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Students of Worcester Technical Institute

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<table>
<thead>
<tr>
<th>CONTENTS</th>
<th>PAGE</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Editorials</td>
<td>37</td>
<td></td>
</tr>
<tr>
<td>Ninety-two's Thesis Subjects</td>
<td>43</td>
<td></td>
</tr>
<tr>
<td>Graduate Study in the German Universities, by Dr. Geo. D. Moore</td>
<td>38</td>
<td>44</td>
</tr>
<tr>
<td>Field-day</td>
<td></td>
<td></td>
</tr>
<tr>
<td>The Springfield Sports</td>
<td>45</td>
<td></td>
</tr>
<tr>
<td>A Tribute to Dr. Smith</td>
<td>41</td>
<td></td>
</tr>
<tr>
<td>Meeting of N. E. I. A. A. Convention</td>
<td>46</td>
<td></td>
</tr>
<tr>
<td>Notices</td>
<td>41</td>
<td></td>
</tr>
<tr>
<td>Cleveland Alumni</td>
<td>47</td>
<td></td>
</tr>
<tr>
<td>Reception to the Historical Club</td>
<td>41</td>
<td></td>
</tr>
<tr>
<td>A Prize Thesis</td>
<td>42</td>
<td>47</td>
</tr>
<tr>
<td>Alumni</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Socialist Book</td>
<td>42</td>
<td>47</td>
</tr>
<tr>
<td>Technicalities</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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Several ineffectual attempts have been made by students through the columns of the WPI and by the editors themselves, to persuade the authorities to fly daily the flag which was largely paid for by the students and presented by them to the Institute, but the authorities have remained immovable and the stars and stripes wave above Boynton Hall only on rare occasions. The objection has been that the pole required raising also, for if it stayed up all the time, the water would leak in about it. Although quite an unexpected surprise, the flag appeared on the day of the sports, and when taken in at night, the pole was left undisturbed. That night and the next day occurred one of the harshest and steadiest rains for months. Despite this fact, the tower at last accounts was still standing. In view, then, of this unfortunate turn of affairs, would it not be well either to comply with the request of the contributor of the flag, or else invent a new and more plausible excuse for refusal?

Many times complaints have been made because of the detention of students beyond the length of the hour. To be sure there are times when a prompt dismissal would seriously interfere with the work under way or the completion of a lecture; but when the hour is the last one in the morning or afternoon, the delay is apt to put students to a great deal of inconvenience. The Faculty ought to remember that at 12 o'clock and 4:30, nearly all students pass through the corridors of Boynton Hall, and that these are the only times during the day that members of different divisions are at all sure of seeing one another. Hence it is that five minutes detention is liable to put a student to a great deal of annoyance, especially if he holds an office in any of the student organizations. If an errand is to be done requiring prompt attention, or an engagement to be made, failure of prompt dismissal means at least a tramp of anywhere from five minutes to an hour's length; loss of time for study and if at noon, perhaps, tardiness. The editors especially fall victims to this abuse, for they have to be continually hunting for this and that man in order to pick up their notes and news. Before compulsory chapel was abolished, the nuisance was not so great, for then anyone might be seen at the chapel door, but now the chance is small of meeting there the one wanted. Viewed in this light, we feel sure the Faculty will realize that detention, especially at the hours mentioned, is an imposition upon the students, and will correct the evil in the future.

A few days ago an agent exhibited in the shop, a drill for boring square and irregular holes. The students working that
morning were very much interested in the device and especially in the simple mechanical principles that entered into its construction, for although simple, they were entirely new to most of those looking on. A little later the question was asked of a group of students, how many knew the method of turning a gun-stock or irregular piece of wood. There were two affirmative answers. These were from students who had completed their course in wood-work and were supposed to have a better knowledge of it, theoretical if not practical, than the ordinary journeyman, but who in reality were ignorant of the most common and useful processes. One does not have to look far to find the explanation of this. It is because the Mechanics are given almost no opportunity to see and study methods and machines outside of the Washburn Shops. Other institutions like ours take parties of students sometimes hundreds of miles for this purpose, while men here are allowed to spend three years in sight of as great a diversity of industries as is to be found in an equal area anywhere in the country, and yet know nothing about them. Without complaining at the amount of time given to practice, we would like to ask if half a dozen forenoons a year could not be much more profitably spent in seeing how other establishments work than in making chips in our own? In our Senior year we are supposed to work at machine designing and after graduation, to design, and yet the only knowledge which we have of the commonest devices in machinery is that picked up among the few machines in the shop, and found in text-books, more or less impractical. We are not expected to do an original in geometry until we have studied all the principles which may be applied to its solution. Why should it be different in draughting? If anyone doubts the ignorance of students in regard to how these everyday things are made, let him put a few inquiries to the next Mechanic he chances to meet, and he will find a condition of affairs which is entirely unnecessary and which could in the future be corrected with no expense and with no trouble. Another year should, but doubtless will not, see a change for the better in this direction.

GRADUATE STUDY IN THE GERMAN UNIVERSITIES.

To the Editors of the W P I:

Gentlemen:—It gives me great pleasure to comply with your request for a contribution regarding the condition of the students at German universities, and the inducements and opportunities which these institutions offer to the graduates of this Institute.

Let us suppose such a graduate arrived at the university at which he has decided to pursue his studies, presenting himself for matriculation. Having delivered up his passport, a document necessary to every foreigner for the purpose of establishing his identity, he, together with the other candidates for admission, repairs on the appointed day to the large hall or senate-chamber of the university where the matriculation exercises take place. These are opened with an address by the Richter or government representative, who reminds the would-be students of their great duty to the state and nation, then follow remarks by the Rector or President of the university, who welcomes the candidates in behalf of the university itself and gives them some sound advice concerning the academic life upon which they are about to enter. If it is proposed to make any marked change in the administration of affairs during the ensuing semester, the Rector always refers to the fact in his matriculation speech. Finally—he gives his right hand to each of the candidates, and the latter promise to obey the laws and usages of the university and to uphold her honor to the best of their ability.

This done, the secretary presents each of the newly-fledged students with a large certificate of matriculation and a small card. This card—the Erkennungskarte—is really a receipt to the student for his passport and papers, and must be preserved by him, to be exchanged for another of a different color at the beginning of the next calendar year. It is signed by the Rector and the Richter. Briefly, it sets forth that the person whose name it bears is a student in good standing, but to the student himself it means vastly more than this. So long as he carries it
about his person he cannot be arrested nor detained by any civil authority, it admits him to museums, galleries, collections, libraries, etc., and entitles him to all the rebates and privileges accorded to students at the theatres, opera-houses and places of public amusement. It is the only evidence he possesses that he is really a student. He must carry it always on his person and its loss is a decidedly serious matter. In such event he must report to the Richter for a new one, and may be required to establish again his identity before the duplicate is issued. In any case a minimum fine of five dollars is imposed for his carelessness and this fine may be increased or additional penalties imposed, should the circumstances appear to warrant it.

At the time of his matriculation, the student also receives a lecture-book. This is arranged so as to show at a glance the number and nature of the courses which he elects, the names of the professors who give them and the amount of fees which have been paid. Next to Erken­nungskarte this lecture-book is the most important document the student possesses, for it is the only record he has of the courses he has attended, and he cannot be admitted to any examination for a degree without first surrendering it.

Its pages are divided into columns, each of which is reserved for a separate purpose. In the first one the student enters the title of each course or lecture which he desires to elect; then he takes the book to the treasurer, who designates in his column the amount of the fees payable and signs his name therein as a receipt for the same. His tuition paid, the student is now entitled to attend the courses which he has chosen. Each professor must sign his name opposite his electives, first at the beginning of the term to show that the student is enrolled in the class, and again at the end of the semester as evidence that the course has been completed. No subject can be counted towards a student's preparation for a degree which is not thus doubly attested.

Although, as a member of the university, the student is eligible to elect any of its courses, he is naturally expected to choose those for which he is best fitted by reason of his previous training, or which apply most directly to the further study of his own particular department. In this connection he is encouraged to consult freely with the professors regarding his plans and prospects and to ask their advice concerning any and all matters pertaining to his studies or his general welfare. So far as is practicable, every student thus maps out a special course adapted to his individual requirements, and pursues it independently of his associates.

For the pursuit of studies of a purely technical nature, the German polytechnic schools afford, in many cases, advantages superior to those offered by the universities. The general administration of both classes of institutions is essentially the same, but as a rule the universities offer the larger number of courses for the students to choose from. While their lectures upon scientific subjects are quite as broad and as exhaustive as those of the polytechnic schools, it is nevertheless true that for purposes of practical instruction in technical subjects, the latter possess decided advantages in the way of equipment and facilities. The university does not attempt to teach mechanics, draughting, steam engineering, machine design, technical chemistry, electrical engineering, etc., except in so far as it provides lectures upon the theoretical part of such subjects. Their practical side is the province of the polytechnicum which consequently possesses better laboratory facilities, machinery and appliances for the study of such subjects from the technical standpoint.

While it may be said, in general, that both the universities and technical schools, being under the direct control of and maintained by the government, offer the very best advantages for higher education, it is obvious that the reputation of any particular institution depends to a large extent upon its professors. Thus one university is famous for the excellent instruction which it offers in mathematics, another for physics, a third for chemistry, a fourth for medicine, and so on. Another fact which is of prime importance to students in any scientific course is, that the best laboratory assistants are almost certain to be found with the most renowned professors. It is obviously impossible for a professor having large classes, to devote to each student personally the time necessary for thorough and complete laboratory instruction. Hence this very important duty devolves upon the assistants, and it is of first consequence to the student, especially the beginner, that they should be watchful of his interests. Moreover, those professors who have gained by their researches a world wide reputation, experience but little difficulty in securing for their laboratories, their collections and their departments, the latest and most extensive appliances and improvements for the prosecution of their own studies and those of the students under their charge—advantages which any worker in scientific subjects, will readily appreciate.

The expenses of a student in Germany are much less than in England or America. The university charges are not assessed at so much for a term or year, independently of the studies which a student pursues, but each course has its
own established fee, hence the tuition may be more or less, according to the number of courses elected and the character of the work involved. Laboratory electives are the most expensive. They cost from eighteen to twenty-five dollars each, per semester—the academic half-year. The fee in such a course includes the use of ordinary reagents and the general pieces of apparatus. Everything else required in the course, the student must provide at his own expense. Lectures in chemistry, physics and similar subjects, necessitating a greater or less amount of demonstration, cost from nine to fifteen dollars. Such courses are ordinarily held four or five times a week throughout the term. Fees for simple lecture courses without demonstration vary from two to ten dollars according to the number of hours and nature of the subject.

All courses for which fees are payable are termed "private." Besides these there are a number of "public" exercises which are open to all members of the university on payment of a nominal registration fee, amounting to twenty-five or fifty cents. "Public" lectures are generally held once a week and are designed for advanced students.

There are no dormitories connected with the German universities. The student lives wherever and however he pleases, mostly alone, very seldom with a room-mate. There is generally an abundance of accommodations, for in every university town, the large cities such as Berlin, Munich and Leipzig excepted, nearly all interest centres in the university, and students readily find lodging in the better class of families. Board, excepting breakfast, is seldom taken in the same house with lodgings. Breakfast, consisting of coffee and dry bread or rolls, is served by the student's landlady, but in most cases it is the only meal he takes in his rooms.

Good rooms, with breakfast, cost from ten dollars upward, per month. Dinner, served at noon, is generally taken in a restaurant and costs from one to two marks,—twenty-five to fifty cents. Supper is generally less expensive. Incidental living expenses vary of course with the habits and tastes of the individual.

The most striking feature of the German university system is the almost absolute freedom which it accords to the student. Practically he is responsible only to himself. Attendance upon all exercises is purely voluntary. Recitations and quizzes are unknown, and the use of a special text-book for any lecture or laboratory course is discouraged as much as possible. This necessitates close attention on the part of the student and renders attendance at all exercises absolutely essential to a thorough understanding of the subject. No records of absences or tardinesses are kept, but every student is expected to find out when and where his courses are held and attend them regularly. If he fails to do so, it is solely his own loss.

Although this plan may not be the one for lazy and idle men, it certainly does produce the best of results with those who come to the university with a purpose and who give their time to their studies. In many cases it fails to work well by reason of the youth and inexperience of the student. Young men, however, who have advanced so far as to have graduated from our Institute, are in just the position to appreciate the advantages of such a system and to turn them to good account. The pursuit of technical courses with their exacting subjects, necessitating hard study and close attention, have taught our students two very valuable lessons, methodical habits and the power of close application. For one who has passed through such a preliminary training, a subsequent course of liberal study followed up under the conditions which obtain at the German universities and polytechnic schools cannot fail to be productive of very great benefit. The acquisition of fresh information pertaining to one's chosen subject and the attainment of a higher degree of mechanical skill and proficiency, the natural results of experience with new methods, instruments and surroundings, are in themselves most excellent things; but they are of secondary importance to the general spirit of independent, original research and self-reliance, which is the greatest product of the German system. Its universities and polytechnic schools possess a distinct advantage over most other educational institutions,—they teach their students how to study. Every man is, to all intents and purposes, a special student, his courses are planned and arranged according to his proficiency, his ability and his final purpose in life. There is practically no class-work, hence the bright men are not kept back by the dull ones or compelled to proceed at the same rate as they. There is, therefore, every incentive to conscientious work and faithful study to complete the subject in hand as speedily as possible and go forward to something higher. The importance of thoroughness is impressed at every step. Carelessness and superficiality are not tolerated for a moment. Nothing is taken for granted, everything must be tried, proven and tested, and the truth alone accepted.

The atmosphere of such surroundings, the magnificent results of the system abounding all about him arouse the student's ambitions and stimulate his energies. He realizes that this is the system which teaches him to think for himself. Little by little it draws him outside
the narrow limits of text-books and the confines of his own particular laboratory or workroom, sends him to original sources for information, prompts the discussion of new and fresh methods of study and work, and encourages in every possible manner originality and progress. He finds himself rapidly becoming less a machine and more an independent thinker. His associations and surroundings broaden his views, develop his resources and teach him to look at things from more than a single standpoint; all of which must inevitably contribute to make him a better man, a better citizen, and a more complete master of his profession.

GEORGE D. MOORE.

APRIL 30th, 1892.

A TRIBUTE TO DR. SMITH.

We received a few days ago the following letter which speaks for itself. It is a very fine tribute to the worth and influence of Dr. Smith, and one which every student and alumnus will do well to read and consider:

EDGE MOOR, May 14th, 1891.

DEAR SIR:—In your editorial of May 12th, upon the late Prof. Smith, are the words: "I would teach you so as to merit your good opinion ten years hence rather than your favor to-day."

How forcibly the truth of that statement, as applied to him, comes home to many a student and graduate to-day!

Whatever may have been the opinions voiced by the students in moments of thoughtless rebellion against a fancied imposition; at heart they felt that he was right. It makes very little difference what the lessons, whether they are History and German to be forgotten, or scientific rules and problems to unlearn later, the habits formed and discipline given are what remain, and exert their influence in later life. The students could not escape, and will not, the personality of Prof. Smith.

I do not believe it possible for any one to be associated with such a man without receiving a lasting benefit. In the ten years I have been away from the Institute, the influence exerted by him has never left me and never will.

I would not exchange what I gained in his room for all the other courses combined, and I do not say this to the disparagement of the others, but I do know that many of us owe very, very much to Prof. Smith.

Respectfully, C. H. WRIGHT.

NOTICES.

We have found heretofore, a great number of coming church socials, etc., to chronicle in this column. It has now, however, reached the end of the distinctively social season, although winter seems loth to leave us. However, out-of-door sports are in order, and we have still an attractive list of several different kinds. Here is the calendar.

May 27, Friday, 2 P. M., W. H. S. Field Sports, Worcester Oval.
Festival Rehearsal, Y. M. C. A. hall.
" 28, Saturday, Base-ball, W. P. I. vs. Wesleyan Academy at Wilbraham, P. M.
" 30 and 31, Monday and Tuesday, Grand Bicycle Tournament at Fair Grounds.
" 31, Tuesday, Entertainment by Hope Church at Y. M. C. A. hall.
June 4, Saturday, Base Ball, W. P. I. vs. Brown Freshmen, Worcester Oval.
" 6, Monday, School English Speech, benefit Nellie Delaney, Horticultural hall.

The following is the order of examinations for the coming semi-annuals:

June 1, Senior chemists—Advanced chemistry.
" 3, " Chemical Philosophy.
" 4, Seniors, Mechanics and Organic Chemistry.
" 6, Seniors, Geology—Middlers, German—Juniors, Physics.
" 7, Middlers, Physics—Juniors, German.
" 8, Middlers, Metallurgy and Steam Engineering—Juniors, Geometry.
" 9, Middlers, Calculus—Juniors, Chemistry—Apprentices, Algebra.
" 10, Middlers, Mineralogy—Juniors, Algebra—Apprentices, Geometry.
" 11, Juniors, Des. Geometry.

RECEPTION TO THE HISTORICAL CLUB.

The members of the Society upon invitation, spent a most enjoyable evening on Friday, May 20th, at the new and pretty home of Prof. and Mrs. Cutler on Lancaster street.

In addition to the members who were present, there were a few invited guests: Dr. and Mrs. H. T. Fuller, Prof. Conant, Mr. Coombs and Mr. Beals, Miss Coombs, Miss Baker, Miss Church, Miss Stevens, and Miss Emily Smith.

After a short period of social intercourse a chord on the piano called the company to silence and Prof. Cutler spoke a few graceful words of welcome and reviewed briefly the idea of the Club, and then introduced President Baker whom he had requested to read a paper on "John’s Quarrel with Pope Innocent III." The paper received a well-deserved round of applause.
Miss Leland, a sister of Mrs. Cutler, rendered a violin solo very prettily, being accompanied by Miss Stevens. "The Bard," a poem written by Thomas Gray and replete with allusions concerning the Edwards and their period of English History was read by Nathan Heard, and Miss Leland again delighted the company with her violin playing.

After Mr. Baker's paper, Prof. Cutler led the way to the dining-room where ice-cream and cake were served by Rebboli.

The remainder of the evening was spent socially and in looking over a valuable and very interesting collection of photographs of European art and other subjects.

The work of the Club for the year was finished a few weeks ago but for some time Prof. Cutler has been desirous of meeting the members at his home and so took this opportunity to close the season's work in this pleasant and yet informal manner.

It is very agreeable to the students to thus meet the professors in their homes occasionally and it serves to strengthen the bonds which hold student and teacher together. Prof. and Mrs. Cutler are to be congratulated upon the manner in which the whole affair passed off, and when those who had enjoyed their hospitality bade them adieu they did so feeling that the occasion would long be remembered as a red letter day in the Club's history.

A '92 THESIS WINS A PRIZE.

Mr. Eugene L. Mundin of the Senior class chose for his thesis subject, "The Construction and Maintenance of Highways." After he had partially completed it, he noticed the offer of the Pope Manufacturing Co., of Boston for the best published essay on good roads.

The prizes offered were one hundred Volunteer Columbia bicycles, one for each State in the Union and the District of Columbia, the remainder according to population.

The essays presented must have been previously published in a paper or magazine, the standing and reputation of which would effect the award which otherwise was based on the general adaptability to the subject, the practical value of the suggestions, the evidences of study given to the question and the style and clearness of diction. Competition closed May 1st, and the names of the successful authors will appear in "Good Roads" for June.

Mr. Mundin sent his composition to the Engineering and Mining Journal and it was accepted and published, which in itself is no small honor. He then submitted a copy of the Journal to the Pope Manufacturing Co., and recently received a notice from them stating that he was one of the successful men and asking directions about shipping the wheel.

The whole affair reflects great credit on Mr. Mundin and his work and study on his subject. His essay contained about twenty-five hundred words and treated the general subject of the construction, maintenance and economy of roads. With the addition of a short historical sketch it will constitute his graduating thesis. Mr. Mundin has the congratulations of all his friends at the Institute.

L'EXPOSE!

What the Socialists' Book Will Contain.

Under the above title, the Socialists of '92, will issue a pleasing souvenir of their life at the W. P. I. Just how far the book ought to live up to its name is probably a question on which there will be difference of opinion, as well as on the character of the exposition. We are sure, however, that the constitution of the managing board is sufficient guarantee that while interesting and readable, the book will contain nothing that ought in strictness to be excluded.

The book will be of a different shape from "Aftermath," opening the short way of the page. The cover will be a handsome dark red. There will be at least nine full page half-tone engravings as well as many title letters, head and tail pieces, etc. The bulk of the engraving has been done by the Franklin Engraving Co., Boston, and as far as the proofs have been seen is excellent.

The various underclasses have been polished off with "grinds," of greater or less severity, while '92 is shown conclusively to be the best class in the universe (just like every other). Socialistic merry makings, various incidents in '92's career and honorable mention of the Faculty will fill out the book.

This is to be an "Edition de Luxe" so that we advise all who wish to possess a treasure to leave their orders with the managing board at once; of this board M. J. Lyden is Editor-in-Chief, and H. M. Southgate, Business Manager. The price will be one dollar.

F. S. Blanchard, Front street, is to do the publishing, and this, together with the facts that most of the engravings are now done, and the "copy" nearly all written, assures the appearance of the book on schedule time.

We are indebted to the editor of the book for his courtesy in extending to us the list of theses in another column.
'92's THESIS.

We here present a list of Thesis subjects and drawings which have been chosen by the various members of the Class of '92 as opportunities for a display of the skill and knowledge which they have acquired at the Institute. Many of the subjects must possess great and timely interest, and the theses will be a valuable addition to the library of the Institute. The list is:

**Department of Chemistry.**

(No Drawing Required.)

W. F. Burleigh.—Analysis of Emery and Corundum.
F. W. Cheney.—Takes a post-graduate course; thesis next year.
A. E. Culley.—Testing of Iron Ores for Arsenic.
F. A. Morse.—The Commercial Analysis of Quick-Lime.
E. L. Smith.—New Method of separating Nickel and Zinc.

**Department of Civil Engineering.**

(Subject followed by Drawing in each case.)

G. D. Ball.—Review of the Marlboro’ Sewage System.—Hydraulic Crane.
R. N. Clark.—Comparative Test of Cements.—National Rock and Ore Breaker.
M. W. Grimes.—Investigation of Truss No. 11 of the Ogden Ave. Viaduct, Chicago.—Isometrical View of a Road Bed for a Cable Car.
F. E. Hammond.—Irrigation of Arable Lands.—Sectional View Wolf Rock Light-house.
F. B. Knight, J.—Design of an Iron Highway Bridge to replace Causeway at Lake Quinsig- mond.—Knight's Drawing—Elevation and Section of Caisson for Platts-mouth, Neb., Bridge.—Wallace's Drawing—Design of a Shaft for an Aqueduct under Pressure.
M. J. Lyden.—Design of Spandrel Wall and Abutment of a Masonry Arch.—Brooklyn Water Works Extension.
A. H. Smith.—Determination of Stresses in a Segmental Arch.—Setting of Hercules Turbine.
R. H. Thompson.—Determination of the Elastic Deflection of a Truss by the Method of Virtual Velocities.—Holyoke Turbine.

**Department of Mechanical Engineering.**

C. E. Alderman.—Design for a Shaft Governor.—Head Stock for Reed Lathe.
J. F. Bartlett.—Friction in the Triple Expansion Engine.—Metal Drawing Machine.
H. W. Bracken.—Belt Testing.—Wheeler Condenser.
F. W. Collier.—Atkinson Gas Engine.—Compound Fly Wheel.
G. H. Day.—Test of a Hine Eliminator.—Buckeye Engine.
F. W. Eastman.—Comparative Boiler Tests.—Head Stock Pease Lathe.
E. H. Fish.—Cylinder Ratio in Compound Engines.—Boring Mill.
G. F. Freed.—Comparative Boiler Tests.—Ida Compound Engine.
E. W. Howard.—Motor Tests.—Upright Corliss Engine.
G. H. Miller.—Effect of Compression in Engine Economy.—Triple Marine Engine.
A. B. Moulton.—Comparison of Voltmeters.—Double Tandem Compound Engine.
C. A. Needham.—Drop Forgings.—Compound Engine.
W. Nelson.—Tensile Strength of Belts.—Clamp for Testing Belts.
A. A. Pelton.—Thermal Conductivity Brass.—Locomotive.
C. O. Smith.—Absorption Dynamometer.—Absorption Dynamometer.
L. C. Smith.—Drop in Compound Engines.—American High Speed Engine.
H. M. Southgate.—Belt Testing.—Motion Drawing of the Atkinson Gas Engine.
C. A. Tucker.—Method of Taking Indicator Cards on a Triple Expansion Engine.—Cafetamis Petroleum Motor.
OUR SPRING FIELD-SPORTS.

The weather on May 14th was perfect and everything else seemed to favor a successful field-day. The crowd was very enthusiastic and the offer of a banner to the class scoring the most points caused a great deal of class interest to be shown.

The mascots were all there; '92's bottle and '93's goat's head. '94 had a young darky dressed in orange colored clothes to represent Orange and Black, and '95 had great fun with a guinea hen.

All of the class cheers were used. '94's rendering of numbers 4 and 6 being especially noticeable. It is said that the roof of the grand-stand was seen to rise several times. The interest in the games, however, was so great that this was not generally noticed.


Three Institute records were broken.

Brigham put the shot 33 feet, old record, 31 feet, 5½ inches, and threw the hammer 76 feet, old record, 72 feet, 6 inches. Derby beat the old record by seven-eighths of an inch, clearing 9 feet, 6½ inches, in the pole vault. Morgan went one-half an inch above the record in the running high-jump, clearing 5 feet, 3 inches; but this was after the competition and may not be allowed by the directors.

The following is a summary of the events:—


880-yard run—Whipple, '94, 2 minutes, 17 sec. Harris, '94; Freed, '92.

One-mile walk—Butterfield, '93, 10 minutes, 1 sec. Smith, '95.


FIELD EVENTS.

Pole vault—Derby, '93, 9 ft. 6½ in.; Fish, '92, 8 ft. 8½ in.; Leland, '95, 8 ft.

Putting shot—Brigham, '95, 33 ft.; Leland, '95, 32 ft. 1½ in.; Derby, '93, 29 ft. 10 in.

Standing broad-jump—Proctor, '94, 9 ft. 5 in.; Fish, '92, 9 ft. 3 in.; Morse, '92, 9 ft. ½ in.

Running high-jump—Whipple, '94, 5 ft. 1½ in.; Morgan, 5 ft. 1 in.; Fish, '92, 5 ft.

Throwing hammer—Brigham, '95, 76 ft.; Proctor, '94, 67 ft. 4½ in.; Morse, '92, 63 ft. 7½ in.

Standing high-jump—Fish, '92, 4 ft. 7 in.; Derby, '93, 4 ft. 6 in.; Southgate, '92, 4 ft. 3 in.


Tug-of-war—'93, Parks, Andrews, Wright, Rogers (anchor), first. '92, Ball, Southgate, Alderman, Bartlett (anchor), second. '94, Hale, Killam, Nye, Fuller (anchor), third.

The number of points won by the several classes were as follows; '94, 62; '93, 61; '92, 45; '95, 27; thus giving the banner to '94 by one point. Some '93 men thought their class was entitled to it, because Morgan, special, really should have taken first in the running high jump, thus putting '93 one point in the lead. There is no doubt they had a good case, morally if not legally, because each man is supposed to do the best he can in the contests, and this Morgan did not do. It is peculiar to say the least, for a man beating a record and jumping five inches higher than his competitors to be given second prize.

The Middlers, however, after a discussion, voted unanimously not to protest, as a banner gained on a technicality was not to be desired. The two classes proved themselves to be very evenly matched, and the good showing of '95 gives promise of some splendid and exciting games next year. The grounds were in splendid condition and the grandstand was well filled with friends of the students. It seemed to show that the fates were propitious to the Association, for although it rained for the two or three days immediately preceding and following the sports, that afternoon it was pleasant.
**AGAIN FOURTH PLACE.**

**Result of the Games at Springfield.**

After nearly a week of almost constant rain, the clouds cleared away and Wednesday afternoon was pleasant at Springfield's beautiful Hampden Park. A strong wind from the west was blowing, which tended to keep down the records in the runs, but did not trouble the occupants of the grand-stand or affect the field events.

The evening before, the hotels were crowded with students and athletes from the more distant places, and Wednesday morning's trains came loaded with enthusiastic collegians, Worcester's contingent arriving at a little after 12. The team took dinner at the Massasoit House, and at a few minutes past one o'clock was driven in hacks to the grounds. It included Fish, Derby, Dyer, Baker, Proctor, Gallagher, Whipple, Magaw, Morgan, Stone, Brigham and Dadmun. The last however did not run in anything, and although a tug-of-war team was entered, the men were not sent up as it was thought impracticable. Bartlett, '92, was Manager.

The Techs occupied the first section of the grand-stand; Dartmouth was next and beyond, almost the whole of Amherst College. The track events were held on the straight-away and half-mile track, and the field events on the mile directly in front of the grand-stand. All the officers of the day were from the Manhattan Athletic Club and Springfield Bicycle Club, the latter having entire charge of the arrangements for the meet. The tracks were in good condition, and the facilities for everything but the running broad jump and pole vault, excellent. In the former the men had to run through tall grass, and in the latter, the landing was upon a pile of shavings covered with bagging. This was all because the track could not be spaded up.

The grand-stand was partly filled with a crowd of about twenty-five hundred people, many of them lovely girls from Smith. The young lady editors of the *Mt. Holyoke* also were present in a bus, having driven from South Hadley. Soon after two o'clock the sports began and dragged along until about six.

The first event, the 100 yards, was run in four heats. In the first there were eight starters who had a close and exciting struggle up to the 70-yard mark, when Weeks of Brown broke away and won in 10 3/5, followed closely by Welton of Dartmouth.

The second heat also had eight starters and was very close and exciting. Ewing of Amherst, won in 10 3/5, with Strong of Trinity, second.

In the third heat was Stone, of W. P. I. for whom, however, the pace was too hot. This heat was the most exciting of all. Beeman of Wesleyan, and Allen of Williams, tied for first, with Lee of Williams second. Time 10 3/5.

The fourth heat went to Hale of Dartmouth in 10 3/5, with Brooks, A., second.

In the finals which took place after the 440, there were seven starters, consisting of first and second men in the trial heats. Weeks and Brooks ran a dead heat, with Hale second. In running off, Weeks won by a yard in a very pretty race. This gave Brooks second. Week's time 10 3/5, equal to the record.

Twelve men entered in the half-mile, among them Whipple W. P. I., Gallagher not coming to the scratch. There was a bad start, the pistol being fired while some of the men were walking up to the scratch, and without warning. Jackson, Amherst's colored runner, sprang to the front, was never headed, and finished a winner by 5 yards. Price, D., was second. Whipple was fourth, a disappointment to the Techs, who were confident of a second. Jackson seemed to think the more time he took the better, and took 2 min. 55 1/2 sec.

The first heat in the 120 hurdle was won by Ludington, A., 17 3/5, with Potter, D., second. The second was closer and more exciting, and won by Russell, A., in 17 2/5, with Lyon, A., and Briggs, Wes., tied for second.

The final heat was run after the mile and was easily won by Russell, A., in 17 2/5, with Briggs, Wes., second, and Potter, third.

In the quarter-mile, Dyer ran a plucky race and if he had been in shape might have finished second. As it was, Shattuck, A., took first, Marvel, B., second. Here again the start was poor, and the time was 53 3/5 sec.

Gallagher was one of the twelve starters in the mile run, but showed miscalculation in allowing himself to get so far behind as to make a spurt useless. Bugbee, D., had the lead at the home stretch but was passed within a few yards of the tape by Jarvis, Wes., who won in 4 min. 39 3/5 sec. Bugbee was second.

Magaw was among the starters in the two-mile bicycle, of whom there were seven, Noyes, A., led until the last lap and was then passed by Pratt, A., who won in 6 min. 22 3/5 sec., beating the record, which was 6 min. 51 sec. Noyes was second, and Magaw, third.

There were two trial heats in the 220-yard hurdle. In the first, Ide, D., was a winner from the start. Time 26 3/5 s., Lyon, D., was second, and a full hurdle behind.

In the second heat Potter of Dartmouth, might have won but mistook the finish. Briggs, Wes., was first in 27 3/5 s., and Potter, second.

The final was run after the mile walk and
was won by Ide in 26 s., breaking the record by \( \frac{3}{8} \) s. Potter was second and Briggs, third.

The 220-yard dash was run in two heats in which Strong, T., and Shattuck, A., were winners, and Ewing, A., and Allen, Wil., took second place. The final, the last track event on the program, was won by Ide, D., in 22\( \frac{3}{8} \) s., breaking the record, which before was 22\( \frac{3}{4} \) s.

The mile walk was taken of course by Gregg, who held the lead after the first quarter. His time was 7 min. 20 s., 3 s., more than his best. Goldburg, Wil., sprinted along second to within 100 yards of the finish, when he was passed by Brownell, B. The judges had a pleasant drive around in the track during this event.

Sixteen men entered the two-mile run, among them, Baker, W. P. I. Russell, A., won in 11 min. 33\( \frac{3}{8} \) s., and Baker was second. Baker's work was a surprise and delight to his Tech friends who made the old grand-stand ring with the "P. 1." and "Folly Wolly."

**Field Events.**

In the pole vault there were four contestants. Smith, Wes., dropped out before the 10' was reached. Derby did 10', 3" and then failed on 10', 6". Ewing, A., and Towne, Wil., did 10', 6" and 10', 9" respectively. Ewing turned his ankle at 10', 6" or he might have jumped the greater height. 10', 9" is \( \frac{3}{4} \) better than the Am. Intercollegiate record and only 8" behind the world's record. It is interesting to note that Marshall, W. P. I. '89, took first in this event three or four years ago with 8', 8".

Out of a field of about twelve in the standing broad-jump the finals narrowed down to Proctor, W. P. I., and Baker, D. These two finished in the order named with records as follows: 9', 9\( \frac{1}{8} \); 9', 9\( \frac{3}{8} \). Brigham was in the shot contest but fell out at 33', 6". Alexander, A., broke his record of 37', 4\( \frac{1}{4} \), by 11". Newton, Wes., 2d, and Scott, A., 3d.

Morgan and Whipple were entered in the running high, but only Morgan competed. He dropped out after doing 5', 2". First, Abbott, D., 5', 9" breaking the record 1"; second, Macomber, B. The tug-of-war was a farce. Williams won in 1m. 38s. by 6\( \frac{1}{4} \), Dartmouth going to pieces. Brigham had the hammer throw, but lost it by thoughtlessly stepping out of the ring to pick up his hat. His throw was 91', 6". Ellis, B., and Abbott, D., were first and second; distance, 91', 5". Fish won the standing high by 4', 7"; Hale, Wes., second. Culley was not good for 20' in the running broad which went to Welton and Potter, D.; distance, 20ft. 5\( \frac{1}{2} \)in.

Amherst having taken seven first prizes was awarded the pennant. Dartmouth came second with three firsts. Brown third with two firsts and three seconds, Worcester fourth with two firsts and one second, and Williams fifth with two firsts. Wesleyan took one first.

**Worchester was most decidedly unlucky all around.** If Smith had not been hurt, we could probably have taken the two-mile because he has beaten the time made. If Brigham had known about the rule and had not stepped out of the ring to pick up his hat, his throw of 91', 6" would have counted and given another first. In the quarter-mile, Dyer was badly spiked in the ankle on his way to the start by another contestant, and in the bicycle Magaw who was told to dog number 15, dogged 150, a fold covering the zero, and thereby took the zero. If Gallagher had not miscalculated in the mile, and if Dadmun had been in trim, we would have had second place.

In the pole vault, Derby broke the Institute record made by himself, by five inches, and under ordinary circumstances would have stood a good chance for first, but with two such men against him as Ewing and Towne, was at a disadvantage to say the least.

**N. E. I. A. A. CONVENTION.**

Considers Amendments to Constitution and Divides Profits.

The night before the Sports in Springfield, a meeting of the N. E. I. A. A. was held at the Massasoit House to consider certain amendments to the Constitution. The chairman of the sub-committee having in charge the re-drafting of the Constitution, recommended that another committee of three be appointed from members of the Junior classes represented, and that this committee give more time to the subject, conferring with the different colleges and reporting sometime next winter. This report was adopted, and then the delegates proceeded to discuss the different points brought up merely to get an expression of opinion. The principal ones were as to what should constitute an amateur, whether or not the I. C. A. A. rule in this matter should govern the Association. In regard to the method of dividing up the spoils, several ideas were advanced. Some for equal division, others for division in proportion to entries, and a Brown delegate argued that they should be divided in proportion to distance the teams had to be sent.

It was voted later in the evening to this year divide equally, all funds over $200 remaining in the treasury after the games. As there was already about $600 on hand, Wednesday's sports will increase this so as to give a division of something like $100 apiece.
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CLEVELAND ALUMNI.

At a meeting of the resident graduates of Worcester Polytechnic, a permanent organization was effected to be known as The Worcester Polytechnic Alumni Association, of Cleveland, Ohio.

It is proposed to issue invitations to the alumni generally, hoping thereby to bring together as many as possible two days prior to the Commencement at Worcester.

It is hoped that some who cannot be present at Worcester, may find it possible to meet with us and many en route may be induced to drop off and condole with us who are debarred the pleasure of accompanying them, as well as to be the bearers of our good wishes to our alma mater.

The following named gentlemen constitute the reception committee, and communications to each and all are solicited:—Mr. John E. Oliver, '82, No. 1 Water street; Mr. Willard Fuller, '84, Union Rolling Mill Co.; Mr. Jang Landsing, '87, 1253 Curtis ave.; Mr. Windsor T. White, '90, White Sewing Machine Co.

ALUMNI.

'70. Winthrop W. Fisk who has for some time been engaged in Assaying and Mining Engineering at Juneau, Alaska, is at present in Boston on business and will probably visit Worcester before returning home.

'88. Geo. E. Camp has removed from West Bergen, N. J., to Worcester and will for the present look after Spaulding, Jennings & Co.'s interests in this region.

TECHNICALITIES.

The Middlers concede that '94 made a good point when it took the banner.

It is rumored that among other Worcester scholars, Doctor Fuller has received an offer from Chicago University.

Among recent additions to the shop excuse-books are the following:—"I overslept myself." "Went to Lynn on my thesis."

The story which recently has been circulating, to the effect that someone is to erect dormitories for the Institute in the near future, is like the dormitories themselves—without foundation.

Messrs. W. L. Ames, '82, C. D. Parker, '79, and C. E. Alger, '76, have been appointed examiners for the thesis readings of '92, next month, two having already accepted. The alternates are, A. D. Risteen, '85, A. L. Chase, '77, and E. I. Dallet, '81.

A coincidence in German. The translation said, "his body was packed in lime (Kale) to hasten decomposition." Middler wishes to know if the meaning would not remain the same
were it translated, “his body was packed in calc to hasten disintegration.”

The following books have been added to the library:

Twenty Years with Calé, or How We Do It; by J. E. S-nel-r, Ph.D. Cloth, $2.50.

Ten Minutes with the Indicator, or Card Etiquette; by A. L. Sm-th, S.B. Paper, 10c.

Funny Man's Handbook, or 1000 Old Jokes; by C. W. D. Dy-r, Endman. Half Hose, $1.00.

The Y. W. C. A. tennis courts on the grounds at the corner of Highland and West streets are nearly completed. A small clubhouse has been erected on the east side of the lot, facing the west, and about midway of the grounds used by the club. The tennis courts will occupy the north side while the south end is to be used for croquet. The grounds will be entirely surrounded by a wire fence.

Thursday and Friday afternoons of last week foreman Badger, of the wood-room, of the Washburn Shops, with a division of his Apprentice class, paid a visit to Knowles Loom Works at New Worcester. There through the kindness of the managers they were provided with escorts and given an opportunity to inspect the entire works from the foundry to the sample room, where the completed machines were in operation. All who availed themselves of this opportunity could not help feeling that the afternoon had been profitably spent.

A correspondent to the American Machinist gives an account of the trip of the eastern party on its way to the meeting of the American Society at San Francisco. Among other things is the program of an entertainment given impromptu in the Pullman car “Corinthia,” Saturday evening May 7th, while going at a rate of 60 miles per hour, and in which the second selection is a song by the “A. S. M. E. quartette” consisting of Mme. Higgins, Mlle. Stearns, Mons. Mutton and Smith. The writer also says “to which should be added an original poem of great merit, describing the journey, and written at short notice by Mrs. Higgins.”

One week ago last Monday was the fifth anniversary of the marriage of Mr. Fred E. Knight, the genial bookkeeper at the shop. This his numerous friends remembered, when a large party of them, including journeymen from the shop and quite a delegation of students, gathered at Lincoln Sq. and proceeded to his house on Burucoat street at about half-past seven that evening. Here they made themselves at home, taking their victim by complete surprise. The general sociability was momentarily interrupted by Mr. Cole, who, in behalf of his friends in the shop and of the Middlers and Juniors, presented Mr. Knight with a handsome roll-top desk and revolving chair, while outside friends left him a fine clock and stand. Mr. Knight, despite his natural bashfulness, found words to very pleasantly express his thanks. The remainder of the evening was spent in a general good time, ice-cream and cake assisting.

The paper which G. I. Rockwood, '88, recently read before the W. M. E. Society, and from which we were unable to obtain extracts has been under discussion by the American Society at San Francisco, and appears in the current number of Power. It gives the results of a series of tests upon a Wheelock engine which were made by Mr. Rockwood and S. M. Greene, '85, and goes to prove that an engine with two cylinders is more economical than one with more. The Wheelock Engine Company has adopted his system and claims a saving of at least 15% of fuel. Engineering News has the following comment upon it:

“The paper, however, confines itself to the results of the tests, with the description of the very peculiar engine on which they were made, and does not attempt to expound the author’s opinions. Whatever conclusion may be reached as to the author’s somewhat revolutionary theory, the fact that from an engine developing 178 to 200 H. P. he obtained a horse power with only 12.16 to 12.06 lbs. of dry steam (142 lbs. pressure) indicates that he knows something about engine designing.”

The editors of the W P I are just now engaged in the compilation of a reference book which will be found of great use to the average Tech. There is no question that students here are wofully pressed for time, and any device by which a little can be saved, is of inestimable value. With this thought in mind the book has been designed. The little volume which is to be bound pocket-size with flexible cover, will contain 1000 good excuses for absence and tardiness. Before each will be several signs which, on comparison with a table of abbreviations at the beginning, will explain by what professors and under what conditions that particular excuse will be accepted, and also how many times a term it is advisable to use it. The neatest part of the arrangement is that each excuse will be numbered. The Faculty having received complimentary copies, the delinquent student will merely have to enter in the excuse-book the date, and number of the excuse he wishes to offer, thereby saving much valuable time. It will also save much inventive mental energy and in every way will fill a long felt want. Contributions of original excuses from the alumni will be thankfully received by the editors.
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