whose thoughts never wander beyond the narrow limits of the cotton market, pays an unconscious tribute to this sublime mood of Nature by lowering his voice as he discourses on his inevitable topic, the almighty dollar. The pulsations of the engines, the throbbing of the mighty heart of the monster that breasts the waves so gallantly, are distinctly felt. Subdued by distance, the sweet strains of a simple melody float from the cabin and mingle with the soft rushing of the water from the paddle-wheels to form delightful harmony. A feeling of awe steals over us as we gaze upon the limitless ocean and into the infinite depths of the heavens. petty affairs of earth are, for the moment, forgotten. We can but realize our own utter insignificance, and yet the nobler nature within us is stirred to its profoundest depths as we realize that we, poor, finite creatures, are the objects of the tender solicitude of Him who holds the waters in the hollow of his hand. The soft music and the witchery of the moonlight inspire a pleasant train way in front of the pilot house, and find of thought, and we have been dreaming.

we know not how long, when we suddenly awake to the fact that the moonlight has disappeared. A heavy bank of mist rolls swiftly toward us, and in a short time the damp curtain of the fog has fallen. We descend to the main deck to find the lookout doubled. The fog has shut in rapidly and now we can scarcely see from one end of the deck to the other.

Above in the pilot-house two men grasp the wheel with muscles tense, ready to obey instantly the pilot's orders. We are running at half-speed and sailing by "dead reckoning." Behind the pilot-house, which is of course in darkness, save for the faint glimmer of the binnacle-lamp, in a brilliantlylighted room, are spread the charts. Our bearings have been carefully noted and our course is now being shaped by the chart. Soon the speed of the vessel is checked. The pilot's calculations tell him that a buoy should be sighted. We forge ahead very slowly until the lookout announces the appearance of the familiar mark. The bell is rung for speed, the course is changed and we plunge forward into the fog again. Suddenly the cry rings out, "Light three points off the weather bow, sir." We peer in the direction indicated but see nothing. A blast from our whistle is answered from the darkness. In a few moments a glimmer appears, and almost immediately a steamer, blazing with lights, rushes by us and is swallowed by the fog. Soon we feel the speed of the boat again slacken. We float slowly along for a time. The pilot betrays signs of uneasiness. "Can't you see the - light?" comes from the pilot-house to

meet with the "Not yet, sir," of the lookout. The pilot's face brightens when he hears from the deck, "Light off the port bow, sir." In obedience to his order the wheel is pulled over and off we go in a new direction. So it goes on all night. There is a fascination in this striking manifestation of the power of mind over matter, the spectacle of a single brain safely guiding in the darkness, among the rocks and shoals of a dangerous coast, the mighty vessel with its freight of human lives. But at last tired Nature asserts herself and we retire from the deck. When we again step from the cabin, we find the sun shining bright and clear, and our vessel, her course now plain, bounding on at full speed under the confident and safe guidance of the pilot at the wheel.

THE EMERGENCY LECTURE.

What to do in case of accidents. A lecture delivered before the W. P. I. students, Feb. 13, 1888, by. Dr. Woodward.

"There are few people who know what to do in case of accidents, while waiting for a doctor, and in many cases this ignorance has caused much unnecessary pain and even loss of life. A person, with a cool head and a knowledge of a few simple facts, will be able, when accidents occur, to not only direct what shall be done, but also, what is often of much more importance, what shall not be done, for the comfort of the injured one. Last fall a case in point occurred in this vicinity. A man was leading a bull home from the fair, when, becoming enraged, the animal attacked and gored him. His leg was broken and an artery cut in the encounter. His companion, not knowing how to stop the flow of blood, ran for assistance, but before it reached him the injured man bled to death. And to illustrate how important it is to know what not to do, I will cite a case which happened in my own practice: A man was very sick with pneumonia and the strictest directions had been given not to raise the patient in his bed. One of the attendants in giving him something to drink, undertook to raise him up so that he could more easily swallow it. The result was that the man died almost immediately.

I now propose to give you a few simple directions which will help you to know what to do, if you are present, when an accident of any kind occurs, and I will consider those accidents with which you may meet in your school life; first, those in the shop, and second, those likely to occur in your sports.

To make clear what follows we must first understand the circulation of the blood. The heart is the centre of the system and pumps the blood over the whole body, sending the fresh, pure blood through the large canals, called arteries, which grow smaller and smaller as they go away from the heart, until finally they become the size of hairs. The blood passing through these, becomes saturated with waste matter from the tissues, and then flows into the veins and on toward the heart. This blood, flowing toward the heart, is of a dark color because it is impure, and it is sent up through the lungs to let the air purify it by exchanging oxygen for the carbon. The blood then returns to the heart and is pumped out again through the arteries. This process is being repeated continually. If now an artery has been cut, it is most important to stop the flow of blood at once, for, since the arteries are large passages, unless this is accomplished a man will soon bleed to death. It is more necessary to stop the bleeding from an artery than from a vein, because the walls of the arteries are rigid and stand open, thus allowing the bleeding to continue, while the walls of veins tend to collapse and allow a clot to be formed. In small veins the clot will generally form without help, but in the large veins and arteries it is necessary to provide something against which the blood can flow. Cold helps in the formation of clot, and if the wound be kept warm it will continue to bleed. You will know that it is an artery that has been cut from the rapid flow of the bright red blood, and from its pouring forth in jets, caused by the action of the heart, which sends the blood through the arteries by jerks. Suppose, now, that the artery of the wrist has been cut, and you see the red blood jetting forth. Just place your finger on it, pressing down upon the bone, and that will stop the flow. This will do only for a short time, for no one can hold an artery with his fingers longer than a few minutes, so that it will be necessary to apply a tour-

niquet, which can be made with a handkerchief and a piece of wood, a cane, or anything that is available. First, fold the handkerchief in the form of a bandage, tie the ends together, encircle the arm with it, stick the cane into the loop, and twist round and round until the arm is compressed enough to stop the flow of blood. This being an artery, the blood is coming from the heart and the tourniquet must, of course, be applied between the wound and the heart. Bring the pressure directly over the artery, but if you don't know exactly where to find it, don't stop to do so, for valuable time may be lost, but apply the tourniquet immediately. It will be well to remember the position of the main arteries of the body. The heart, as you all know, may be found under the fifth rib, and coming from there a large artery passes into each arm and can be felt on the inside of the bicep muscles just above the elbow, and then it passes down to the wrist, where the pulse is usually counted. The main artery of the leg is upon the inside of the leg under the thigh muscle, and below the knee it passes down upon the outside of the ankle bone. If, after the tourniquet has been applied tightly, bleeding does not stop, then you will know that some veins are cut also. To stop this flow of blood place a tourniquet upon the other side of the wound, for the blood in the veins is going toward the heart, and therefore the cut should be between the heart and the tourniquet."

Here a practical illustration of what to do in an emergency was given by one of the students in the audience fainting. Instantly the commanding voice of the lecturer rang out. "Lay him right down on the floor. His head down." He then resumed his lecture. "Fainting is caused by the absence of blood in the head. Never raise a fainting person but let him lie back, with his head down, thus allowing the blood to pass into the head from the heart with the least exertion.

Now what shall you do in case of a small cut, such as you ordinarily meet with in your shop practice? Well, in the first place, don't go to filling it up with cobwebs or putting on shellac or any thing of that kind. All of these may be of some use in themselves, but a lot of dirt invariably gets into the cut with them, which, remaining, festers and makes a very sore spot. If it is serious enough to need a doctor, don't do anything to it, except to stop the bleeding, until he comes. If it is a small cut, let it bleed, keeping it cool, and a clot will soon form, and the wound will heal quickly. It is common to put

court plaster upon a cut, regardless of dirt, simply to cover it up from the air. As this is usually done, the healing is delayed. The proper way to use court plaster is to first see that the wound is clean, and then stick the plaster down upon one side of the cut, push the edges of the wound together, and stick the plaster down upon the remaining side. This closes the wound and assists in healing it.

In the case of a burn, the outer skin has been removed and all the nerve ends of the under skin are exposed to the air, which causes the smarting. To stop the pain, cover it up from the air by putting it under warm water or applying cooking soda as a paste or powder. Anything of that kind may be used, but do not use anything that will stick to the burn as it heals, as, for example, cotton batting.

In case of a broken leg be very careful how you pick the man up. The shin bone generally breaks and splinters. If it pierces the skin it is a compound fracture, otherwise it is called a simple fracture. A compound fracture is much more serious, and in picking up a man with a broken leg, it is very important to hold the limbs straight, and to handle him with the greatest care, otherwise you will drive the broken bone through the skin or into a blood vessel and do him serious harm. The only thing to do is to wait for the doctor, unless there is bleeding which you must stop.

Now suppose a man is hurt and you don't know what is the matter with him. First, look to see if there is any bleeding anywhere, and if there is, stop it before he is moved. If he can be made at all comfortable where he is, do not try to move him. If he is hurt seriously, is unconscious and breathing slowly, what can you do to keep him alive until the doctor comes? His limbs are cold and circulation is feeble. Then he must be stimulated by being wrapped up and kept warm, and by chafing his limbs to keep the blood circulating. Give him brandy or some other stimulant, but not before the bleeding is under control.

To resuscitate a man from suffocation caused by drowning or illuminating gas: First, don't roll the patient in a barrel as is sometimes done to get the water out of the lungs in case of drowning, for that is far from the best way to accomplish it. Get his clothes off and put him in a warm place. Then place him upon his side with his head down. Open his mouth, pull his tongue forward, thus opening the passage to the lungs, and let the water run out. Now roll

him upon his back, and place his head well back so that his wind-pipe will be straight. Take your station behind him, grasp his arms by his elbows, and lift them up slowly to his head, which expands the chest, then return them to his side, pressing upon the lungs to contract them as much as possible. Continue this process, which is simply artificial respiration, for an hour before giving up hope. I knew of a case where a man was resuscitated by such treatment, but he gave no signs of life for over three quarters of an hour. Do this slowly, not over twenty times to a minute, and when he is brought to and can swallow give him a little stimulant.

In frozen ears, &c., the cold has stopped the circulation of blood and forced it out of the tissues, giving them the white color. If, now, the frozen part is brought into a warm place, the blood rushes back with tremendous force, causing acute pain and, in some cases, the bursting of the walls of the veins. It is best to take the coldest thing possible to rub the part and gradually restore the circulation.

Nose bleeding is cansed by excess of blood in the head. To stop it, sit up perfectly straight and hold the hands above the head. The heart finds it hard to force the blood up into the head, which relieves the pressure and the bleeding ceases."

At the close of the lecture a vote of thanks was extended to Dr. Woodward for his able and interesting address.

DIRECTORS' MEETING.

MEETING of the board of directors A of the Athletic Association was held Feb. 20, 1888. Mr. Chittenden, '88, was elected chairman and Mr. Lovell, '88, secretary. The meeting was opened by bringing forward a list of the events to be contested at the Inter-collegiate Field Day, May 24, 1888, and in considering the names of different men who would be qualified to enter the various events. Mr. Chadwick of the Senior class was appointed to have general supervision of the means taken to prepare the contestants for the Inter-collegiate sports.

The directors from the Apprentice class were requested to provide a new set of hurdles, constructed according to the rules of the N. E. I. A. A., and a committee of two was appointed to procure medals, promised to the "record breakers" at the Spring Field-Day, 1887, the cost of said medals not to exceed \$25.

Mr. Camp, '88, was appoined captain of the Tech tug-of-war team on condition that he join the gymnasium and pull on the team; Mr. George, '89, was appointed coach, and the two gentlemen together were empowered to act as a committee in selecting the other mem-The list of events at bers of the team. the Spring Field-Day, to be held May 12th, is the same as that of last fall, with two exceptions; in place of the Mile Bicycle race was substituted the Two Mile Bicycle race, and to this was added the Mile Walk. It was voted to impose a fine of \$3 upon all men entering their names for the Inter-collegiate sports who fail to appear at the appointed time, this being one of the rules of the Intercollegiate Association. It was also voted that suitable prizes be awarded the class securing the championship in the series of class base ball games to be played during the spring. The board then considered the advisability of increasing the athletic fee to \$1, and the chairman was instructed to bring the matter before the A. A. After electing Mr. White captain of the Tech eleven for '88, the meeting adjourned.

ATHLETICS.

There are 35 candidates for the Phillips Andover nine.

At Amherst, Feb. 18, J. C. D. medals, and purchase the same.

Kitcham kicked 9 ft. ½ in., breaking the Amherst record. M. H. Houghton put the shot 33 ft.5 in., breaking the N. E. Inter-collegiate record made last spring by 13 inches.

The Inter-collegiate Base-Ball Association has adopted the league rules, but will not give a batsman his base if hit by a pitched ball.

The Harvard nine will be rich in batters with Campbell, Knowlton, Henshaw, Willard, Quackenboss and Boyden. Campbell is one of the best amateur all-round athletes in the country, having won the all-round championship three successive years at Mt. St. Mary's College.

The manager of the Williams nine wants \$1,500, at least, to run the team with this year. It will be raised by subscription.

Yale will play the Univ. of Penn. at W. Philadelphia, March 30; Athletics at Philadelphia, March 31; New Yorks at New York, April 2; Newarks at Newark, April 3; New Yorks at New York, April 4; Brooklyns at Brooklyn, April 7.

The Williams nine make a southern trip early in April, playing at New York, Jersey City, Trenton and Baltimore.

At the meeting of the executive committee of the New England Inter-collegiate Athletic Association in Boston, Mar. 3, it was voted to hold the sports on Thursday, May 24th. The following officers of the day were elected: Judges -Prof. Emerson of Dartmouth, Mr. Samuel E. Winslow, Worcester, Mr. James, Wesleyan; Grand Marshal-Mr. W. M. Prest, Amherst; Clerk of the Course-Mr. H. E. Rice, Worcester Polytechnic Institute. The referee, timekeepers and starters will be chosen later. Messrs. White and Clark were appointed to select a design for the prize AT THE INSTITUTE.

Interest in athletics is stronger this spring than for many previous seasons.

Crane, '91, is said to have put the shot 35 ft. in practice a short time ago. He is a very good athlete, and ought to show up well in the spring sports.

'90 claims to have a man with a record of 8 minutes in the mile walk. Bring him out, '90, he is just what we want.

The Juniors are making great preparations for the base ball season. At a meeting of the nine, Crosby was elected captain, and it was voted to hire the rink for Saturday afternoon practice.

The Y. M. C. A. gymnasium is very well attended by Techs every afternoon from 5 to 6, as many as twenty-four going from the Middle class alone. Very few have begun special training as yet, but all are getting their muscles in good condition by participating in the regular class drill, and special work will be taken up later. At the gymnastic exhibition given Monday evening, Feb. 27, Chadwick and Cushman, '88, jumped in fine form, while Von Wrede, '88, and Crane, '91, drew forth rounds of applause by their work on the parallels and horizontal bars.

AN EDITOR'S GROAN.

I AM tired of writing "chestnuts" on the innocent young "Prep."

I am tired of writing grinds on missing links, And I'm tired of reading poems from the man who writes incog.,

And I'm tired of setting up the board to drinks.

I am weary of the grinding of the mathematics' chair;

I am weary of the "laboratory bill,"

And I'm weary of iron castings which are always full of air,

And I'm weary of the library mill.

I am sick of roaming round the streets hunting after "ads."

I am very tired of blackboards and of chalk, And I am sick of writing gags at the expense of other folks.

And I'm tired of hearing Prof. - talk.

Scientific notes.

There are at present eleven electric railroads in successful operation in this country. Sixty-eight motors are employed on these roads, and three and a half million passengers are carried yearly.

A large company has been formed at Birmingham, Eng. to distribute compressed air as a motive-power. Where little power is required, the use of compressed air is found more economical than the maintenance of an individual steam-plant.

A New York dealer in laces lately exhibited a piece of lace which attracted unusual attention because of its delicacy and brilliancy. The observer, struck with its fairy-like fineness, was surprised to learn that it had been stamped from a sheet of low-grade steel. There is no question as to the durability of this novel form of lace, while its beauty and cheapness will revolutionize the trade, if only rust can be effectually guarded against.

A physician has invented an electric bullet-probe which promises to be of great assistance to the profession in certain delicate cases. It is often difficult to determine whether the ordinary probe is in contact with a bullet or a bone. The electric probe consists of a telephone receiver, one wire of which is connected with a metallic plate held in the patient's mouth, the other wire being attached to an ordinary probe. Whenever a metallic substance is touched with the probe, a clicking noise is heard from the receiver. The bullet may thus be located with absolute certainty.

To save the wear and tear on rolling stock caused by the numerous open joints between rails, it is proposed to make a continuous rail a quarter of a mile in length. The rails are made of the ordinary length, are laid in place, and then an electric welding machine is

run over the track. A welded joint is made in thirty seconds, the steel being unaltered as regards temper. An open joint is left every quarter-mile to allow for expansion. With the standard thirty-foot rail there are 704 open joints per mile of track, with the welded rail there are but four. Railroad men will readily appreciate the advantages arising from a practically continuous track.

A Boston man sends a communication to the "American Machinist," requesting answers to the following questions: "What is required of a perpetual-motion machine, simply to furnish its own motive-power or something more? Is there any award awaiting the lucky inventor, and if so, how much? Are there any alleged perpetual-motion machines on the market?" The lordly way in which he asks if all that is required of a perpetual-motion machine is simply to furnish its own motive-power, as though that were a trifling consideration, is most impressive. Alas, the time approaches when over the tottering gateway of the melancholy ruins of the modern Athenian temple of culture must be inscribed "Ichabod," for surely "the glory hath departed."

The recent opening of the elegant club-house of the New York Electric Club marks an era in the history of electricity. The cellar of the club-house contains a complete plant for the generation and accumulation of electricity. A large library of electrical books and a completely fitted lecture-room are added to the usual conveniences of a club-house. An electric door-opener, an electric bootblacking machine, an electric stove and a long-distance telephone are a few of the novelties found in the establishment. Thos. Edison is one of the vice-presidents of the club. The president said at the dedication of the building that the club hoped to be to electricity what the Cooper Institute is to mechanics. course of lectures by eminent scientists is contemplated.

College news.

The Agassiz Museum at Harvard is to have a \$75,000 addition.

The Yale observatory gets \$1,000 a year for serving out time to the railroads.—Ex.

Yale's new library building will cost \$135,000, given by Hon. S. B. Chittenden of Brooklyn.

The Sheffield freshmen at Yale have adopted a class cane which costs \$7.25.

No one is allowed to enter the Columbia School of Mines under 19 years of age.

The further publication of the papers at the Polytechnic Institute, Brooklyn, has been prohibited by the faculty.

Trinity College has received a gift of \$50,000 from the estate of the late S. M. Buckingham, of Poughkeepsie, N. Y.

If an editorial in the *Tech* voices the prevailing sentiment at the Institute there will be no ball nine there this year. The closing paragraph is:

"Our foot-ball record was superb; shall we mar it, and bring discredit on our athletics, by organizing and sending out, with M. I. T. on it, a nine that a club of boys averaging fourteen could whitewash!"

It is reported that Clarkson is coaching the Harvard base-ball team, concealing his identity from the faculty by appearing as a student.

The Georgia Technological School in Atlanta will be opened next September. It will be under State control, and will be maintained principally by means of annual appropriations by the State legislature.

Here is a copy of the Harvard freshmen's yell:

> "Johnny get your gun, Johnny get your gun, Chippy get your hair cut, Ninety-one."

Columbia students are acting as "supes" in Fanny Davenport's "La Tosca" in New York.

Swarthmore College is to erect a brass foundry in connection with its scientific building for the benefit of those taking a course in manual training and electrical engineering.

The Scientific Department of Rutgers College will be enlarged with the \$15,000 granted by the Act of Congress for the support of experimental stations at agricultural colleges. An Electrical Department will be created.

Johns Hopkins publishes seven magazines; one devoted to mathematics, one to chemistry, one to philology, one to biology, one to historical and political sciences and three of local interest.

Most of the endowment of the Johns Hopkins University is in Baltimore and Ohio Railroad stock. The value of this when Mr. Hopkins died was \$2,195,000. The advance of this and the other property, chiefly real estate, increased the value of the endowment to a little more than \$4,000,000 a year ago.

Exchanges.

The McMicken Review is the name of an eight-page monthly journal published by the McMicken Publishing Company at the University of Cincinnati, Cincinnati, Ohio. In addition to the departments usually found in college papers, the Review is burdened by a chess column, edited by a young gentleman of the sophomore class. During the Christmas vacation, this young emulator of Paul Morphy came to the conclusion that his naturally dull and uninteresting part of the paper ought to be brightened by something in the humorous line; so the king's gambits and the pawns, whatever they may be, were laid aside, pending the production of something funny enough to pacify the subscribers of the Review for whom a chess column had no attractions. One day while the chess editor was endeavoring to the best of his ability to keep off the alluring "Kieser-

itzkies" and "K to P and mate in four moves" until the desired witticism should have been evolved, there came suddenly to his wearied brain this monumental joke, which was forthwith published in the January number of the Review:

"Why is a chronic old bachelor like a newlymarried old maid?"

After the appearance of this seemingly innocent query the chess editor resumed his "Ruy Lopezes," for he knew that the whole University of Cincinnati was sitting up nights to wonder how in the nature of odd similes a chronic old bachelor could be like a newly-married old maid, which of course was likely to give an elevating tendency to McMicken publishing stock. As the time for the issuing of the February Review drew near, the chess editor must have relented on seeing the care-worn faces of his fellowstudents, for he risked a strike of the compositors in the printing office by having this solution of the problem set up and printed:

"One is a male state, and the other is a stale mate."

This shows the *Review* to be bad, very bad. It ought to kill off its chess editor, leave Ruskin and Keats alone, and devote all its energies to printing something pertaining to the University of Cincinnati.

The Exonian is delightfully impartial in its reviews of the Lit., published at the same institution. Although the managing editor of the former is an associate editor of the latter, he does not allow that fact to prevent him from printing the freest criticism of what even he himself may have written. In the Exonian's review of the February Lit. a sketch in the latter called "A Train of Thought" is criticised rather unjustly, it seems to us. It was pretty good reading, even if "a lazy, desultory thing."

The Stevens Indicator is thoroughly technical and as such is doubly welcome at the sanctum of the W P I. The last

number contains, among other good things, interesting papers on "Methods of Teaching Mathematics," "The Modern Blast Furnace," "Windmills for Generating Electricity" and "Standard Section Lining." Perhaps the best thing we can say of the *Indicator* is that every number is worth preserving.

The "College World" column of the *Pennsylvanian* deserves a word of commendation. It is the most carefully edited department of that nature of any of our exchanges, and as a compilation of all that is newsy and interesting at American colleges it is unsurpassed.

The Tech speaks of our marking system as follows:

"The last number of the WPI, the paper of the Worcester Tech., contains a very severe editorial criticism of their marking system. We must say, that if it is anything like what it is said to be, it should indeed be done away with. Our marking system is no favorite here, except with the faculty * * * * * *

Although we all object to our system, there are really very many good points in it, not the least of which is the absence of ranking. Here, a man with passes and credits is just as good as the man with honors, and there is no distinction made between the two. This does away, to a great extent, with the pernicious working for marks; and good marks here are more generally acquired by a desire to be well up on the subject, than to get the mark for itself alone and the rank it gives in the class."

Personals.

Geo. A. Thompson, '71, is supt. of the Rochester Division of the N. Y., L. E. & W. R. R., headquarters at Rochester, N. Y.

Edwin H. Whitney, '71, holds the position of mechanical engineer for the American Ship Windlass Co., Providence, R. I.

Wm. K. Bailey, '74, has become partner in the civil engineering firm of Raymond and Bailey, Fitchburg, Mass.

L. H. Bateman, '76, has been appointed agent of the B. & M. R. R. at Pepperell, Mass.

Emil Gerber, '76, is resident engineer in charge of Sioux City Bridge, Sioux City, Iowa.

Wm. L. Darling, '77, has assumed the duties of Chief Engineer of the Duluth, Watertown and Pacific Ry.

W. W. Fisk, '78, is chemist with the Douglass Island Mining Co., Alaska.

H. R. Underwood, '81, is Assistant Engineer on the Missouri and Pacific Ry., headquarters at Sedalia, Mo.

Frank A. Foster, '82, has just taken a position as draughtsman with the Providence Gas Co.

Louis E. Hawes, '82, is with Percy M. Blake, water-works and sewage engineer, Hyde Park, Mass.

C. D. Alvord, '83, has become an instructor in metal work and mechanical drawing at Atlanta University.

Wm. F. Brooks, '84, is junior partner in the firm of Nelson, Tenney & Co., wholesale lumber dealers, Minneapolis, Minn.

Geo. H. Cushing, '84, is supt. for the H. B. Smith Co., manufacturers of Union Steam and Water Heating Apparatus, Westfield, Mass.

Chas. S. Phelps, '84, is second assistant engineer of the Flint and Pére Marquette R. R., East Saginaw, Mich.

Priest, '84, is draughting for the Thomson-Houston Electric Co., Lynn, Mass.

A. S. Ewen, '87, and till recently at the Boston Tech, is with the Linen Co., Willimantic, Conn.

Lhoyd, '87, although at present in Los Angeles, Cal., is, however, not attending the University of California, as incorrectly stated in our last number.

E. L. Grimes, '87, is with Woods and Rugg, civil engineers, Worcester, Mass.

W. T. White, '89, was elected treasurer of the N. E. Inter-collegiate Athletic Association at the annual meeting held in Boston last month. E. G. Penniman, also of '89, has been chosen a member of the executive committee of the Association.

bechnicalities.

It is rumored that work on the new diplomas has begun.

Follett, formerly of '90, will probably enter '91 in the fall.

Unless all signs fail, '90 will have a rattling class-nine this spring.

The Juniors have appointed Farnum and Rood to look after their tug-of-war interests.

Now is a good time to see Mr. Salisbury about buying the grass on that corner lot.

The Middlers began physical laboratory practice the first week in March. After this their lectures will be upon electricity.

Prof. in Mineralogy: "What is the white coating we frequently see upon new brick buildings in winter and spring?"

Student: "Ice."

The shop will have to buy a new grindstone soon. '90 has lots of grit. These two sentences go together, Mr. Printer.

Wonder when the new tool-room will be opened? Can't we have some dedicatory exercises, such as speeches, hymns of praise, popular songs, etc.?

The pet nick-name for that popular study, Mineralogy, seems to be just at present the "eminently pious" one of "Doxology." See the point?

The Juniors are now shading their free-hand drawings. This shaded work looks best off at a distance. Five miles off is about right.

The favorite tune of the Preps as they wend their way up the hill at 6.45 A. M. is "Every Day'll be Sunday, Bye and Bye."

The Seniors are just beginning to discover what a fine looking lot of fellows they really are. It only takes a good chine."

photograph to bring out all the fine points.

In the making up of the class nines it is highly important that the best men are chosen. Favoritism and personal influence, if allowed to prevail, will greatly injure the base-ball interests of the school.

Middle A was informed the other day that they were about to take up dry work in mineralogy. Most of the fellows seemed quite astonished; they thought they had been having it right along.

Prof. (to 1st student): "What color is the streak of this mineral?"

1st student: "Brownish black."

Prof. (shaking his head): "What do you think it is, Mr. W?"

Mr. W.: "I should think it was blackish brown."

In accordance with the custom of preceding classes, the Juniors have added the element "geranium" to the carbon group. We intended to work this joke in combination with "tellurium and sellurium" but it didn't reach us soon enough.

The rights of old Green-grass and chief Mud-bank of the western tribes have been excitedly espoused by the Seniors in their debates. One even went so far as to declare the Indian to be the "survival of the fittest."

Some of the peculiar translations heard in the German class:—

"Here the ear is eternally dumb."

"We attach ourselves to his footsteps."
"She (Mary, Queen of Scots) devoured her husband at Sterling." Next it was read, "She fed her husband with Sterling."

Prof. (to perpetual-motion crank): "You see, I have proved to you that your machine is worthless. You can't make energy out of nothing."

Crank: "Well, if I had \$40 I'd be pretty willing to invest it in such a ma-

Prof.: "Oh, well, I see why you can't get the \$40."

The following fragment of a translation of Schiller's "Diver" has been obtained from the waste-basket and thus rescued from oblivion. It shows to what sublime heights of feeling and expression a Middler can rise, when he is hard pushed:

"The youth now loosens his girdle and throws off his mantle,

And bares to the crowd his brawny muscle,

The sweet-faced daughter deeply blushes, as modesty taught her,

And anon she turns pale, and swoons on her bustle."

1st student: "Why, you have suffered

a great loss, haven't you?"

2d student: "Yes, the persistent work of months, aye, even of years was destroyed in a single moment. It happened late last night. Fire was low. I became a blowpipe. There was a flash, a smell of burnt hair. I had to shave off the ruins."

Work at the shop is quiet just at present. Foreman Walls is in Hartford, Conn. attending to an elevator job, while Alberty, with an assistant, is in Clinton for a similar purpose. The contract has been placed for an elevator in Natick, Mass., work upon which will soon be in order. The work on the Seniors' cabinet-lathe seems to be progressing finely, nearly everything being ready for the final assembling of the parts.

In looking over an old catalogue we find among the list of gifts during the year of 1876, "One Mann's Health Lift." We presume that only one man ever got the benefit of the machine, and evidently his lift was never put on record. If he did not lift the machine out of existence, we would suggest that it be brought out, and that every man take a lift just before entering chapel each morning. Perhaps the choir would sing better.

Questions which the mighty brains of our Seniors, have been wrestling with in their English work:

Resolved, That the Government should assume control of the telegraph. Decided in the negative.

Resolved, That the history of the relations of the U. S. Government with the Indians has been the history of a century of dishonor. Affirmative.

Resolved, That Congress should further restrict immigration. Affirmative.

Resolved, That trades' unions are a benefit to the laborer. Negative.

Some morsels of wisdom for the Preps:—

My son, give attention unto our ways, consider them and depart not from them.

 As thou walkest in these halls remember thy length of stay is in our right hand; take heed that thou be not cut off in the bloom of thy youth.

3. Love not sleep, lest thou be dropped by the way.

4. Seek not to model thy ways after the upper-classites, lest they scorn; reprove them not, lest they fall upon thee.

In multitude of words is not a high mark;but blessed is he that keepeth our ways.

For wisdom hath founded these halls and hath established her eleven pillars.

7. Great is the power thereof; by them shall thy days be determined and thy knowledge decreased. Selah.

A regular meeting of the Thompson Club was held on Saturday, March 3d. After the preliminary exercises, Mr. F. S. Hunting was called to the chair and the regular programme for the evening carried out. Mr. A. L. Smith, '90, gave an instructive address on "The Manufacture of Glass," which was followed by an interesting paper by Mr. George, '89, on the value of Jules Verne's works in modern literature. A "hodge-podge" debate filled the remainder of the programme, and in this the members present participated freely. Much merriment was occasioned by the unique subjects of many of the questions and the ingenious arguments advanced by their advocates.

Museum of antiquity.

I DOUBT IT.

"WHEN a pair of red lips are upturned to your own,

With no one to gossip about it,

Do you pray for endurance to let them alone?

Well, may be you do—but I doubt it.

When a sly little hand you're permitted to seize, With a velvety softness about it,

Do you think you can drop it with never a squeeze?

Well, may be you can-but I doubt it.

When a tapering waist is within reach of your arm,

With a wonderful plumpness about it,

Do you argue the point 'twixt the good and the

harm?

Well, may be you do-but I doubt it.

And if by these tricks you capture a heart
With a womanly sweetness about it,
Will you guard it, and keep it, and act the good
part?

Well, may be you will—but I doubt it."

—Albany Argus.

THE man that hath no English in himself,
Nor is not moved to write essays profound,
Is fit for Bowser, Chauvenet, and Wells;
The motions of his brain are dull as Henck's,
And his knowledge shallow as Rankine's;
Let no such man be trusted.

"I'M filled with the learning of ages, I can translate Homer at sight, I scan the meter heroic Like a gentleman erudite. I extract the root of a number, Without anæsthetics or pain; I know the great ones of story, From Adam way down to Kissane. I can tell the date of Rameses. And I know when Antony died: I think I might write in Latin And mayhap in Greek if I tried: And if the college professors Consider this far from enough, I've got a great store of knowledge Preserved on the back of my cuff."

"A Vassar girl being asked by her teacher what kind of a noun "kiss" was, replied with a blush, that it was both proper and common."—Ex.

A TALE.

A ONE-horse open sleigh,
A girl and fellow geigh,
A lively, prancing beigh,
A lovely winter's deigh.

One hand the steed to guide, The other —(?) By his suide As lovely as a bruide The girl he takes to ruide.

A frightened little laugh, An answer free from chaugh, He readjusts his scaugh, She'll be his better haugh.

O WHEREFORE this uproar, this stamping and pounding?

What purples the air as if oaths were resounding? Has some one been beaten at poker or high-low? O no, he's just trying to write with a stylo!

Mrs. Bascom:—Mr. Bascom, this is the third time within a week you have come home too drunk to walk upstairs. What does it mean?

Mr. Bascom:—It means, my dear, (hic) I mush color my noze before Dumpsey colorsh'sh meersh'm. Got \$50 bet on it."—Bur. Free Press.

"Is this scold enough for you?" Xantippe used to inquire of Socrates after a three-hours' curtain lectures.

C. E. NEALE,

-DEALER IN-

Drawing Instruments

-AND-

MACHINISTS' TOOLS.

SPECIAL PRICES TO W. P. I. STUDENTS.

171 Main St. - - Worcester.

N. B.—ALTENEDER, and KEUFFELL & ESSER Instruments a specialty.

-Beacon.

L. J. ZAHONYI,

348 MAIN STREET,

CONFECTIONER

AND CATERER.

Open after the Theatre.

Richmond Straight Cut No. 1

CIGARETTES.

CIGARETTE SMOKERS who are willing to pay a little more than the price charged for the ordinary trade Cigarettes, will find THIS BRAND superior to all others.

The Richmond Straight Cut No. 1 Cigarettes are made from the brightest, most delicately flavored and highest cost Gold Leaf grown in Virginia. This is the Old and Original brand of Straight Cut Cigarettes, and was brought out by us in the year 1875.

was brought out by us in the year 1875.

BEWARE OF IMITATIONS, and observe that the firm name as below is on every package.

ALLEN & GINTER, Manufacturers, RICHMOND, VIRGINIA.



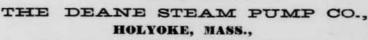
'THE DEANE"

Steam and Power, Single and Duplex





For Every Service.



Boston, New York, Chicago, Philadelphia, St. Louis. SEND FOR NEW ILLUSTRATED CATALOGUE.





BIGELOW & LONGLEY,

CORNER MAIN AND ELM STREETS.

FALL OF 1887.

Each season shows a marked advance in the quality and style of

Young Men's Ready-Made Garments.

A few years ago the best efforts of the manufacturers were devoted to Men's Garments, but to-day Young Men and Boys are receiving equally exacting care. We have to-day

ETITE TEXTEROK XIT

For Young Gentlemen to be found anywhere.

These goods are made to our special order and cannot be told from custom made.

IN OUR CUSTOM DEPARTMENT

Young Gentlemen can find elegant cloths of all kinds to select from, and SKILFUL ARTISTS to fit in the most stylish manner.

All Work in this department guaranteed. PRICES ALWAYS LOW.

BIGELOW & LONGLEY,
Corner Main and Elm Streets.

BARNARD, SUMNER & CO.,

327 and 329 MAIN STREET, WORCESTER, MASS.

DRY GOODS AND CARPETS

"ALL THE YEAR ROUND."

Departments Full, Fresh and Attractive. Popular Low Prices Maintained on all Goods. No Store Undersells us in this City or Boston. No store shows a Finer Selection. Samples sent with Prices, and Parcels Forwarded by Mail at Trifling Cost. MADAME DEMOREST'S PATTERNS. We have greatly Improved our Store by New Departments. Better Room and Light, and more Popular and Quick Selling Bargains every Season.

BARNARD, SUMNER & CO.

W. A. ENGLAND,

394 MAIN STREET.

WHOLESALE AND RETAIL DEALER IN

WATCHES, CLOCKS, SILVERWARE AND JEWELRY

OF ALL KINDS.

A large line of Optical Goods, Spectacles, Eye Glasses, etc.

FINE REPAIRING IN ALL BRANCHES A SPECIALTY. Circulating Library Connected with the Store.

W. A. ENGLAND,

394 MAIN STREET,

WORCESTER.

FRED. W. WELLINGTON & CO.

Wholesale and Retail Dealers in

COAL.

GENERAL OFFICE,

416 MAIN ST., - WORCESTER, MASS.

COAL POCKETS,

NORWICH, CONN.

RETAIL YARD,

Southbridge, c. Hammond St., Worcester, Mass.

HENRY WALKER,

DEALER IN

FURNITURE.

Carpets, Stoves, Ranges,

AND

House Furnishing Goods of all kinds.

225 AND 227 MAIN STREET,

WORCESTER, MASS.

SANFORD & COMPANY.

No. 364 MAIN STREET, WORCESTER, MASS..

DEALERS IN

DRAWING MATERIALS OF EVERY DESCRIPTION.

Superior Swiss Drawing Instruments.

Whatman's Drawing Papers, all sizes, hot and cold pressed. Roll Drawing Papers, both plain, and mounted on muslin; all widths and qualities.

Prices as Low as consistent with

STRICTLY FIRST-CLASS GOODS.

MISS E. A. BURKE'S School for Dancing

WILL BEGIN -

MONDAY, OCT. 10, 8 P. M.

For Circulars, Terms, etc., please call or address

Miss Burke, 38 Front St., Worcester.

GYMNASIUM.

38 Front Street.

Open for Ladies and Children, Monday, Wednesday and Saturday, from 3 to 4.30 M. P. For Gentlemen, from 4.30 to 10 P. M. every day in the week. Special Rates to Students.

H. ALBRECHT & SON,

MANUFACTURERS OF

Mathematical and Drawing Instruments,

No. 62 Fulton St., New York.

ESTABLISHED 1847.

SCHOOLS AND COLLEGES SUPPLIED.

No Instruments Sold to the General Trade.

The Stevens' Institute Set a Specialty.

Repairing Done at Short Notice.

J. C. WHITE,

-DEALER IN-

ARTIST MATERIALS

-AND

Mathematical Instruments.

12 Pearl Street,

- Worcester.

BUY

TRUNKS, BAGS,

DRESSING CASES,

POCKET BOOKS.

COLLAR & CUFF BOXES,

BARNARD BROS'

CLARK, SAWYER & CO.,

Importers and Dealers in

CROCKERY AND CHINA,

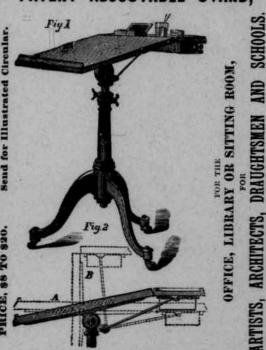
HOUSE FURNISHINGS, GLASS WARE,

Paper Hangings, Silver Ware and Gas Fixtures.

478 to 484 Main Street,

WORCESTER, MASS.

PATENT ADJUSTABLE STAND,



WASHBURN MACHINE SHOP,

WORCESTER, MASS. M. P. HIGGINS, Superintendent.