

The

W. P. I.



Vol. VI.

Monday, June 16, 1890.

No. 3.

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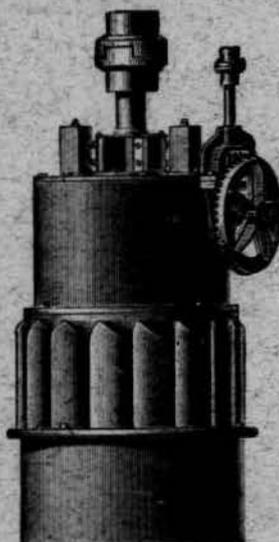
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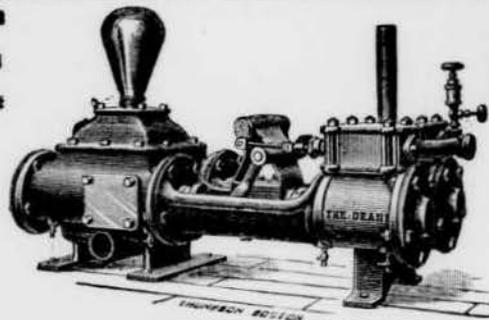
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THE W P I

Vol. VI.

WORCESTER, JUNE 16, 1890.

No. 3.

THE W P I.

Published on the 15th of each Month, during the School Year and devoted to the Interests of the Worcester Polytechnic Institute.

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The next number of the W P I will be largely devoted to the Senior class and its Commencement exercises. The exact date of its issue cannot be announced but we promise that neither our staff nor our efficient co-workers at the printing office will fail to utilize every moment until it is in the hands of our subscribers. Students leaving the city may receive copies by sending their address to the business manager.

What appears to be a gross piece of carelessness on the part of one or two of our students has been brought before our notice within the last few weeks.

On the day of the school field sports it was noticed by many of the students that the school flag was in a pretty dilapidated condition, and a subscription paper was started for the purchase of a

new one. The paper was promptly signed by the majority of the students and Faculty and enough pledged to defray the expense. But those who took the matter in charge deserted their duty at this point. Without even explaining the matter to some of the other students, many of whom would be willing to continue the work, they either lost trace of the paper or wilfully threw it away, for a member of the Prep. class picked it up in the street while on his way to school. There can be but little doubt in regard to the need of a new flag and if those students who started the paper still think so and are willing to carry out their project or to even transfer the work to some other men in a proper manner we will be glad to return the paper to them.

Now and then some one asks why the Institute is not represented by a scientific periodical. Doubtless there are good enough reasons but when the exceptional material for such a journal afforded by our investigations is considered, it must be admitted that the school exhibits a decided lack of enterprise in this direction.

The suggestion has indeed been advanced (merely as a suggestion), that the W P I be made a sort of co-operative periodical, under the management of Faculty and students, for the publication, both of general school news and reports of scientific investigations. If the Fac-

ulty should seriously consider such a course, our opinion would doubtless not be required, so we give it beforehand, and it is simply that the paper would never survive the operation. A scientific article now and then would be welcome, but we do not believe the paper could thrive under the unnatural combination suggested above. There is such a thing as an overdose of solid matter in a school publication, as our numerous exchanges show, and it would be a sad sight to see a live, healthy paper drop into oblivion from a surfeit of brain-food.

Not that brain-food would not vastly improve the paper *intellectually*, but the W P I is not dependent on intellect for its subsistence. Nor do our readers look for brainy productions in this paper. If they did we would vacate. The paper, such as it is, is a boys' production, and as such, seems to have a measure of success, as school papers go. It will be a yellow day for the W P I, though, when it is asked to assimilate a diet of contributions from a board of stern, serious Ph. D's.

A much better plan, it seems to us, would be to publish a journal *entirely* devoted to reports of investigations and other school work, and, of course, entirely under the control of the Faculty. It is perfectly evident that the W P I could not publish anything like an adequate account of the investigations conducted here from day to day. As it is, there is barely room for the general school news, with now and then a little "stage business" thrown in to prevent the reader from getting the impression that he is reading graveyard literature.

It is quite as evident, that such a journal, published by the students alone, would fail to receive consideration, because no one would accept the work of boys as authoritative.

Could Faculty and students combined publish a successful journal? Possibly, but for a moving spectacle of frictionless, considerate, love-one-another conduct, witness the convivial action between the Faculty and students of this school for several years past. No, a house divided against itself is not a happy combination and it could never run a successful paper.

The Institute, however, is every day making the material for a journal that would be quite valuable in certain circles, and if published by the Faculty as a production of the Institute, it would certainly be a valuable addition to scientific journalism.

If enough young women were to ask for the same advantages that the young men of this school enjoy, a Polytechnic Annex would in time be the certain fruit. If the young men of future generations of Techs were to keep up the average of the present, the fruit would doubtless be plucked with the usual *sang froid*. Any one who has an eye out for the education of his own and other people's sisters, cannot fail to see that the surroundings of the school offer remarkable encouragement to the co-education scheme. The possession of one more piece of property would be almost a necessity. We refer to the estate of the late J. Henry Hill on the corner of Boynton and Highland Streets. It is unnecessary to explain what a valuable addition to the Institute the prop-

erty would be in case the school should ever open its doors to young women. The Harvard Annex has for years been a successful institution. Cornell has not a great majority of male students, and people are getting used, more and more, to the sight of girls studying for professions once thought to be suitable only for boys. Young women are going to distant colleges for a scientific education, who would doubtless be glad of the chance to go nearer home. The school is now equipped to educate an unlimited number of young men. Would it involve a greater expense than the Institute could bear to extend its policy in this direction? If so, is there not some philanthropist enough interested in the education of women to give them a chance at the fine advantages afforded by this Institute?

It is one of the chief aims in the management of the W P I to look out for the interests of the students of the W. P. I.

The thing which at present needs bringing before the students, especially those of the lower classes, is the Tech Camera Club. There is probably sufficient reference made to it for the present in the two articles which this issue contains, and we will only urge the students, who have a liking for this art, to see members of the club in regard to admission, without delay. To become acquainted with the beauties of nature; to learn how to see the good points in ordinary things, has an ennobling influence on a young man's life. Had the one or ones, who are guilty of the petty theft of the club's fine engravings from

the library, allowed themselves to become members of some such institution as this, there would probably be no necessity for the article on morals in the present issue. We dislike to think that the perpetrator of this niggardly act is one of our schoolmates; that we occasionally clasp this hypocrite's hand and confide in him as an honest friend. Within the last three weeks, a book was placed in the library containing a fine engraving for a frontispiece, and inside of twelve hours it was taken. Should any student know who the pilferer is, it is his duty to the Institute, the students and the Camera Club to disclose his identity to those who are interested.

It is hard to realize the vast increase in facilities made at the Tech by the addition of the Salisbury Laboratories. The courses of mechanics, chemistry, and physics have been greatly expanded by them, directly and indirectly. One of the latest indirect effects is the formation of the "Tech Elect," which is spoken of in another column. With the large stock of new apparatus and the requisite conveniences for using it, it is possible to carry on considerable special research in electrical problems, and it is proposed to give the members of the club the full benefit of these investigations and to keep them posted on the progress electricity is making all over the world.

The storage battery will probably be the first special subject taken up, as it gives promise of great practical importance. In the regular lecture course in electricity, it is possible only to obtain a knowledge of the general workings of

such a battery, but the club will be able to discuss the details, the points of most value to a practical electrician. The same is true of almost all subjects that they will take up. Considering the spirit with which the students receive it and its undoubted great practical value, the club promises to be one of the greatest innovations made at the Tech for many years.

In another column of this paper will be found an article on the subject of Sunday study. It seems to be a fact that students do a deal of surreptitious study on Sunday and that they believe a satisfactory preparation for Monday's work requires it. No one doubts the sincerity of the Faculty in deploring the practice, yet we have thus far met but one instructor who asks no preparation for Monday's lessons.

If the student believes that Sunday study is justified by the course, the only way to stop it is to remove the necessity. If, on the other hand, the student has a false impression, it would be easy enough to convince him of it, for no boy who is built on the popular pattern, is studying seven days in the week from choice.

We are not trying to prove that we are being killed because we don't believe it, although the hour plan offers halcyon inducements to some conscientious idiot to kill himself. But we do believe it is inconsistent to lay out the regulation work for Monday and expect the students to prepare it without giving them the necessary time.

As we see the Seniors fast preparing to depart from our midst, a thought suddenly rises in our minds concerning

the way we regard the Institute during our comparatively short connection with it. If we look upon it as a mere group of buildings with whose rooms we can associate little else than work, it must indeed be a dreary place, but as soon as we surround it with the events that have transpired in and about them, the emotional side of our nature is touched and a feeling of love and veneration for it takes possession of us. As the school grows older it gradually enshrouds itself in college history and tradition; every department, every room, every nook and corner about grounds and buildings contributes its share. Though but little over two decades have passed since the founding of the Institute, still we have tradition and history upon which any W. P. I. man may well look with pride. In athletics our record is a bright one, for we have always maintained our position abreast with colleges many times our size; our graduates are filling positions of importance all over the country wherever intellectual and skilled work is required, and the reputation the school bears at home and abroad might well be the envy of any like institution.

The thought that we are following in the footsteps of those who made the school famous is in itself inspiring, and when we realize that within these walls we have formed the acquaintance of so many whose friendship we will treasure through life, that here with them we are striving to become accurate thinkers, surrounded by an influence which tends to mould us to a full and true manhood, the man is indeed cold whose heart is not with the W. P. I.

The students of the Tech must have a very peculiar ear for music and a wonderful capacity for extracting the delightful from very common-place things when they allow themselves to be worked up to a high pitch of excitement over the jingling off of our "Faculty Song." Perhaps it is the memory of childhood days that it recalls, when they formed a little circle on the "green" and made their copper-toed boots keep time to the inspiring tune of "Sally Water," or it is more probable, that a good many of the boys who show no signs of having vocal organs when chapel singing is in progress, but who come in very strong as, one by one, the Faculty disappear in the "Bottomless pit," take this selection for an ordinary school yell. But we assure you boys, it is a song, and the only one the school owns. However, we ought not to allow this state of affairs to remain longer; the Institute at present contains ample talent to furnish a school song into which we may put our hearts and voices; one that will not make a student feel like getting behind the other fellows every time it is sung.

Now you fellow whom Erato favors, remember us when the inspiration strikes you; spare a little time in the coming long vacation to fill a much felt want and to gain the gratitude of all your fellow-students. The W P I will gladly print any such efforts as a means of bringing them before the students for approval.

In this city, May 28, 1890, of an overdose of
Aqua Pura, The Tech Athletic Team.

COLLEGE NEWS.

Yale's record for the one hundred yards dash was broken the other day, in the spring sports, by Sherrill, who ran the race in ten seconds.

American college papers exhibited at the Paris Exhibition excited great interest among foreign educators. Undergraduate journalism is practically unknown in Europe, there being but one college paper in England.

One hundred and seventy-five out of three hundred and sixty-five colleges in the United States publish papers.

The *Dartmouth*, the bright fortnightly published by the senior class of Dartmouth College, is celebrating its semi-centennial, having been established by members of the class of '40 in 1839.

Quite a number of the students of the University of Vermont are enjoying the measles.

The National University at Tokio, Japan, enrolls 50,000 students.

A mathematical man says that if a thousand million men work a thousand million days, writing each day forty pages, each of which shall contain forty different combinations of the letters of the alphabet, the possible combinations will not be exhausted.

The finest college building in America is the Syracuse University. It was the gift of John Crouse, and cost \$700,000.

Four college dailies are now in circulation. Princeton, Harvard, Yale, and Cornell each publish one.

At the recent examinations at Heidelberg University, Germany, two students are said to have committed suicide on account of failure to pass the examinations.

Allegheny has organized a young ladies' base-ball club.

The Boston Institute of Technology has increased its roll from twenty-seven to over a thousand in less than twenty-five years.

Nothing in this country more astonishes an English university-bred man than our college yells. He never takes the practice as a bit of American fun, but seriously sets to work to prove how even educated Americans follow the customs of the savage Indian, his war-whoop being perpetuated in the college yell.

THE INTERCOLLEGIATE ATHLETIC MEETING.

Eight Records Broken under Most Adverse Circumstances.

For the third time in as many successive years the W P I is able to give an account of the most successful athletic contest ever held by the New England Intercollegiate Athletic Association, for the meeting of the 28th of last month was surely the most successful that the Association has yet held, from an athletic point of view, and had the weather been favorable, and the track hard and even, the records would have been put down to very low figures in all the track events. Eight records were broken during the day and of these, six were in track events. Considering the condition of the track such work was remarkable. That Amherst's complete victory was a surprise, and a great one too, is stating it rather mildly. Before the games, the general impression seemed to be that Dartmouth would again win the cup, with Amherst, Williams, and Worcester close after for the next three places. But this was hotel talk and was carried on mostly by men of other colleges, as the Amherst team had adopted Dartmouth's tactics of the year before and kept very silent about what they were going to do. The team did not arrive in Worcester until the noon of the day of the games and then, after dining, its members with about a hundred enthusiastic supporters found their way to Agricultural Park, where, during the whole afternoon the best men from seven New England colleges were unable in their combined strength to win as many events as did this same Amherst team, which twenty-four hours before was hardly given second place in the race by the average observer.

Why should not such a result as this be a surprise? At noon Amherst's team had just arrived; at five o'clock it had won ten events and broken five records out of a total of eighteen events; and at eight o'clock it was on its way home joyous with well earned victory. Such work as this, though somewhat disheartening to the smaller colleges, is surely worthy of the greatest admiration, and Amherst is to be congratulated on having sent the best all-round athletic team to Worcester the 28th

of last month that has ever represented a college of the N. E. I. A. A. Last year, when Dartmouth made such a sweep and won eight events, every one seemed surprised and shook their heads, wholly unable to understand such a thing, but the surprise at Amherst's great victory was even greater, and one could hardly realize that such a thing had happened on the day of the games until compelled to by Amherst's cry of victory. The games themselves were only made disagreeable to the contestants by the miserable condition of the track and the numerous showers of the afternoon which seemed to be fated to fall just at the beginning of, or before, the decisive heats of the races. It seems almost impossible for Worcester to provide an acceptable track for the intercollegiate meeting. Last year the continued rains of two days before the games had made the track soft, but it was a true paradise in comparison to the track of this year. The Saturday before the games, when the Tech team took its last practice runs before the contests, the track was hard and firm and gave promise of being in excellent condition but the heavy rains of Monday and Tuesday were too much and Wednesday morning the track was nothing but a sloppy, slippery mass of mud as unfit for sprint running and racing as it would have been for a game of tennis. Effective work by Secretary Rice and his assistants, who did all in their power to roll the track and make it hard, made something of an improvement and at twelve o'clock the track was tolerable. But this could not last long and a heavy shower just before one o'clock soon put the track in the same miserable condition that it was in the early morning.

This was the condition in which the contestants in the opening race of the day, the hundred yards dash, found things when they stepped to their marks for the start. Scarcely had they reached their places when it began to rain; not a warm rain, but cold,—cold enough to chill the bystanders, to say nothing of the half clad athletes in the race.

But the grandstand presented such a picture of Worcester's loveliness and beauty that all thoughts of poor weather were put aside. Worcester people were there and it was not for want of sympathizers that the wearers of the steel gray and crimson were not victorious. Amherst men were in one

solid mass in the first grand stand and right next to them were the W. P. I. men all ready to cheer to their last breath when any chance was offered. In the next grand stand were the ladies in great numbers, and their fine appearance bedecked in Tech colors, was the source of a great deal of pride to the Worcester men. The spectators were especially fortunate in having the track and inner field kept clear of the usual horde of small boys and other intruders, who before this have been the source of much annoyance to the officials and have also obstructed the view from the grand stand. Not a man was allowed on the track or in the inner field during the whole afternoon who did not have a right there, and the credit for this very satisfactory state of affairs is due to the efforts of Chief Marshal T. A. Conover of Trinity College.

In the first heat of the 100-yards dash seven men appeared at the start. The Raley brothers, of Amherst, occupied the positions of end men in the line and the antics of the older brother for the intended benefit of the younger reminded one of a minstrel show, Mr. Pike occupying the position of interlocuter. For three successive times he made false starts, and his intention of trying to rattle the other men on their marks was so evident that Mr. Pike could make no start until he had been disqualified. Graves, of Trinity, was the only victim and was penalized one yard. The antics of Raley, the older, were wholly unnecessary, as when the start was made his brother ran the fastest heat that had ever been run by any member of the N. E. I. A. A. and easily repeated his performance in the final, beating out Williams, of Dartmouth, who was as fast a man last year as had up to that time run in N. E. I. A. A. contests, by a good yard. His time, $10\frac{2}{5}$, stamps him as the fastest man the association has ever seen, and the performance on the poor track was an extremely creditable one. The first heat of the 100 yards was really as good a race as the final, as both winner and second man won the same places in the final, and wholly outclassed the men in the next two heats who ran it in $10\frac{4}{5}$ and 11 seconds respectively. Allen, of Worcester, started in the second heat, but he was a victim of the mud at the start, thus losing all chances of winning a place in the final.

The half-mile run was a great disappointment to the Worcester men who had placed their faith on Taylor. Last year Taylor used poor judgment in his pace and ran too fast on the first quarter. While it was to be hoped that he would not repeat this error this year, Worcester people did not expect to see him run so slow on the first quarter. Fully thirty yards behind the leader and next to the last man at the quarter pole is not the place for a winner and Taylor was unable to make up lost ground on the last half of the race and finished no better than fourth. The result of this race was a great disappointment to Worcester people as Taylor has done good work and has a record of $2-5\frac{4}{5}$ for the distance. The race was won by Jackson, of Amherst, with Hutchinson, of Trinity, second by 5 yards. Bacon, on whom Williams placed all chances of winning, fell about 75 yards from the tape when making his final spurt. The time $2-8\frac{1}{2}$ was excellent for the track and was surely equal to last year's time under the same conditions.

Wells showed his form in the mile and two-mile runs and though in no danger of a beating at any time in either race, the way Carr, of Williams, spurted with him on the last seven-eighths of the mile was a delight to the Williams men. The men ran step for step for 220 yards and then Wells drew away and won by about twelve yards in $4-35\frac{2}{5}$, both he and Carr breaking the record of two years ago.

In the two-mile many looked to Nichols, of Williams, to win, but the event went to Wells easily in 10 min., $23\frac{3}{5}$ sec., making an N. E. I. A. A. record, with Carr, of Williams, again second by one hundred yards, Nichols being third by about ten yards. Stearns, of Worcester, held the leaders well for a mile but stopped to pick up a lost shoe. Next year Worcester will have his shoes nailed on.

Shattuck's win in the quarter-mile was the greatest surprise which Dartmouth received during the day. Derby, of Worcester, led for the first hundred yards and was then headed by Rowe, of Dartmouth, with Jackson and Shattuck, both of Amherst, close after him. On the last 125 yards Shattuck sprinted by Rowe and beat him up the straight by about five yards. Rowe evidently cared nothing for second place as

he ran indifferently on the last ten yards when a little effort would have given him the place. It was a dead heat for second place between Jackson and Rowe, and as Rowe refused to run it off the medal was given to Jackson. The time for the race was $52\frac{2}{5}$, a performance well under the record on a good track.

The greatest event of the day, however, was Samuel Crook's standing high jump of 5ft. $1\frac{1}{2}$ inches, which established a world's record. For four years Crook has won the standing high and standing broad jumps in the N. E. I. A. A. Championships, and for the last two years has won the same two events in the American Championships of the Amateur Athletic Union. He has also won first and third medals respectively in the three standing jumps at the American Championships in the last two years. These honors make him the most distinguished of N. E. I. A. A. athletes. Next to him comes Wells, who has won the N. E. I. A. A. mile for the last three years and the two-mile the present year, and has also won the Intercollegiate Championship of America in the mile for the last two years, besides running second to A. B. George in the American Championships at Travis Island last fall. Wells holds the American Intercollegiate record for the mile and the N. E. I. A. A. two-mile and mile records. Perhaps the third star of the N. E. I. A. A. is Gregg of Amherst who won the mile walk the 28th, and three days afterwards won the Intercollegiate walk at the Berkeley Oval.

Worcester had been looking to Bradford, Devlin, and Clancy to take both prizes in this event, but the ease with which Gregg walked the first quarter disheartened Bradford and he dropped out. Gregg walked easily the first half mile, but at the beginning of the second half walked away from the field and won in 7 min. 22 sec. breaking the record by $48\frac{3}{5}$ sec. When Gregg finished, Devlin was just at the 100-yard mark. In the last 100 yards Devlin and Raub of Amherst were walking for second place, and Devlin was disqualified on the last 10 yards. Devlin would have finished in about 7 min. 50 sec. had he been allowed to,—which is a good deal better than the Tech record.

In the pole vault and running high jump both first and second men covered the same distances, 9 ft. 3 in. and 5 ft. 5 in. respect-

ively. It seems somewhat strange that one contestant should be declared better than another when both vaulted or jumped the same distance, but such is the rule of competition. Ludington of Amherst was a winner in the high hurdles for the third successive year, but was obliged to do respectable time for his victory this year as Ralsten of Wesleyan was a very close second. The winner's time was $17\frac{1}{2}$ seconds. Ralsten was but a yard behind and was also inside of Keay's record of 1887. The low hurdle race was won by Ide of Dartmouth in 28 sec., and as the record made last year has been rejected this will stand as the N. E. I. A. A. record. Ralsten of Wesleyan was also second in this event, being but a yard behind Ide.

The 220 yards dash record was broken in the first and third of the trial heats by Williams of Dartmouth and Shattuck of Amherst in $23\frac{2}{5}$ and $23\frac{3}{5}$ sec. respectively. The final heat was won by Williams in $23\frac{4}{5}$ but the time of his trial will go on the record book as the N. E. I. A. A. record for the event.

On account of but two teams entering in the tug of war it was pulled in best two of three heats of five minutes each. The event was won by the Williams team in two straight heats from Dartmouth. At the conclusion of the games the Amherst delegation had planned the abduction of the new signs of the Association but they were put under lock and key just in time to prevent such work, and for once the victors did not get the spoils. This is the third time that the games have been held in Worcester and each year they have been more successful than the year before. Under such circumstances it would seem a very unwise move on the part of the Association to go elsewhere to hold the games and it is to be hoped that Worcester will be elected as the place of meeting for 1891. That Worcester did not get a better place in the race for championship is to be regretted. As it was we were tied with Wesleyan and Trinity for two second prizes each and by the rule of the Association are given fifth place on account of having held a better position than either of the two named colleges the year before. Following is given a table of the result of the games which explains itself.

EVENT.	WINNER.	COLLEGE.	RECORD.	SECOND.	COLLEGE.	N. E. I. A. A. RECORD.
100-yds Dash - - - -	Raley	Amherst	* 10 2-5 s.	Williams	Dartmouth	10 3-5 s.
1/4-mile Run - - - -	Jackson	Amherst	2 m. 8 1-5 s.	Hutchins	Trinity	2 m. 3 2-5 s.
120-yards Hurdle - - -	Ludington	Amherst	* 17 1-2 s.	Ralsten	Wesleyan	18 2-5 s.
Pole Vault - - - -	Ewing	Amherst	9 ft. 3 in.	Hovey	Brown	9 ft. 7 in.
220-yards Dash - - - -	Williams	Dartmouth	* 23 2-5 s.	Dadmun	Worcester	23 3-4 s.
2-mile Bicycle - - - -	Hallock	Amherst	7 m. 14 2-5 s.	Delabarre	Amherst	6 m. 51 s.
Mile Run - - - -	Wells	Amherst	* 4 m. 35 2-5 s.	Carr	Williams	4 m. 40 4-5 s.
Throwing 16-lb. Hammer	Abbott	Dartmouth	* 83 ft. 10 in.	Little	Dartmouth	82 ft. 5 in.
Quarter-mile Run - - -	Shattuck	Amherst	52 2-5 s.	Jackson	Amherst	52 1-5 s.
Standing High Jump - -	Crook	Williams	* 5 ft. 1 1-2 in.	Fish	Worcester	4 ft. 11 3-4 in.
220-yards Hurdle - - -	Ide	Dartmouth	28 s.	Ralsten	Wesleyan	28 s.
Mile Walk - - - -	Gregg	Amherst	* 7 m. 22 s.	Raub	Amherst	8 m. 10 3-5 s
Running High Jump - -	Barrows	Brown	5 ft. 5 in.	Francis	Williams	5 ft. 6 in.
Putting 16-lb. Shot - -	Alexander	Amherst	34 ft. 3 1-2 in.	Houghton	Amherst	35 ft. 3 in.
Standing Broad Jump - -	Crook	Williams	10 ft. 4 1-2 in.	Gesner	Trinity	10 ft. 5 7-8 in.
Running Broad Jump - -	Potter	Dartmouth	20 ft. 2 in.	Humphreys	Dartmouth	20 ft. 3 in.
2-mile Run - - - -	Wells	Amherst	* 10 m. 23 3-5 s.	Carr.	Williams	10 m. 24 4-5 s

* Record broken.

THE PICTURES IN THE CHAPEL.

How many of the students of the Tech can tell whose pictures hang in the chapel, though they sit before them almost every day? Out of twelve Middlers asked concerning them only one knew the slightest thing about them, while two said they supposed they were portraits of some of the people connected with the Institute and its foundation. In showing a friend about the building, of course the chapel is one of the features of Boynton Hall and very mortifying it must be to be ignorant of the six fine portraits that so pleasantly ornament and brighten the walls. That more may be known about them is the object of this article.

As the Prep takes his seat in the chapel for the first time the picture that first attracts his notice is that of Mr. John Boynton, through whose beneficence we are enabled to climb the Tech hill every day. Unfortunately Mr. Boynton died before the building dedicated to his name was completed. Directly opposite this picture hangs that of Mr. David Whitcomb. It was with this man that Mr. Boynton first confided the fact that he intended to start a school. Mr. Whitcomb talked the matter over with Dr. Seth Sweetser, whose picture hangs on the same wall as Mr. Boynton's, and the three decided that in an industrial school the money would be placed to its best advantage. When the kind of a school was determined, a suitable location was next to be sought. In a short time Mr. Stephen Salisbury was met and soon became very much interested in the

matter. Being a large land owner, he gave the grounds upon which the Tech now stands (about eight acres in extent) besides meeting the expense of cutting off the crest of the hill and also of the building of the winding carriage-road that is now in use. After giving a location for the buildings, Mr. Salisbury subscribed more than one third of the entire building fund. Beside this he gave large sums for the purchase of books and apparatus and for the support of the institution. Mr. Salisbury was the first president of the school and it was into his hands that the keys were given by the contractor when the building was completed. Mr. Salisbury's picture hangs in front of the row of seats used by the Middlers.

The other picture which faces the school directly is that of Prof. Charles O. Thompson. He was the first principal of the school.

The remaining portrait is of Mr. Emory Washburn. He gave one of the speeches at the dedication and for a long time was a trustee of the Institute.

THE TECH ELECT.

The Organization of an Electrical Seminary at the Polytech.

The interest taken in the subject of electricity by our students is very great and extends from the members of the graduating to those of the Apprentice class. To meet the needs of this class of students, Dr. Kimball has for some time had in mind the

formation of an Electrical Seminary or News Exchange, which he proposed to the Middle class a short time ago. In accordance with this suggestion, about twenty-five of the class met and organized a club which they propose to call the "Tech Elect." After considerable fun, a constitution was adopted, and the following officers elected:

President.—Gerald Alley.

Vice-President.—Albert H. Armstrong.

Sec. and Treas.—Arthur L. Rice.

Executive Committee.—Dr. Kimball, Geo. W. Booth, and the officers of the club.

Any member of the Institute who is pursuing the regular or any other course of electrical study is eligible to membership. Although it is not so worded in the constitution, it is intended to allow any member of the Institute to join the club who may profit by the meeting, and also contribute to them.

It is the plan of the "Tech Elect" to meet bi-monthly, and listen to abstracts from electrical journals, or reports of private work by members of the club; these are to be followed by discussions.

It is expected that Dr. Kimball will be present at most of the meetings and if so he will be of very great value to the club.

* * * * *

At the second meeting of the "Tech Elect," Dr. Kimball related some of his accomplishments and prospects, in fitting up the Electrical Laboratories, having just received the gift of a dynamo from a prominent electrical furnishing house.

A very interesting storage battery plate, made by Ramsdell, '93, was exhibited and its qualities, good and bad, discussed.

It was decided to hold no more meetings until the beginning of next term.

TWENTY-TWO YEARS OLD.

What Will Take Place Commencement Week.

The Worcester Polytechnic Institute is twenty-two years old.

In two weeks, 90's record as a class will have become history, and its members will start out with a firm resolve to conquer the World and the Devil. Much has been done to make this year's commencement a brilliant success and nothing but bad weather

can prevent the graduating class from scoring a grand *finale* of a high order. From the moment the Worcester Brass Band strikes up "Annie Rooney," or some like classical piece, at the beginning of the class tree exercises, till Friday morning, the hours will be crowded with receptions, banquets, orations, and thesis readings. Commencement this year will not be very different from those of former years, however, and the alumnus of a few years standing, who is so fortunate as to return once again for Commencement, will find many more surprises in the school itself, than in the classes that are following his own. The only innovation will be the reception, and although it will occur in the afternoon, the class will undoubtedly make it a brilliant feature of the week's programme.

The Class Tree Exercises.

Wednesday, at two o'clock, the class invites its friends to the class tree exercises which will be held in the grove above the driveway beside the Electrical building. The tree is on the slope at the north end of the grounds.

The names of the men honored with appointments for these exercises assures their entertaining character. Elmer C. Rice will deliver the class oration, Joseph H. Devlin, the tree oration, which will take the place of the nauseating class prophecy of former years, and Clarence K. Prince will undoubtedly unfold a tale of woe, as class statistician. The usual class history will also be read at the tree exercises by George H. Nutt.

The Reception.

The class tree exercises over, the guests will find a reception awaiting them in the Salisbury Laboratories, that will occupy the remainder of the afternoon. For this reception the entire second floor, occupied by the mechanical engineering department, will be thrown open to the guests of the class. The mechanical model room will be used for dancing and in the drawing room across the corridor, light refreshments will be served. The reception will be a delightful affair and the class will undoubtedly feel repaid for making an effort in this direction. One thousand invitations have been issued, but

probably more than half that number will be sent to out-of-town friends and will not be used.

The Alumni Meeting.

Wednesday evening the annual meeting and banquet of the Alumni Association occurs at the Bay State House. A business meeting will be held in one of the parlors at 7 P. M. followed by a banquet. At this time, as usual, members of the graduating class will be the guests of the Association. After the banquet, the speeches and reports will be made that make up the substance of the Annual Report of the Alumni Association, published yearly and sent to the graduates.

Thesis Reading.

Thursday morning at 9.30 o'clock abstracts from theses will be read before the examining committee in Boynton Hall. The gentlemen who will act as the board of examiners, are Dr. Williams, President of Massachusetts Institute of Technology Alumni Association, City Engineer Gray of Providence and Geo. F. Blake Jr., of Worcester.

The members of the class and their theses subjects are as follows:

Department of Chemistry.

Herbert E. Austin, Holden, and Ellis W. Lazell, Spencer, "Ventilation of Passenger Cars."

Julius W. Bugbee, Shrewsbury, "Determination of Sulphur in Iron."

Everett J. Lake, Rockville, Conn., "Examination of Phosphate Rock from Florida."

Arthur B. Larcher, Webster, "Examination of Jewelers' Alloys."

Warren E. Mumford, Webster, "Volumetric Determination of Phosphorus in Iron."

Charles A. Pierce, Worcester, "Examination of Wool Washings."

Albert J. Reinhold, Jr., Worcester, "Separation of Calcium and Barium."

Department of Civil Engineering.

James P. Anderson, Springfield, "Permeability of Cement."

Joseph H. Devlin, Worcester, "Compensation of Stresses in a Cantilever."

Loring N. Farnum, North Andover, "Disposal of the Worcester Sewage."

Edward H. Rockwell, Leominster, "Plan of Improvement—(a) Design to Change Draw; (b) Design for Plate Girder."

Arthur P. Smith, Springfield, "Angle of Repose."

William L. Smith, Worcester, "Design for a Bridge with Curved Upper Chord."

Francis W. Treadway, Cleveland, O., "The Use of Wood in Railway Construction."

Henry E. Warren, Leicester, "Water Works Construction."

Harrison P. Wires, North Brookfield, "Tests for the Effect of Lime in Cement."

Department of Mechanical Engineering.

Merrill W. Allen, North Brookfield, "A Transmission Dynamometer."

Louis E. Booth, Worcester, "Belt Testing Machine."

James H. Clancy, Worcester, "The Exhaust Steam Injector."

David R. Collier, Eugene, Oregon, "Motion Drawing."

Harry P. Crosby, Maynard, "Transmission of Power by Belts."

Harry P. Davis, Worcester, "Comparison of New Method of Exhaust on Alden Engine with the Present Exhaust."

Charles H. Faulkner, Keene, N. H., "Tests of Georgia Iron."

Frank A. Gardner, Worcester, "Effect of Steam Jacketing on Cylinder Condensation."

Charles H. Jenness, Chicopee, "Strength of Georgia Iron."

Paul B. Morgan, Worcester, "Test: Straight Line Engine."

George H. Nutt, Worcester, "The Determination of the Modulus of Rupture of Wrought Iron and Steel Shafting."

George W. Perry, Putnam, Conn., "The Mercury Column in the Salisbury Laboratory."

Clarence K. Prince, Worcester, "The Peabody Calorimeter."

Elmer C. Rice, Worcester, "The Steam Plant at Worcester's New Electric Light Station."

Stanley H. Rood, Worcester, "The Barrel Calorimeter."

Lee Russell, Worcester, "Teaching and Manual Training."

Alton L. Smith, Springfield, "Armature."

Charles F. Treadway, Cleveland, O., "Test: Straight Line Engine."

Windsor T. White, Cleveland, O., "In-

vestigation of Sensitiveness of Engine Governors."

The President's Reception to the Class.

Thursday afternoon Dr. Fuller receives the members of the class at his home, where they have an opportunity to meet the orator of the evening, the examining committee, and other guests.

The Graduating Exercises.

Thursday evening's exercises will bring to a fitting close, this week of weeks for every man who has any feeling of love for the school from which he graduates. These exercises will be very much the same as has long been the custom,—the commencement oration by Prof. Woodrow Wilson of Wesleyan University, the valedictory by Alton L. Smith, and the presentation of diplomas. Graduation, however, will take place this year in Association Hall, instead of honoring the custom that has made Mechanics Hall memorable to so many classes.

The Final Banquet.

With the presentation of the last diploma the institute relinquishes its claim on the graduating class,—the tables are turned, and the class proceeds to assume the freedom of the city. The final class banquet at the Bay State will be met and conquered directly the graduates have secured their well earned sheepskins, and the men will doubtless be tired enough by that time to ride home in the horse-cars, which begin to run about six A. M. Unless the class breaks an old time record, however, the short street in front of the school will first receive an early call, its inhabitants will thank heaven that the night after commencement comes but once a year, and in a few moments the sun will be shining on a new class of Seniors.

The Class Souvenir.

A committee consisting of Clarence K. Prince, Paul B. Morgan and Edward H. Rockwell has had charge of the publication of a class souvenir, which has become one of the fixtures of commencement. The class thought best not to attempt a class-book but expects to leave a very pretty souvenir of its course at the school. The cover will be illustrated with a design including the Institute buildings, while the inside will be adorned with several views of the grounds from different points, made by the photogravure process. Between the covers will also be found the class history, class

oration, the class day programme, and the names of the graduates. The leaves of the souvenir will be tied with ribbons of the class colors and will make a very neat publication. A limited number will be put on sale after the class day exercises.

PROCEDURE IN THE PATENT OFFICE.

Useful Information for Techs in Regard to Procuring Patents.

The aim of this article is to present a resumé of the procedure in the Patent Office by which an inventor obtains the grant of letters-patent for an invention.

A patent has been said to be an agreement between the United States and an inventor.

The undertaking by the United States is, that the inventor shall have the exclusive right to make, use and send his invention throughout the United States for the term of seventeen years, and that he shall have the aid of the United States Courts in enforcing these rights.

The consideration for this undertaking is that the inventor shall disclose a *new* and *useful invention*, which shall become public property at the expiration of the seventeen years.

The function of the Patent Office is to determine whether this consideration is offered, that is, whether the applicant discloses an invention, which is new and useful, within the purview of the law.

The first step by the inventor is the filing of an application for letters patent. This application should embrace a petition, a specification, an oath, a drawing, if the nature of the case admits of it, and the first fee of \$15.

In some applications, specimens and samples must be furnished for experiment and record, and in some few cases of complicated nature, a model is required.

This application must be signed and sworn to by the inventor or inventors if the invention be joint, or by the executor or administrator of a deceased inventor. All persons stand on the same footing before the Patent Office, and the applicant may be citizen or alien, male or female.

The application is received in the Application Room, and if complete is given a serial number and the date of filing is indorsed upon it. From this date the status of the applicant is determined in all future proceedings.

From the Application Room, the application is sent to that examining division where the class of inventions, to which the application relates, are examined, and if there is a drawing in the case, it goes to the Examiner after being submitted to the draftsman's division for approval. The application is then docketed as an *ex parte* case before the Principal Examiner and awaits examination.

When the Examiner first considers the case, he examines it as regards form, and if no vital objection is found, examination is made on the

merits. A vital objection would be that the applicant claimed two separate and different inventions. If a vital formal objection is found, examination on the merits is deferred, and a letter is written to the applicant or his attorney requiring him to amend his application to avoid the objection.

Then if the applicant does not care to comply with the requirement on the objection being repeated he may appeal to the Commissioner in person without fee. The Commissioner then considers the case and reverses or affirms the Examiner, and the Commissioner's decision on this point is final as no appeal lies to any court.

One of the most vexed questions of this character, whether a process and an apparatus for carrying out the process can be comprehended in one patent has been recently decided in the affirmative by the present Commissioner.

The most important of these Commissioners' decisions are published and form the precedents for the future action of Examiners on like points.

Returning now to the examination on the merits, we find that the Examiner considers an application on three grounds, whether it is an invention, whether it is useful and whether it is new. This examination is based principally upon the specification.

The specification which embraces the claim is a written description of the alleged invention, in such full, exact, and concise terms as will enable any person skilled in the art to which the invention relates, to construct and use the same.

The specification concludes with a claim which is the active part of the patent if granted, and the claim is what is considered by the Office in passing upon the inventor's rights.

A patent covers only what is distinctly claimed however much the specification may describe, new and useful, and which might have been claimed. If not claimed such matter is not patented but is dedicated to the public.

The first point then considered by the Examiner is whether the claim covers an invention.

Congress has declared that an invention may be either an art or process; a machine; an article of manufacture or a composition of matter (such as medicine or a baking powder). Further, even if an invention is patented, a subsequent inventor may obtain a patent for an improvement thereon, but that will not give him the right to use the foundation invention, neither can the first inventor use the improvement. Each can use only what he respectively has invented. This point of want of invention is generally raised by the Examiner in connection with the question whether the case presents novelty. That is, the Examiner's action would be that in view of the old device no invention is involved producing the alleged invention.

An invention is useful when it is capable of producing a good result, no matter that other devices produce the same result a great deal better. By the word good as used in this definition is meant lawful as distinguished from mischievous, frivolous, or injurious to public morals.

An invention is new within the meaning of the

law when it is original with the applicant and has not been known or used by others in this country prior to the invention, and has not been in public use or on sale for more than two years prior to the date of filing the application.

The Office does not, unless it has reliable information to the contrary, consider these points.

But the applicant must positively state in his oath on these points, and in the absence of direct evidence to the contrary the Office regards the oath as conclusive.

Also to be novel an invention must not have been patented or described in any printed publication in this or any foreign country prior to the date of the invention. Under this limitation is where the real work of the Examiner comes.

The Examiner must search for each claim, through all the domestic and foreign patents and through all the publications that the office has on record that would bear on the case, and the result of this search is usually what defines the inventor's rights.

If the Examiner holds that some of the claims are in his opinion anticipated by the result of his search, he rejects the application, rejecting those claims he deems met and allowing those that are in proper form and clear of the references.

Also in this letter he notes and treats of all minor formal defects.

Then the applicant, at any time within two years from the action, has the right to amend or request reconsideration.

This prosecution should result in claims which are patentable and which clearly cover all that the applicant is entitled to.

In these matters, the inventor will always find the services of a competent solicitor useful if not absolutely necessary. The Office does not undertake to advise the applicant as to how much he may claim, or whether the claim presented is as broad as it might be or in best shape.

Of these things the applicant must be his own judge.

The Examiner then reconsiders the case and this prosecution continues until all the claims are each twice rejected or allowed.

In the latter case the Examiner forwards the case to the Issue Division, and then at any time within six months the applicant may obtain his patent by paying a further fee of \$20, making a total of fees for each patent of \$35.

From the Examiner's action in twice rejecting any one or all of the claims upon their merits an appeal lies to the Board of Examiners in Chief upon payment of a \$10 fee.

The Examiners in Chief consider the case in a summary way and either affirm or reverse the action of the Examiner.

A further appeal on the merits lies from an adverse decision of the Board of Examiners to the Commissioner, upon payment of a fee of \$20.

From an adverse decision of the Commissioner an appeal lies to the Supreme Court of the District of Columbia sitting in banc.

If an applicant is dissatisfied with all these appeals he may resort to a Bill in Equity in one of the Circuit Courts of the United States and

again appeal from this tribunal to the Supreme Court of the United States.

So it will be seen that in the way of appeal the applicant has unlimited rights.

But this appeal to the Courts is not often resorted to. An applicant can generally establish his rights, if he has any, before the Office. But even if some reference is overlooked by the Examiner, or some question wrongly decided by the Office, or some vital point falsely sworn to by the applicant, and the patent granted; it will be invalid and of no effect.

The Office may be compared to a large winnowing machine which sifts most of the good from the bad, but still as no human institution is perfect allows some little chaff to mix with the grain.

The applicant may have the pleasure of contesting his invention in the Office with some other inventor. This proceeding is called an interference and arises when there are two applicants before the Office claiming the same patentable invention or when an applicant swears that he made the invention prior to the date of filing of the application, a patent previously granted, which embraces his claims. In this latter case the Commissioner has no power to annul the patent but he may grant another patent for the same invention to the applicant if he can establish that he made the invention before the patentee.

When the Examiner discovers an interference he draws up the issue and specifies what claims of each party are involved in the same. The cases are then sent to the Examiner of Interferences and come under his jurisdiction. This Examiner hears the case on the evidence and decides which party is the prior inventor. From his decision an appeal lies to the Board of Examiners in Chief and to the Commissioner as in an ex parte case appealed on the merits. But no appeal lies to any court from the decision of the Commissioner.

An interference is simply a species of litigation, apt to be more or less tedious and expensive, but a litigation sometimes in which heavy interests are involved. To avoid interferences and more especially to avoid having the Office conclusively dispose of a case it is advisable to file the application as soon as the invention is perfected. But a word of advice. Save your first sketches or models. Don't alter them in the slightest degree. Endorse the date at which each was made carefully upon it.

It is hard to say just when your invention may be called in question either in the Office or in the Courts, and you may win or lose your case just on the point whether you can satisfactorily prove the date of your invention. I have said that a patent remains in force for seventeen years from the date of the grant. This is the case unless the inventor has patented or caused his invention to be patented in a foreign country.

In this case the United States patent will expire with the foreign patent, or if there be more than one with the one having the shortest term.

Most of the foreign countries have laws that

if an invention has been previously patented in any other country, a patent subsequently granted in the country in question will be void.

To take out valid foreign patents, a solicitor who understands his business will make application for the foreign patents on the day on which the patent is granted in this country.

This will not affect the term of the United States patent, and as foreign patents date from the day on which they are filed there will be no antecedent United States patent to vacate the foreign patents.

Sometimes, through accident, a defective patent is taken out. If this is the case, the inventor may surrender his original patent and obtain a re-issue for the remainder of the term of his original patent.

This re-issue application is treated like an application for a patent in the Office, with this important limitation, that nothing can be claimed except what was in the original application for the patent.

The Courts have been very strict with re-issues, and a broadened re-issue applied for two years or more after the grant of the patent is very apt, just on the record, to be declared void.

It is therefore of vital importance to the patentee that his patent has been carefully drawn and everything claimed in proper form that he is legally entitled to.

If a patentee has any reason to be dissatisfied with the scope of the claims of his patent he should take advice upon the subject as soon as he receives his patent, and, if a re-issue appears necessary, he should apply for such re-issue without a day's delay.

An inventor may have taken out a patent with a claim for more than he is entitled to. In this case no re-issue is necessary. The law provides a remedy known as a disclaimer.

A caveat is a notice to the Office that an inventor has conceived a certain invention and desires further time to perfect the same and does not wish any other person to obtain a patent therefor in the interim. A caveat is filed in the Office and is in force for one year. If the Examiner, in examining an applicant for a patent, finds that there is a caveat on file covering the same patentable invention, he sends notice to the caveator, who can then, within six months, file an application and contest priority of invention with the applicant.

There are very few cases, however, in my opinion, that an inventor has any use for a caveat. If he desires further time he can file his application for a patent and let it lie until he is ready to take out a patent, and then file another application covering the unproved details, or abandon his first application and file a new one covering his perfected invention.

He must file an application to protect his rights in any case, and he might as well do it in the first instance.

Such is a resumé of the procedure. This procedure is multifarious and intricate.

As before stated, the Office does not act as attorney, but leaves the applicant to make the best out of his case that he can; and for these

reasons the inventor will find it cheaper in the end to put his case in the hands of a reliable patent lawyer.

I have been prompted to write this article with a view of placing before a body of men whose interests necessarily will be in the direction of the Patent Office the salient points of practice, and if any Tech shall find a point in this hasty and brief article that will help him to protect his rights, the writer will feel fully paid.

LOUIS W. SOUTHGATE, '85.

Washington, D. C., April 2, 1890.

INSTITUTE PARK.

Its Charms for Weary Ones in Leisure Moments.

A ride on the water by moonlight is the latest fad among the Tech students. It seems like extreme dissipation to think of a Tech leaving his little room and his pile of books to care for themselves, while he, with the necessary appendage to an enjoyable time, is squandering his time, and twenty-five cents an hour. But when we think of the attraction that Institute Park and Salisbury Pond offer to one who has an hour or two to spare on a warm summer evening, and the benefit to be derived from spending it there, instead of seeking the city attractions, we cease to look on the dubious side of it.

Institute Park made its debut as one of the parks of the city this spring; a long strip of the water edge has been walled in; seats, with plenty of room for two, have been placed at nice distances apart, and a boat-house, a picturesque little building, with a goodly supply of pleasure boats has been erected at the water's edge. It will doubtless meet a long felt want for, despite the boom athletics have had this spring, there are many students whose temperament does not allow of joining in them, but who might greatly enjoy other forms of exercise. The young man is seldom found who does not take pleasure in boating, and when he does not join in the sports with the other students, he can obtain excellent exercise from an hour's paddle on the pond. It is certainly a trifle more expensive than the other sports, but we think it very probable that special rates might be made for Tech students if the matter was approached in the proper manner.

When Mr. Stephen Salisbury, the Institute's great benefactor, gave this park and boat-house to the city, he also offered to

build a bathing-house on the shore of the pond. For some reason or other, however, the city declined the offer. Whatever its reasons may have been, we plainly lost something by it, for though we are here during only about two months of real warm weather, we would gain considerable pleasure and benefit from an occasional swim. If the bath-house were in existence and cared for in the proper manner, it would certainly be a prize for Techs. At present the most accessible place to obtain this healthful exercise is Lake Quinsigamond, but we dare say, that on account of its distance, more than half the students never see this lake more than once or twice during their course.

THE N. E. I. P. A.

If the New England Intercollegiate Press Association fails to make itself useful in its particular sphere it will not be the fault of the editors of the *Brunonian* and *Brown Magazine*. For three years the Association has been controlled by its president, one Sam Abbott, said to be a college graduate and somewhat notorious for fathering a child called the *Collegian*—a publication that soon met the fate of all unusually good children. Last February the Association held a convention in Boston, and after some urging, extended a vote of encouragement to Mr. Abbott and his dead baby, and also, at his request, re-elected the gentleman President of the Association. The *Collegian*, however, failed to again feel the thrill of life, and the Press Association itself might also have fallen into disrepute, had not the editors of the two papers above mentioned played the rôle of the "Good Samaritan" upon it. In their hands, the Memorial Day Convention at Providence gave the Association such a boom that it bids fair to thrive and be as successful as some of the older intercollegiate associations. The Brown men gave the delegates (about thirty in number) a royal reception, and the presence of men from such distant colleges as the Maine State College and the University of Vermont, added to the importance of the meeting. Possibly the most seductive influence of the gathering, however, was the presence of some young lady delegates from Wellesley College and Boston University.

Young women are beginning to take their proper place in journalism as well as in every other sphere of usefulness, and their admission to this Association is another instance of the "survival of the fittest." At the business session at 2 P. M. the constitution was revised, new officers elected, and plans for the future discussed. The *Wellesley Prelude* was made the official organ of the Association. The object of the Association is to promote college journalism and encourage fellowship among the colleges. A drive about the city took up the remainder of the afternoon, and was followed by a banquet at the Narragansett Hotel in the evening. The banquet was followed by toasts, among which was an address on "Journalism" by Hon. Alfred Williams of the *Providence Journal*. The Brown men have every reason to feel proud of the success that attended their reception of the N. E. I. P. A.

A DAY'S PRACTICE.

How the Junior Civils Enjoy Life.

To make a complete survey of the space enclosed by North Ashland, Dix, Harvard and Highland Streets is doubtless too simple a thing to mention, but three Juniors who were appointed to do the same on one of the first bright but windy spring days, experienced sensations such as it may be supposed were felt by those other three wise men who went to sea in a bowl. However, following out the ideas and instructions of the late Mr. Gillespie as closely as possible they soon arrived at the corner of North Ashland and Dix streets where they were received with a howl by a crowd of small boys who awaited them. "Orr they're goin' to raise the street," cried one; "Come off, they're only goin' to change the sidewalk," said another, and so the dispute waxed loud and long till the charm was broken by one of keener perception, who pitying their innocence informed the crowd that they were "Nothin' but Techs, only practicin'."

At the next corner they were surrounded by an infantile mob, which poured in from all sides, on the way to school. While the transit-man was reading the angle under these difficulties a little girl, who had lost a full set of "first teeth" and whose broad smile made her appearance rather pathetic, was in the heat of a whispered conversation

with a small Jew,—probably as to whether the instrument were designed for a Camera Obscura or a pea shooter,—which ended by the little maid's knocking small Isaac over one of the transit legs and daring him to touch her. Never in their lives had these three young men realized the benefit of Public Schools to a suffering public as when the little bell sounded and the whole howling mass of small sized humanity felt itself obliged to skip.

Near the foot of Dix St. hill the transit-man became somewhat drowsy in wind and sun, and as he waited for the chain-men, who were getting a ball out of a sewer for a small boy, he commenced observing the surroundings through the telescope. A little later he was gazing heavenward with an enraptured smile calmly humming the "Loreley." He was evidently near the end and was suiting the action to the word when, as if transfixed, he snatched a white muffler from his pocket and waved it frantically aloft. Meanwhile the second chain-man came running up and asked his superior officer in stronger language than we should like to repeat, why he didn't 'tend to his business. Two things seemed evident—that something beside provisions was kept in that corner grocery and that the transit-man hadn't been spending all his time in leveling his instrument, but as he caught sight of floating draperies at the top of the hill two things more became evident—that the transit-man didn't realize the nearness and yet so fairness of his position, and that the fair Syren was simply using her handkerchief for the purpose to which it was designed. The transit-man relapsed and proceeded to business with a sad smile which told how refreshing these visions are even if they do sometimes pull us in. Whether they are conducive to bringing two right angles as many times less two as the figure has sides hasn't yet been determined, although the best authorities are supposed to think not. After changing positions on Harvard Street in a gale of wind and sand, the transit-man at last got a sight to the end of the street when so strange a spectacle presented itself that he began to doubt his senses. A dense mass of foliage like a tropical forest, seemed advancing towards him amid the haze of dust and continually rising and falling by steady jerks. He stood erect, and beheld a few feet

ahead of him a blooming spinster whose Easter bonnet had evidently caused the difficulty. She was short, and as to age, doubtful, and it was evident that she contemplated a halt. After the phenomenon of the razzle dazzle forest the transit-man was in no mood to parley with anything antiquated so he gave her a withering look but she only drew her firm lips into a serene smile and said vivaciously: "Oh! you ar'n't going to make us change our sidewalk?" "No! we are not going to do anything at all." "Oh! I'm so glad; there have been so many surveyors along here that I thought"—and then she vanished so expeditiously that he was compelled to believe she too had grasped the idea that they were "Nothin' but Techs, only practicin'."

From this point things proceeded rapidly and after finishing the work in a highly creditable manner,—as they thought,—the three bold men dutifully repaired to Boynton Hall (at quarter past 5) to be asked by a Senior, if they didn't know enough to stay out and play ball till six o'clock. This was hard, but perhaps they will know better another time.

OUR MORALS.

Facts Brought to My Notice by an Inspection of the Library.

Sometime since I sauntered into the Library in Boynton Hall. As I came through the doorway and looked about me on the shelves fast filling up with good books, on the tables, laid out with periodicals, reports and interesting literature, there came over me a sense of the deep obligation we are under for the enjoyment of such privileges as this school affords. We have here for a merely nominal tuition fee advantages which would have moved our ancestors to tears.

If my grandfather could see this hill with its fine buildings and their costly equipment, the active, interested and helpful men who assist me, the store of good books; if he could realize the atmosphere in which I work, his expectations for my future would indeed be difficult for me to fulfil. He would say, "How can boys under such influences fail to become great and good men."

As I entered the room, I saw students

reading the best literature of the day. The finest scientific works, the best writings on political questions, and the latest productions of the best thinkers were at the disposal of all. As I passed through the room I glanced over the shoulder of one young man. He was examining with keen appreciation a beautiful picture, an artistic reproduction from a photograph of a winter landscape. The picture was the result of the highest development of the art. Moreover the man who had used that camera was himself an artist and had known *how* to see. I thought, what an educating and refining influence must such a picture exert on any young man. What a fuller and deeper appreciation of the beautiful in nature will he have after having such beauty pointed out to him. As I drew nearer I noticed stamped across the picture in several places and so as to nearly ruin its effect the legend "The property of the Tech Camera Club, Worcester, Mass." I was astounded. Could any one care to buy pictures and then so to disfigure them? Did this club think so much of itself as to ruin fine pictures for the sake of proclaiming its miserable existence in a manner so vile?

I hunted up the proper authorities and heard this tale. The club buys the current periodicals on photography in each of which is one or more such pictures as I have described. They are for the use of its own members, but wishing to benefit the whole school, it placed the papers on the reading-room tables. Immediately it was discovered that though the papers were kindly left, the pictures were promptly stolen. This made necessary the purchase and use of the stamp. The club dislikes to disfigure its works of art, but prefers to enjoy them thus disfigured to enjoying them by proxy.

Here ended my fine dream of the ennobling influence of the school. I tried to believe that the theft was committed by men just entered who were not yet weaned from the vicious habits acquired elsewhere. But I was told that pictures were stolen when there were no new men in school and during the latter part of a term, as well as at first.

Students are educated for "Business" at this school. Possibly morality and "Busi-

ness" have not much in common. But certainly morality and education should have more than a speaking acquaintance.

SUNDAY STUDY.

Only One Professor Who Appears to Mean What He Says.

In the last issue of the W P I but one, a short article was presented by one of the students relative to Sunday study. Based as it was on good principles and facts and of direct interest to every student, there naturally followed more comment in Tech circles than is usually heard upon that subject, but it is surely true that the attention of no student was *first* directed to this matter through our columns. Many a student has pored over his books on the beautiful Sabbath days, when he might much better have been at church or resting his weary brains in preparation for the week's work that is before him.

The mission of the W P I is not to infuse into the minds of the students a feeling of dissatisfaction, a spirit antagonistic to the Institute, its Faculty or methods of operation. It does not seek to find fault, and then ask the cooperation of the students in remonstrance against some practice or principle. The W P I lives for a more noble purpose. It is the student's mediator, and only through such a paper can he best express his sentiments on many important subjects.

Most, if not all of us, are here, not because we sought out a place where labor was light and cares few. We are here because we wish to avail ourselves of the opportunities and advantages that such an institution affords. To do this we know that much hard work must be done and that much must be sacrificed, but it really seems as though we ought not to be expected to study Saturdays even though a little less of the routine work be accomplished. There is other work that *must* be done and still other work that *ought* to be done. We find our shoes or our clothing out of repair; we need a hair-cut, a new shirt or a new book. We may want to look up a room or fix the one we have. Those whose homes are in the city, have as a rule, enough work waiting for them to do as soon as they have a few hours liberty, and the

student who boards has work to do which the resident student has not. Certainly it requires but little thought to see that a few hours a week are necessary for other than school work. From early Monday morning until Saturday noon our time is well occupied, and this indeed as it should be, but what a relief it would be to us if, when Saturday noon did come, we could feel free from school duties until the following Monday. But we cannot do that. Monday's work begins at the usual hour, both morning and afternoon, and the lessons for that day in nearly every case are supposed to be prepared.

In order to ascertain what per cent. of the students make a practice of studying on the Sabbath, the writer of this article, assisted by others of the board, made an investigation among the fellows, the result of which is given below. About sixty per cent. of them admitted that they did more or less studying on Sunday, because as they said, under the existing circumstances, that was the only way in which they could make both ends properly meet. About twenty per cent. of the boys replied that they did not as a rule study on the Lord's day but found it necessary to study on Saturday afternoons, while the remaining twenty per cent. of those asked, declared that they neither studied Saturday afternoons nor Sundays, but allowed the work of the following day to drift on as the fates willed it.

Perhaps it is intended by the Faculty that all students shall belong to the second class,—that they shall devote a part of Saturday afternoons to the preparation of lessons assigned. If this be true, it should be so understood, and our arguments and comments should be directed right here at this point. According to the catalogue and the general understanding, however, we are justified in forming the impression that Saturday afternoons were given us for recreation and for time in which to perform the thousand-and-one necessary duties of life, and for such purposes we should be glad to use them. This continual grind from one end of the month to the other is not conducive to the best success. Too much of anything is burdensome, and we believe that it would be the part of wisdom, if those in authority would consider and act on this question.

Whether or not the above arguments ap-

pear worthy of consideration, there is still one argument left which alone ought to plead forcibly for our cause. A brief mathematical investigation of the hour plan will reveal the fact that for some divisions over *sixty hours per week* are required for school work alone. Adding to this the time spent in going to and from school, the recreation that every man must have, Saturday afternoon, which belongs to the student, and the minor consideration of time for sleep, it will be seen how easy it is to find a plausible excuse for Sunday study.

THE FACULTY.

An Alumnus Shows His Interest in the Dear Old Institute.

TO THE EDITOR OF THE W P I.—

Dear Sir:—The April number of your ever welcome and newsy little paper came to my desk this morning, filled, as usual, with good things from cover to cover. I find myself anticipating its appearance from month to month and it is the first of my reading matter to receive my attention when it comes. There are two articles in the April number which especially attract my attention. The first, the athletic rules submitted by the Faculty. I thought it strange last year, when all the discussion was going on in the W. P. I. about athletics, if the Faculty would insist upon the abolition of athletics from the school, and it seemed to me then if the matter was presented to the Faculty in the proper light and proper manner they would devise a way and prescribe rules under which this very desirable part of a young man's training might be conducted without abuse, or detriment to the attention demanded by studies at the Tech. The rules seem to me to cover the ground fully, as there can be no doubt as to a man's physical ability to engage in athletics after he has successfully passed a rigid physical examination. The only thing left then for him to decide, is, whether he can spend the time required for practise in athletics and at the same time prosecute his studies successfully. If a man is bright in his studies he can do this, if he is dull he cannot, and if he finds that he must give up one or the other it is to my mind, far the more desir-

able that he give up the athletics. The second article I refer to is "A Student's Views," by a Junior, on page 19. The head of the young man who wrote that article is level. I have seen the same thing gone through in my own class, and while it seemed funny at the time, and a man who wished to apply himself was an "old granny" and all that sort of thing, in the estimation of "the boys" of the class, yet in the light of sober second thought, that was time wasted, which might have been so well employed. And, Mr. Editor, I consider it a mean thing to take advantage or hinder and vex as good a man as Prof. Geo. E. Gladwin when he is endeavoring to do his best, and I know that is just what he does. Prof. Gladwin has always been hand in hand with the student and always ready to meet him more than half way, and you will find this will be the testimony of every graduate. No matter what might be said of likes or dislikes of other members of the Faculty, I have yet to hear a complaint against Prof. Gladwin. And now one word to the boys yet in the leading strings and I am done. Perhaps in the experience of the past eight years, in which I have had some of the ups and downs of life, and had time to think of my own short-comings in school, I may venture a word of advice to Tech students. The Faculty of the school are, as a whole, as pleasant a set of gentlemen as you find associated together. Your interests are their interests, your welfare and theirs is identical, and your triumphs now and in the future are theirs. Upon your success as students, graduates, and finished broad-gauged men in the world they depend for their bread and butter, for if they do not show themselves to the world, to be able to turn out such men from the school they cannot retain their positions as instructors at the W. P. I. With this grand object ever present with them and upon which their own success depends, is it strange the Faculty demands of each man, for three and a half short years, his best efforts? I think you will agree with me, it is not strange. You will live to cherish the memory of these same men with a good deal of affection. When you leave the Tech and scatter out over the country and as time goes on you will remember only

the good which predominates in the character of every professor at the Tech.

Yours truly,
WARFIELD, '82.

Battle Lake, Minn.,
April 19, 1890.

TO FILL A BLANK.

EDITOR W P I.—

I note in my communication published in your last issue an error which will you kindly allow me to correct. In the fifth paragraph, through some mistake, a name is blanked out. The three illustrative types I intended to present are the Corliss Engine Co., the R. I. Locomotive Works, and the Brown and Sharp Mfg. Co. There is no specific connection between the paragraph named and the incidents of the first and second paragraphs.

Respectfully,
CHAS. L. GRIFFIN.

Providence, R. I., May 19, 1890.

CAMERA CLUB NOTES.

The Recent Lantern Slide Exhibition Given by the Club.

The Tech Camera Club gave its first lantern-slide exhibition in Boynton Hall on the evening of May 27th. This was the first attempt made by the Club at an exhibition of this kind although it had been agitated more or less for some months. The success attending the exhibition of photographs a few months ago was such that it led the members to believe that something might be done in the line of slides. The time in which the members were required to prepare slides was very limited, but by the energetic work of a few members of the club, a very creditable collection were on hand at the appointed time. It was probably due to this lack of time and the backwardness of some members, who delayed their slides until within a few minutes of the exhibition, that the speaker of the evening found himself rather short of talk at times. Nothing adds so much to an exhibition of this kind, as a fluent speaker with a stock of interesting data in regard to the majority of the views. To supplement the club's views, a goodly number representing

a trip to England and return were kindly loaned by a friend of the society. Among these were numerous views on the Thames, the Derby races, London markets, Trafalgar Square, London docks, the Criterion, and others equally interesting.

Familiar local scenes and objects came in for a large share of the interest; a group of Techs disguised as Indians, but whose faces were recognized by the majority of the audience, had unwittingly allowed themselves to be caught by a member's camera, as they were playing "seven up" for "five a corner," and here appeared, probably to their amazement, with wonderful distinctness upon the canvas: another Tech, dressed as a "sheeny," who was taken while standing on his head, was again inverted on the canvas under the title of "Atlas holding up the world."

Springfield was represented with many excellent views, and the views of the ruins of Lynn, and the smoking mass from the great fire in Boston, bore evidence of fine workmanship.

Perhaps the most interesting of all was a choice collection of German scenes contributed by one of the society's honorary members. Historical scenes, noted cathedrals and a colossal gateway to one of the few remaining walled cities of Europe, added some beautiful and interesting pictures to the list. Last came one which was especially admired by those versed in German literature. The Lorelei,—a magnificent cliff, remarkably like the Glacier point of the Yosemite; but how could one have ever seen half its beauty without the association of the immortal words of the poet:—

"Die schönste Jungfrau sitzet
Dort ober wunderbar,
Ihr goldnes Geschmeide blitzet,
Sie kämmt ihr goldenes Haar."

The audience was a good sized one and very generous in its applause, in fact, a few took advantage of the absence of lights to get a little practice in applauding and they did it so enthusiastically in the wrong places, that one of the Faculty felt called upon to restrain their ardor.

The lantern used was a very fine one of European design, for the use of which the club is indebted to Dr. Kimball.

The regular semi-annual meeting of the Club was held June 7th, and the following

officers elected: Pres., H. H. Tracy; Vice-Pres., Harry Sinclair; Sec., A. H. Smith; Treas., A. D. Lunt; Keeper, H. H. Tracy; Executive Committee, Harry Sinclair, Geo. H. Freed, and H. H. Tracy. All regular meetings of the society are to be devoted to the discussion of the art and science of photography. The club at present consists of about 25 members, but will lose 10 good members with the graduation of the Senior class. It is the wish and hope of members of the club, that the lower class men will, if they have any interest in this work, become members of the club. It is not requisite that applicants for membership should own cameras; those men are wanted who will take some interest in the work, attend meetings and who are desirous of obtaining a knowledge of this art which could only be obtained otherwise by years of experience.

Several cameras are now in process of construction by members of the club, that bid fair to reflect great credit on their makers.

Bills for subscription to the W P I for the editorial year have all been sent out. Subscribers will greatly oblige the business manager by remitting as promptly as possible. This is a small matter to the individual, but to the W P I it is of the greatest importance.

TECHNICALITIES.

Four columns extra this month.

The Tech men did not get hoarse cheering at the Intercollegiate Sports.

The Tech is truly a wonderful place; it is said that even the humblest insect on the grounds has its Latin name.

Force of habit: Man called up to read *at sight* who has stuck at a word, "I couldn't find that word in the dictionary."

Would it not be a pious scheme to get up a spread in the Laboratory during the heat of summer practice?

When the scorers saw the scarcity of points that were going to Worcester they painted themselves blue.

It is hoped that the scarcity of Tech men

at the Williams Glee Club Concert was not due to a counter attraction.

There are rumors of several boat races to be rowed on Salisbury Pond in the near future.

Professor. "Well, which is this—the superior or inferior limit?"

Königin. "Yes, sir, it's the superior."

Overheard in a college club boarding-house:

First Student: "This tea is very weak."

Second Student: "Lean it up against the butter."

Dr. Kinnicutt was not satisfied with the representation of the Tech at the sports. He says everything was done by halves, even the cheering.

The Seniors had a most enthusiastic meeting the other noon. We had fears of the building. They were heard singing 44 way over to Park avenue.

Some philanthropic individual has at last removed that vile odor that assailed one as he entered the back door of Boynton Hall. It was due to the tug-of-war belts.

It was seriously thought of bringing the '92 mascot into the Junior exams, but it was decided that it would not be as effectual in overcoming those sluggers on the papers as those of '90.

The base-ball season at the Tech is practically over,—the last game played with the Y. M. C. A. was too much for everybody. Still the Senior game with everybody in it is to be played.

It is allowable to stand up and stretch your legs a little during examinations but you must not strut about too much or you may have to examine some of the papers to see which is your place again.

Now seemeth y^e the case,
All o'er thys drowsye place,
An unregarde for worke hath been acqyred,
The Facultye's inclyned,
Some remedye to fynd,
But the lyne of y^e endeavoure makes us tyred.

Fish, '92, lost his vaulting pole at the Intercollegiate Sports. It was probably carried off by mistake by some of the students from one of the other colleges. If any of them find an extra pole among their goods, Fish would be pleased to hear from them.

Professor Gladwin gave the Juniors a pleasant surprise a few days since. After finishing the year's work, the professor presented two pictures as prizes, to the two men who had done the best work during the term. F. A. Morse received the first,—an oil painting in a gilt frame, and W. F. Burleigh, the second,—a water-color sketch mounted on cardboard.

The Middler chemists now feel that they have left many things behind them for good. Mathematics, German, free drawing, and mechanical drawing will bother them only when practical application of them is required. During the past term the work in mechanical drawing has been confined to chemical subjects instead of copying mechanical blue-prints as in former years.

As a little souvenir to the Middle chemists, the Senior chemists have very kindly and thoughtfully donated them all their useless glass tubing and cracked flasks, together with a generous half of their breakage bills. Oh, you good and generous Seniors! fondly will we treasure your little heap of truck, though we know we'll miss those little flasks and gooches that you took. If you don't find a purchaser for that dessicator, Baird will swap a blue cap with a visor on, for it.

Why not form a *Tourist's Club*, as a successful organization of that kind at the High School was called. This club had many pleasant walks to the neighboring towns and two extended ones to Boston and Providence. Several of the members of this club are now at the Tech and there would be many more who would gladly join. There would hardly be time for such long walks as to Boston and Providence but there are places nearer that are interesting, and in the summer vacation a pedestrian tour

could be undertaken to the White Mountains or even to Lake George.

Owing to the lack of space in the present issue of the W P I, one or two communications have been crowded out. One, an article by a mechanic who thinks the boys have been unfairly dealt with by those in charge of the machine shop, we regret not being able to print, for it is our intention to give every one a chance to voice his grievances. It appears that a special invitation was extended the students, through our Superintendent, to visit the Warren Shops, where two large shapers have been finished for the United States government. The boys heard nothing of the invitation, however, and the Superintendent, Assistant Superintendent and Foreman were the only ones who visited the shops.

A large and juicy muskrat was captured alive in Salisbury Pond by a party of Techs who were down keeping Ned Cunningham company on one of their sketching afternoons, a few days ago. When first seen it was swimming peacefully along by the wall. One of the more courageous Techs quickly seized it by the tail and hurled it with tremendous force toward Sunnyside. It didn't go far, however, for a W P I reporter, who was standing calmly a few feet away, received it plump in the face. He gave a war-whoop and made a standing high-jump of over four feet, landing on a red-headed man's corn. The rat was soon captured in an exhausted condition and carried up to school in a paper bag, to have a little vivisection tried on it, *a la* Clark University. While awaiting its fate, in the sink of the old chemical lecture room, smelling like a French picnic, it had the audacity to cease existing. It forgot to shut off its scenting apparatus, however, and one of the professors, "smelling a rat," traced it to its resting place and confiscated it.

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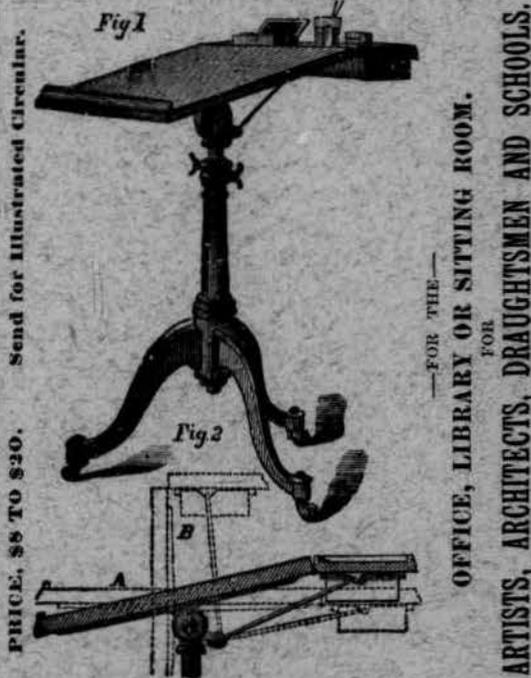
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