

The

OPPI.



Vol. XI.

Saturday, October 12, 1895.

No. 7.

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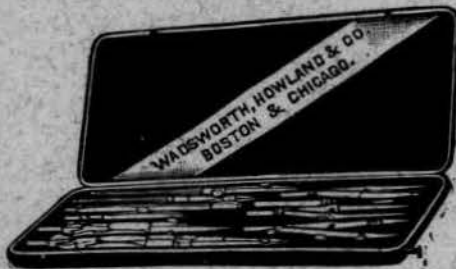
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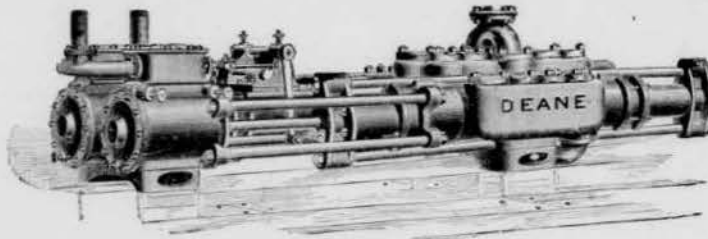
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No. 7.

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The W P I is published by the students of the Worcester Polytechnic Institute on alternate Saturdays during the Institute year. Items of interest are requested from students and alumni of the Institute. All matter must be accompanied by the name of the writer. Subscribers who do not receive their paper regularly, or who make any change of address, will confer a favor by immediately notifying the Business Manager.

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Entered at the Post-Office in Worcester, Mass., as second-class matter.

In another column is seen an account of the annual meeting of the Athletic Association and we must confess that this report is a matter of much surprise to us.

For the last year or more the college has been proud of the stimulus given to athletics in general. It has watched with pleasure each step taken, but now its period of activity is apparently fast dying out. Can we expect the Faculty to help us, to show an interest in matters which seemingly appeal to the students but little? Can we expect the Faculty to encourage athletics when at an important meeting a quorum was possible only after much delay, and not until a few men were practically forced to be present? And this too, when the quorum necessary consisted of fifty members! The answer

must be, can only be, no. Then, let us show by our actions that we do want athletics and that we will have them.

We incidentally asked several men why they were not at the meeting. The answers we received were "Forgot all about it," "Had a previous engagement," or some such reply. That a student, and that one a member of one of the teams, should say he forgot about the meeting is beyond comprehension, and many such actions will be fatal to athletics. Is it encouraging to the football team, for instance, that the students do not care enough about them or the game to attend a meeting called to some extent to help foot-ball?

We may be a little severe in our statements, but it is because we feel that the occa-

sion demands it, and that this matter should be brought to the attention of every student.

Last year there was in existence at the Institute a society which was of much good to many of the students, but which was prevented from enjoying its full scope, owing to the Burlesque rehearsals and other matters. We speak of the Current Topics Society. We have put forth in several issues last spring the advantages which such a society would possess, but we believe they will bear repetition here.

In an institution such as this, where the tendency is for the students to follow some special line of work, study or reading, the lack of some means by which general, rather than special, topics may be considered, must be greatly felt. This is shown by the way the Current Topics Society began its career last year. The Engineering Society is an excellent thing in an excellent place, but there is also room for another good thing, a topics society. What we need is a general as well as a specific society to discuss matters of interest. We have the specific. There is no reason why we should not also have the general society.

The two or three meetings held last spring were enjoyed by all who were present. They were also instructive. Those who were present at the last meeting especially, went away with a better and clearer idea of the late Eastern War than they had before. If this were true of one topic, why would it not be of many topics?

For the benefit of the Freshman Class we will state that the aim of the society last year was 'the informal general discussion of matters of interest', and that the meetings were held every two weeks.

The Current Topic Society of last year is really not dead, but, as the saying is, only sleeping. All it needs is to be put on its feet again. So we call on the Executive

Committee of last year to name a time for the reorganization of the society. Now, that the college year has begun, is the time for this society to begin, and we sincerely hope that a meeting will be called soon for the organization of the Current Topics Society. Long may it live here.

We publish in another column a communication from a Sophomore on class football games. While we believe that the points brought out in this letter are good, yet we are not entirely of the opinion of its writer on this subject.

Class games are all very good in their way. The time for the practice and the games, as shown in above mentioned letter, could easily be spared without conflicting with the work of the 'Varsity, but we do not believe that the custom should be renewed in the same manner as it existed two years ago.

One of the main arguments for these games is, that they tend to show up the work of new men. Such they certainly do, for the two lower classes, but, in the majority of cases, the good men of the upper classes are already known, so this argument has little force with them. Again, the rivalry between Seniors and Juniors is very low, and here may even be considered a negative quantity.

Then let us have a game, or series of these games, between the Freshman and Sophomore classes. Let this custom be handed down to future classes and we are sure it will be much better than if all four classes took part. We have no annual "rush" here. There is nothing of like nature, but an annual football game between these two lower classes would take the place of such a thing.

The action of the Faculty in punishing the Captain of the football team so severely, is

a hard one. The sin of Mr. Morse was only one of unintentional omission, and if he had been warned, as was the custom in former years, he would at once have corrected his mistake.

There is an old saying with regard to crying over spilt milk, which is hard for us all to believe at this time, but certain it is that we should make the best of the circumstances, rather than bemoan our fate and feel downhearted.

“Useful Information” is a book published by Jones and Laughlins, Limited, of Pittsburgh, Pa. It is full of valuable tables, data, and general information for business men and mechanics. The book is convenient in size, and will be found very helpful to all the students here. The eleventh revised edition has been sent us by the publishers, and we are gratified and complimented to see that an article of Dr. Mendenhall’s, published by us last year, is quoted in full in this book. We take this opportunity for expressing our appreciation of the above compliment.

This book will be sent to any student, free of charge, if the statement is made that he attends this institution.

All of our old friends, the college exchanges, have not as yet appeared. The rest are expected soon to complete our list, and when these arrive we shall be in direct communication with some of the foremost colleges in the East. This is a privilege which ought to be taken advantage of by every student. Read the reports of our own games as written from an opponent’s standpoint. Learn what other colleges are doing.

Our exchanges are excellent and deserve even more attention than has been given them in the past. Items of interest and value are sure to be derived from them.

The problem to inscribe a nonadecagon mechanically is printed, we believe for the first time, in this issue, through the kindness of Prof. John E. Sinclair. The construction and accompanying letter was handed to us last year, but owing to the confusion we were in last spring, its publication was overlooked till now.

Because of the numerous demands for the football schedule, it is published for the second time.

COMMUNICATIONS.

To the Editor of the “W P I.”:

At this time of the year the rivalry which always exists among the classes seeks for some chief outlet, as in a series of class football games. As is well known to the upper classes the games were not played last year for reasons which it seems hardly worth the while to mention. This absence of the games, naturally created a great deal of talk, and each class was confident of its ability to win the championship. The result is that this year there is an increased desire for these games.

The opinion is held by the management of the 'Varsity team, that class games would withdraw interest from the 'Varsity, and that the time could not be spared either for practice or for the games themselves. It would seem, however, to the ordinary student, that class games could hardly fail to be helpful to the cause of football.

The men who desire to play on their class team could receive their training by practicing with the regular first and second elevens, and thus obtain the benefit of the coaching. The three afternoons required for the games could be taken at times which would not interfere to any perceptible extent with the regular 'Varsity work.

In conclusion, I would say that these games would tend to bring the students, and especially the members of the Freshman class, closer together; that they would create at least as much amusement and excitement as did the class baseball games last spring.

'98.

Editor W P I:—

Sir:—In the catalogue of 1892, the last one which contains the schedule of the three and one-half year course, one hour per week of

metallurgy is put down for the Spring term of the Junior year.

For some reason or other this subject was omitted last year and '96 has not had the benefit of it. The very fact that it is in the schedule is argument enough to prove its value, but aside from this, it seems to me that it is of particular value to a mechanical or electrical engineer, who deals necessarily with the metals to a very large extent. It is the general sentiment of the class, as far as I have been able to sound it, that the deficiency should be supplied this term if possible. One or two hours per week devoted to it would not be missed as the work is arranged this term, and would give great satisfaction.

SENIOR.

FOOTBALL SCHEDULE.

Manager Crawshaw has arranged the following schedule for the 'Varsity team:—

Home Games.

- Sept. 21. Worcester Academy.
 Oct. 12. Trinity College.
 Oct. 26. Holy Cross.
 Nov. 9. Troy Polytechnic.
 Nov. 16. Amherst Agricultural.
 Nov. 28. Boston University.

Out of Town.

- Sept. 28. Amherst Aggies.
 Oct. 5. Troy Polytechnic.
 Oct. 9. Mass. Inst. of Technology.
 Oct. 19. Tufts College.

W. P. I. vs. AMHERST "AGGIE."

Game at Amherst proved easy for Tech. Score 16-4.

The W. P. I. eleven played its first out-of-town game with the "Aggies," at Amherst, Saturday, Sept. 25. Although laboring under a disadvantage on account of enforced change of the men on the team, Tech put up a creditable game, and pulled out a deserved victory.

Promptly at three o'clock the teams lined up for the kick-off, and though it looked as if "Aggie" had a bit more beef in the line than Tech, the teams appeared evenly matched, and it was seen that a hard contest was to ensue.

Capt. Harris won the toss and chose the goal, leaving "Aggie" to kick off. It had previously been agreed to play under Harvard rules, and to play two twenty-minute halves. Morse secured the ball on the kick-off, and brought the ball to the centre of the field before he was downed. Vaughn and Hitchcock both made good gains through the tackles, and then "Aggie" got the ball on a fumble by Tech. By steady playing "Aggie" pushed the ball on Tech's 30-yd. line, where Worcester made a

solid stand and secured the ball on downs. By long gains around the ends, and through both tackles, Worcester worked the pig-skin to "Aggie's" 25-yd. line. After a hard scrimmage at the centre, Ross was found on the field senseless, and Harrington took his place at guard.

"Aggie's" line held, and secured the ball on downs. On the third down, with 8 yds. to gain, "Aggie" passed back for a punt, but W. P. I. was now playing with snap, and before the full-back could punt, the Tech men were upon him and blocked the ball. Goodrich fell upon it, and rolled over the goal line for a touchdown.

Riley failed in the attempt at goal.

Score—W. P. I. 4. Aggie 0.

Only two minutes were left for play, and time was called with the ball in Tech's possession in "Aggie's" territory.

Second Half.

W. P. I. kicked off, and "Aggie" brought the ball back 20 yds. Tech immediately secured the ball on downs. Good gains by Hitchcock and Vaughn through the line, and a long gain by Harris around left end, brought the ball to "Aggie's" 5-yd. line. Morse was then sent through left tackle, and carried the ball over the line in just 3 minutes from the time the half opened. Riley kicked goal.

Score—W. P. I. 10. Aggie 0.

"Aggie" kicked the ball to Worcester's 5-yd. line. Morse brought it to the 30-yd. line, where "Aggie" secured it on a fumble. By a decidedly "off color" decision "Aggie" was given 10 yds. for Tech's alleged off-side play. By hard rushes, and poor defensive work by Tech, "Aggie" carried the ball over Tech's goal line. Smith failed at goal.

Score—W. P. I. 10. Aggie 4.

Gile brought the ball back to the centre on kick-off by Tech, and "Aggie" gained steadily until the ball was on Tech's 30-yd. line, where Tech secured it on downs.

Harris, aided by fine interference, went around left end, and secured a touchdown after an 80-yd. run. Riley kicked goal.

Score—W. P. I. 16. Aggie 4.

With but two minutes to play neither side scored, and the game ended with the ball in Tech's hands at the centre of the field.

LINE UP.

W. P. I.		AMHERST AGGIE.
Goodrich,	l. e.	Shaw.
Booth,	l. t.	Jones.
Ross (Harrington),	l. g.	(Capt.) Burrington.
Riley,	c.	Nutting.
Perkins,	r. g.	Edwards
Parks,	r. t.	Smith.
Harris (Capt.),	r. e.	Gile.
Willis,	q. b.	Harper.
Vaughn,	l. h.	Burrington.
Hitchcock,	r. h.	Nichols.
Morse,	f. b.	Washburn.

The summary :

Score—Worcester Polytechnic, 16; Amherst Aggie, 4. Goals, Morse, Harris, Goodrich, Burrington. Goals kicked, Riley, 2. Time, twenty-minute halves.

W. P. I. vs. R. P. I.

Tie Game at Troy.

The W. P. I. football team left Worcester at 8.35 P. M., Friday, Oct. 4th, on their way to Troy, where they played a tie game with the eleven of the Rensselaer Polytechnic Institute, Saturday, the score being 6-6. The team stopped in Springfield over night, leaving there at 8.38 Saturday A. M. and arriving in Troy at 1 o'clock P. M., all in good spirits although somewhat tired after the journey. Immediately after dinner at the Frear House, the team went to the Institute gymnasium, where they donned their uniforms. Both teams then took the train for the West Troy grounds, where the game was played. About 300 witnessed the game, a goodly proportion of them being of the fair sex.

The game was called at 3.30. Had it not been for a fumble by Morse when on Troy's 5-yard line Tech would have scored in the first half. The only weakness shown by either team, was the tendency to fumble at critical stages of the game. The interference Worcester put up on her end plays was the best ever shown by the men, and, although the home team made most of their gains around the ends, their interference was weak. For Worcester, the best work was done by Vaughan and Harris, both of whom made several good gains, both in end plays and by bucking the line. McKelvey and Disbrow did the bulk of the playing for Troy.

Rensselaer won the toss, and took the west goal, leaving to Worcester the kick-off. The ball was then rushed down the field to Worcester's 20-yard line before the visitors held for four downs. After 12 minutes' play, the ball having changed hands several times, Troy carried it over Worcester's goal line for the first touchdown of the game.

The touchdown was made on a fluke, which occurred in this way: Troy had the ball a foot from Worcester's goal line when the visitors held for four downs. Capt. Harris then started to take the ball around the end, but in so doing fumbled the spheroid as he was tackled, and Disbrow got it, carrying it across the line. McKelvey kicked an easy goal. The first half closed with the ball on Worcester's 40-yard line, Troy playing upon the offensive.

In the second half Worcester played a stiff game, and after 12½ minutes of sharp playing

Brown planted the pig-skin behind Troy's goal line. Riley proved equal to the occasion, and kicked the ball squarely between the posts.

Score 6-6.

Neither side could score in the remaining seven and one-half minutes of play, although both sides had the ball in their possession. In the second half Troy had the spheroid in her possession only three times.

The line-up of the teams and the summary were :

WORCESTER.
Goodrich, l. e.
Booth, l. t.
Ross, l. g.
Riley, c.
Perkins, r. g.
Durand, r. t.
Brown, r. e.
Rebboli, q. b.
Harris, l. h.
Vaughn, r. h.
Morse, f. b.

RENSSELAER.
r. e., Kirk.
r. t., Pickering.
r. g., Disbrow.
c., Asselyn.
l. g., Young.
l. t., Raney.
l. e., Cook.
q. b., James.
r. h., Hanavan.
l. h., Wilcox.
f. b., McKelvey.

Score—Worcester Polytechnic Institute, 6; Rensselaer Polytechnic, 6. Touchdowns, Disbrow, Brown; goals kicked, Riley, McKelvey.

Referee, Brady; Umpire, Hooker; Linesmen, Rousseau, Sheldon. Time, two twenty-minute halves.

Notes of the Trip.

The team arrived in Worcester at 2 P. M., Sunday, and without exception reported a fine and enjoyable trip.

All speak in terms of highest praise of the treatment received at the hands of the R. P. I. men.

Everyone has heard of Delaware and California peaches. Ask the team about the Troy "peaches."

The entire team played a good game, but the work of Capt. Harris and Vaughn was far above the average.

The number of supporters R. P. I. had among the fair sex was the envy of the Worcester men.

Howland, '94, witnessed the game.

The Laurettes were on hand to applaud the work of our team.

Coach Gage would have been pleased if he could only have seen that interference on around-the-end plays.

CROSS COUNTRY RUNS.

The Board of Directors of the Athletic Association held a meeting Wednesday noon, October 9th.

The entire arrangements for the cross country runs were left with the directors from the three upper classes. The matter of funds for athletics was also discussed at great length, but nothing definite decided.

TO INSCRIBE A NONADECAGON.

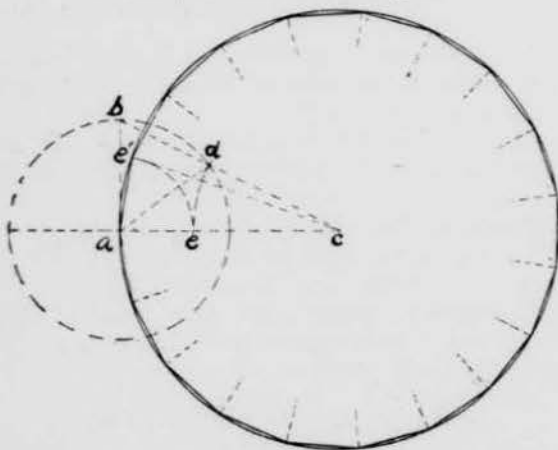
A Letter from B. S. Crocker, '76.

PROF. JOHN E. SINCLAIR, Worcester Polytechnic Institute, Worcester, Mass.

DEAR SIR:—While engaged in the problem of laying out a nonadecagon, I hit upon the following very close mechanical process. Thinking that it might be of interest to you and the boys, I call your attention to the method. I am aware that Gauss has shown that of all regular polygons the number of whose sides is prime, only those having sides equal in number to $2^n + 1$ can be constructed by the use of straight lines and circles. The solution here given is so nearly an exception to this rule that one regrets it is so near and yet so far.

The error involved is less than $\frac{R}{100000}$ for one side and less than $\frac{R}{5000}$ for the entire perimeter. The angular error is less than $2''$ for each central angle, amounting to $37.2''$ for the entire figure. It should be observed that any regular polygon having 19×2^n sides can be drawn by this method, involving an error less than $\frac{R}{2^n \times 100000}$ for each side and error less than $\frac{2''}{2^n}$ for each central angle, and that the total error for perimeter in each case will be less than $\frac{R}{5000}$ and the total angular error will be $37.2''$.

To Inscribe a Nonadecagon.



Draw ab perpendicular to ac at a and equal to one-half ac . Draw bc . With radius ab describe arc bd . With radius cd describe arc de , then $ae = ae'$ is one side of inscribed nonadecagon very nearly.

Let $ac = 1$; then $bc = \sqrt{1.25}$ and $bd = \text{sine } acb$.

$$\text{Sine } acb = \frac{ab}{bc} = \frac{1}{2\sqrt{1.25}}$$

$$dc = bc - bd = \sqrt{1.25} - \frac{1}{2\sqrt{1.25}} =$$

.6708203037178.

$$ae = ae' = ac - dc = 1 - .6708203037178 = .3291796962822.$$

$$ae' = \text{side of nonadecagon} = 2 \text{ sine } \frac{360^\circ}{38} = .3291891895335.$$

This shows a difference of .0000094932513 and proves that $ae = \text{side of nonadecagon}$ within .00001 part of radius and that angular error is less than $2''$ for each central angle.

ATHLETIC ASSOCIATION.

Annual Meeting Held.

The annual meeting of the W. P. I. Athletic Association was held in the chapel Wednesday noon, Oct. 2d. The meeting was called to order by President Harrington, about forty members being present. The constitution, however, requires a quorum, which comprises fifty members, to transact business. After much difficulty and a delay of a quarter of an hour, the remaining ten members were found in the lunch-room and various parts of the building, and induced to attend the meeting. The small number of Juniors and Sophomores present was doubtless due to shop practice, while half the Junior class had no recitation from 11 to 12.

The first business transacted was the election of officers. As in previous elections since the new association was formed, printed ballots were used. On the ballots were printed the list of nominations as it appeared in our last issue. An X against a name indicated a vote as in the Australian ballot system. The chair appointed as tellers: Barbour, '96, Braman, '97, and Perkins, '98. Before the balloting commenced, Mr. Morse stated, that through the kindness of the Faculty he had been allowed to remove his name from the ticket for baseball manager. Mr. Barnard also resigned, and left the ballot without candidate for that position. The Board of Directors was given power to elect a manager.

The result of the voting was as follows:

President, F. W. Parks, '96.

Vice-President, O. W. Lundgren, '97.

Keeper, E. G. Beckwith, '97.

Secretary, H. M. Warren, '96.

Treasurer, R. S. Riley, '96.

BOARD OF DIRECTORS.

C. F. Vaughn, '96.

C. F. Day, '97.

A. O. Hitchcock, '98.

Secretary Mayo then read an invitation from the N. E. A. A. Union to the association, challenging us to a team race with Holy Cross in the mile relay at the meet Oct. 12th. It was voted to accept the invitation, and all arrangements were left for the race in the hands of the Board of Directors.

The surprise of the meeting came when Captain Harris of the football team, after stating the condition of the eleven, and dwelling on the difficulty of getting out two complete teams for practice, moved that football be discontinued. Through the action of the Faculty, and various other causes, but a very small number of men have been practicing of late, and it must be admitted that it is a discouraging outlook for the captain. After considerable discussion, the question was put to the house and was lost by an overwhelming majority, as only three or four voted against it.

The matter of holding cross-country runs this fall was brought up, and it was decided to hold them as in previous years. The details were left to the directors. The meeting then adjourned without waiting for the result of the election.

BURLINGTON'S POWER STATION.

During the past fifteen years electricity has made its most rapid development, and it might be said, that its whole life has existed during that time. Almost every town or village in the country has its electric light plant. An electric light is no longer a wonder and a luxury, but is a common necessity. In many of the plants now in operation the coal item is the largest expense, so the community thinks itself fortunate that has available water power, which does the work and also takes off the expense of coal.

One of the finest examples of these water power plants is situated near Burlington, Vt., and supplies power and light for that city. It is situated on the Winooski river, in a gorge where the water has cut down into the rock about eighty feet. An island divides the river into two streams. On both sides of the island are dams thirty feet high, one of which is an overflow, and in the other are set eight wheel-pits. Over this is the building which contains the machinery. The building is built down between the rocks, and, in fact, these rocks form two of its walls.

Only two wheels are now in use and as a large amount of water flows over the dam

there will be sufficient power to meet the increased demand for years. A three phase Westinghouse alternator is used for power purposes. The incandescent lights in Burlington are fed from a 2000 volt, General Electric, alternating dynamo; and a 1000 volt Westinghouse generator furnishes incandescent light to Winooski, a town north of Burlington. The arc light machines are partly General Electric and partly Brush. There is much unoccupied space in the building where other machines may be placed as necessity demands.

By using water power electric lighting is accomplished at a very small expense and low rates can be given. At Franklin, N. H., where water power is used, it costs only thirty-six dollars per year for thirty-six lights, while where steam is used the rates are twelve times as much. Without doubt the water power resources of the country will be utilized more as the expense of building electric plants is reduced.

ARTHUR A. KENT.

WHY MILE-A-MINUTE TRAINS ARE NOT RUN.

A few years ago there was a protracted discussion in the railroad and engineering papers concerning the type of engine that would be necessary to pull trains from New York to Chicago in eighteen hours. Some writers contended that a new style of locomotive, better adapted than those used for high speed, would be necessary, and a variety of curious designs were proposed. We held that first-class engines of ordinary design would be found equal to the speed required to take a train 950 miles in eighteen hours. The correctness of our views has been proven by the high speeds maintained by ordinary locomotives in the racing between London and Aberdeen, and also in the fast run over the New York Central from New York to Buffalo. Instead of eighteen hours, which was considered about the possible maximum speed ten years ago, the train on the New York Central covered the distance between New York and Buffalo at a velocity which would have taken the train to Chicago in 15½ hours.

Hitherto there has been considerable conflict of opinion among railroad men as to whether or not a train run at a speed of about sixty miles an hour could be made to pay unless the passengers were charged unusually high rates. The run on the New York Central decided this; for it was demonstrated that a train of four coaches, capable of accommodating 218 passengers, can be pulled at a speed which would cover the distance between New York and Chicago in sixteen hours. If the travelling public were pre-

pared to patronize such a train, it would soon be put on. There are no mechanical difficulties in the way of starting it out next week. The only difficulty is that there are not enough passengers travelling daily between New York and Chicago to fill a train of that size. Through travel between great cities is much smaller than it is generally supposed to be. Mr. George H. Daniels, general passenger agent of the New York Central, made the statement to the writer that the average through travel between New York and Chicago on all lines does not exceed 150 daily.

There is no better authority on a question of that character. With six companies competing for that business, there does not appear to be enough for each to justify the running of fast through trains. In fact, none of the trains would pay were it not for the local business.—*Locomotive Engineering*, Oct., '95.

STRAIGHTENING CASTINGS.

Sometimes a casting is warped in cooling and requires straightening before being used. If the piece is to be planed or otherwise finished, it should be straightened by heating and placing weights upon it. If it yields to this treatment, it will retain its corrected form after the scale is removed and through all the after processes. But, if the piece is to be used without finishing, it may be straightened by "pening" with the hammer—striking with the "pene" or wedge-shaped end of the machinist's hammer. The process makes a series of indentations on the convex side of the iron, stretching the "skin" of the casting; but when these indentations are removed by after-working, the casting is liable to return to its curved form. In "pening," that portion of the casting that receives the blow should be immediately over the face of the anvil or bench block; in other words, each blow should find a solid resistance, and the casting should be moved along the face of the anvil as the work progresses.—*Exchange*.

TENNIS TOURNAMENT.

Annual Fall Tournament.

The W. P. I. Tennis Association has just completed its annual tournament, which afforded the usual amount of interest. The players have been well matched and some very close games have been played. The Freshmen have two very promising players in Tyler and Bicknell.

In the preliminaries, Fish, '97, beat Bicknell '99, 10-8, 6-3. Storer, '97, won from Walker '97, 7-5, 8-6. Tyler, '99, beat Fay, '95, 6-1, 6-0. Goodrich, '96, defeated Hayes, '98, 6-4, 6-1. Tyler beat Putnam, '99, 6-0, 6-0.

In the second round, Fish beat Storer 10-8, 6-3, and Goodrich beat Tyler.

The finals have not been played at this writing. In addition to the Landsing cup, the prizes were, the first prize, a racket, was donated by Mr. Davis of the Lovell Arms Co., and the second, a sweater, by the Speirs Co.

CLASS MEETINGS.

The three upper classes have elected officers for the coming half-year and we give below the list of officers, which will also be in the Institute Directory.

Senior Class. President, R. S. Riley; Vice-President, C. F. Vaughn; Secretary, J. W. Higgins; Treasurer, H. T. McClure.

The Junior Class held its meeting in Boynton Hall, room 19, Tuesday, Oct. 1st, a nomination meeting having been held the week before. The officers elected were: President, E. L. Walker; Vice-President, C. F. Day; Secretary, E. E. Pease; Treasurer, I. G. Keyes; Historian, W. W. Braman.

The Sophomore Class officers are: President, R. R. Smith; Vice-President, W. H. Perkins; Secretary, W. C. Fuller; Treasurer, A. O. Hitchcock.

The Freshman Class has not held a meeting for the election of officers.

THE FRESHMAN RECEPTION.

The Lincoln Guild and the Worcester Polytechnic Alumni of Central Church tendered an informal reception to the Freshman Class in the church parlors, Thursday Evening, Oct. 10th. A large number of students were in attendance and enjoyed a very pleasant evening.

RAMBLER.

It will be remembered that in the proposed alumni building there is to be a gymnasium. But it will be several years at best before it is a reality, and in the meantime why not equip one on a small scale? the mechanical drawing-room in Boynton Hall is now vacant. Rambler is not sufficiently acquainted with the construction of buildings to know whether it could be safely used for such a purpose. Being next to his sanctum it attracted his attention first. If this would not do there is yet another place,—the room which Professor Gladwin formerly occupied and the one next to it, in which are a few pipes, would either of them make a splendid place for a beginning. Probably neither pole vaulting nor running could be indulged in, but all the other paraphernalia of a gymnasium could be put in without any difficulty.

Those luckless mortals, who by dire fate are compelled to dine in that subterranean cavern under Boynton Hall, known to the initiated as the "café," would hail with delight quarters which at least have the semblance of cheeriness. To be sure the "café" has its devotees. At first glimpse, the devotee is reminded of a London coffee house of the seventeenth century where many of the famous litterateurs were wont to clink glasses, and where the gloom and dinginess served as but a background to the bright conversation and wit, which graced the board. Perhaps tradition has handed down to him reports of the time when the "café" was occupied by two armed camps. When like knights at a tourney, the knights strode up and down the arena to mortal combat, with lunch baskets for shields and squash pie for ammunition. Possibly he proposes to imitate their example when opportunity offers: but to the prosy youth whose hunger is not vitiated by associations, this gloom gives a melancholy feeling which is worked off with effort, and more than one has vowed that he would starve before dining there again; but hunger is a great leveller, and he comes up smiling for another batch of melancholy. Is there not a small room anywhere which could be devoted to this purpose? To be sure the "café" has served its purpose for twenty years and is good for twenty more, but alas, that gloom!

There are a great many men here who are interested to a greater or less extent in photography. To such, and particularly to freshmen who are thus inclined, the Camera Club holds its doors wide open and bids them a hearty welcome. The club has a dark room and all the necessary chemicals for use in the various processes, and coulded with the advice and helpfulness of the older members, the amateur has a good chance to become quite skilful.

It is an unending source of pleasure to a man to be able to adorn his room with views of familiar scenes, and doubly so when of his own production. But it is not altogether as a pastime that photography appeals to one. A great many manufacturing concerns send photographs of their articles instead of catalogues to prospective customers; again in construction work it is often desirable to take views of the work in its various stages, for reference in the future as to the methods employed. It is quite handy in such cases and a great many others, for the engineer to know how to take them himself, thus saving the expense and bother of getting a professional.

There is an ample field about the Institute for the young amateur to display his abilities. The Camera Club holds exhibitions, and there is a chance to do work for the class book.

ALUMNI NOTES.

'80. Charles E. Wells is with the Metropolitan Water Board as civil engineer, at Clinton, Mass.

'86. Walter G. Wesson is at the head of the manual training department in the Worcester High School.

'91. A daughter to A. L. Smith, Sept. 3d.

A. L. Rice, who has been instructor here in Steam and Thermodynamics since graduating, has a fellowship at Cornell.

'94. E. L. Burdick is an instructor in the Washington University at St. Louis, Mo.

Warren E. Brooks is with the Metropolitan Water Board.

'95. C. A. Harrington is an assistant instructor in Physics at the Institute.

TECHNICALITIES.

Wheeler, '97, won a Warwick wheel as a reward for canvassing this summer for King, Richardson & Co., of Springfield. This was in addition to the regular commissions. Southwick, '96, Nikoloff, '97, and Fales, '98, were also prize winners.

The Juniors are having a course of lectures in electric technology by Prof. Kimball. Thus far they have been interesting as well as practical.

An announcement which will be of interest to the older Alumni is that of the engagement of Mr. Wm. G. Thompson of Cambridge, and Miss Mary Huntington, daughter of Rev. Dr. Huntington of Grace Church, New York. Mr. Thompson is the son of ex-President Charles O. Thompson of the Institute.

COLLEGE NOTES.

The Board of Directors of the Yale Alumni Fund have submitted their fifth annual report to the Yale Corporation, and a fine showing is made. The fund was opened in June, 1890, the association being formed at the alumni meeting at the university commencement of that year. The total receipts now amount to \$44,220.09, contributed by about nine hundred of the 8000 living alumni. The policy of the Board is to apply the yearly receipts (so far as not restricted by the donors) to meet the yearly expenses of the university. The Board applied as income in 1892, \$5,000; in 1893, \$12,500, and in 1894, \$12,500. This year the amount so

applied is \$10,000, and the amount available as income carried over is \$1,993.27. The receipts since June 15, 1894, amount to \$6,549.80, being less by \$591.85 than the receipts for the previous year. The gymnasium has, during the college vacation, been thoroughly overhauled and equipped with the most complete apparatus for gymnasium work that has yet been invented. It is probable that two Yale undergraduates, who have shown proficiency in gymnastic work, will succeed Henry S. Anderson, who had charge of the floor. Only two new Yale buildings are open to the public this fall, the chapter-house of the Delta Phi society, of the Sheffield Scientific School, and the new chemical laboratory of the scientific department.

At Dartmouth College, on the evening of September 17, in accordance with the plan of President Tucker, a number of the prominent alumni of the college gathered in Old Chapel to open the college year with speeches full of loyalty and good advice. Sixty-three years of the history of Dartmouth were there represented,—from ex-President Bartlett, '36, to the five-day old freshman. A chapter of Alpha Upsilon Mu medical society has been formed. The parent chapter is in the City of Mexico, and this is the first chapter in the United States.

The plan of student self-government worked so successfully last year at Rutgers that it will be tried again this fall. The student governors will include four from the senior and junior classes, and two each from the sophomore and freshman classes. The only representative of the faculty will be President Scott, who will be chairman, but with a power to vote only in case of a tie.

Last July the ground was broken for the new veterinary buildings at Cornell for which the State Legislature appropriated \$150,000. Cornell will play the following football games this year: October 5, open; October 12, Western Reserve University, at Ithaca; October 19, Lafayette; October 26, Harvard, at Cambridge; November 9, Princeton, at New York; November 16, Brown, at Ithaca; November 28, University of Pennsylvania, at Philadelphia. The football team will be coached this year by Marshall Newell. There were 75 candidates.

The new Houston Hall at University of Pennsylvania is nearly completed. By November 1st it will be opened. Work is being rapidly pushed on the dormitories. This will be the last year that students from recognized preparatory schools may be admitted without examination.

After much practice the Amherst football

eleven does not make a very encouraging showing. It was hoped that a heavier team would be possible this year, but contrary to expectation it promises to be much lighter than for many seasons. George C. Gray, the old Harvard half-back, is expected to coach the football team of Amherst.

The freshman class at Trinity shows a marked increase over last year. The new elective system allows much liberty to the three upper classes in their choice of studies. The freshmen this year won two out of three of the annual "push rush," which took place on the athletic field.

W. C. Mackie, of Harvard, has been secured by the Bowdoin management to coach the football team, and nearly 40 athletes are candidates for the 'Varsity.

The entering class at Colgate numbers fifty-five, of which the West has its due proportion.

M. McClung, who has been coaching Lehigh, will coach the Naval Academy team.

Brown's football schedule is: September 28, Brown vs. Newton Athletic Association, at Providence; October 2, Brown vs. Yale, at New Haven; October 12, Brown vs. Tufts, at Providence; October 19, Brown vs. Harvard, at Cambridge; October 23, Brown vs. M. I. T., at Boston; October 30, Brown vs. Pennsylvania, at Philadelphia; October 26, Brown vs. Manhattan College, at Providence; November 2, open; November 6, Brown vs. Wesleyan, at Providence; November 9, Brown vs. Yale, at Providence; November 13, Brown vs. M. I. T., at Providence; November 16, Brown vs. Cornell, at Ithaca; November 20, Brown vs. Bowdoin, at Providence; November 23, Brown vs. West Point, at Providence; November 27, Brown vs. Dartmouth, at Providence.

At Harvard, there were 571 freshmen admitted this year by examination, and on September 26th about 2800 students registered.

The incomplete schedule of games for the Union College team is as follows: September 28, Ridgefield at Schenectady; October 5, Yale at Albany; October 12, Middleburg at Schenectady; October 19, Amherst at Albany; October 23, Princeton at Princeton; October 26, Rensselaer Polytechnic Institute at Schenectady; October 30, Ridgefield at Albany; November 2, Dartmouth at Manchester; November 9, Williams at Albany; November 16, West Point at West Point; November 23, Wesleyan, at Albany.

There are 135 freshmen at Williams.

The football schedule as far as arranged for Wesleyan College is: October 5, Middletown

Athletic Club, at Middletown; October 11, Amherst Aggies, at Middletown; October 16, Amherst, at Amherst; October 19, Syracuse, at Middletown; October 23, Amherst, at Middletown; October 26, New Jersey Athletic Club, at Middletown; November 2, Jaspers, at Middletown; November 6, Brown, at Providence; November 9, Tufts, at Middletown; November 16, Trinity, at Hartford; November 23, Union, at Albany; November 28 (Thanksgiving), open.

Professor Nathaniel Butler, director of the University Extension Department of the University of Chicago, has resigned his position in order to accept the presidency of Colby University.

Louis Polleus, professor of French at Dartmouth College, died of heart disease on Saturday, Sept. 28. Professor Polleus was considered one of the first scholars of French literature in the country. He has translated several well-known French and German works.

Professor Eli Whitney Blake, until the close of the last college year Hazard professor of physics at Brown University, died at Hampton, Conn., Oct. 1, aged fifty-nine years.

The following men have been taken to the training table of the football eleven of the University of Pennsylvania: Wharton, Bull, Farrer, Orbison, Gelbert, Hedges, Off, Boyle, Brooke, Wagenhurst, Stauffer, Harrison, Woodruff, Edwards, Stearns, and Captain Williams.

A WORD.

No is but a simple word,
Small, but yet how strong;
It stands between strength and weakness;
It divides the right from wrong.
With no effort we may speak it,
Though how often do we fail,
Through lack of moral courage,
To say it, and meanly quail
In the presence of the tempter
And waver, falter till we fall.
At our downfall laughs the devil
In wild and fiendish glee,
For weakness in poor mortals,
Is a thing he is pleased to see.
When temptations thicken o'er us,
Shutting from us all the light
Of our better selves, our manhood,
Boldly enter then the flight
And with a strong defiant *no*,
Gain a victory for the right.

—*The New Hampshire College Monthly.*

Who while at college knows it all,
And in his classes tries to tell
What he don't know and never will?
The Freshman.

Who sits in class-room, head erect,
And listens for a slight defect,
Hoping this he will detect?
The Freshman.

Who is puffed up with conceit,
And with a haughty bow will greet
Every Soph that he does meet?
The Freshman.

Who wears his uniform every day,
When at work and when at play,
And makes himself quite too gay?
The Freshman.

Who likes his own shrill voice,
And whene'er a chance he does rejoice
To make all earthly kind of noise?
The Freshman.

—*Aggie Life.*

STORY OF A SYMBOLIC LETTER.

Written by a Stevens' Man to his Best Girl.

There once was a young mechanic
Who loved a maiden fair,
'Twas thus he wrote her from the shop
And drove her to despair.

1. Dear Mary:—It seems ∞
Since I've set eyes on U.
And, though 'tis really $<$
A year, 'tis = to 2.
2. It must be a $\sqrt{\quad}$ sign,
So do b^2 and say:—
"Naught can describe our love,
Nor bisect night from day."
3. The life I've Pb in some $^{\circ}$
Should bring me in the Tn.
For Ag, Au, and Ni's 2
I've carefully scraped in.
4. It is no \odot to stay in nights,
The people are \square (dead flat),
The place is — any fun,
You can't go on a bat.
5. The formula I take each night,
Is "a₂ d y",
The stuff, I think, is just a',
A tangent you should try.
6. Yet though we are $\frac{1}{2}$, May,
By $>$ than ninety miles,
The log. of love and unity
Parabolates our trials.
7. The candle's down to Zx,
And \therefore I must close,
For fumes of C₂ S. and O.
Are waffing 'round my nose.
8. "My || of Queens," good night,
To Morpheus I go,
And 'mid sulphuric essences,
Of you I'll dream.—

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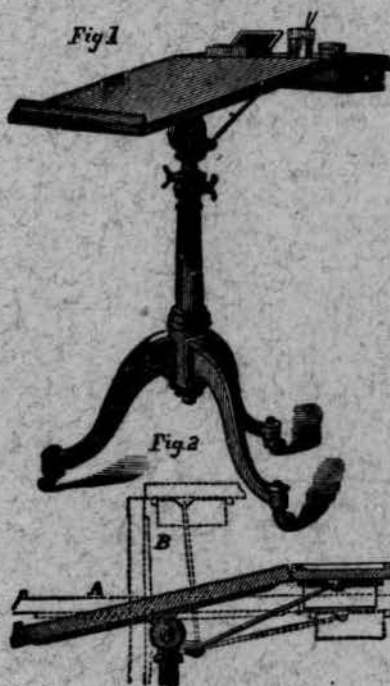
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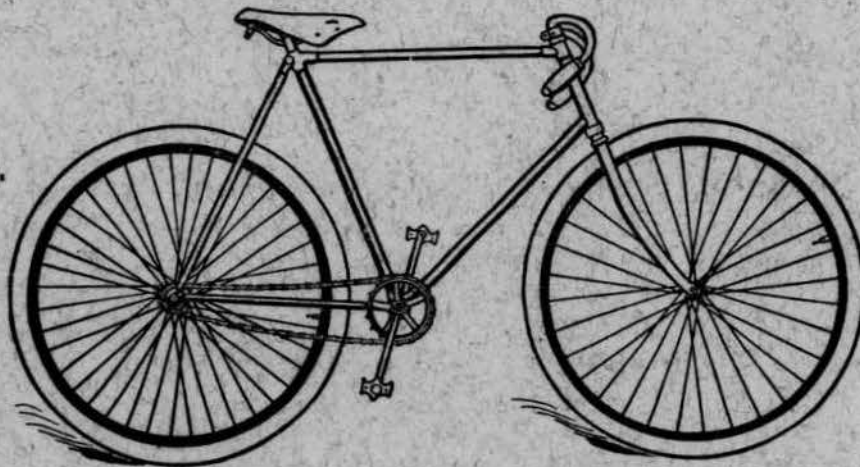
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