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We suppose it would not be consistent with the policy of this paper to let the new rules of the Faculty go by without comment. Concerning the rule about publications, we can readily see the motives which originated it. The belief that the rule was made in reference to the *WPI* is a false one, as we believed from the first, and which we were afterward given to understand. As the matter now stands, however, the rule applies to this paper as much as to anything else, although there is no probability of its enforcement in regard to us. The chief point, then, at which the rule was directed, is the class book, which is each year the product of the labor of the Senior class.

These books have, the past three years, contained allusions to the Faculty and professors which have been deemed, by them, disrespectful and harmful to the interests of the Institute. The rule, then, is made to obtain protection to them by looking over the proof-sheets of the publication and taking action accordingly.

The student, in completing the course at the Institute, has, during the years of study here, contracted each one his special dislikes, and each one his special favoritisms, among the trainers of his intellect. And it comes to pass that every professor is disliked by some one, and, in the end, that some one, with a revengful spirit of the average student, wants to get even in the class book. And now, by making the Faculty the virtual editors of the book, this little privilege is to be denied him. We agree with the Faculty that, the editors of books in the past have gone to excess with this expression of opinion. We can readily imagine the feelings of the Faculty, when we think of the circulation of these books and who reads them.

But that former classes have committed offences, is no reason why later classes should be made to atone for it. Because former classes have produced books which were disrespectful in any way to any one, it is not conclusive evidence that the class of '94 is to do the same. The class book is the book in which the student takes the most pride, for it contains the story of his doings in the Institute, the successes and defeats which his class has undergone. It is the book to which he turns in after life and which brings back the most happy memories of school life. And then to think, that the editor must submit the proof-sheets to the inspection of others, to be changed or revised at their will, brings out their indignation and independence in opposition.

It stands to reason that the class of '94, in making plans to issue the book in April, two months before the close of school, in-
tended to have the book free from anything for which they would be punishable. That they should leave two months to the Faculty and Trustees to discuss the book and punishments, if anything was found liable to punishment, is, in itself, complete evidence that everything was to be legitimate. Thus the feelings of the editors can be well imagined.

It seems to us, then, that those classes which have given offence, should have been punished in some way which would tend to keep others from committing the same offence. Then by establishing a precedent the editors of books will know just what to expect and will govern themselves accordingly.

With regard to the WPI, we can say that the only time, to our knowledge, which we have overstepped the bounds of propriety, received extreme punishment. With this and our own sense of justice and respectability in mind, we have always endeavored to free the columns of this paper from objectionable matter.

Concerning the rule about Athletic organizations, we are of the opinion that it was made in good faith, "to protect the students." The rule, as is well known, is the result of the debt of the base-ball association. This debt was contracted in the spring of '92, when the manager of the base-ball team, seeing that a first-rate team could be put into the field, proceeded to outfit the team in a first-class manner. This outfit, it was supposed, would enable teams for several years to exist without extra expense in that line. The debt, however, it was expected, would be paid in two years—half in the year '92 and the rest in '93. At the end of the season in '92, no report was received from the manager, and it is yet a conundrum why no money was paid. In the season of '93, sufficient money was subscribed to pay part of the debt, but this money was not all collected, and not even enough money to pay the expenses of the season was obtained. The manager, this year, made a mistake in engaging games for which he would have to give large guarantees without much prospect of any return.

Yet, if all the money subscribed had been collected, there is no doubt but that the season would have closed successfully from a financial standpoint. The manager, therefore, we should not blame, for we have good authority for saying that he went into his own pocket considerably, in order that the debt of the Association might not be increased.

In fact, he took the management of the team for the express purpose, and with a firm determination to pull the Association out of debt. But other forces were at work against him and he was unable to give the attention he desired to base-ball. So let us not censure in the least the manager of last year, but rather commend him for his good intentions, even though he failed to carry them out.

Again, as the year before, no report was submitted to the Association, as the manager being a Senior, the end of the year was the end of school for him. By receiving a report from the managers of teams whenever it is desired—as is required by the new rule—a knowledge of the state of affairs will be obtained and suggestions and remedies made if needed.

Another aid to better results of management, it is thought, would be to have the manager of the base-ball team come from the Junior class. The Seniors in the spring have their hands full with graduation plans, without undertaking the management of a team. A Junior, on the other hand, is less occupied, and is very likely to be in the school the next year to render an account of his doings if he cannot find time to do so at
the end of the preceding year. Concerning the respective efficiencies of Seniors and Juniors, there should, of course, be no difference, for there are likely to be individuals in both classes who would have a natural aptitude for such work.

There seems to be a natural inclination among the Athletic Directors of the three lower classes to be among the missing at the times when meetings are desired. We admit that the hour plan may affect some, but on no day is it necessary for more than one class to be present at the Institute at one o'clock. Hence, it cannot affect more than two members of the Board of Directors at any time, and although there may be other causes of absence, it seems to be a remarkable coincidence that so many should be unable to be present so many times. If the Directors do not take enough interest to attend meetings they should not have accepted the office, for, instead of promoting the athletics of the Tech—the duty for which they were elected—they are seriously retarding the workings of the Association.

Classes should take care that they elect to this office men who will bear in mind the full responsibility which is laid upon them. They need not necessarily be athletes; they should be men who have followed up athletics to some extent, and who have a good stock of common sense to go along with it. Not that any of the present board are lacking in these qualities—we merely state this to dispel the old illusion, as there seems still to be one, that athletes, merely on their ability as athletes, should be given the office of athletic directors.

W. M. E. S.

The Washburn Mechanical Engineering Society held a meeting Monday evening, Dec. 11. Meeting called to order by President Burdick, and after the reading of the minutes of the previous meeting by Secretary Alden, the following names were proposed and admitted to membership:

- M. C. Allen, '94
- F. E. Killam, '94
- Edwin H. Marble
- F. M. Martin, '95
- C. A. Harrington, '95
- F. E. Wellington, '95
- H. L. Abbott, '95
- C. W. Barton, '95
- H. W. Leland, '95
- A. W. Howe, '95
- A. W. Clement, '95

As Mr. A. B. Upham was absent, his paper was read by the secretary. This paper was ready for the last meeting but, owing to some irregularity in the mail, Prof. Alden did not get it until this week. After the reading of this interesting paper, Mr. Chase presented his paper on “Drawing and Pattern Records” and how complete a record it pays to keep. This paper was discussed by Messrs. Powell, Rockwood, Watkins and others, many interesting facts being presented. Concerning this, Mr. Chase sends us the following communication:

Editor of the WPI:

In connection with your publication of the proceedings of the Dec. 11th meeting of the Washburn M. E. Society, please say that the discussion which followed my introduction of the subject of “Drawing and Pattern Records,” convinced me that I assumed rather more than the facts developed by the discussion warrant, and that the “system” side of the case needs more elaborate presentation than I could properly make in closing the discussion. I hope, however, to be able to put in evidence, in the near future, a few object lessons on the subject.

Yours very truly,

W. M. CHASE

[Owing to the delay in receiving Mr. Chase's paper, we have been unable to publish it in this issue. With apologies to all, we hope to present it in our next issue.]

The last paper of the evening, an Automatic Fire Protection of Mills, was presented by Mr. Samuel M. Green, '85. Mr. Green's paper amply demonstrated his familiarity with the subject, making it more interesting by displaying several styles of plugs and charts.

Meeting adjourned at 10 P. M. The next meeting will be held Feb. 12, 1894.

MACHINERY IN A PRINTING-OFFICE.

BY ARTEMAS BOUTELLE UPHAM, '78.

Few people realize the extent to which machinery is employed in a printing-office. To most
minds, a printing press, a paste-pot and a pair of shears comprise the sum total of the mechanical appliances made use of by a publisher. It is sometimes even insinuated that the paste-pot contains the only gray-matter consumed in the establishment.

In a large printing-office, however, this is hardly true, for the amount and variety of machinery there to be seen is a standing monument to the existence of brains somewhere beneath the roof-tree. To show the quantity and multiplicity of this machinery, I will describe that used in the publication of the Youth’s Companion.

To be logical, let us begin in the power-room. Here are two 125-H. P. Harris-Corliss engines connected to the main shaft by huge belts under the control of complicated shipping and unshipping devices. Just in front of these engines are two dynamos with an aggregate capacity of 1400 lights, for generating the electricity required in the illumination of the building. Near by are two large steam pumps which automatically refill with water the elevator tanks.

In the boiler-room adjoining, are the four boilers for supplying both power and heat, and beside them the usual feed-pump, feed-water heater, etc. Just back of the boilers is the Sturtevant blower by which fresh air is drawn from the roof and forced, duly warmed by steam pipes, through innumerable branching conduits to every part of the building.

The machinery located in the other portion of the basement is that employed in the printing. It comprises ten flat presses and six rotary presses. The flat presses print one side at a time of large sheets of paper, fed by an attendant. These were in their day considered marvels in their construction and operation, but are now cast far in the shade by their more modern rivals, the rotaries. It can still, however, be said for the former that they do finer and better work than is possible with the others. But the rotaries, with their speed, precision and economy, are the monarchs of the printing-room.

A huge roll of paper, nearly three miles in length and weighing 750 pounds, is brought forward and hoisted into place. The free end of the paper is then gummed to a sheet already in the press, a belt is shipped, there is a creak, and sheets of paper 36x46 inches in size, cut true to a hair and printed on both sides, come flying out from the press at the rate of three thousand an hour. A slowly descending shelf receives these papers in a pile steadily growing and packed with wonderful precision. Upon the six rotary presses there can be printed in a single day more than one hundred miles of paper.

The years of study and experiment, the unnumbered thousands of dollars and the many failures before a perfect working machine was finally evolved, no one now can realize. We simply see the beautifully finished presses, with a complication of parts reaching into thousands, watch their apparently sentient fingers as they so deftly and rapidly hand out the completed papers, and wonder how the mind of man can so bend to his will the dead iron and steel.

It should be here explained that in these rotary presses, the printing is done by electrotype plates suitably curved and secured to revolving cylinders. While in the flat presses the printing is done by flat electrotype plates. No printing is done upon the original type, not only because it would too soon wear out, but to enable the presses to be engaged upon duplicate work at the same time.

These electrotype plates are made by an outside concern, the qualities of carbon dust required for such work rendering it undesirable in a building having any desire for that virtue said to be next to godliness.

To form these electrotypes into the perfect cylindrical curve required, special apparatus is employed. In this, the plate is first heated almost to the point of fusion and then pressed into shape upon a properly curved steel bed. It is mainly the microscopic distortion and minute flattening of lines caused by this process which prevents the fineness of printing possible upon the flat presses.

A pile of paper printed upon both sides, but still perfectly flat, being placed upon a truck, is drawn to one of the huge freight elevators and raised to the folding-room on the third floor. In this room are the nine folding machines by which the sheets of paper are rapidly and automatically transformed from their condition of supineness to the more convenient quarto size.

These machines are of almost equal complexity with the rotary presses, each comprising thousands of separate parts and costing enough to send more than one boy through the Tech.

A load of paper placed upon the slowly rising shelf of one of these folders is automatically removed therefrom by sheet by sheet and fed into the folding mechanism proper. This feeding arrangement is a most ingenious complication of intricacies, and was the latest triumph of the wonderful men who had wrought out the folding mechanism.

The folding machine in its essence can be described as an enlarged and multiplied wringer, such as used in our laundries, with serrated steel blades for pressing the sheets between the rolls.

Many of these machines are still further com-
plied by being made to feed a cover for the paper in at the instant that the paper itself is shot into the machine at the opposite side, both coming to a standstill over a common point and being folded together. This, by the way, is our nearest approach to what is termed "inserting." Whenever the paper is to be a twelve-page instead of an eight-page issue, the extra pages are inserted by hand, numerous girls being employed for the purpose. It still remains for a bright Tech to invent some automatic machine for this purpose.

After being folded, the papers, if they have a cover, are transferred across the room to the stitching machines. These are twelve in number and operated by two girls each, one girl to arrange the papers, cover side up and open, and the other to guide each paper through the machine. In each paper, two stitches are taken, the machine tying the knots and cutting the thread in a wonderful manner.

Formerly a third girl was provided for each machine, she refolding and piling the papers as fast as they were stitched. Now, by means of a most ingenious contrivance, each paper is received, refolded, thrown into a conveyor and deposited in a pile with those from other machines. From this pile, the rapidly accumulating papers are removed and placed upon a truck, these trucks when filled are pushed along to the trimming-room.

Before passing, however, from the stitching-room I would state that a stapling machine has been recently acquired. It is an apparently simple machine and yet very efficient in its work of inserting wire staples in pamphlets and circulars.

In the trimming-room, above referred to, are located four large steam-power paper cutters for trimming the edges of the stitched papers. These are strong, ponderous machines adapted, upon a movement of the belt-shipping lever, to automatically clamp firmly in place a pile of papers put therein, and to trim their edges in a twinkling.

In this same room are the five turn-down machines. The object of these strangely named contrivances is to give the middle fold to the papers after being stitched and trimmed. These machines are not automatic like the folders previously described, but require operators to feed the papers one by one. Here is room for another ambitious inventor to devise some practical feeding arrangement for these machines.

These turn-down machines have recently had illustrated in them two diametrically opposite methods of remedying defects. In the machines was a severe pounding, sufficient to jar the entire floor, caused by a cam and its follower.

One expert attempted to obviate the difficulty by supplying a semi-elastic buffer for receiving the impact of the follower-arm. The jar was equally noticeable. A second expert tried his hand at it. He, by a little chiseling and filing, so changed the abruptness of the cam's face that the follower remained in contact therewith throughout the entire travel, and hence had no chance for pounding.

From the trimming-room, the papers are carried to the mailing-room. In this latter apartment is where the papers have printed upon their margins the names of the subscribers to whom they are to go. To do this requires ten mailing machines and more than thirty thousand dollars' worth of type. The names of the subscribers being set up in type, the type-names are placed in small iron frames called chases, some six by twenty inches in size, and having about one hundred names in a chase. These chases, the type being previously inked, are placed one at a time on the mailing machines. By means of a simple pawl and rack arrangement, the chase is intermittently fed a line at a time, while between each of the movements a narrow plunger presses firmly down upon the line of type directly beneath. Before each descent of the plunger, however, the operator slips a paper beneath it in such a manner that a name is printed on the margin of the paper.

The vast majority of the subscribers living in towns to which more than one copy of the paper is sent, the papers are forwarded to the postmaster in bulk, he opening the bundle and distributing its contents to the names printed on the margins. It is hence unnecessary to print more than the name and street, or P. O. box, on each paper, the town name being printed on the wrappers only. For this reason, the names are placed in the chases in groups, each group followed by their town-name. This seems simple, and yet it means hard work. For the operator must watch the type with the most unflinching gaze, making sure that upon the instant of a town-name's appearance beneath the plunger, he shall insert not a paper but a wrapper, and one proportioned in size to the quantity of papers to be tied up therein.

Several years ago, these town-names were formed with lugs which by engagement with a bell-hammer, notified the operator of imminent duty. This arrangement served for a generation or so in spite of frequent breakage of the lugs and a consequent failure on the part of many impatient subscribers to receive their papers for a week or two.

The first improvement over this unreliable method consisted in the substitution of a glass plate for the opaque metal shield previously
employed, the operator determining the approach of the town by “watching out” for it through the transparent shield.

Owing, however, to the friable nature of the glass, its liability to become semi-obscured by ink and scratches and the confusing reflection of light from its surface, this glass shield has in its turn been improved upon by being replaced by a metal shield suitably apertured in such a way as to permit the sight of the type but prevent the smearing of the papers upon the inked types.

Still, this steady, concentrated gaze upon the type is wearing upon the operator’s eyes, and some more automatic arrangement would seem to be desirable. It has been suggested that gutta percha, or other non-conductive material, be substituted for the usual type-metal quads in the town lines. By the employment of a delicate contact-trailer normally completing the circuit through contact with the metal types, when the non-conductive quads come beneath it the circuit is broken and an audible warning given. This might be practicable were it only possible to insure the absence of all be-clogging, circuit-breaking accumulations of ink.

In addition to these bundled papers just described, there are nearly fifty thousand put in individual wrappers and termed “seals.” These seals are, as their name indicate, made fast by paste. The work of applying the paste to the edges of these wrappers has long been done entirely by hand. But during the past few weeks, an experimental pasting machine has been perfected and set up. It has thus far worked most satisfactorily. A pile of addressed wrappers being placed upon the machine, a slowly reciprocating wheel applies paste to an edge of the upper sheet. This sheet is then removed and wrapped about a paper by the operator, while the next sheet is being pasted. In this way, the motion of the machine being timed to accord with the celerity of the operator, no time is lost in the application of the paste. There are already machines upon the market which perform both the work of pasting and of wrapping, but the firm do not consider the results equal to hand-wrapping.

In addition to the machinery in this room already described, there is a proof-press upon which are taken three sets each of all the six thousand chases full of names. These proofs are then bound in three sets, of fifty volumes each, and sent down to the subscription department.

Inasmuch, however, as corrections are being continually made in these books by the receipt of new subscribers, the discontinuance of old ones, and the changes in residence, new proofs have to be frequently prepared from the revised chases. As a result, two men are kept continually at work pulling proofs and binding them into books. Could, now, a comparatively simple machine be devised by means of which a single man could do the entire work, a slight saving in expense could here also be effected.

Among the miscellaneous labor-saving arrangements in the remainder of the building, can be mentioned a pneumatic tube and its fan-blower, for transmitting copy to the compositing-room; also cut-squaring devices in this latter room; and the actuating mechanisms for the two large freight elevators, the passenger elevator and the express elevator.

Furthermore, as might be expected from the presence of so much machinery, there exists in the basement a complete little machine-shop. In this corner for effecting repairs and materializing new ideas, is a ten-foot engine lathe, a six-foot planer, an upright drill, an emery grinder, and a three horse-power engine for running the same.

Last, but not least, there can be found in the premium department almost innumerable bracket-saws, foot-power jig saws, turning lathes, carving tools, steam-engines and electric motors rated at several flea-power each, presses capable of printing two lines at a time, and other similar toy machinery. All these latter, however, the publishers of the paper hope not to be obliged to rate as fixtures, but trust that each will, in due season, be sent away in exchange for new subscribers.

**AUTOMATIC FIRE PROTECTION.**

Mr. President and Gentlemen:—

I propose to speak to you briefly upon the subject of Automatic Fire Protection and Insurance of Mill Property, with which you are all more or less familiar. The great fire losses which occur from time to time in our manufacturing industries might as well be estimated in lives of men as in dollars. A fire loss is the annihilation of value, whereas other losses may be said to be simply transfers of possessions.

The causes that may lead to a fire in any of our great mills of to-day are almost too numerous to mention, and they cannot always be guarded against by the utmost watchfulness. Men have been trying for years to invent automatic apparatus to help guard against this greatest of evils to which our manufacturers are subject.

As early as the year 1728, Ambrose Godfrey, a celebrated English chemist, devised an automatic fire extinguisher, but this device, together with most of the later inventions, was open to
many objections, and did not obtain any commercial prominence. Many of the mills that were built in the sixties resorted to the use of perforated pipes. This method of sprinkling consisted in hanging perforated pipes along the ceiling of rooms, and when fire broke out water was turned on by valves placed in accessible positions. This method was not automatic, and had the very grave defect of causing a water damage not only to the portion of the room in which the fire occurred, but to the whole area covered by the pipes.

The first practical automatic sprinkler may be said to have been invented by Major A. Stewart Harrison in 1864. This sprinkler, and the methods of installation, as proposed by the inventor, show that the arrangements included about everything necessary for a successful system of automatic sprinkling. The sprinkler heads were to be placed from six to ten feet apart according to the combustibility of the contents of the room, and hung pendant from pipes placed against the ceiling in the identical manner now used.

The invention of this system is not a matter of patent office record, as Major Harrison applied first for provisional protection, and not being successful in his efforts to interest capital, carried it no farther. His invention was an original system which has not been equalled except by those of very recent date, and it is difficult at this time to surmise what conditions stood in the way of its commercial success.

All of the successful sprinklers of to-day depend upon the softening of alloys that have a low melting point to open the valves of the head. I have several of the best known types, and will give a brief description of each and you can then examine them at your leisure.

Sprinklers were placed over the whole of three cotton mills, except the weaving, by Col. T. J. Borden of Fall River in 1874. The system was adopted in a few other mills in subsequent years, to 1877 inclusive. In 1878, the officers of the Boston Manufacturers' Mutual Fire Insurance Co. became satisfied that this was the most efficient safeguard against the increasing hazard of their risks, and they became strong advocates of the system. At the present time all large mills have sprinklers more or less extensively installed, and the installation in new plants is always made under the rules and regulations of the Mutual Companies.

The cost of an installation will be about three hundred dollars per sprinkler head, and will amount to about twenty-five hundred dollars for a mill 300 ft. by 90 ft. and four stories high. This expense is more than counterbal-ance by the cheapness of insurance in the Mutual Companies.

The great utility of the method may be best shown from the experience of the Boston Manufacturers' Mutual Co. over a period of fifteen years. All of the fires from which this Company have sustained losses may be divided into two classes: the one being the fires in which a properly installed equipment of automatic sprinklers was called into service over the fire where it started; the other division being the remainder of the fires, including many which were extinguished with little or no loss by that most valuable of all fire apparatus, buckets of water in judicious hands.

The results tabulated will appeal more directly to you.

| Automatic Sprinklers | 406 | 206 | $247,678 | $610 | $1,202 |
| Other Appliances | 1196 | 501 | 8,720,437 | 7,291 | 17,406 |

In cold storage warehouses where the water in a sprinkling system would freeze, an air pressure is maintained in the system, which upon being released by the opening of a head operates a valve and allows the water to flow into the pipes.

In mills where a water pressure cannot be obtained by gravity a steam-pump is kept running, pumping into the pipes. These pumps are regulated by automatic pressure valves so they always maintain a constant pressure upon the system.

From the very first there have been apprehensions of leakage from automatic sprinklers. It is true that there have been serious mishaps by leakage from some forms of sprinkler heads, because of their inability to resist constant pressure and water hammer. The fusible alloys are all subject to cold flow and this has not been taken into account in some of the heads.

A census of all the accidents to approved sprinklers on the property insured by the Boston Manufacturers' Mutual Co. shows an average damage of only $1.63 per sprinkler plant per year. Probably 95 per cent. of all the mills in this country are now insured in the Mutual Insurance Companies. At least I am safe in saying that all mills that the Mutual Companies will accept as risks insure with them, and for the very pertinent reason that the cost is about one-eighth of what it would be in the Stock Companies. A Stock Company would charge for a first-class risk on a cotton mill about eight-tenths of one cent. per $1000. The Mutual Companies charge about this same rate, but at the end of each year the insured receives a dividend on the premium paid. Taking
for example a cotton mill insured for $500,-
000.00 the rate charged would be eight-tenths
of one per cent., amounting to $4000. At the
end of the year the insured would receive a
check from the companies, known as a dividend,
amounting to about $3500—making the real
cost of insurance $500. The insurance of first-
class risks in cotton mills costs annually about
one-tenth of one per cent. Mills can therefore
very easily afford to follow any recommendations
that may be suggested by the Mutual
Companies. The companies keep a large corps
of inspectors, and every mill insuring with
them is carefully inspected every three months.
The inspector renders his report to the company,
and it is then forwarded to the insured with
recommended improvements. The inspection is
of the most careful nature, and I have never
known a report to be sent to the corporation
with which I am connected without its containing
some recommendations concerning changes
thought advisable, and I may add that the
insurance companies consider our property as a
first-class risk. These recommendations get to
be exceedingly exasperating, but are generally
carried out as suggested. Very elaborate plans
are made of all insured property. I have here
one of the plans of the No. 1 mill of the Mer­
rick Thread Company, and you will see by ex­
amining it that all the information necessary
about the property is contained thereon.

I am greatly indebted to Mr. C. J. Woodbury
for much of the information contained in this
paper. Mr. Woodbury is the vice-president of
the Boston Manufacturers' Mutual Fire In­
surance Company of Boston, and has made the
subject of automatic protection his life's work.

Yours truly,

SAMUEL M. GREEN, '85.

WESTERN ALUMNI ASSOCIATION
BANQUET AND LUNCH—1893.

The report of the Alumni Association of the
Worcester Polytechnic Institute for 1892, con­
tained a brief notice of the organization of a
Western Association, and the intention of hav­
ing a general meeting and banquet under its
auspices, during the World's Fair season. The
plan came from small beginnings. Happening
to meet at lunch, in 1892, Messrs. Kendrick
and Simonds of '73, and Mr. Wilder of '74,
brought up the question of the Alumni meeting
at Worcester, and the suggestion was made that
it would be pleasant to have a closer union of
the many graduates whose business had loc­
ted them in the West, too far for easy access
to the annual meeting at Worcester. From this,
step by step, the organization of the Western
Association took shape. There are more than
thirty graduates in and close to Chicago, and a
much larger number scattered at various points
within easy communication.

The summer meeting, to be a banquet, was
arranged for at the Auditorium Hotel, Chicago,
July 17. There was much disappointment felt,
when, at a late hour, it was learned that Prof.
Alden and Trustee Washburn ('75), could not
be present as expected. An agreeable surprise,
however, was in store, in the presence of Mr.
C. H. Morgan, so long a member of the Board
of Trustees.

The occasion was a delightful one in every
respect. Fifty-four ladies and gentlemen sat
down to the tables after a social reunion, which
brought together some who had not greeted
each other for twenty years. Of the twenty-
three graduating classes, eighteen were repre­
sented. Mr. T. E. Wilder of '74 presided.
Letters were read from Mr. C. G. Washburn,
for the Board of Trustees; from Prof. Alden,
representing the Faculty, and from Mr. J. W.
Kendrick of '73, who, after actively promoting
the banquet, was unable to be present. Mr.
C. H. Morgan speaking for the Trustees, and
Mr. James Logan. The members of the Alumni
Association were listened to with unusual
pleasure. Many bright remarks brought out
by the occasion made the whole affair very
easy and social. One of the pleasantest fea­
tures was arranged by Mr. A. P. Allen of '89,
who placed the banquet-room in connection
with Cleveland, Ohio, where many of the Cleve­
land Alumni Association gathered to exchange
salutation and greetings over the long-distance
telephone wires.

Following is a list of those present at the
banquet:

S. B. Davis and wife, '72. E. Haynes and wife, '81.
E. C. Cleaves, '73. S. B. Weaver and wife, '81.
E. F. Simonds and wife, '73. A. L. Tucker, '82.
T. E. Wilder and wife, '74. H. S. Downe, '72.
C. F. White and wife, '75. C. A. Clough, '83.
C. F. Davis and 2 ladies, '75. W. E. Newbert, '86.
B. S. Crocker and 2 ladies, '75. J. F. Temple and wife, '88.
E. P. Adams and wife, '76. A. L. Hadley, '89.
W. C. Torrey, '77. F. L. Sessions, '89.
W. L. Darling, '77. A. P. Allen, '89.
H. Ropes, '78. W. L. Smith, '90.
E. S. Mathews, '78. E. E. Clark, '89.
W. C. Green, '80.
C. H. Morgan, Trustee.
James Logan (Honorary Member) and wife.

August fourth, upon notice of a few hours,
twenty-one of the Institute graduates gathered
at the Auditorium Hotel to meet Professors
Alden and Higgins, who were attending the
Engineering Congress in connection with the
World's Fair. The party sat down to lunch, spending an hour in a manner agreed by all extremely pleasant, and which went far to those present, toward making up for the absence of some who could not attend the banquet of the seventeenth.

Here is the lunch list:

Prof. G. L. Alden, W. F. Howe, '70.
J. W. Kendrick, '73, S. E. Weaver, '81.
E. F. Simonds, '73, H. S. Downe, '82.
C. E. Davis, '75, A. W. Burnham, '83.
W. L. Chase, '77, C. L. Griffin, '88.
E. S. Matthews, '78, A. C. Higgins, '93.
C. D. Parker, '79.

---

CHARLES H. FAULKNER, '90.

Charles Henry Faulkner, youngest son of the late Francis A. and Caroline H. Faulkner, of Keene, N. H., died of peritonitis, at the Elliot City Hospital, in that city, at the age of 26 years and 7 months.

A few days previous, Mr. Faulkner, who had just returned home from Washington, was seized with an internal attack which rapidly increased in severity. Upon consultation, an operation was decided upon, but did not give the relief which was hoped for. After a short interim Mr. Faulkner again began to fail and continued to do so until his death.

Mr. Faulkner was born in Keene, April 28, 1867. He was educated in the schools of that city, at the well known Allen school in Southboro, Mass., after which he entered the Worcester Polytechnic Institute, from which he graduated in 1890, having taken the degree of Bachelor of Science from a course in Mechanical Engineering. Always of a studious, but yet practical, turn of mind young Faulkner took a high standing in his classes and upon his graduation soon obtained a situation in the Washington, D. C., school of manual training which had then been recently established.

In Washington his career was very successful. He proved himself an excellent teacher and was very popular among his scholars. He remained with the school about two years and then returned to Keene, where he purchased an interest in the business of the Impervious Package Company of that city, and devoted his time to thoroughly mastering all of its details, learning to do with his own hands the work of the different departments. During the depression of last summer he returned to Washington where lived Miss Mabel Bradford, to whom he had for some time been engaged, and while there filled a temporary vacancy in his old school. He returned to Keene only a few days before he was taken sick, to resume his duties with the Impervious Package Company. His sudden death, while apparently in the prime of life, is one of the saddest which has for a long time occurred in that community.

Mr. Faulkner came of one of the most widely known families in Keene and illustrated in his life some of the best qualities of his father and mother. He was a man of most excellent principles, of unusual ability, and his life had been in every way full of promise. He was popular with his associates, kind-hearted and unselfish, and was always ready, in whatever station of life it might come, to do well that which was set before him to do.

NEW RULES.

The Athletic Committee recommend that the following minute be adopted by the Faculty: The Manager, Treasurer, or any person who receives or disburses money as the agent of any athletic society or association of students in the Institute, shall, whenever requested by the Athletic Committee of the Faculty, render a complete account of all his financial transactions as such manager, treasurer or agent, to an auditing committee consisting of two members chosen by the society, and one member of the Athletic Committee of the Faculty. This account must be accompanied by vouchers for all money paid out, including a certificate from the bank in which any funds belonging to the society are deposited, and an order for the transfer of these funds to their proper custodian.

The account thus rendered must have the signatures of all the members of the Auditing Committee at least 10 days before each commencement.

Voted: That the final proof sheets of any publication proposed by any class, shall be submitted to a committee of the Faculty appointed for the purpose; and that the proof sheets of any other publication by students be also thus submitted whenever the Faculty shall request it.

CONCERNING THE FIRE.

To the Editor of the W P I:—

My Dear Sir:—The editorial in the last number of the W P I (Dec. 7) concerning the recent fire in the stock-room of the Chemical Laboratory, does not give a correct impression of the actual facts of the case, nor does it agree with the account of the fire given on another page of the paper.

The fire was discovered at about half-past
seven o'clock in the morning. Within two minutes the line of hose on the stairway was in use, and continued to throw a full stream of water, from the two-inch high-service pipe, till the arrival of the fire department, fifteen minutes after the fire was discovered, and with the hose from the chemical engine, was the only hose used during the fire. Captain Williamson of the Fire Patrol stated to Dr. Moore, that the fire was practically under control when he arrived, and that the excellent work of Mr. Smith and Mr. Chamberlain with the fire hose, saved the roof and the Freshman laboratory.

The line of hose on the stairway (there is only one), instead of "being in very bad condition, and so tied up as to be of no value whatever" was in good condition, and of the very greatest possible value.

As to the origin of the fire, it is the opinion of those most competent to judge of such matters, and who have made a careful examination, that the fire started under the floor of the stockroom, having caught from the chimney, and that it may have been smouldering for a day or two, before it burnt a hole through the floor.

Yours very truly,

LEONARD P. KINNICUTT.

ATTENDANCE AT MEETINGS.

It is a fact to be regretted that the recent meetings of the Athletic and various other associations connected with the Institute, and of which all students are members, have not been nearly as well attended as they should have been. Often has a notice been posted on the bulletin board announcing a meeting of some one of the various associations. When the meeting was called to order, however, at the appointed time, so few men were present as to make a postpone­ment necessary.

The only reason that can be offered is this, that the interest that the student-body takes in matters connected with the Institute, but at the same time having no direct bearing on the prescribed course of study, is at fault. The interest in what might be termed secular matters, here at Tech, is small and about half what it ought to be.

I here venture to say that in any class men may be found who, since entering the Institute have not attended any meeting outside of those of their own class, and these are often held immediately after a lecture, thereby making it easier to attend than to be absent therefrom. In my own class about a third of the members may be relied upon to show up at any meeting of the foot-ball, base-ball, or other association. Another third will attend if it in no way inconveniences them, while the remainder of the class are about as likely to attend as they are to commit murder. This will be found about the same in every class.

There is no association connected with the Institute that is so strong that it does not need the support of every student, and his presence at the specified meetings.

To here enumerate the reasons why every student should attend the various meetings seems hardly necessary. Suffice it to say that, in order to adopt the wisest and most advisable measures on any subject, the majority of students must be present. We all know that the larger the number of students who attend the meetings of the association, the wiser and more popular will be the management and conduction of the affairs of that association.

On the other hand, what should the associations do in order to have the largest possible attendance? They should post a notice of the meeting several days in advance, they should state in the notice its object, and they should call the meeting to order promptly at the advertised time.

It seems but fair that men should attend at every possible opportunity. A sacrifice of five minutes' time, or possibly of a hot dinner, is as nothing compared with the benefit the association derives from your attendance and interest in the meetings.

A PROTEST.

Editor of the WPI:

I would like to call attention to the amount of work outlined for the Seniors and the time which they have to prepare for it. The catalogue states that two hours should be spent in preparation of each recitation and some of the professors say that they expect the students to devote two hours to reading over each lecture. There is also mention made in the catalogue that the time of the students will be wholly taken up in attending to the preparation of their lessons and by their work at the Institute. But in addition to the recitations and lectures, for which preparation must be made, in accordance with the demands of the catalogue, there is also assigned additional work to fill up the spare time of the students, for which apparently no provision has been made. In English, the Seniors are expected to present each week a critical essay on the works of some author. It is true that this work was assigned many months ago in the spring, but certainly it could not be expected that students would be inclined to work in the next year's studies, and in many cases, time was lacking to those who were so inclined. In the summer, many were engaged in other duties and others made use of the time...
for a needed rest before starting in on the work of the Senior year. Moreover, to give out the work so long before seems to me a virtual admission that the work assigned was more than could be properly prepared during the term, and that of necessity some studying must be done in vacation. The exact amount of time required for this additional work cannot be determined. Different men estimate it variously at six to ten hours per week. Such books as Domby and Son, Uncle Tom’s Cabin, Adam Bede, and Kenilworth may perhaps be read hurriedly in two hours, but to read any one of such books critically and to write a careful essay would require certainly much more time. Assume for the sake of argument, that the average essay can be prepared in eight hours per week, that the average student requires eight hours sleep, two hours for meals, and that three hours are consumed daily in travelling between Tech and boarding-house, and exercise.

It does not seem that these estimates are too liberal, and it should also be considered that very few men can apply themselves for four or five hours on a stretch without some short periods of interruption. There are also times in the day when there will be ten or fifteen minutes which theoretically belong to studies, but cannot be advantageously utilized for that purpose for so short a period. The following tables have been prepared in accordance with the data given above. They are made out for six days in the week.

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As there are 144 hours in six days, this allows a narrow margin for general reading, special work, amusement, and preparation of an essay in political economy on a subject which, merely to read is to require minutes. Is the object of all this merely to discourage the students, or to make them resort to Sunday work, or to make the special work of a department subordinate to the general branches? What next?

TECHNICALITIES.

Student, reading—"Und die Magd sass vor dem schwarzen Huhn—"

Translating same—"And the maid sat on the black hen."

Professor.—One volume of SO in 300,000 volumes of air is sufficient to color the iodide of starch blue; this is the same as if I could taste one drop of whisky in a whole gallon of water.

At a meeting of '96, called to organize a polo team, Mr. F. E. Knowles was elected captain, and Mr. T. H. Coe manager.

The class of '97 orchestra holds weekly rehearsals, but the difficulty of getting all members to be present is a serious drawback.

Instructor—"What other form may sulphur assume?"

B-sc-m—"When raised to a temperature of 400° C. it assumes a viscous (viscous) form."

Professor—"Another compound of hydrogen and oxygen is H₂O, this is commonly called water." Professor turns to his notes and then continues, "Water was discovered by the earliest inhabitants."

Nearly all the "Preps" have completed the elementary practice in the wood-room, including that terrible "lighting" puzzle, and after the vacation will begin pattern-work.

The Freshmen are this year allowed to make up their 168 hours of summer practice in the wood-room during term time. Many are taking advantage of this and working Saturday afternoons. Several who live out of town will spend the greater part of the Christmas vacation at the shop.

The Freshmen, at a class meeting held last Friday, chose a committee of five to select class colors and think up a good wide-awake class yell. Much to the disgust of some of the members who were not "in it," the class voted to accept the picture taken in the fall. A committee was also appointed to meet the Supt. of the shop for considering new rules in place of the 10 per cent. method now in force.
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* All students are members.

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