

The



# W. P. I.

Vol. IX.

Thursday, February 1, 1894.

No. 16.

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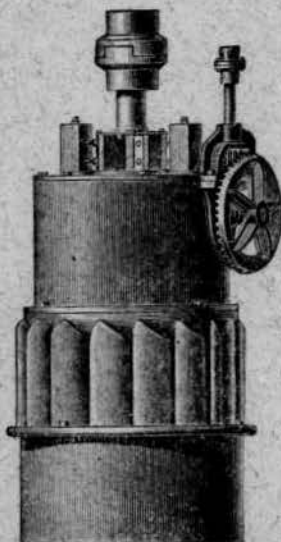
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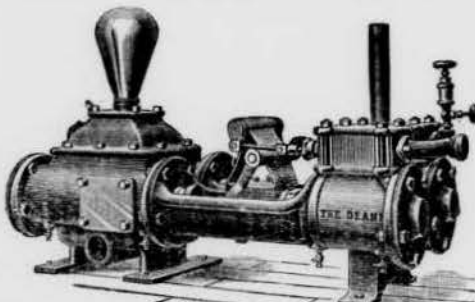
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# THE W P I

Vol. IX.

WORCESTER, FEBRUARY 1, 1894.

No. 16.

## THE W P I.

Published on alternate weeks, during the School Year, and devoted to the interests of the Students of the Worcester Polytechnic Institute.

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The examinations are past—or shall we call it passed? As usual, there are some who are bewailing their misfortune, or cursing their luck; few, very few, indeed, are found, who are satisfied with themselves and those who teach them.

The examinations, taken as a whole, seem to have been unusually difficult to pass. Conditions appear to be over-abundant, and the minimum passing-marks seem to be more numerous than any other. For a week the examinations lasted, and for a week the great majority were in a state of continual worry and anxiety. The few confident ones only seemed to be able to enjoy life at all. Every morning promptly has the student hurried to the examination-room, glanced at the professor in charge with a *morituri-tesalutamus* air, and sat down to his semi-annual strain. Some fume and fret and move about uneasily, while others, steadily and without interruption, make their way through the paper. And now some one passes in the results of his labor and there

is a murmur of commendation; but in the minds of some, perhaps, remains the question as to whether he answered everything or not.

There were few this year who were not obliged to consume the whole four hours, almost every day; but the afternoon relieved the strain somewhat. There are many, too, who would willingly have made use of another five hours to prepare themselves for the next examination, had it been obtainable.

Ninety-five is half-way through, and has celebrated the event in the customary style. As usual, there has been the excitement attendant on the event—the secrecy, the surprise to other classes, and the side-shows which other classes contribute. Ninety-five has shown much courage in determining to hold the supper in Boston, but the other classes put no faith in the rumors, because they could not believe it of them.

The abduction of the President was the chief entertainment provided by the other classes. It was most successfully accomplished, and although the plans were changed somewhat on account of circumstances, the scheme worked perfectly. To deprive the President of the happiness and joy of presiding or even of being present at the supper which was being prepared for months, was not the intention of the conspirators, as they were reasonable men and not those who wished to bring things to extremes. To annoy the President's classmates and to keep them guessing until the end, was the prime and only object of the affair, and all are now

convinced that this object was completely attained.

The whole affair, of course, was only a joke, and the sufferers bear no ill-will to the perpetrators. A little feeling that cannot help being expressed, however, lurks in the minds of many, and the chances are that those who suffered will not let slide many opportunities to balance the account. The rumor that the President of the class of Ninety-five was in the plot with the abductors merely to bring notoriety upon himself is, on the face of it, senseless. The accounts of the affair which appeared in the daily papers would never have existed if the hunting party had not themselves secured the aid of the police in their search. It was through the police that the newspapers obtained their accounts, and it was through the class of Ninety-five that the police were informed. Therefore it was on account of the class itself that so much notice was taken of the affair, as otherwise it would be little known, at least until after the supper.

Again, is it possible for any one to believe that the President, after being elected to the highest office within the gift of the class, after having for two years worked hard and faithfully for the good of the class, after having obtained sufficient favor to be elected President, should enter into a plot to the inconvenience, anxiety and distress of his own classmates? Would such a man after working so long for the success of a class affair, suddenly act in such a way as to hinder and perhaps postpone that affair?

The fact that the captive was allowed certain liberties of which he failed to make of use to free himself, should not be put down as an argument against him. He should be given credit for his sense in complying with his captors' wishes, whereby he obtained little privileges which would certainly have been denied him if he refused to obey those in whose power he was.

## NINETY-FIVE'S HALF-WAY THRO'.

### The Arrangements.

One of the most pleasing features of social life at Tech, the half-way thro' supper, to which each class in turn looks forward with interest, was celebrated by the Juniors last Friday evening.

This class, determined to outdo all previous classes, conceived, early in the Fall, the idea of holding the supper in Boston instead of here in Worcester, as has been the custom of all former classes. The feasibility of such a scheme was thoroughly discussed, and only after much deliberation was it deemed advisable to take such a step.

Committees were appointed and soon arrangements were well under way. The only difficulty of any consequence that the committee encountered was that of securing a suitable place as the scene of festivities. This was owing to the fact that none of the hotels in Boston with which the committee at first corresponded were willing to entertain the class after half-past twelve. At last, after fearing lest the scheme would have to be abandoned, the committee found that Hotel Reynolds, inasmuch as the banquet hall there is remote from the guest chambers, would be willing to entertain the class until break of day if necessary. So Hotel Reynolds was agreed upon as being the proper place for the supper, Friday, January 26th, being the day selected. The other details of the trip were left in the hands of special committees, and under their guidance everything was arranged without arousing the suspicion of the other classes.

The committees who so successfully had charge of the arrangements and details were as follows:—

*General Arrangement.*—Henry J. Fuller (*chairman*), George P. Davis, Alexander W. Doe, Charles A. Harrington, Frederick W. Parks.

*Entertainment and Theatre.*—George A. Denny (*chairman*), Charles W. Albertson, Alvah W. Clement, Alexander W. Doe, Henry S. Favor, Henry J. Fuller, Walter E. Hapgood.

*Menu Committee.*—Fred H. Somerville (*chairman*), Herbert J. Chambers, Joseph M. Tilden.

So quietly the committees worked that the other classes were not aware of the fact until Thursday evening that '95 were going to have their supper in Boston. To be sure rumors were afloat to that effect but they were not generally credited, it being thought that '95 was not "sporty" enough to do any such thing. A '94 man, who later showed he knew the intentions of the Juniors, told a '95 man last Wednesday afternoon that he (the Junior) would go to Bos-



ton Friday, and while there would go to the Park Theatre and also take part in a supper at Hotel Reynolds later in the evening. The Senior showed, however, at the time, that he did not more than half believe what he was saying.

#### The Supposed Toastmaster's Abduction.

On Thursday evening an episode occurred which proved to the Juniors that the other classes were "onto" their plans. The W P I takes pleasure in here presenting the only straight account of the affair that has been published. The story, as told by Mr. Warren himself, is as follows: "On Thursday evening about 8 o'clock I walked up Highland street to the chapter house of the fraternity of which I am a member, in order to meet a friend who, I was informed, desired to see me. As developments showed this was a bluff and I was the victim of it. Well, as I went up the street I noticed two fellows standing in the entrance to the Baptist Church, but as it was rather dark I could not see them distinctly enough to recognize them. On the opposite side of the street I noticed a hack, and the driver appeared to be engaged in conversation with some one on the sidewalk.

"I had hardly passed the church when I met my friend A. G. Warren and we stopped to converse a moment. I noticed while talking with Mr. Warren that the persons acted as though they were lying low for some one, and so remarked to him, but it never occurred to me that I was the object of their intentions. After talking a few moments with Mr. Warren about matters pertaining to the supper I asked him to come into the chapter house and stay a while. We went in and I inquired for the one who I had been told desired to see me. I received the reply that he had just gone to the Bay State and would be glad to see me there.

"We (A. G. and A. H.), watched the fellows who were playing whist a few minutes when a '94 man, also a member of the fraternity, entered the house. I, of course, thought nothing of that, but when I saw a '96 man, who played in the foot-ball line this year, and two other '94 men, I began to smell smoke. I hastily looked at the windows but found that escape through them would be difficult as they were all firmly fastened and the blinds closed. My '94 friend approached me and told me that I had better come along with him and his associates. I at once saw through their scheme and seriously objected. But numbers were against me, and I was soon landed in the hack in spite of my resistance. I had sufficient time, however, to advise A. G. to make himself scarce and to inform the other '95 men if possible.

"Once in the hack they told me that they had no evil intentions against me, that I would be at the

supper all right, it being their intention to cause only a sensation and to give '95 a scare. I was also informed that they would drive me home and permit me to get any clothes I would need and also to tell my parents of my abduction, on condition that I would give my word of honor that I would return at once. To this I readily agreed. On the way to my house they stopped for Mr. Clement, thinking that, if I was not toastmaster, he would be. But he smelled smoke and said they would have to wait a while for him.

"Soon we were evidently started for somewhere, and I found later that Upton was the objective point. As we went across the square I looked out for '95 men, but in vain. After a long drive we reached a boat-house in Upton and there put up for the night. We built a fire from wood procured by knocking it off the pine trees by means of oars. There was little sleep for any of us that night. The next morning I was informed by my captors that I might take the train for Boston then if I would promise that I would not let any of the rest of you Juniors know my whereabouts until the time of the supper. I was in a submissive mood about that time and readily agreed to their proposition, little thinking that you fellows would be able to locate me as you did. And I want to say, right here, that my abductors treated me royally, and also that I wish to thank '95, both individually and as a class, for the interest they have taken in my welfare."

#### The Search.

But while the president of the class was being spirited away, the rest of the '95 men were by no means asleep. As soon as the Juniors became aware of his abduction, steps were immediately taken for his recovery, if such a thing were possible. Some of the class went to the police station and there interested that genial officer, Captain Matthews, in the case. Accompanied by several '95 men, Captain Matthews visited several Tech resorts and "hanging-out" places, not omitting the co-op. rooms. It was ascertained after considerable search and some anxiety, that the hack used by the abductors was hired at McDonnell's stable, and that place was visited by the searching party. Inquiry there revealed the fact that Mr. Warren had been left on the Grafton road. The captain advised the '95 men to postpone their search until morning, hoping that by that time new developments might appear. Friday morning Marshal Raymond telephoned to McDonnell, ordering him to send up the man who took Warren away, with a hack, in order to take some '95 men to that place. It is needless to say that gentleman appeared. On arriving at the station Marshal

Raymond informed the man of the crime of which he was guilty, thoroughly frightening him. The '95 men on arriving at Upton found that the birds had flown, so returned at once to Worcester, and thus the search for the missing president was given up.

#### Before the Supper.

The time set for the departure from Worcester was 4.22, and for several minutes previous the depot resounded with the cheers of sixty-three '95 men, and also of her good friend Stanley Rood who accompanied us as far as Boston. Soon the train pulled into the depot and a special car was attached for the Juniors' benefit. After cheering for the class, the Institute and the conductor, the train left for Boston, and soon Worcester was far in the rear. The entire charge of the transportation and tickets was left with Harry Davis, and to his diplomacy is it due that '95 had a special car and a reduction of forty cents on the fare. The only stop was South Framingham, and there most of the Juniors got out to cheer for the only class and institute in the country. The remainder of the ride to Boston was uneventful.

After arriving in Boston and cheering in the depot, the men dispersed, some going immediately to the hotel, while others went in twos and threes for supper. In the evening almost one-half the class went to see Dixey in Adonis, and were well repaid. Others saw Irving, Charley's Aunt, and other plays, but to the credit of '95 be it said that no man saw snakes at any time during the night. By eleven o'clock the class began to assemble at the Reynolds, and an hour later all were on hand.

#### The Supper.

Promptly at midnight the 63 Juniors who had come from Worcester, and also the missing president, who had shown up a few moments before, sat down to do justice to the spread before them. Of the present members of the class all were present with the exception of Messrs. Brigham, Farwell, Thayer, and Morse. Messrs. Kelton, Sumner, Adams, and Ware, ex-'95 men, were also present. Here is the bill of fare:

OYSTERS.		
Blue Points of deep shell.		
SOUP.		
Mock Turtle.		Consomme Julienne.
FISH.		
Boiled Halibut—Hollandaise Sauce.		
REMOVES.		
Fillet of Beef, larded, with Mushrooms.		French Peas.
Boiled Philadelphia Capon—Cream Sauce.		
ENTREES.		
Lamb Cutlets, with Peas.		Macaroni au Gratin.
Orange Fritters au Kirsh.		
RELIEVES.		
Romanischer Punch.		
GAME.		
Broiled Quail.		Lettuce Salad.
RELISHES.		
Leicestershire Sauce,		Tomato Sauce.
Mixed Pickles.	Olives.	Chow Chow.

#### DESSERT.

Vanilla Ice Cream.		Strawberry Ice Cream.	Harlequin.
Chocolate Ice Cream.		Angel Cake.	Fruit Cake.
Sponge Cake.	Chocolate Cake.	Cocoanut Cake.	
Pound Cake.		Macaroons.	
Lady Fingers.	Mince Pie.	Lemon Pie.	Oranges.
Apple Pie.	Malaga Grapes.		Dates.
Bananas.	Raisins.		Nuts.
Figs.			Coffee.
Toasted Crackers and Cheese.			

#### The Toasts.

After these viands had been discussed, President Warren rapped for order, and introduced Mr. H. D. Temple as toastmaster of the evening. Mr. Temple was cordially received, and his brief remarks on the general character of the Half-Way Thro' celebration were productive of mirth. He alluded to the fact that Ninety-five was establishing a precedent in coming to Boston, and that she was leading in this, as she did in athletics.

Mr. Temple then announced that the first thing on the program would be a selection by the quartet. The quartet consisted of G. O. Sanford and H. J. Fuller, tenors; F. W. Parks and R. N. Taylor, basses. They gave for their first selection a song written for the occasion by Mr. Taylor. Here it is—

We, the class of Ninety-five, are assembled here to-night,

To celebrate our Half-Way Thro', and put dull care and hours to flight.

We'll eat and drink and merry be,

While many a shout and song ring out.

Oh! let us sing with one accord,

Hurrah for '95!

#### CHORUS:

Ninety-five, she is the flower of the Tech;  
The Faculty, they never jump upon her neck.

As we pass by,  
With bearing proud  
And heads erect,  
The people sigh,  
The maidens cry,  
Harrah for Ninety-five!

Mr. Temple then introduced Mr. F. E. Gilbert, who responded to the toast "Half-Way Thro'." Mr. Gilbert in the course of his remarks said: "Half-Way Thro'. What does it mean? We are here to-night to celebrate an event we have all looked forward to, ever since our admission into the Institute. We look back over our past school life with many pleasant thoughts, and we look forward with great anticipation. We stand upon the threshold of a new epoch, the success of which we dare not predict. But we are better acquainted with our instructors than when we entered two years ago, and our chances for graduation are better.

"What have we learned during this time? At the end of Prep year we found that sparks and even stars could be obtained by running the Daniels' planers against the dogs. In Mr. Beals's room we were busied with Coburn's method of approximation, while Prof. Gladwin's method of representing water was thoroughly



mastered. The last half of Junior year found us again in Mr. Beals's room considering the problem in space. An interesting problem there arose as to whether the shadows of two persons walking together ever coincided. The result as found in one book is as follows: The problem depends entirely on gender; unlike signs give yes for an answer, like ones no."

A selection was then rendered by the orchestra, which was composed of H. L. Abbott, violin; R. H. Taylor, flute; F. H. Somerville, cornet, and E. A. Copeland, piano.

Mr. Tilden was then introduced, and he spoke entertainingly on the Faculty.

After another selection by the quartet, C. A. Harrington responded to the toast "Athletics." He spoke of the hard-earned victories on the gridiron and diamond, and especially of the spring field-day in which '95 scored in every event, her total score being double that of her nearest opponent.

After another well rendered selection by the orchestra, President Warren spoke on "The Class of Ninety-Five," relating a short account of his adventures during the preceding twenty-four hours, previous to speaking on the toast.

Mr. Alexander W. Doe then did an amusing "turn" consisting of a very clever impersonation of several Irish characters. His original topical song, brimming full of Tech jokes, elicited deserved applause from the class.

H. S. Davis then responded to the toast, "The Ladies," in an humorous manner, being followed by Mr. Taylor in an humorous song.

Mr. Clement looked after the final toast, "The Future." In the course of his remarks he likened the future to one of Prof. Sinclair's curves. It has its ups and downs, high points and low ones, sometimes it holds water and then again it does not. Mr. Clement's toast was well handled throughout.

A final selection by the orchestra and the proceedings were at an end.

A class meeting then occupied the attention of the class. An account of that will be found elsewhere.

**The Trip Home.**

About half-past four the hotel was left and the journey to the depot was made, in the midst of a driving snow-storm. The car was in waiting and as '95 was the only occupant her members made themselves as comfortable as possible. Some played whist, while the rest either read the morning papers or went to sleep. About half-past six the class arrived in Worcester, thoroughly pleased with the fourteen hours of merriment.

One hundred and ninety college papers are regularly issued in the United States.

**ICE POLO.**

**Tech, 7; High School, 0.**

The High School polo team met defeat in the hands of Tech in a game played Saturday, January 20th, at Lake Quinsigamond. Fully seven hundred persons saw Tech make seven goals during the 20-minute halves played.

The Tech team was greatly improved by one or two changes that had been deemed advisable by Captain Philpot. Harris, '95, at goal was an experiment, but proved himself capable of filling the position satisfactorily. Of the rest of the Tech representatives little need be said. Philpot, as usual, played excellent polo, making two goals on long drives at difficult angles. Warren took Carroll's place during the second half, according to agreement before the game. The High School men, as will be seen by the appended summary, won all the rushes with one exception. One reason for this was the fact that the High Schools repeatedly started before the whistle sounded, while on the other hand, the Tech rushers seemed to slow up when reaching the ball, thereby allowing the opposing man to win the rush. The players were greatly inconvenienced by the spectators who persisted in crowding upon the playing surface, notwithstanding the fact that a squad of "Tech finest" were on duty in charge of Captain Ware of foot-ball fame. The only disagreeable feature of the game was the playing of T. Dwyer, who did far more fouling and tripping than legitimate polo playing. P. H. McCann was umpire while J. F. J. Herbert was timer. Here is the summary showing how the game was won:—

TECH.	Positions.	HIGH SCHOOL
Carroll,	Rushers.	T. Dwyer
Warren,		W. Dwyer
Knowles,	Centre.	Fisher
Philpot,	Half-back.	Albertson
Gordon,	Goal.	Bigelow
Harris,		

**SUMMARY.**

Goal.	Won by.	Rush.	Time.	Made by
1	Tech,	T. Dwyer,	2.30,	
2	Tech,	T. Dwyer,	6.30,	Carroll
3	Tech,	W. Dwyer,	2.30,	Carroll
4	Tech,	T. Dwyer,	7.30,	Philpot
5	—	T. Dwyer,	limit,	—
6	Tech,	W. Dwyer,	7.30,	Knowles
7	Tech,	T. Dwyer,	1.00,	Knowles
8	Tech,	Warren,	3.30,	Warren
9	—	T. Dwyer,	limit,	—

Goals.—Tech 7; High School 0. Fouls.—High School 2. Stops.—Harris 5; Bigelow 12.

**Tech, 1; Holy Cross, 0.**

Our polo team, by defeating Holy Cross, added another to its list of victories. The game was called at 2.30 P. M. on Tuesday, January 23rd, in the presence of about 450 spectators. Before the game the team was not confident of

victory, but after a few moments' play, it was evident that our team, barring accidents, would win.

Tech's passing was the best they have yet shown, and much improvement in the whole team was easily noticed. Our three forwards played all around their opponents and wore out the Holy Cross men by their passing and team play. Warren and Knowles, however, seemed utterly unable to cage the ball, their drives going wide of the mark.

In the second half the playing was better, several balls being driven into the Holy Cross cage, only to roll out again. In this half the only goal was scored.

Philpot coached his men well and Gordon and Harris, although they had little to do, took care of everything that came their way. For Holy Cross, the work of Crowley and Doran aided materially in keeping the score down.

The teams lined up as follows :

TECH.		POSITIONS.	HOLY CROSS.	
Warren, }		rushers,		{ Bannon
Knowles, }				{ Gannon
Philpot,		centre,		Casey
Gordon,		half-back,		Crowley
Harris,		goal,		Doran
Referee, P. H. McCann; timer, E. W. Davenport.				
Goal.	Won by	Rush.	Time.	Made by
1		Warren.	limit.	
2	Tech.	Gannon.	12.45	Knowles.
3		Warren.	limit.	
Time, 2 20-minute halves.				

### RAILROAD SNOW-BUCKING IN THE NORTHWEST.

On account of the severe storms and deep snow in the northwest, snow-bucking forms an important feature in the winter work of the railroads. On the approach of winter, all the locomotives have alterations made in their pilots to enable them to make their way through the snow. The passenger engines have the spaces between the bars of the pilot closed, and a heavy steel "flanger" hung over each rail. These flangers are somewhat the shape of the mould-board of a plow, and are so arranged that the engineer can raise or lower them at will. In the lower part of each flanger a notch is cut, which when the flanger is down, fits on either side of the rail, thus leaving it in comparatively good shape for the wheels to follow. The freight engines have the pilots taken off and replaced by sheet-iron plows. These plows are about the same size as the pilot, and are very similar in shape to an ordinary plow except that they are alike on both sides. Locomotives equipped as described are generally able to perform the usual winter service, but on account of the liability to very severe storms, one locomotive

in each division is equipped with an especially large and heavy plow, and used only for snow-bucking purposes. The plows used on this engine consists of a heavy frame-work extending about 5 ft. ahead of the front truck wheel, and slanting up to a level with the top of the boiler. This is simply a flat surface 8 ft. in width for about half the distance up; at this point a wedge-shaped projection rises perpendicular to the rail in the centre of the plow, and serves to divide the snow scooped up by the plow and throw it out on each side. The whole plow is covered with sheet iron, and the lower extremity shod with boiler steel to enable it to cut the hard snow. Under the front end of the plow, and over each rail, are heavy cast-iron shoes on which the plow slides when the snow is hard enough to spring it down on the rails. The head-light glass and front windows are boarded over to prevent their being broken, and a heavy tarpaulin extending from the cab roof to the rear of the tender keeps the coal from becoming mixed with the flying snow. Every precaution is taken to keep the snow out of the cab, but when a bank is struck the atmosphere for 20 ft. in all directions is filled with flying particles, and the speed with which it pours in through crack and opening is simply marvelous.

The chief object of the engineer in bucking snow is to strike the banks with sufficient force to throw the snow well out on either side of the track. There is also less danger of leaving the track when running fast, as the wedge-shape of the plow tends to force the engine truck well down on the rails, and thus overcome the tendency of the flanges to mount on the hard snow. A good engine equipped with a plow such as the one just described, will clear the track after any storm on a level division, but if the track runs through any deep cuts, it is necessary to have a rotary plow, as after a very severe storm the snow becomes packed so hard in the cuts that an ordinary plow would simply flatten out if driven into the bank with sufficient force.

### A PLEA FOR FREE-HAND DRAWING.

The purpose of this article is to show that freehand drawing, here at the Institute is not given the attention which, according to its importance, is due. In actual business, what branch, which is here pursued, is more used—or would be if a thorough knowledge of it had been obtained—than freehand drawing? Mechanical engineers, draughtsmen, foremen, superintendents, civil engineers, and chemists, in fact, in nearly all positions which "Tech" graduates occupy, a knowledge of free drawing is desirable. It is only necessary oftentimes for

a foreman to roughly sketch his desired object, then the workman can go ahead and produce it, whereas simply a description would have failed to convey the intended idea. In other occupations similar instances might be cited to illustrate the importance of this accomplishment. Professor Gladwin says, and with much truth, that a mechanical engineer with the ability to sketch well commands five hundred dollars a year more than one who has not the ability. There is, perhaps, little question in regard to its practicability in all pursuits.

The next question then, is, are we obtaining a knowledge of it? As the course is now arranged, but three hours per week are allowed this subject for the short space of one year. We first get a little black-board practice, then "lines converging," drawing from models, shading, and, finally, out-door sketching. At the end of the year, few, if any, have derived any great benefit from the practice, since one thing is scarcely learned before another is in order.

How then can it be learned? More time must be allotted it. And where is the time to come from? It seems that two or three hours per week might be taken from the fifteen hours' shop practice. Although a knowledge of pattern making is well enough, it is not necessary for an engineer to be able to make patterns which may be scrutinized to the sixty-fourth of an inch. Very few students, in after life, have anything to do with woodworking, while free-hand drawing is something from which nearly all would enjoy the benefits. In a word, let us have more time with freehand drawing. '97.

#### A CORRECTION.

In the issue of the W P I of January 4th, the statement was made in an article entitled "The Best Field for a Campus," that Mr. Salisbury had offered to the Institute the field south of the Institute for an athletic field. We have been informed that this statement is incorrect, and that Mr. Salisbury has been approached on the matter, but has never indicated his consent or purpose.

#### BANJO CLUB.

The banjo club assisted at an entertainment given by members of the High School for the benefit of the athletic team, Friday, January 26th. The club was sadly handicapped by the absence of the three '95 men who were attending the celebrations at their half-way-through supper. Mr. Burt Merrick kindly assisted in the capacity as a first banjo in place of Mr. Chambers. Notwithstanding these facts, however, the club made a very creditable showing,

and were enthusiastically encored every time. Mr. Gage, '93, who still maintains his connection with the club, also played.

When the club played the old familiar tune, the Kulled Koon's Kake Walk, the audience settled back in their chairs, wearing expressive smiles and kept time, good naturedly, with their feet.

It has been an agreeable feature in entertainments managed by High School members that good feeling is always shown toward the Tech club.

The concert was followed by a dance.

It might here be remarked that if Mr. Boyden would part his hair in the middle he would not have so much trouble in preserving the equilibrium of his head.

The club plays next week at Salem Street church.

A guitar player is wanted by the club to complete its membership.

#### A NEW PROFESSOR.

At the meeting of the trustees, held January 20th, William W. Bird was elected assistant professor of mechanical engineering. He began his duties at the Institute last Monday, having charge of the mechanical laboratory work. He was graduated from the Institute in '87.

#### '94 CLASS-MEETING.

At a meeting of the Senior class, Tuesday, January 30th, the semi-annual election of officers was the chief object of interest. Informal ballots were taken for the offices of president, vice-president, and secretary of the class. The highest four men on these informal ballots were considered the nominees, the election to take place one week later. The highest four men on each ballot were as follows: President,—Whipple, Whitney, Davenport, Dwinnell. Vice-President,—Gallagher, Whitney, Dwinnell, Burt. Secretary,—Whitney, Perry, Fuller, Cobb. Chas. G. Harris as Treasurer, holds over till the end of the year. E. B. Whipple was elected athletic director for the rest of the year.

#### FOOT-BALL GOSSIP.

Much has appeared of late in the daily press as well as in the leading periodicals regarding foot-ball, its dangers and brutality.

Naturally, such an agitation has led to a thorough discussion of the present rules, and many theories have been advanced, the adoption of which would tend to eliminate, to a great extent, the element of danger which is at present considered so great. As a result it is highly



probable that, before another year is passed, many radical changes will have been made in the rules now governing the game.

Friends of athletics, almost without exception, believe foot-ball in itself all right and think that, by modifying the existing rules, the game may be played without exciting unfavorable comment from the public.

Momentum plays and the piling up of players upon a man who is downed appear to be the points against which the greater part of the condemnation is directed.

All these momentum plays will be stopped by making it unallowable to have more than three men back of the quarter when the ball is snapped, and also by allowing no player to leave his place until the ball has been snapped back. The piling up of players upon a man who is downed will probably be stopped by establishing some rule to the effect that no man can fall upon a player after the whistle has sounded—which will be as soon as a man is thrown.

But these are by no means the only points to which objection, more or less pronounced, is raised. Many argue, and rightly, that the kicking of goal should be abolished. It seems hardly fair that the kicking of goal, which depends entirely upon one man, should count for half as much as a touchdown, which has been secured only after hard and united action of the whole team. Many games have been lost by the failing of one man, either through nervousness or other reasons, to kick a goal at the critical moment. Imagine to yourself the responsibility resting upon the goal-kicker in all of the big games, when his success or failure means victory or defeat not only to himself but to the team and to the college he represents, and you will agree with the writer in believing that goal kicking should be abolished.

Regarding the duties and responsibilities of the umpire and referee much has been said. It has been suggested, and with much sense, that one man look out for either side of the centre, and that he be judge of all plays around his end and of all offside work on his side of the centre. In this way no man could with safety indulge in offside playing, as is the case many times when one man has all twenty-two players to look after.

The matter of slugging has been seriously discussed, and many favor the idea of immediate disqualification of a player doing dirty work. Another scheme has been suggested that seems an excellent one. Any man who is detected slugging shall have a foul called on him, and every foul scores a point for the opposing team. The umpire also has the right to disqualify any player when he deems it necessary.

Many other changes and novel ideas have been proposed.

One eminent authority on foot-ball has proposed a scheme by which there would be more running and less mass plays. He suggests that it be necessary to advance the ball ten yards in four downs, and also that the ball shall have to go to the right or left an equal distance. By the adoption of this idea end plays would be used almost entirely, but at the same time the defensive side would know, after one or two downs, around which end the runner would go. The committee on rules will probably not adopt the idea.

Another foot-ball enthusiast suggests that at the end of the first half the place of the last down be marked, and when play is resumed that the same team have the ball in the same place for the same down. He maintains that often a team gets the ball within a few yards of their opponent's goal when time is called. In the second half, after getting the ball from the other side the same thing is done and again does the whistle blow. In this way the game is finished and neither side has scored, giving the impression that the teams were evenly matched, when in reality one team was better than the other and deserved the game. It seems to the writer that this scheme is an excellent one.

Notwithstanding all this outcry now being made against the game that to-day holds first place among college games, it is probable that foot-ball will be played as much in coming years as it has been in the past. As has been said before, the rules will doubtless be so modified that the physical dangers and the advantage of might and sheer strength will be lessened.

Foot-ball, like everything else, has its good and bad points. But do not the good features of the game decidedly outweigh the poor ones?

#### W. M. E. S.

The next regular meeting of the Washburn Mechanical Engineering Society will be held in the Salisbury Laboratories, on Monday, Feb. 12th, at 8 o'clock P. M. The evening will be devoted to the presentation of the subject of Molecules and the Molecular Theory of Matter, by Mr. A. D. Risteen, of '85. All are cordially invited to be present. Geo. I. Alden, Sec'y.

#### REMARKS OF CRITICUS.

Criticus would call the attention of the baseball association to the fact that it is high time that a business manager for this season was elected. Already, several letters have been received from college teams which are anxious to play us, but as yet no one has the authority

to attend to them. The captain of the nine for this year has been chosen, and the outlook is certainly as bright as in former years. With a good manager at the head of affairs, the team should be a success both financially and in point of games won.

Criticus, however, believes that before a manager is elected, it would be a good plan to so change the rules of the association that the manager can be elected from any class and not of necessity from the Senior class, as the constitution now requires. In the mind of Criticus, the Seniors have so much to occupy their attention here at the Institute during the last half-year that it is not to be expected that one of their number can give as much attention to the management of the team as is necessary. Criticus sincerely hopes that the best man for the position be elected immediately, regardless of class or club membership.

\* \* \* \* \*

The members of the lower classes are doing lots of complaining about the regulation that allows the Seniors to monopolize the library from 8 to 9 A. M. They say that the Seniors do not care about having the large room reserved for them, and that the small room is amply sufficient for those Seniors who desire to read. Criticus sides most strongly with the lower classes. A Sophomore we will assume, reaches the Institute about 8.30. He goes toward the library and looks in, but sees no one, save a few Seniors in the adjoining room. Regardless of the familiar legend "This room is reserved from 8 to 9 for Seniors to read in," he enters, in order to read the papers, or perhaps to put the finishing touches upon an inventional exercise. Other students come in until, perhaps, there are a half score in the room and a few Seniors in the room adjoining. Soon a firm, measured step is heard approaching and the professor at the door remarks "Gentlemen, do you see that sign," or words to that effect. Thus the poor under-class men are compelled to "move on," and the library is left practically vacant.

If the Seniors desired to have the library reserved for them and made use of it that would be one thing, but inasmuch as that is not the case, Criticus sees no reason why it should be reserved. Why not do the same way this year as was done last, namely: reserve the little room for those Seniors who desire to study and let the main room be for the rest of the students?

\* \* \* \* \*

For the past few days there have been ugly rumors afloat to the effect that the kidnapping

of '95's president was a bluff and that the '95 man himself was in the scheme. These rumors seemed so manifestly absurd that Criticus at first believed no one would give them the least credence, but on the contrary they appear to have fallen on fertile ground and, as a result, many, who ought to know better, have been induced to believe that the whole affair was a put up job, and that it was done purely for Mr. Warren's benefit. Nothing could be more absurd. The two things that those who are endeavoring to make it thought a bluff, use, in order to make it seem plausible, are: first, the fact that he was allowed to go into his house to inform his parents of his abduction; second, the fact that he was allowed to go to Boston Friday morning. In both cases he made promises and, as his abductors knew he was a man of his word, they did not hesitate to allow him his liberty after making the promises. Had the president known that his confreres were on the way to rescue him it is not probable that he would have agreed to the propositions of his captives.

It is indeed deplorable to think that so many men in his own class, although they thought enough of him to elect him president, should now think that he had gone back on them. Especially is this so when nothing can be offered to substantiate such a belief.

### PERSONALS.

Prof. George E. Gladwin gave a lecture on the "Life and works of George Cruikshanks," before the members of the Art Students' Club, last Saturday evening.

The members of the Worcester County Horticultural Society listened to a paper by President Fuller, on "The Causes of and Remedies for the Non-uniform Bearing of Fruit Trees in Successive Years," at their regular meeting last Thursday afternoon.

President Fuller spoke at the reception of the Sons of Vermont, January 13th.

Mr. C. B. Allen, ex-'95, writes from Hannover, Germany, saying that he is much pleased with his new studies and is doing finely. His address is 72 Laves Strasse.

### COLLEGE ATHLETICS.

Clarkson will coach the Yale ball team this year.

The Tufts, Brown and Amherst athletic associations all held indoor tournaments last Saturday.

The first regular foot-ball team in this country is said to have been that at Yale in 1872.

A general athletic treasurer, who is not a student in college, is to be appointed at Princeton to take charge of all accounts.

The track athletic team at Princeton has accepted a challenge from Columbia to a set of joint games prior to the intercollegiate contests.

Of the seventy-three men entitled to Commencement parts at Harvard University, eleven have been prominently identified with athletics.

It is a fact that at Cornell the men on the intercollegiate athletic teams have a standing of over 2 per cent. better than the average standing of the whole college.

The base-ball expenses at Harvard last year were \$18,477.20; their receipts amounted to \$23,823.76, leaving a balance in the treasury of \$5,346.56.

All of Princeton's winning eleven, except King, will return to college next year. Seven of Harvard's foot-ball eleven graduate next June.

The report of the Wesleyan foot-ball treasurer for the past season is as follows: Receipts, \$2,210.28; expenditures, \$2,190.11; assets, \$793.92; liabilities, \$1,180.85, leaving a deficit of \$386.93.

A yacht club has recently been organized at Harvard University having a charter membership of thirty. An annual cruise of one week will be taken every year, starting from New London on the day following the Yale-Harvard race.

Each member of the Princeton foot-ball team has been presented with a silver loving cup, and each substitute with a silver match-box, by the New York alumni.

Captain Steere of Brown has a new invention which it is expected will greatly aid him in turning out strong batters. It consists of a piece of rope, one end of which is tied around the batter's left leg and the other end is fastened to a peg in the ground. This is to break the men from the bad habit of stepping back when the ball is pitched up, and already is producing good effects.

### SCIENTIFIC NOTES.

#### Effect of Temperature on Iron.

An official statement of tests made at the Massachusetts arsenal to ascertain the effect of temperature on the strength of iron has been published. The specimens were heated by rows of Bunsen burners, which were arranged in a muffle, and the temperatures of the test specimens were judged by their observed expansions. Each piece was heated to the temperature of the

test before being strained, and its expansion determined by a micrometer, and the coefficient of expansion of each grade of metal having been determined before the tests began, the temperature could be inferred with considerable precision. An abstract of five of these tests—the temperatures being all on the Fahrenheit scale—is in evidence that the strength of steel is greater at about 500 degrees than it is at 70. These five series of tests were made with five different qualities of steel, containing respectively 0.09, 0.20, 0.31, 0.37, 0.51 per cent. of carbon, and the percentage of strength was obtained by dividing the tensile strength of a sample of steel at the given temperature by the strength of the same quality of steel at 70 degrees. The result presents the interesting fact that the specimens in question were all stronger in the neighborhood of zero than they were at ordinary temperatures—all of them, in fact, showing a minimum of strength at 210 degrees, or thereabout, and a maximum of strength at about 550 degrees.

That the continent of Europe is passing through a cold period has been pointed out by M. Flammarion, the French astronomer. During the past six years the mean temperature of Paris has been about two degrees below the normal, and Great Britain, Belgium, Spain, Italy, Austria and Germany have also been growing cold. The change seems to have been in progress in France for a long time, the growth of the vine having been forced southward since the thirteenth century; and a similar cooling has been observed as far away as Rio de Janeiro, where the annual temperature has been going down for some years past.

Dr. Amidon, of New York, has taken the pains to make a list from the *Lancet's* reports of accidents that came to the notice of the editor in the year 1892. How many casualties escaped notice cannot be told. In this year 23 deaths occurred in England that were directly traceable to foot ball. Those indirect ones that occurred subsequently or that will occur are left for future historians. Here is Dr. Amidon's little list of accidents: Concussion of brain, 3; injury to the head, 1; injury to the nose, 1; fracture of the nose, 1; fracture of the jaw, 1; fracture of the collar bone, 20; dislocation of arm, 1; compound fracture of arm, 3; fracture of arm, 5; bad fracture of left arm, 2; serious injury to arm, 1; compound fracture of elbow, 1; fracture of left wrist, 1; fracture of ribs, 3; severe sprain of thigh muscles, 1; fracture of thigh, 3; injury to leg, 1; fracture of leg, 29; bad fracture of leg, 1; compound fracture of leg, 5; fracture of knee-cap, 1; severe injury to knee-cap, 2;



fracture of ankle, 3; dislocation of ankle, 1; sprained ankle, muscles and tendons severely wrenched, 1; severe injury to foot, 1; fracture of spine, 1; injury to spine, 1; severe internal injuries, 10; undescribed accidents causing death, 4. Total number of injuries, 109. There were at least 28 deaths in England in 1893, the returns, however, are not yet in.

### COLLEGE NOTES.

The average age of students at Harvard is 22.7 years, and at Columbia, 21.5.

There were sold in one year in the college town of New Haven, 25,000,000 cigarettes.

The total number of students at Cornell this year is 1,752, as compared with 1,665 last year.

The Cercle Français of Mass. Institute of Technology will give two French plays this winter.

Stanford University has a band of forty-three pieces, which is the largest one in the West.

Harvard debates Princeton, March 10th. Princeton debates Yale, May 20th.

The average age of the Amherst Freshman is 21.1 years, and 21 per cent. use tobacco.

The students in the course of journalism at the University of Pennsylvania publish a weekly paper covering the current news of the week as well as university news.

The six colleges or universities in the United States having the largest number of graduate students are: Johns Hopkins, 262; Chicago University, 256; Harvard, 254; Cornell, 161; University of Pennsylvania, 154; Yale, 143.

Amusing indeed is that item that appears in some of the college papers that "Brown University will celebrate her one-hundredth anniversary next June." If Brown had been founded about one hundred years ago, this statement would not be out of place. But as the beginning of Brown's history was in the year 1764, there seems to be no immediate occasion for observing her one-hundredth anniversary.—*Brown Herald*.

Harvard has a blind student in the Freshman class taking a full course for the degree of Bachelor of Arts. In his entrance examinations he used a typewriter, except in the Greek, which he dictated, and the geometry, for which he used a mechanical contrivance.

Yale's junior appointments, the list of members of the junior class who, by a general scholarship average during the first two and one-half years of their course, have secured a stand entitling them to the "Honor Roll," have been given out. There are one hundred and sixty-

five names on the list, by nine the largest number ever recorded by a Junior class at Yale.

The students of the Brooklyn Polytechnic Institute will present a play in Brooklyn on the first three days in March. It is a drama entitled "The Theosophist," and has been especially written for the students. Any man whose standing in scholarship is less than 80 per cent. is not permitted to take any part in the show.

Dr. Henry Drisler, who is Dean of the Columbia School of Arts, as well as Jay Professor of Greek, finishes, this coming June, his fiftieth year of active service. He has written to the board of trustees asking that he be retired and made professor *emeritus* on the completion of this half-century of service at Columbia.

### TECHNICALITIES.

It was a division B Freshman who, the other day, described a character in a French play, as having a round face and a reddish moustache under his chin.

Ninety-five for the rest of the course will furnish the books which the class will need. A committee consisting of Clement, Hapgood and Tilden has charge of the matter.

The ruling of the faculty at W. P. I. regarding the hours of shop-work is very unsatisfactory to the students.—*The Brunonian*.

Right you are, *Brunonian*.

Examinations are getting to be very serious affairs when a man has to worry and fret so that his nether garments need repairing, as was the case of a certain Senior during the last examinations.

If Chaucer was the "Father of English Literature," and it had grandfathers and great-grandfathers, what relation are Chaucer's present descendants to English literature in the time of Chaucer's "governor?"

Brigham, '95, while at work in the Shop two weeks ago severely injured his hand. He was working on some heavy work at a lathe when, in some way, he drew the back of his hand across the diamond point he was using, thereby inflicting a serious wound. The tendons were exposed and several stitches were necessary to close the wound.

The semi-annual business meeting of '95 for the election of officers was held at Hotel Reynolds immediately after the half-way thro' supper. The officers elected were as follows:—Harry D. Temple, president; Vail Warren, vice-president; W. O. Wellington, secretary; A. W. Walls, treasurer. Chas. A. Harrington was re-elected athletic director.

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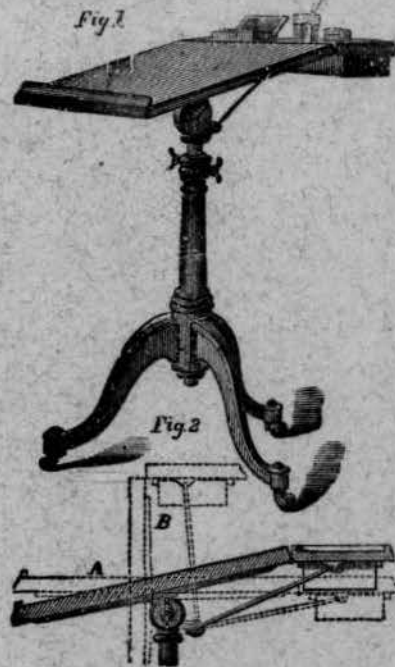


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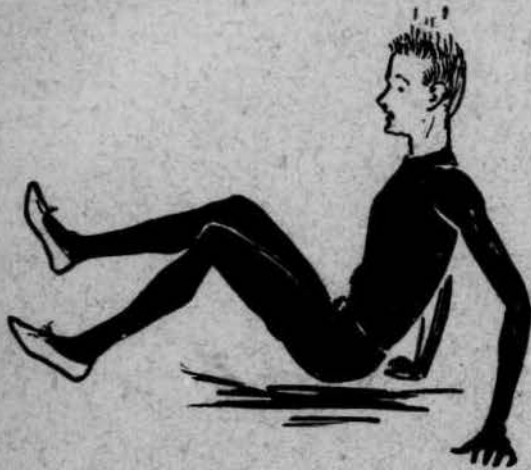
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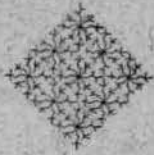
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