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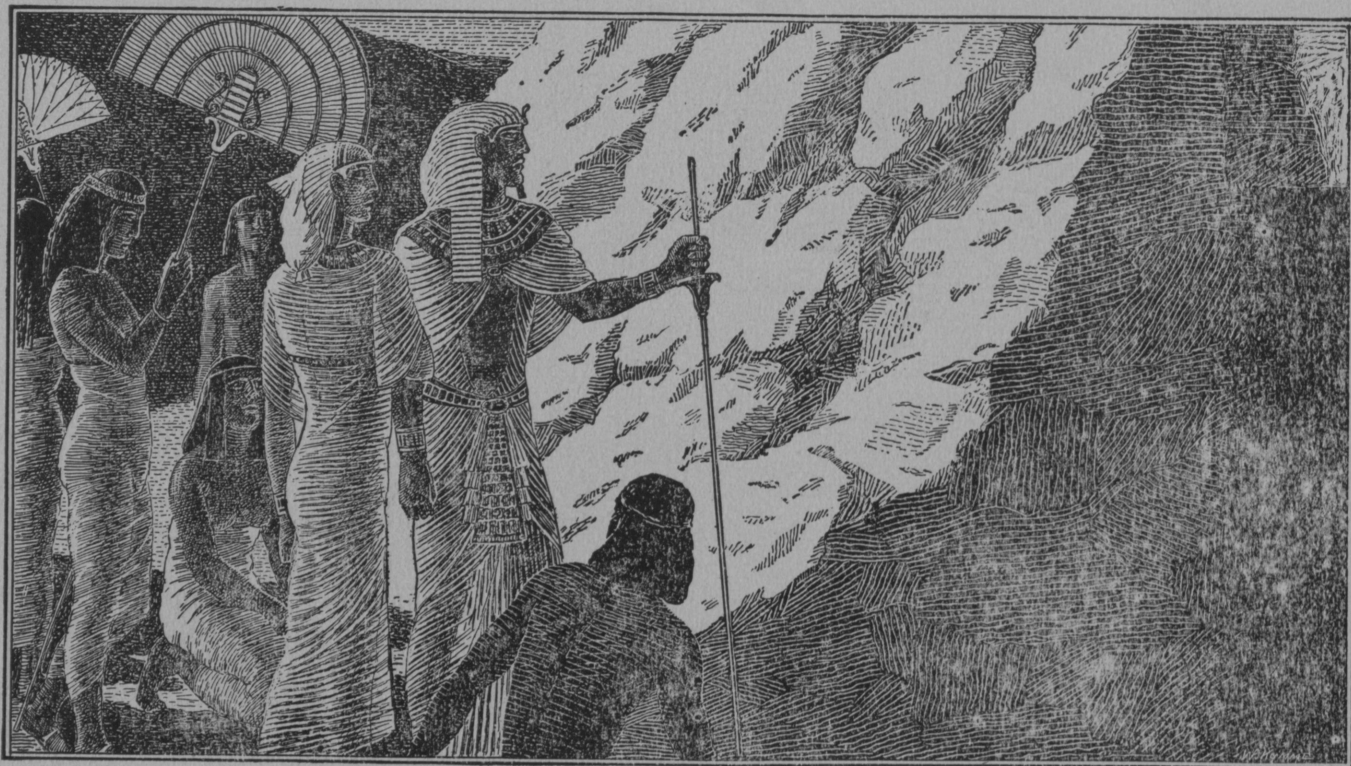
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THE ROSE TECHNIC



ARCHITECTURAL AND CIVIL
ENGINEERING - NUMBER
COMMENCEMENT - EXERCISES
ROSE POLYTECHNIC
INSTITUTE



The Tomb of Tutankhamen

More than three thousand years have passed since Tutankhamen supervised the construction of his rock-hewn tomb. After he died, his paraphernalia of pomp and pleasure, war and worship, were laid away with him, because in those days the tomb was regarded as the eternal abode of the soul.

In Tutankhamen's time, gold, silver, copper, lead, and tin were mined; bronze vessels and tools were wrought and cast; large blocks of stone were quarried and long underground passages were driven.

These early Egyptians broke rock by driving wooden wedges into grooves chipped out with bronze tools. The swelling of the wedges, after they were wet with water, was sufficient to crack the stone. Thus they tunnelled the tomb of Tutankhamen.

The Pharaohs of Egypt had countless slaves at their command. Therefore, they disregarded

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No. 9

THE TECHNIC

MEMBER OF ENGINEERING COLLEGE MAGAZINES, ASSOCIATED

A monthly magazine published by the student body and Alumni of the Rose Polytechnic Institute.

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The drawings on this page are pen and ink sketches made by Wilbur O. Shook, Rose, '91 of McGuire & Shook, architects, Indianapolis. It was the purpose of the artist, in submitting these sketches, to show the effectiveness which pen and ink sketches lend to preliminary work in architectural engineering.

The value of a few lines, at the proper place, is incalculable to the architect in his first ground work on a job. A sketch similar to those above is highly interpretative and of greatest value to an architect in preliminary design.

The upper picture is one of a sketch made for the Brightwood M. E. Church, Indianapolis, Ind. It is, as are the other pictures, a pen and ink sketch.

On the lower left is a reproduction of the sketch for the proposed Y. M. C. A. at Newcastle, Ind.

The illustration in the lower right part of the page shows the Christ church, on Monument Circle, Indianapolis. In the background is seen the Board of Trade building, and on its right is the Columbia club.

Rose Men From '86 to '23 Gather in 40th Anniversary Celebration and Big Reunion

**Over 200 Alumni Return to Alma Mater in Festive Reunion;
Commemorate First Year on New Campus in Ceremonies
Attendant to Graduation of 39th Class of Engineers**

Another Rose reunion has come and gone; again have the Alumni demonstrated their unfailing, ever-growing interest—moral, sentimental and financial—in the Institute they honor and respect.

The Fortieth Commencement Anniversary Alumni celebration was ushered in unostentatiously early on the morning of Wednesday, June 6th, with the first registration at the Hotel Deming of incoming Alumni. Early Wednesday the registration was heavy, and continued so until, in all, one hundred twenty-three Rose men from '86 to '23 had signed the register of honor.

Old and honored men of Rose, including Dr. Thomas Corwin Mendenhall, president of Rose from 1886 to 1889, and President Emeritus Carl Leo Mees, were all well represented as the younger graduates.

Many Alumni drove from their homes to Terre Haute, while others came on trains. No one was reported as having walked here, although some of the fellows, in reporting their inability to come, remarked that they "would be there if the walking was good."

Wednesday afternoon at the old Rose field, was played the annual baseball game 'twixt Alumni and Varsity. The game started out tamely enough, but by the time Kline, '16, had put in place of the proverbial keg of beer a case of coca cola on third base, the "old boys" began to pep up and tied the score, 6-6, in the ninth inning. It was reported that Art Nehf, '14, would attempt to stop off long enough to hurl the game for the Alumni, but neither he nor Les Backman, '17, were able to get here.

Larr, '16, was an able moundsman for the grey-beards, however, and held the Varsity to 13 hits. Lineup:—

ALUMNI
Heidinger, c.
Conover, lf.
Hadley, 1b.
Larr, p.
Kline, 3b.
Biller, cf.
Millet, 2b.
Danner, rf.
Shook, ss. (captain)

VARSITY
Staggs, p.
Hager, c.
Bohannon, 1b.
Campbell, 2b.
Brown, 3b.
Bledsoe, rf.
Boyd, cf.
Brinton, ss.
Anstead, lf.

Alumni0 0 0 1 0 2 0 2 1 0 0—6 6 3
Varsity0 3 1 0 1 1 0 0 0 1—7 13 1

Larr and Heidinger; Staggs and Hager.

On Wednesday evening, 146 Alumni, with their wives and sweethearts, were entertained at dinner at the Terre Haute Country club, Allendale. After the dinner, practically all of the dinner guests came out to the Institute to attend the Senior reception, given by the Faculty. The reception was given in the gymnasium. The decorations were in red, white and blue, and becomingly arranged.

Music for dancing was provided; an excellent refreshment course consisting of walnut, fruit ice cream, cake and coffee was served by the ladies of

the Faculty during the evening.

Acting-President and Mrs. Wagner, Coach and Mrs. Millen and Prof. and Mrs. Thomas were the active members of the reception committee, at least they were the most active at the door. A successful effort was made to put everyone at his ease, and when the party broke up, at midnight, it was apparent that the majority of those present were beginning to enjoy itself and was loath to go home. (The writer was, anyway!)

Scarcely had our "older brothers" had time for their "forty winks," when reveille sounded and bid them to the Commencement Exercises.

The gymnasium was filled to overflowing with Alumni and relatives and friends of the graduating engineers. Long and vociferous was the cheering when the members of '23 followed the Board of Managers, ex-President Mendenhall and Acting-President Wagner on to the platform erected at the west end of the gymnasium.

Rev. W. W. Sniff of the Central Christian church pronounced the invocation and benediction. President Wagner, presiding at the exercises, remarked the "strong connecting link between Rose and its Alumni." President Wagner introduced John J. Kessler, '97, who presented the Alumni address.

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Mr. Mendenhall, who gave the commencement address, received an outburst of applause lasting for several minutes, the entire audience rising to their feet as he stepped to the speakers' table.

The stated that he had been asked to speak on reminiscences of old Rose, but said it was dangerous to get an "old man" started talking on anything like that, and besides, the young men of today, especially those graduating from Rose, were not concerned about the past, but about the future.

He then proceeded to give a brief outline of the life of Emerson McMillan, who, he said, in his opinion, was one of the greatest engineers in the country, and who without the educational advantages possessed by the Rose graduates, forced his way to the top, not only as an engineer, but also as a captain of finance and an authority on art. He gave a highly interesting and graphic sketch of the trials, tribulations and success which the career of this man, and set it before the graduates as an example well worth following.

In closing, the speaker said that the word "engineer" had been so mutilated that it was not of so much honor to the graduates, but stated that it was

for them to be an honor to the word and the profession which it represented.

Prof. Wagner stated that the members of the faculty were always the friends of the graduates and told them that if any time in the future any member of the faculty could be of further assistance to them in their advancement in a professional manner, that the graduates would find them ready to do all within their power.

Walter C. Ely, president of the Board of Managers presented the diplomas to the graduates and the thirty-ninth commencement of Rose closed with the announcement of the awards of scholarship prizes and honors.

Alumni Luncheon

The Commencement exercises, for the Alumni, were followed by the annual Alumni luncheon, at the Hotel Deming. After the luncheon, served at one o'clock, the regular business meeting of the Alumni Association was held.

At the same hour, a Dutch luncheon for the ladies was arranged. The reporter was unable to learn what manner of secrecy or secretiveness was indulged in at this luncheon, but it is known that an intimate, informal hour was spent over the luncheon table, and that a closer welding of the Alumni Association itself was effected through the get-together meeting of its auxiliary.

In the evening a dinner was arranged for the ladies, Dutch, and afterwards a theatre party. While the ladies were enjoying the theatre, their men were in the midst of the year's fete—the Alumni Banquet.

Here, remembrance supplanted memory; anecdote sidled in, hand in hand, with reminiscence; laughter, real, loud, natural laughter replaced formal smiles and casual applause; intimacy and shoulder-to-shoulder fellowship were exchanged for the formal politeness of external relations—every index of fraternalism, of Rose spirit, of "engineering brotherhood" was magnified many times, raised to an infinite exponent and placed on a plane of pure informality and hilarity. Rose men were among Rose men!

Throughout the "orderly procession" of the banquet, sparkled the wit of "40 years at Rose," the vivaciousness and color that only true Engineers can infuse into and partake of from an otherwise formal service.

John Kessler, '97, who succeeded Claiborne Pirtle, '98, as president of the Alumni association, presided at the banquet. He more than presided; he started it and kept it going. Later in the evening, he and his son sang; sang well and were joyously applauded. The gentleness of the committees on preparation—Orion Stock, '08, transportation; Scott Mace, '12, entertainment, and John Peddle, '88' reception—had omitted naught in their plans. An orchestra had been provided, an orchestra that played music, any kind anyone wanted.

Beside the more than 250 graduates—'86 to '23—present, were a great number of faculty members, Dr. Carl Leo Mees, Dr. Thomas Corwin Mendenhall, past president of Rose; and William Wood Parsons, for many years president of the Indiana State Normal school and a member of the Board of Managers of Rose.

If the report is true that "Biscuits" Hanley, '05' was induced to tell stories, then stories were told. Said the 1905 Modulus: "Rome had her Cicero, Greece her Demosthenes, but Rose had her 'Biscuits.'"

So loath were they to part company, that the "men of Rose" delayed their parting to a late hour, to a parting withal sad but convivial, resolved to resume in the same intimacy a year later, when the regular time should have arrived.

DEGREE OF BACHELOR OF SCIENCE

Architectural Engineering

Harry Joseph McComb, Terre Haute.
Clyde Gottlieb Raeber, Terre Haute.

Chemical Engineering

James Bernard Connelly, Terre Haute.
Kenneth Eugene Cook, Terre Haute.
Edmond Earl Dunlap, Terre Haute.
Miles Griffith, Terre Haute.
Herman Henry Heck, St. Mary's, Ind.
Robert Theobald Hendrich, Terre Haute.
Harold Harper Johnson, Terre Haute.
Harry Robinson Kinkle, Terre Haute.
John Joseph McCormick, Terre Haute.
Oliver Wood Neukom, Terre Haute.
Robert Knestrick Price, Terre Haute.
Leonard Francis Quinlan, Terre Haute.
John Russell Snyder, Terre Haute.
Buford Wiard Tyler, Jr., Terre Haute.
Morgan Wesley, Jr., Terre Haute.

Civil Engineering

Robert Owen Cash, Hume, Ill.
Harve Nichols Chinn, Terre Haute.
Harry John McDargh, Jr., Chicago.
Jesse Levering Tygart, Terre Haute.

Electrical Engineering

Joseph Warren Anstead, Terre Haute.
Ralph Bradway Bennett, Terre Haute.
Walter Kneal Boyd, Shelburn, Ind.
Richard William Bledsoe, Terre Haute.
Eugene Clifton Brown, Kansas, Ill.
Baptist Buffo, Clinton, Ind.
Edward Frederick Donham, Terre Haute.
Donald Vern Eichin, Olney, Ill.
Richard Worrall Hager, Terre Haute.
Claude Franklin Leisey, Terre Haute.
Sylvester Jackson St. Clair, Terre Haute.
Edwin Henry Wolff, Louisville.
Allen John Weinhardt, Jr., Terre Haute.
Albert Edward Woollen, Terre Haute.
Royce Davis Wright, Terre Haute.

Mechanical Engineering

James Ernest Albright, Terre Haute.
Floyd William Benson, Terre Haute.
Herbert Aaron Field, Terre Haute.
Paul Lesile Hays, Terre Haute.
Arthur William Griepentrost, Terre Haute.
Donald Larsh Mewhinney, Terre Haute.
Robert Preston, Ryan, Terre Haute.
Fred Bruce Tetzl, Terre Haute.
Myron Ehrlich Wilson, Terre Haute.

ADVANCED DEGREES

Five advanced degrees, as well, were conferred upon Rose graduates. They were:

Chemical engineer—Walter William Willison, B. S., '08, New York City; professional record.

Civil engineer—Ralph Emerson Finley, B. S., '16, Indianapolis; professional record; Chesleigh Gray, B. S., '13, Indianapolis, professional record.

Mechanical engineer—Edmund T. Buckley, B. S., '09, Los Angeles, Calif.; professional record.

Master of science—Charles Robert Earl Wessel, B. S., '19, Columbus, Ohio; professional record and thesis.

Architectural Engineering

By O. L. Stock

Associate Professor of Architectural Engineering

Architectural engineering is not a new practice, for science has always played a large part in the planning of buildings. Architectural engineering as a separate profession is a recent development and is a result of the number and complexity of the engineering problems which enter into the design and construction of modern buildings.

Architecture is an art. Architectural engineering is a science. Architectural engineers, rather than architects built the pyramids.

Architects have always been more or less engineers, for one cannot separate the art of building from the science of building. One of the elements of beauty is stability. Therefore, in every beautiful building, science has, from necessity, played a large part. Unfortunately, it is possible to build a building by the aid of science alone.

Architectural engineering is a profession which calls for just as high a degree of training, ability and knowledge as any other branch of engineering.

The architectural engineer must be able to do more than use a hand book for there are problems which cannot be solved by hand books alone, and which should not be guessed at. To guess at the size of structural work where public safety is involved in criminal, if too weak, and robbery, if too much material is used. Using a safety factor on account of knowledge of a material and conditions is one thing, but using a safety factor on account of a lack of knowledge is another thing. Any one can make a guess but it takes an engineer to be safe and not throw money away. There is often the feeling that, if the thing is too strong, no one will know the difference but if it is too weak then another location or job will be necessary.

There are at least two good reasons for specializing in either architecture or engineering. First, the preparation can be more thorough in either one or the other than both in a four-year course. Schools of architecture in the United States are now seriously considering the adoption of the five-year course because there is too much ground to cover in four years. As Professor Howard puts it, the students in architecture are doing double duty. "They have to take so much engineering that they haven't time for design; and they have to take so much design they haven't time for engineering." Why not, then, give a student four years engineering or four years design?

The second reason for specializing is that it is more desirable from the point of efficiency in professional work. A good designer—a real artist—cannot work efficiently if he has to burden his mind and memory with bending moments, shearing stresses and re-

dundant numbers. It is true a good architect would often make a good engineer, but he would make a better architect or engineer than architect and engineer. Often an artist does not possess a mathematical mind and to try to make an Engineer of him robs art of a good man and adds nothing to the engineering profession.

If a city hall, court house, library or fine residence is to be built an architect is called upon for the design. Is this true regarding the industrial building? Very often it is not the architect who is called in but the engineer, or contractor who is an engineer, or has one in his organization. It may be a question whether this class of work rightfully belongs to the architect or whether it is more an engineering project. Some definitions of architecture would not include the factory building as a work of architecture. Experience has shown that this problem is most efficiently handled and the best results obtained by the architect and engineer working together.

The factories built now are, as a rule, quite different from those built several years ago. Any building formerly was considered adequate for most any business as a factory building, that would shelter and had floor space sufficient to carry on the work. This is an age of close competition where every motion of the laborer must be reduced to the minimum. The true requirements of every industry cannot be ignored. In fact the time and labor saving plan often goes far toward making the business a success. We are a commercial people and many of our buildings are now and will be industrial buildings. But we can have buildings which are a symbol of industry without having four flat walls and a flat roof. The small amount of money necessary to make them pleasing is well spent. A good looking building is an advertisement for the company and pleasant surroundings stimulate men to take more interest in their work. They feel the company is willing to give as well as take. We should not allow the stamp of commercialism to be upon everything we produce but show that we still have some of the finer sentiments left.

The modern office that has work to justify should have either a member of the firm an engineer or have one in the organization to handle work of this character. To quote Mr. Albert Kahn, "The impression prevailing in the minds of owners regarding architects in connection with industrial work has grown to be analogous to Mark Twain's comment on Christian Science when paraphrased. If physicians only knew more about Christian Science and Christian Science more about medicine, the chances are the patient



would get well with either provided he had a good nurse; and the paraphrase, if architects knew more about engineering and engineers more about architecture, the chances are the owner would have a good building with either, provided he had a first class contractor."

Usually a man who wants a manufacturing plant knows the kind of service he wants. If an artist is turned loose on a commission of that kind and he soars in the skies and will not allow the practical requirements to trespass within the realm of his dream, the owner does not get the service he wants and thus the architectural profession is discredited. The architect should realize his limitations and call in an engineer to aid in the solution of the problems which are engineering problems, found in this type of construction. The industrial building is not merely four walls with a roof but must satisfy a multitude of practical requirements, be suited for the mechanical equipment and be of good structural design. It has been too often regarded as requiring no particular skill and now and then is turned over to a draughtsman in the office to see what he can do on it while the designer gives over his time to building of a more monumental character. The problems are complex and no one can hope to get the best possible results who is not fitted, through study along these lines, and has had experience sufficient to look at the various problems from every angle, weighing each separately and giving to it the attention its importance justifies. The owner, often times, wants his building to be pleasing in appearance, if it does not cost much more but is fearful lest it be made monumental at the sacrifice of economy and practical requirements; he turns to the engineer, whom he thinks will look at the problem from his own standpoint. The building may lack beauty but the client will be satisfied.

Would it not have been better to have had this work handled in an architect's office where there is an engineer to look after the planning and structural requirements, and then let the designer, by emphasizing a line here and adding a touch of color there, give beauty to the building; and yet carry out the real purpose of the building? This would be adding an additional service which the engineer alone could not do. Thus, the architect could lay legitimate claim to this class of work.

There is other work the engineer might handle in the architect's office, such as writing specifications. The specifications deal largely with the construction and the engineer with practical ideas should be able to write workable specifications. Also he could have charge of the superintendence and thus the designer would be relieved of these duties which often are not only a bore to him but interfere with his work. The architectural engineer would find a very useful place in the architect's office but it is not always possible or advisable for economic reasons to have an architectural engineer in an architect's office. If the office has commissions involving structural design in reinforced concrete, or steel construction or industrial planning, the architect may wish to call in an architectural engineer to help this part of the work. Here we find another field for the architectural engineer; that of an independent consulting capacity. If an engineer is called in by an architect in a consulting capacity then it is better that he be an architectural

engineer for he will have a better conception of the design to be carried out and a better knowledge of the requirements and details to be used in the construction.

No one wants to see a rolling mill or a box factory clothed in the garb of a Gothic cathedral but, unless we treat industrial buildings as problems both in architectural and engineering, we will continue to have them as buildings with factory stamped on every wall, breaking out like a rash on the face of the earth.

An architectural engineer is also usefully profitable in the service department of manufacturers of building materials. He can develop and limit the use of the materials. For example, many enthusiastic users of cement thought they saw in this material a substitute for all other building materials. Concrete, which should rank along with limestone, granite, wood and other building materials, was debased by making rock cut imitations which has caused the public to revolt against its use because concrete construction brings to mind some unsightly concrete block building. Not only were imitations made but there was a tendency to use it for every purpose, some even trying to build a complete house with its use. They are only waiting now for some chemist to find the right mixture of cement and raw rubber, or other substance, to make the hinges and locks of concrete and then the house will be a complete concrete house.

Architectural engineers are needed in steel plants, engineering departments of railroads and in many other important positions. The field is large for one with this kind of engineering training and the present indications are that the number going into this kind of work will rapidly increase.

Architectural engineering now is one of the recognized branches of engineering and should be so considered but the engineering profession should safeguard against the free use of the name **engineer**. It has taken time to convince the general public that engineers do not wear greasy overalls and carry an oil can but if there is not some limit placed upon the use of the term it will again become a word with a doubtful meaning. With a free use of the term all plumbers may become sanitary engineers, a man with a stop watch an efficiency engineer and we will have numerous other kinds of engineers. Some time when the energy of the sun is harnessed we will no doubt have sunshine engineers and bootleggers will make claim to the title of moonshine engineers.

In response to the request of prominent manufacturers and users of refractories required in steel making, the Department of Commerce called a meeting of all interests concerned recently. The American Foundrymen's association had adopted six nozzles, nine sleeves and one stopper as standard at its convention in 1918, but these standard types and sizes have not been widely recognized throughout the steel industry, as is shown by the fact that there are now close to 300 types and sizes of these refractories on the market. This great variety complicates production, hinders efficient distribution, and retards service until now both the producers and the consumers favor applying simplified practice,—or the elimination of the superfluous and excessive varieties, and the retention of those types and sizes in proven greatest demand.

Patent Rights In Relations Between Employer and Employee

By Arthur M. Hood
Rose '93

Letters Patent of the United States for inventions or discoveries do not grant to the inventor, or his assignee, any right, to manufacture, use or sell the thing patented but, instead, grant the right to exclude others from making, using or selling the thing patented.

As a result of the relation existing between an employer and an employee, during which relationship inventions are developed in the establishment of the employer, or as an outgrowth of the employment relationship, many vexing questions arise and it is not possible, within the scope of a short article, to treat all of the aspects but, if certain fundamental principles are borne in mind, the possibility of friction between employer and employee, relative to inventions, may be readily avoided and it has occurred to me that these fundamental principles may be set out in the form of questions and answers, as follows:—

1. Where an employer has in its engineering department, an employee who is employed as a draftsman or designer for the specific purpose of inventing, is the employer entitled to demand the title to any patents which may be obtained by the employee for machines or processes developed by him in the course of his employment?

a—Where there is a specific contract that inventions and patents shall be assigned;

b—Where there is only a general contract of employment even though it specifically states that the employment is for the purpose of designing and invention, the development work being at the expense of the employer;

c—Where, as in "a", the invention and development is at the employee's time and expense;

d—Where, as in "b", the invention and development is at the employee's expense.

2. Is there any difference in the applicable rules where the employee is a member of "an experimental department not directly employed as designer?"

3. If the invention of an employee in the experimental department, or the engineering department, has been patented by the company will the company be free to license other companies under patent without accountability to the inventor?

4. Assuming the preparation of an application for patent, can the employee be forced to sign the application papers in case his employment has ceased or his is unwilling to sign name?

5. Under the conditions stated in question 4, can the company secure a patent?

6. If application for patent has been made and assigned to the company, can the inventor be compelled to sign necessary papers required in an interference proceeding even though he is not then in the employ of the company?

Before answering any of these questions, it will be well to state some general propositions on related points.

First: It must always be borne in mind that the real inventor is the only person who can make application for patent and that a company, as an organization or entity, cannot make an application for patent.

Second: That the only way a company, as an entity, can obtain rights under the patent, is by way of assignment, either express or implied, from the inventor or from one who has obtained title from the inventor.

Third: That where an employer discloses the fundamental features of an invention to an employee, and the employee, in developing the invention, produces subsidiary and ancillary inventions the proper party to make application for patent, both for the primary invention and the subsidiary and ancillary inventions, is the employer, and not the employee, if the employer so desires.

Fourth: The third proposition stated above is not, of course, applicable to an employer who is a corporation, firm or other artificial entity, but that rule has been applied to the benefit of such an employer as follows:—If the primary invention is that of a superior employee and the superior employee assigns his invention to the employer then, in case subsidiary or ancillary inventions are produced by an inferior employee, under the direction and control of the superior employee, the superior employee may make application for patent, including the subsidiary and ancillary inventions of the inferior employee. The probabilities are, although I do not now have in mind any definite decision on this point, that if the superior employee attempted to patent the subsidiary and ancillary inventions for his own benefit, and against the interests of the employer, the rule here stated would not apply.

The answers to the fundamental questions are, I think, as follows:

1a. Yes. The contract however, must be clear and unequivocal, and beyond reasonable doubt indicate that it was the intent of the parties that the title to the patent monopoly should pass to the employer.

1b. No. So far as I know, there are no exceptions, excepting two cases where the employee was in a peculiarly confidential relation to the employer corporation, practically at the head of its affairs, and the entire business of the corporation was built up upon the invention as a basis.

While the employer is not entitled to title to the patent, he may, nevertheless, be entitled to certain rights to the invention and to certain freedom from liability to the employee (or his assigns) on a patent obtained by the employee.

For instance:—Suppose the employee has invented certain machines useful to the employer in prosecution of its business, and the employer, with the knowledge of the employee, and with his consent, has built and put into use, a specified number of such machines. Those particular machines are forever free from any liability under the patent and the employer may continue to use them, as long as they last, and to repair them from time to time, and to sell those particular machines to others for free use, all without liability under any patent obtained by the employee.

In the case of processes, the employer may continue to utilize the process, free from any claim under the patent, but this right to continue use of the process will not, in most instances, be assignable by the employer, either in part or in whole, and will not pass to the employer's successors in business or assigns in bankruptcy.

Where the employee's invention is an article of manufacture which the employer adopts and begins to manufacture, the employer may continue to manufacture and sell such devices, free from liability under any patent obtained by the employee, but generally this right is not transferable, without the consent of the employee, to the employer's successors in business or to his assigns in bankruptcy. This leaves the employee free to maintain his patent against other manufacturers and to assign it, in part or whole, to others, but the assignee will always take it subject to the shop right of the employer and that shop right may not be interfered with by the assignee.

The general rule is that the right which passes to the employer, free from liability under the patent, must be determined by the equities of the situation; the conditions of employment; the rights which may be implied by the acts of the parties; the silence of, or the stated claims made by, the employee, etc.

1c. No. As a general rule, although this may be modified, so as to give the employer limited rights, in the nature of shop rights, depending upon the equities of the particular case.

1d. No. Practically without exception.

2. As a general rule an employee, of the character stated, would stand upon the same footing as an employee of the class specified in question 1. However, there would be less probability of there being any equities which would be construed in favor of the employer and against the employee.

3. From the general statement of principles above, it will be apparent that the company could only have acquired title to the patent by and with the consent of the employee and when the title to the patent has been acquired, the company is entitled to act with full freedom under the patent; to assign it or to grant licenses under it without accountability to the employee. Of course, this general rule will be modified to any extent which may be expressed by special contract between the employer and employee relative to the particular patent, and as a general rule such contract would have to be in writing. In any event, to create any right in the employee to an accounting from the employer, there would have to be clear and convincing proof that such accountability existed.

4. I know of no procedure by which an inventor, or supposed inventor, whether employee or otherwise, can be compelled to sign application for patent, even where there is a direct and positive contract that patentable invention shall become the property of the employer. This is because an application for patent

comprises, among other papers, an oath by the inventor, or supposed inventor, that he believes himself to be the original, first and sole inventor, etc., and to avoid the filing of an application for patent, all the inventor needs to do, is to refuse to sign the oath and I know of no power of any court which can compel him to do so.

However, if an inventor has executed an application for patent, and the same has been filed, and he is under contract, either expressed or implied, to transfer the title to the patent expected on that application, to another, a suit for specific performance of contract may be maintained and upon proper showing the court can issue an order requiring the inventor, applicant, to execute an assignment. If there is a refusal to comply with the order of the court, the court has the power to appoint a trustee to execute an assignment, in accordance with its order, and this assignment will be accepted for record by the Patent Office and will effectually transfer the title of the pending application. The same rule will hold where the patent has been issued to the employee. If however, the employee has assigned his rights in such an application or patent to an innocent purchaser who had no knowledge of the contract relation between employee and employer, such innocent purchaser obtains a good title, free from any claim and the employer's remedy is by way of action against the employee for damages resulting from his violation of his contract. Under such conditions, the innocent holder of the patent may enforce it against the employer. These rules apply whether the employee continues in his employment, changes his mind, or otherwise.

5. The company cannot obtain a patent without the co-operation of the employee to the extent of his execution of the necessary application papers. However, the facts, connected with the employee's development of the invention may justify the contention that whatever he did was in the way of production of ancillary and subsidiary invention, the primary invention having been disclosed to him by the employer or a superior employee, in which case the employer, or the superior employee, (coupled with an assignment of the superior employee to the employer) may make application for the patent and include the subsidiary or ancillary invention of the employee.

Where an application for patent has been made by an employee and assigned to the employer and thereafter the application has been placed in interference, it is the general rule that preliminary statements and other essential papers in connection with the interference proceedings must be signed by the inventor but where the inventor refuses to sign such papers, the employer, (assignee of the application) may, upon proper showing, execute the necessary papers. Whether the inventor, applicant, remains in the employ of the company or not, he may be subpoenaed as a witness and compelled to testify as to facts within his knowledge. Such a procedure may, under some circumstances, be one filled with too much danger to follow, yet in cases of necessity it may be properly followed. As a general rule, however, under such conditions, the necessary proofs as to dates of conception, disclosure, reduction to practice, etc., may be made by the testimony of other witnesses having knowledge of the facts.

General Practice As to Inventing Employees

Many employers have adopted a general rule of requiring all employees, whose general duties involve

(Continued on page 28)

Registration Laws For Engineers

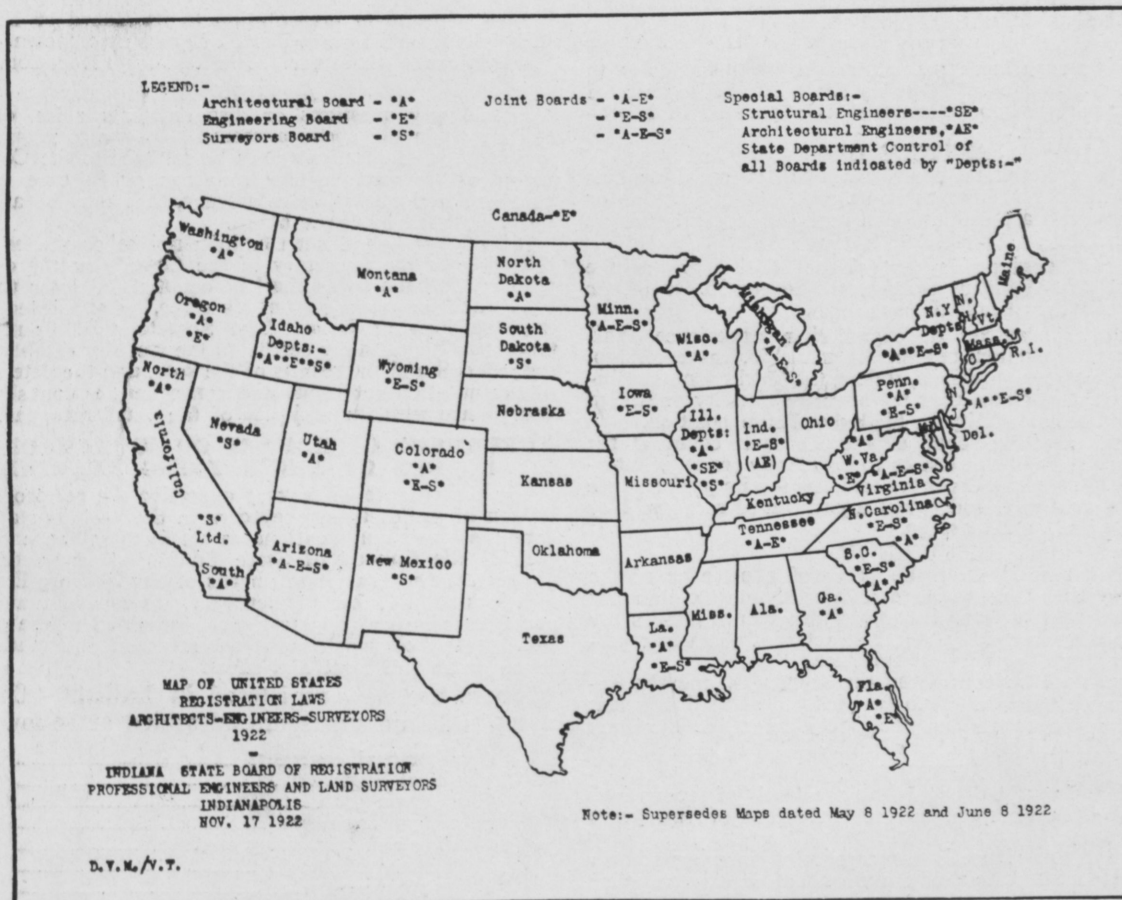
By R. L. McCormick
Professor of Civil Engineering

In writing a second article on the above subject, a word of apology to the readers of **The Rose Technic** may be proper, but the changes and additions to the status of the laws since the previous article was written are at least a partial justification for the appearance of this one.

The Seventy-Third General Assembly of the state of Indiana amended house bill 43 of the Seventy-Second General Assembly by extending the provisions of Article 10, commonly known as the "grandfather's clause," to September 1, 1923, which means that professional engineers and land surveyors who were practicing when the law went into effect may obtain registration without examination and simply by ap-

There are many objections to license laws of any kind, but I believe that the laws for licensing professional engineers and land surveyors are fully justified when one considers the enormous responsibility resting on designers of structures of all kinds. The collapse of the theatre at Washington, D. C., is a notable example of how poor engineering design may be disastrous. The question may be properly asked: How will these laws prevent such an occurrence?

If all engineers are registered and a failure occurs, it becomes the duty of those who have the power to revoke the license of the engineer who is responsible for the failure, thus preventing him from causing



plying and citing the facts under oath that they are citizens of Indiana, and were so practicing professional engineering or land surveying as above stated. The application is to be accompanied by five references and the fee of twenty-five dollars.

This provision will, of course, allow many to register who failed to take advantage of the previous opportunity under the clause which expired May 31, 1922. Section 9 of the act is known as the qualification clause and provides for registration by examination or on the basis of satisfactory professional record, and this section will be in force until repealed or modified by future general assemblies.

further damage. The result of such action will be a powerful influence for the prevention of faulty engineering.

A careful study of the accompanying map will convince almost anyone that ultimately an engineer whose certificate is revoked in one state will not be able to practice in any part of the United States.

License laws are not new, as Louisiana's law has been in effect since 1908. They are new, however, to a great many states, the various national engineering associations, which are strongly in favor of such legislation, having been active in formulating a law for all states which is uniform in its requirements.

Reciprocity in Registration

The Council of State Boards of Engineering Examiners, which is a national organization, at its third annual meeting in Chicago, in October, 1922, adopted articles of agreement on reciprocal registration of engineers. These articles are now approved by the following states: Oregon, Arizona, Colorado, Iowa, Michigan, Louisiana, Indiana, West Virginia, North Carolina, and Florida, and there is little doubt but that other states will adopt them in the near future.

The object of this agreement is to provide a means for an engineer to obtain registration in another state without a personal appearance. This is accomplished by a reciprocal certificate issued by his home board which states that he has complied with the requirements of the Council of State Boards which are as follows:

ARTICLES OF AGREEMENT FOR RECIPROCAL REGISTRATION

ARTICLE I.

Qualification for reciprocal registration shall be determined upon the basis of professional record, thorough consideration of which shall constitute examination.

ARTICLE II.

Engineering experience gained by the applicant prior to his reaching the age of 18 years shall not be deemed of sufficient importance to be counted as a part of such professional experience.

ARTICLE III.

Applicant's professional experience shall be considered as beginning when he emerges from the apprenticeship, or artisan class, into a position which requires original thought and responsibility.

(a) In civil engineering, experience shall begin at the point where the applicant reaches the responsibility of, or equivalent to, that of actual transitman.

(b) In other branches of engineering, experience shall count only after apprenticeship, foremanship, inspectorship, or other subordinate positions, unless the work done specifically shows that the applicant possesses originality of design and has had responsibility in his subordinate position.

(c) In the drafting room, experience shall count at the point where the applicant ceases to do merely tracing, lettering, or purely mechanical work, requiring for its performance only manual dexterity, and enters a position of responsibility where he begins actual design.

ARTICLE IV.

The applicant shall show the years of experience of the character indicated above as evidence of qualification for reciprocal registration, and his experience record shall show progressive advancement in the character of the work performed, without disqualifying evidence.

Each case shall be considered on its merits, and the experience record must be given in such complete detail that the Board of Examiners can accurately determine the class of work performed by the applicant.

ARTICLE V.

Graduation from an engineering school of recognized standing shall be accepted as the equivalent of two years of such practice.

The intent of this clause is to recognize engineering schools which exact the equivalent of a high school or a preparatory school diploma as an entrance requirement, and demand the equivalent of a four years course in engineering for graduation.

ARTICLE VI.

Where the experience record of an applicant shows that he has done exceptional work of much higher character than that implied in Articles 3 and 4, he may be granted reciprocal registration upon a record of seven years of experience, of which graduation from a recognized school of engineering shall count as two years.

ARTICLE VII.

The submission of a detailed professional record, properly attested, and accompanied by references as to character and qualification from three reputable, registered, practicing engineers, shall be considered as the equivalent of examination, and need not be presented by the applicant in person.

ARTICLE VIII.

Making reciprocal registration operative between the states shall be done by means of certification from one state

to another of the applicants qualification, and by the affixing to the license or registration certificate, renewal certificate, or annual card, of a seal, which shall bear the name of the board of examiners issuing same, together with the words "Reciprocal Registration."

This seal shall be in addition to any other seal required by state law to be affixed to such papers.

ARTICLE IX.

Whenever an applicant applies to a state board for registration, if his qualifications fully comply with the standard for reciprocal registration herein provided, he shall be entitled to the reciprocal registration certificate and seal.

Those who have previously been granted registration in their own states, upon applying for reciprocal registration, shall be granted same, if fully complying with the standard herein provided.

ARTICLE X.

The aforesaid reciprocal registration certificate shall be prima facie evidence of qualification for license in any state, member of this council. Upon presentation thereof, together with the legal fee required and such information (other than evidence of qualification) as may be requested for the records of the Board to whom the application is made, such board shall issue license or registration to the applicant.

ARTICLE XI.

Any reciprocal certificate may be revoked by the state issuing same upon presentation to its Board of Examiners of good and sufficient evidence of gross incompetence or that the applicant's character warrants such revocation.

ARTICLE XII.

Should any questions or disagreements arise, or should any points in the above agreement appear to require interpretation, such questions shall be referred to the Council for action at its next regular meeting; or in case more expeditious action shall be necessary, they may be acted upon by the council by letter ballot.

If by letter ballot, such ballot shall be conducted through the office of the Secretary of the Council in the customary manner, and the votes shall be counted not later than sixty days after forwarding from his office, by registered mail, of the questions at issue. The Secretary of Council shall thereupon immediately certify to the various members boards the roll call and the results of the vote, and the determination of the questions at issue, and consequent action shall be in accordance with the majority of the votes recorded.

AGREEMENT OF MEMBER OF COUNCIL OF STATE BOARDS OF ENGINEERING EXAMINERS

For the purpose of making operative the reciprocal registration of professional engineers in the various states, upon conditions and qualifications as set forth in the adopted report of the Council of State Boards of Engineering Examiners, the several State Boards of Engineering Examiners, members of the Council, hereby agree to adopt and put in practice reciprocal registration as provided in the aforesaid report, copy of which is hereto attached and made a part hereof, with full force and effect.

There are now registered in Indiana 1,064 engineers and land surveyors, classified as follows:

| | |
|--|-----|
| Architectural engineers | 129 |
| Chemical Engineers | 13 |
| Civil engineers | 603 |
| Electrical engineers | 92 |
| Heating and ventilating engineers..... | 27 |
| Mechanical engineers | 70 |
| Mining engineers | 30 |
| Structural engineers | 59 |
| Land surveyors | 41 |

Of these, 60 are non-residents of Indiana, coming from eleven different states. A great many of our engineers are exempt under the law which states that an engineer employed by a registered engineer shall be exempt from registration.

Time is necessary before a new law begins to find an understanding public, and there is always a tendency to criticize a registration law, but it is customary to license physicians, dentists, pharmacists and members of other professions, and I believe that the engineer, in safeguarding life, health and property, is as important a factor in our lives as any member of the other professions.

Report of The Thirty-seventh Annual Meeting of The Rose Polytechnic Alumni Association

The meeting was called to order at 2:30 P. M. by President Claiborne Pirtle, '98, and copies of the report of the thirty-sixth annual meeting of the Rose Polytechnic Alumni Association were handed to all present at the meeting.

The president stated that the secretary, Carl Wischmeyer, '06' was unable to be present, and asked Pine, '03, to act as secretary pro tem.

Upon motion made by Insley, '00, seconded by Hammond, '89, and unanimously adopted, the reading of the minutes of the thirty-sixth annual meeting was dispensed with.

Pine, '03, then presented the following report for the secretary-treasurer:

ANNUAL REPORT OF THE SECRETARY-TREASURER

To the members of the Rose Polytechnic Alumni Association:

I herewith submit the annual report of the secretary-treasurer for the period from June 8, 1922 to June 4, 1923:

ALUMNI FUND

| | |
|--|-----------|
| Receipts | |
| Balance on hand, June 8, 1922..... | \$ 431.32 |
| Dues for 1921-22 since last report | 8.00 |
| Dues for 1922-23 | 211.00 |
| | \$650.32 |
| Expenditures | |
| Election committee | \$ 57.12 |
| Executive committee | 28.56 |
| Athletic advisory committee..... | 234.40 |
| Banquet deficit | 12.87 |
| Printing, postage and misc..... | 90.00 |
| | \$423.85 |
| Balance on hand, June 4, 1923..... | \$226.47 |

BANQUET FUND

| | |
|---------------------------------|-----------|
| Receipts | |
| Collections, 125 at \$1.50..... | \$ 187.50 |
| From Alumni fund | 12.87 |
| | \$200.37 |
| Expenditures | |
| Total | \$ 181.87 |
| Printing | 18.50 |
| | \$200.37 |

TECHNIC SUBSCRIPTIONS

| | |
|------------------------|-----------|
| Receipts | |
| Total Collections..... | \$ 198.00 |
| Expenditures | |
| Paid to Technic | \$ 198.00 |

ATHLETIC FUND SUBSCRIPTIONS

| | |
|-------------------------|----------|
| Receipts | |
| Total collections | \$ 22.00 |
| Expenditures | |
| Paid to B. H. Pine..... | \$ 22.00 |

LOAN FUND

| | |
|-------------------------------------|------------|
| Balance on hand June 8, 1922..... | \$1,208.88 |
| Interest on loans and deposits..... | 46.90 |
| Balance on hand June 4, 1923..... | \$1,255.78 |

BILLS RECEIVABLE

| | |
|---|-----------|
| Loans outstanding June 8, 1922.... | \$ 635.00 |
| Repay loan No. 17..... | 100.00 |
| New loan No. 25..... | 100.00 |
| Balance outstanding June 4, 1923 | \$635.00 |
| Cash balance in loan fund, June 4, 1923 | \$620.78 |

FUNDS ON HAND, JUNE 4, 1923

| | |
|-------------------------|-----------|
| Loan fund | \$ 620.78 |
| Alumni fund | 226.47 |
| Total cash on hand..... | \$847.25 |

CASH IN BANK

| | |
|---|-----------|
| Terre Haute Trust Co., savings account | \$ 615.36 |
| Terre Haute Trust Co., checking account | 231.89 |
| Total | \$847.25 |

Respectfully submitted,
(Signed) Carl Wischmeyer,
Secretary-treasurer.

Upon motion of Hall, '97, seconded by Cook, '05, and unanimously adopted, the report of the secretary-treasurer was accepted.

The president then called for reports of committees. Shook, '11, reporting for Royse, '94, chairman of the Alumni Athletic Executive Board, stated that during the past year expenditures for athletics had been a little less than receipts only because no baseball games were played in Terre Haute except the game with Indiana State Normal, the equipment purchased last year had not been added to although uniforms were shabby and replacement and addition of other things were needed, and all expenditure had been curtailed sharply. He further stated that athletics had done about as well as could be expected with no practice grounds and that practice grounds were a crying need. Shook, '11, concluded his remarks by reporting Coach Millen's resignation, and stated that several applications for the place had been received, but no choice for his successor had been made.

Pine, '03, treasurer, then presented the following financial report of the Alumni Athletic Executive Board:

REPORT OF TREASURER OF ALUMNI ATHLETIC EXECUTIVE BOARD OF THE ROSE POLYTECHNIC INSTITUTE

CASH RECEIVED

| | |
|--|------------|
| Alumni Association | \$ 200.00 |
| Student Fund | 2,268.00 |
| R. P. I. | 1,620.00 |
| Pledges paid | 2,156.50 |
| Balance pledges paid from B. L. Heer, 1922 | 48.50 |
| Total | \$6,292.80 |

CASH DISBURSEMENTS

| | |
|---------------------|-----------|
| Miscellaneous | \$ 144.44 |
| Football | 1,881.15 |
| Basketball | 609.41 |

| | | |
|---------------------------------|----------|------------|
| Baseball | 127.46 | |
| Salary of coach | 2,250.00 | |
| Cost of collecting pledges..... | 87.18 | |
| Track and tennis..... | 185.96 | |
| | | \$5,285.60 |
| | | \$1,007.20 |
| Balance last year..... | 85.11 | |
| Cash on hand..... | | \$1,092.31 |

INVOICES UNPAID

| | | |
|------------------------------------|--------|----------|
| E. M. Roe Sporting Goods Co.....\$ | 230.24 | |
| Levin Bros. | 18.00 | |
| Kohl Drug Co..... | 11.76 | |
| Doctor bill | 50.00 | |
| | | \$310.00 |
| | | \$782.31 |

He concluded by stating that the balance reported was misleading since the coach's salary for three months was yet to be paid, which would practically eliminate the surplus.

Upon motion of Insley, '00, seconded by Hendricks, '89, and unanimously adopted, the report was accepted.

Hall, '97, as chairman of the Alumni Athletic Finance Committee then presented the following report:

Mr. Hall reported pledges amounting to \$3,178.50, with contributions of \$66.00. The collections by Ben Heer, '12, for the period June 8 to Aug 8, 1922 were reported as \$95.00, while those of the committee from the latter date until June 7th, 1923, were \$2,156.50, bringing the total collections to \$2,251.50. The total due on all pledges were reported as \$3517.50; expenses of stationery, printing and postage were reported as \$87.18.

Mr. Hall credits the following members of the committees with having borne the brunt of the committee work for 1922-23:

H. St. Clair Putnam, '86.
Francis H. Miller, '95.
O. E. McMeans, '96.
Frederick G. Hunt, '96.
W. G. Arn, '97.
Herman S. Heichert, '97.
John J. Kessler, '97.
Harry C. Schwable, '99.
Max Hamill, '01.
Benj. H. Pine, '03.
George Pfeif, '05.
A. A. Piper, '10.
W. Scott Mace, '12.
Richard Fishback, '12.
Harry S. Goldman, '14.
Joseph Carter, '16.
Chester A. Williams, '17.
Walter C. Wente, '17.
Whitcomb W. Moore, '20.
William H. Junker, '21.

He concluded by saying that it was not generally understood that payment on pledges was due June 1 of the year in which the pledge was signed.

Upon motion of Hendricks, '89, seconded by Hammond, '89, the report was unanimously accepted. As a result of the discussion of this report, the following resolution was offered by Shook, '11, seconded by Stoner, '15, and unanimously adopted:

RESOLVED: That the officers of the Association be and hereby are instructed to make every effort to increase the pledges to insure an income of \$5,000 per year to the alumni athletic fund.

To provide funds for this purpose the following resolution was offered by Hall, '97, seconded by Cook, '05, and unanimously adopted:

RESOLVED: That in addition to the surplus left from the appropriation of \$200 made in June 1922, the sum of \$100 be and is hereby appropriated for the purpose of defraying expenses incident to the work of soliciting pledges and collecting income from pledges to the alumni athletic fund.

Prof. Peddle, '88, as chairman of the committee on alumni participation to secure \$100,000 to insure the conditional gift of \$100,000 from the general educational board, submitted the following report:

An Alumni Advisory Committee of which I was chairman, appointed by President Claiborne Pirtle to confer with Dr. Woodworth on ways and means to secure the \$100,000.00 necessary to meet the requirements of the gift from the General Education Board met on November 11th, 1922. On this committee were Pirtle, Craver, Hammond and Brent Wiley, and we met with Dr. Woodworth and about half a dozen members of the Board of Managers.

The Board agreed to look after the local situation and the above committee agreed to canvass the alumni. Dr. Mees was asked to head the work among the alumni and after some hesitation agreed to do so, being promised the support of the committee wherever it was needed.

The time limit for the completion of this work was very short as we only had until February 1st, 1923; Dr. Mees at once got to work and was able to visit a few of the Tech Clubs and to reach a number of individual members by letter. Due to sickness in his family he was only able to do a portion of the work which he had planned and by February 1st, had succeeded in securing pledges for \$19,160.00. Much territory which it was planned to work was absolutely untouched and it is certain that if it had been the results would have been much better. An extension of one year was secured by Mr. Bogart of the Board of Managers, but so far as I know, no further efforts have since been made.

I wish to call your attention to the imperative need of proceeding at once to finish up this business and I recommend that the incoming president be instructed to take active steps to put the necessary machinery in motion. It takes time to get such a movement organized, and more time to do the work thoroughly, and it is none too soon now to begin it.

Unless we put this thing through now we shall not only lose the gift from the General Education Board but also the interest which they have been paying us for several years. Not only that but it will be forever impossible for us to approach this corporation or any other with an application for help. Our past record will be cited as ample reason for refusing to give us any further consideration.

JOHN B. PEDDLE.

The conditions of this gift are as follows:

The general educational board offered to give Rose Polytechnic Institute \$100,000 for their endowment fund, intimating strongly that it should be applied to the payment of the salaries of the teaching staff, provided \$200,000.00 was raised by the Institute before February 1, 1923. Mr. Deming before his death gave \$100,000, which left \$100,000 to be raised, and it is this last \$100,000 that must be raised.

After thorough discussion, it was the sense of the meeting that the Alumni Association should continue to cooperate with the Institute to secure this fund, and it was assumed that the new president would take steps to this end.

Upon motion by Eastwood, '06, seconded by Rasmussen, '12, and unanimously adopted, it was resolved that a vote of thanks be extended to Dr. Mees for his valuable work in this connection.

One hundred twenty-three answered roll call.

There being no unfinished business the president presented his report.

Mr. Pirtle said in part:

"When you elected me president of your association last June, I considered that an honor had been conferred upon me. I also considered that an obligation had been paid on me and with it that an opportunity had been presented. With the honor went the obli-

gation to use my best efforts to build a bigger and better Alumni Association.

"At the close of this meeting, the class of 1923 will be inducted into membership in the Association, and so it has been with every previous class, so that, theoretically, every alumnus is a member of the Alumni Association.

"Too many alumni, unfortunately, do not realize or refuse to acknowledge what Rose has done for them in giving them their education; and too many seem to lose interest in Rose after they have graduated and, of course, show no interest in the Alumni Association. These men are not altogether to blame, because there has been too little organized and continuous effort to create and sustain interest of the alumni in Rose and the Alumni Association.

"No regular channel, through the Alumni Association, for the dissemination of information of the activities of the Association has been provided, and no official participation in the commencement exercises of the alumni who returned at commencement time has been arranged.

"There has been, of course, the alumni speaker, but all of the other alumni have been left to shift for themselves. A resolution will be in order, at the close of these remarks, to continue the bulletins which have been sent the alumni this year each two months while the Institute is in session, and a resolution to increase the dues to provide funds for this purpose and for other approved purposes will also be in order."

Upon motion by Hammond, '89, seconded by Fishback, '02, this report was unanimously accepted and ordered spread on the minutes.

Fishback, '02, then read a partial list of men eligible for pre-graduate membership, and after discussion, upon a motion by Eastwood, '06, seconded by Fishback, '02, and unanimously adopted, the incoming president was instructed to appoint a committee including at least one alumni-faculty member to complete the list of men eligible for pre-graduate membership in the Association, to check this list carefully as to desirability, to get the approval of the executive committee, and present the list at the next annual meeting.

The question of continuing the bulletins that have been sent to the alumni during the past year was then introduced, and after discussion and upon a motion by Insley, '00, seconded by Leinberger, '16, and unanimously adopted, it was

RESOLVED: That the incoming officers be and are hereby instructed to issue bulletins to all alumni each two months while the Institute is in session during the year 1923-24, and that the secretary-treasurer be instructed to bill all alumni in the additional amount of \$1.00 to defray the expenses of issuing these bulletins, and,

BE IT FURTHER RESOLVED: That the incoming officers be and are hereby instructed to bring up the question of permanently increasing the dues to the Alumni Association at the next annual business meeting.

It was pointed out that only one-fifth of the alumni were paying members of the Alumni Association, and the hope was expressed that the revival of interest in the Association would impel at least one-half of the alumni to become paying members.

Upon a motion by Hall, '97, seconded by Mace, '12, and unanimously adopted, it was

RESOLVED: That a committee be appointed and given the power to represent and act for and in behalf of the Alumni Association, until the next annual meeting of the Association, in all matters relating to the affairs of the Institute, and

BE IT FURTHER RESOLVED: That the chairman of this committee be and is hereby instructed to make a complete and accurate report of its activities at the next annual meeting of the Alumni Association, and

BE IT FURTHER RESOLVED: That this committee shall be composed of the following:

John J. Kessler, '97, president Alumni Association, chairman,

W. Arnold Layman, '92,

Herbert Foltz, '86,

W. G. Arn, '97.

Upon a motion by Kessler, '97, seconded by Eastwood, '06, and unanimously adopted, it was

RESOLVED: That the officers of the Association and the executive committee who were responsible for making the meeting this year such a success be thanked for their efforts.

Upon a motion then offered by Foltz, '86, seconded by Fishback, '02, and unanimously adopted, it was

RESOLVED: That the thanks of the Association be extended to Kessler, '97, for his splendid alumni address.

Upon a motion made by Hall, '97, seconded by Hendricks, '89, and unanimously adopted, it was

RESOLVED: That the rules be suspended and the secretary pro tem be instructed to cast one ballot re-electing the present executive committee, namely, Mace, '12, chairman; Shook, '11, and Stock, '08, for the year 1923-24.

The report of the election was called for and C. E. Scott, '86, chairman of the election committee announced that a count of the ballots had resulted in the election of Pirtle, '98, as alumni representative on the Board of Managers of Rose Polytechnic Institute for the years 1923-24 and 1924-25; Kessler, '97, as president of the Rose Polytechnic Alumni Association, and Hood, '93, as vice-president of the Rose Polytechnic Alumni Association for the year 1923-24.

Upon a motion by Hendricks, '89, seconded by Kline, '16, and unanimously adopted, it was

RESOLVED: That the rules be suspended and the secretary pro tem be instructed to cast one ballot re-electing the present election committee, namely, Scott, '86, chairman, and Johonnott, '93, for the year 1923-24.

It was requested that the election committee in the future make explicit note on the ballot that only one of the five candidates for president and vice-president should be voted for.

The president read a letter of resignation from Secretary-Treasurer Carl Wischmeyer, '06, whereupon the following resolution was offered by Foltz, '86 seconded by Gillum, '19, and unanimously adopted.

RESOLVED: That the rules be suspended and the secretary pro tem, Pine, '03, be instructed to cast one ballot unanimously electing himself to the office of secretary-treasurer of the Rose Polytechnic Alumni Association.

Nominations

Nominations for candidates for president and vice-president of Rose Polytechnic Alumni Association for the year 1924-25 were called for, and the following men duly nominated: George W. Brooks, '16, Chesleigh Gray, '13, William S. Hanley, '05, Harold O. Kelley, '13, Orion L. Stock, '08.

(Continued on page 29)

ALUMNI REUNION REGISTER

1886
Harry G. Brownell, New York.
Herbert W. Foltz, Indianapolis.
John A. Parkhurst, Williams Bay, Wis.
Charles E. Scott, Terre Haute.
John T. Wilkin, Connersville, Ind.

1887
Oscar Baur, Indianapolis.

1888
George M. Davis, Terre Haute.
John B. Peddle, Terre Haute.

1889
Alonzo J. Hammond, Chicago.
Victor K. Hendricks, Terre Haute.
Walter B. Wiley, South Chicago.

1891
Abe Balsley, Chicago.
Robert L. McCormick, Terre Haute.
Omar C. Mewhinney, Terre Haute.

1893
Svend E. Johannesen, Pittsfield, Mass.
Edwin S. Johannott, Terre Haute.
August H. Klotz, Sandusky, Ohio.
Charles C. Rose, Little Rock, Ark.

1896
Harry J. McDargh, Chicago.

1897
Jay H. Hall, Cleveland, O.
John J. Kessler, St. Louis.
Temple G. Pierson, Spencer, Ind.

1898
Claiborne Pirtle, Cleveland, O.
Morton B. Stewart, El Paso, Tex.
Cale Wamsley, St. Louis.
Frank A. Whitten, Pontiac, Mich.

1900
William H. Insley, Indianapolis.

1902
Claude E. Cox, Detroit, Mich.
Frederick R. Fishback, Cleveland.
Arthur J. Paige, Detroit, Mich.

1903
John A. Cushman, Terre Haute.
William D. Ingle, Oakland City, Ind.
Benjamin H. Pine, Terre Haute.
Chester L. Post, Chicago.
H. Edmund Wiedemann, St. Louis.

1905
C. B. Cook, Cleveland.
William S. Hanley, Tyler, Texas.
John S. McBride, Chicago.

1906
John R. Curry, Indianapolis.
Harry W. Eastwood, Cleveland.
Edward C. Ryan, Chicago.
Roy Thurman, Muncie, Ind.

1907
Thomas E. Routledge, Terre Haute.

1908
John E. Bernhardt, Chicago.
Emil J. Fischer, Terre Haute.
Roy H. Jackson, Oakland City, Ind.
Herbert D. Orth, Madison, Wis.
Walter W. Willison, New York.
Ottiwell Wood, Terre Haute.

1909
John C. Johnson, Indianapolis.
Ernest W. Klatte, Indianapolis.
Fred C. Kruger, Victoria, Kansas.

1910
Orville M. Bercaw, Chicago.
Benjamin G. Elliott, Madison, Wis.
Alfred A. Piper, Cincinnati.
Leo F. Stahl, Indianapolis.

1911
Ernest E. Garst, Havana, Cuba.
Kenton R. Garst, Indianapolis.
David J. Johnson, Chicago.
Philip A. Newhart, Terre Haute.
Wilbur B. Shook, Indianapolis.
Henry R. Voelker, Terre Haute.
William D. Wallace, Terre Haute.

1912
Benjamin L. Heer, Terre Haute.
Joseph A. Hepp, St. Louis.
W. Scott Mace, Terre Haute.
Alvin C. Rasmussen, Indianapolis.
Ralph R. Schoonover, Terre Haute.
Frank H. Wentz, Cincinnati.

1913
Camille C. Baines, Terre Haute.
Chesleigh Gray, Indianapolis.
Harold O. Kelley, Moberly, Mo.
Warren T. Reddish, St. Bernard, O.
Kenneth V. Wood, Urbana, Ill.

1914
Hubert B. Deming, Terre Haute.
James M. Schoonover, Terre Haute.

1915
J. Norvin Compton, Clendenin, W. Va.
Harry G. Coordes, Detroit, Mich.
Patrick L. Millette, Chicago.
Charles N. Stevens, Appleton, Wis.
George J. Stoner, Terre Haute.
Hugh E. Wallace, Terre Haute.

1916
George G. Anderson, Chicago.
George W. Brooks, Chicago.
Frank J. Kline, Terre Haute.
Robert F. Leinberger, St. Louis.
John F. O'Brien, Clendenin, W. Va.
Ralph A. Stuart, Terre Haute.

1917
Richard Aitken, Terre Haute.
Elmer O. Austermyer, Buffington, Ind.
Raymond S. Davis, Indianapolis.
Thomas M. Evans, Ft. Wayne.
W. Charles Wentz, Cincinnati.
Chester A. Williams, St. Louis.

1918
E. Eugene Van Buren, Edgewood, Md.

1919
Owen G. Floyd, Muncie, Ind.
Richard P. Gillum, Terre Haute.
Aaron W. Richardson, Terre Haute.
Lester S. Stinson, Chicago.
Robin E. Woodruff, Indianapolis.

1920
Harold L. Kessler, Chicago.
Glenn N. Maxwell, Terre Haute.
Whitcomb W. Moore, Indianapolis.
Frederick B. Ray, Canonsburg, Pa.

1921
Allan S. Bixby, Indianapolis.
Edwin H. Carnarius, Terre Haute.
Carl J. Dedert, Terre Haute.
Edward F. Jaenisch, Louisville.
William H. Junker, Louisville.
Sidney J. Reibel, Terre Haute.
C. Richard Voges, College Station, Texas.

1922
Harold D. Brown, Terre Haute.
Owen E. Conover, Schenectady, N. Y.
James W. Landrum, Greencastle, Ind.

1923
James E. Albright, Terre Haute.
Joseph W. Anstead, Terre Haute.
Ralph B. Bennett, New Palestine, Ind.
Walter K. Boyd, Chicago.
Eugene C. Brown, Kansas, Ill.
Miles Griffith, Chicago.
Richard W. Hager, Schenectady.
Herman H. Heck, Terre Haute.
Harold H. Johnson, Terre Haute.
Oliver W. Neukom, Terre Haute.
Leonard F. Quinlan, Chicago.
Sylvester J. St. Clair, Terre Haute.
J. Russell Snyder, Terre Haute.
Jesse L. Tygart, Terre Haute.
Allen J. Weinhardt, Jr., Terre Haute.
Morgan Wesley, Jr., Terre Haute.
Edwin H. Wolff, Louisville, Ky.
Albert E. Woolen, Terre Haute.
Royce D. Wright, Terre Haute.

ALUMNI PERSONALS

Henry Offutt, '22, is district salesman with the General Electric Co. at Louisville. "Hank" appears to be glad to be at home again.

H. F. Madison of Century, '00, who was formerly located at South Charleston, W. Va., can now be addressed at 401 Broadway, Gary, Ind.

Edmund T. Buckley, '09, has removed from Los Angeles to La Crescenta, California.

Lou Acheson, '22, was married in the month of June, and entered, at that time, into partnership with his brother in his home city, Brazil, Ind.

Kenneth DeBlois, '22, who was formerly with the Big Four railroad at Cincinnati in bridge design, has become connected with the Illinois Central railroad at Chicago.

Jerome Farmer, '20, who has given the registrar a lot of unholy cause for disturbance by not staying in one place, has finally been run to earth by that enterprising individual, who says he is now at 316 North Taylor St., South Bend, Ind.

Joseph S. Gillum, '15, has been promoted by the Pennsylvania railroad, and transferred to Columbus, Ohio.

Henry C. Gray, '17, is foreman of the Pennsylvania railroad shops at Lancaster, Ohio.

F. G. Klatte, '18, has removed from Racine, Wis., to Kalamazoo, Mich.

Carl J. Krieger, '12, formerly with the Underwriters Laboratories, Chicago, has taken a position in New York City.

W. E. M. Miller, '19, is now in Henryetta, Okla.

Hubert Reed, '22, formerly in Altoona, is now in Wood River, Pa.

W. E. Richards, '17, has gone from Indianapolis to Evansville to become chief engineer with the Electric Headlight Co. there.

M. C. Scott, '22, who has been at home ill for several weeks, has returned to his position with the Sinclair Oil Co. at Chicago.

R. M. Smith, '15, formerly at Rockford, Ill., has appraised the registrar that he is now in Indianapolis.

Robert H. Moth, '93, record of whom has been lacking for the past two years, is, according to Prof. Robert L. McCormick, located at Michigan City, Ind., as city engineer.

Duncan Baker, '22, has joined the United States Coast and Geodetic Survey, and has left with his wife to sojourn in Juneau, Alaska.

W. L. Clore, '11, can now be addressed: Route 17, Anchorage, Ky.

Freudenreich, '06, with the Universal Portland Cement Co. at Chicago, has had a promotion that makes him assistant superintendent of plants number three and four.

Eugene Whitlock, '22, is with the Connersville Blower Co., Connersville, Ind. Wilkin, '86, is president of the company.

A card to **The Technic** from Charles F. Harris, '14, 1443 East 67 St., Chicago, reads:

"Announcing the birth of Esther May, on Decoration Day, 1923. Weight, 8 pounds, 6 ounces."

Congratulations, Charlie!

J. C. C. Holding, '94, is now connected with the car department of the Bethlehem Steel Co., handling the sales of all-steel cars, and located at the home office. Holding was formerly with the Cambria Steel Co., whose car manufacturing plant the Bethlehem company acquired.

Recent visitors have included:

Hubert Goodman, '21, of Sapulpa, Okla.

Robert Walker, '22.

Milton Steffen, '22, of the Illinois state highway commission.

Deleon Young, '22, of Chicago.

Floyd Hunt, '22, of Tulsa, Okla.

Ernest Hunt, '22, of Denver, Colo.

William S. Hanley, '05, of Tyler, Texas, stopped here on his way to the convention of the A. S. C. E. in Chicago.

Fred M. Pence, '21.

PRE-GRADUATES

The attempt which has been made during the past year to get a record of all former Rose men who are entitled to membership in the Alumni Association as "pre-graduate members," that is, men who have completed two years of school, has been fairly successful. To date, 52 pre-graduate eligibles have been recorded, although it is surmised that probably as many more "ex" men are eligible to this classification. It is expressly stated in the constitution of the Alumni Association that pre-graduate members are members in full standing of the association, enjoying all its privileges except the holding of office.

BALLOTING

Balloting for president and vice-president gave the following major results:

| | |
|--------------------------|----|
| J. J. Kessler, '97..... | 25 |
| A. M. Hood, '93..... | 21 |
| F. R. Fishback, '02..... | 20 |
| W. G. Arn, '97..... | 18 |

The two other nominees were Benjamin L. Heer, '12, and J. B. Tygart, '14.

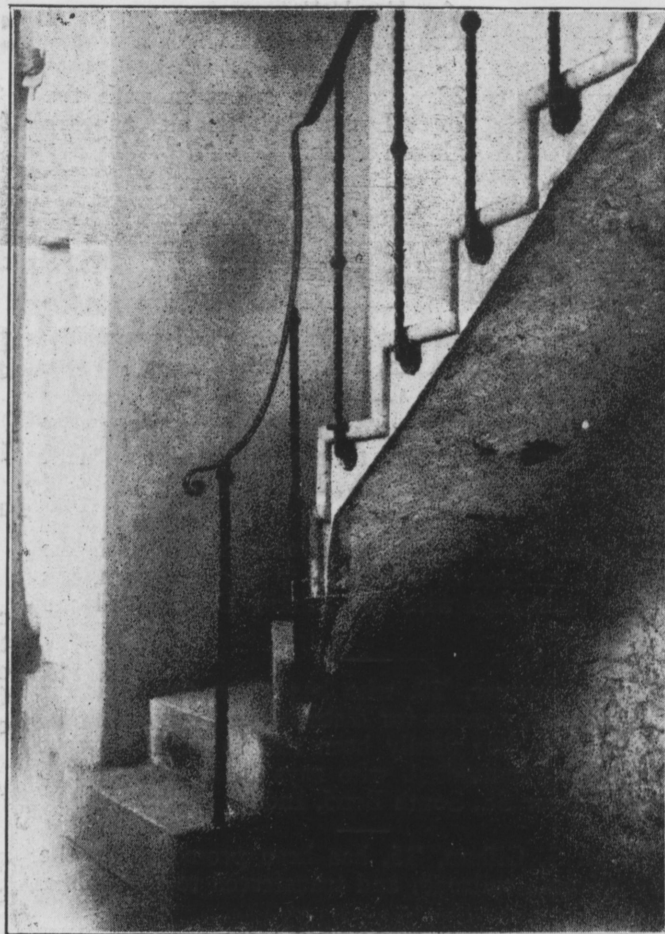
For alumni representative on the board of managers, the balloting showed:

| | |
|----------------------------|----|
| Wilbur Shook, '11..... | 78 |
| Claiborne Pirtle, '98..... | 79 |

REAGAN, '12, GAINS FAME IN ARCHITECTURAL WORLD

Oliver Reagan, Rose, '12, has just completed his European study under the Le Brun Traveling Scholarship, which he won in 1921. Mr. Reagan has been in Italy, studying types of Tuscan architecture. The two illustrations on this page are reduced photographs of work which Mr. Reagan did in conjunction with Harold Donaldson, who studied with him. They are reprinted by permission of William Helburn, publisher, New York City, from "Details of the Architecture of Tuscany."

The Le Brun Scholarship competition is held yearly by the American Institute of Architects. The first prize, the Traveling Scholarship, was awarded to Mr. Reagan in February, 1921, by a jury of five architects, over forty competitors,



representing aspirants from thirteen states, distributed widely throughout the country. The competition in 1921 was particularly keen, and Mr. Reagan's winning of the award is regarded as a high index of his architectural ability.

For the first two years after his graduation, Mr. Reagan worked in architects' offices in Louisville, Ky., and in Columbus, Ohio. In 1914, he went with Mr. H. Van Buren Magonigle, New York, where he remained until 1921, with the exception of a short time spent with Messrs. York and Sawyer and his period of war service.

Reagan was in the United States Air Service, A. E. F., during 1917, 1918 and 1919, three months of which he served in the A. E. F. Art Training Centre, Bellevue, France.

Mr. Reagan studied from 1914 to 1917 under Mr. Magonigle and in the Atelier Corbet and the atelier of Columbia University. He has been with York & Sawyer, New York architects, since his return from abroad.

ENGINEER SPORTS

Playing their best ball of the season, the Engineers held DePauw to an 8 to 8 draw in twelve innings of overtime battling. The combat was staged at Greencastle on April 30. Staggs pitched good ball for the Poly crew, especially in the tight places. Downen, Anstead and Hager played winning ball for Rose, both in the field and at bat. Hager displayed some neat backstopping in the closing frames of the argument by making some sensational stops of Staggs' badly pitched balls, when runners were stationed at third. The game was called at the end of the twelfth inning because of darkness.

On May 7, the Rosemen obtained, to a small extent, revenge on the Merom college nine at the Three I's park. Earlier in the campaign the Engineers were beaten by the Merom gang, just after State Normal had smothered the Rose conquerors under a 25 to 0 count the previous Saturday. This made the Poly ball players look somewhat mediocre. However, as was said before, the Engineers evened up things a little by handing Merom a 5 to 0 beating in the return game at Athletic Park.

Captain Boyd did the pitching in this game and he did it quite well. In other words he hurled no-hit ball for six sessions. All told he allowed only four scattered blows. The fray was halted at the start of the eighth because of rain. Up to that time Downen and Boyd got a pair of singles apiece and Brown and Anstead gathered two bingles between them.

On Saturday, May 19, the Engineers slipped over to Indianapolis for a tilt with Butler. The Butler moundsman must have used a "ghost ball" on the Rose tribe. Anyway, the Rose "hitters" failed to get a single blow off the Bulldog twirler. Naturally Butler won. The count was 11 to 0.

The first Normal-Rose combat was decided at Parsons Field on May 23. Of course the Teachers annexed the fray. It's getting to be quite a habit with them. The score was 7 to 0. Fox and Hager formed the battery for the Engineers and Case and Dicken upheld Normal's end of the argument.

TRACK

The annual Normal-Rose track meet was won, for the first time in history, by the Teachers. The score was 76 to 50.

Sevedge, next year's captain and vaulting star won the pole vault at a height of 11 feet. Schoonover made eleven points and Sevedge ten. Sevedge also tied for first in the pole vault at the Indiana conference meet at Richmond. The Normal-Rose track summary.

120-yard high hurdles—Bratton, Normal, first; Dunlap, Normal, second; Mayrose, Rose, third. Time, :20.

100-yard dash—Holland, Normal, first; Shelton, Normal, second; Miller, Rose, third. Time, :10 4-5.

One-mile run—Hermling, Normal, first; Withrow, Rose, second; Moench, Rose, third. Time, 5:10.

220-yard low hurdles—Burris, Normal, first; Holland, Normal, second; Mayrose, Rose, third. Time, :28 2-5.

Pole vault—Sevedge, Rose, first; White, Rose, second; Dunlap, Normal, third. Height, 11 feet.

Two-mile run—Griffith, Rose, first; Andrews, Normal, second; Withrow, Rose, third. Time, 11:8.

440-yard dash—Tomey, Normal, first; Stallard, Rose, second; Hoffman, Rose, third. Time, :53.

Shot put—Story, Normal, first; Tapy, Normal, second; Schoonover, Rose, third. Distance, 32 feet, 10 inches.

R. O. T. C. CAMP

The Rose R. O. T. C. students will don their uniforms for the summer training camp period of six weeks at Camp Custer, Michigan, beginning June 14.

The advantages of the training and experience gained at a camp cannot be penned. "You must go through it yourself to fully appreciate the benefits derived," said a student at close of camp, last year. There is plenty to do to put you in good physical shape. But it is not all work and no play.

The training will be in accordance with programs furnished by the War Department and will supplement courses taken during the school year as to afford training not practicable at the institution they are attending.

It is planned this year to allow more time for recreation. There will be no scheduled instructions for the opening or closing of camp, for Wednesday or Saturday afternoons, and for Sundays and holidays. It is probable that the day will be divided into a five hour period in the morning and two in the afternoon.

There will be games in baseball, tennis, volley ball, soccer and swimming, daily. Bath house has been completed, floats and life saving ropes put in Eagle Lake, and a number of boats have been promised by the American Red Cross. A field day to include all sports, is on the program.

The hostess house where dances are held weekly has been improved and 5000 books placed in the library. Daily newspapers from principal cities will be on file. Writing material will be furnished gratis and a hostess and several aids will be on duty.

The theatre will have motion pictures five nights a week and vaudeville shows on Saturday. Boxing will be the attraction on Thursdays.

Four trucks have been provided to transport students to various places of interest in the neighborhood of the camp. Picnics will be given at Gull Lake, a summer resort.

The Camp Commander, Brigadier General Geo. V. H. Moseley, extends an invitation to friends and relatives to visit the camp. There are excellent accommodations at Battle Creek, seven miles away.

Camp Custer was reported last, as one of the best, if not the best camp in the United States, considering morale, equipment, system of training, site, etc. It was then as now commanded by General Moseley. Colonel T. L. Shelbourne, on duty as P. M. S. & T. at the Michigan Agricultural College, will be senior-instructor of the R. O. T. C. Camp.

Those who are attending 1923 camp at Custer are:

Seniors: Brinton, Haupt, Graul, Scharpenburg, Reddie.

Juniors: Grafe, McDargh, Bradford, Merrill, Wilbur Wilson, Moorhead.

Sophomores: Kelly.

880-yard run—Dreher, Rose, first; Stanton, Normal, second; Walker, Normal, third. Time, 2:14 2-5.

High jump—Sevedge, Rose, first; Bratton, Normal, and Tapy, Normal, tied for second. Height, 5 feet, 4 inches.

220-yard dash—Holland, Normal, first; Burris, Normal, second; Miller, Rose, third. Time, :23 3-5.

Broad jump—Edwards, Normal, first; Bratton, Normal, second; Tapy, Normal, third. Distance, 19 feet, 11½ inches.

Discus hurl—Schoonover, Rose, first; Iker, Rose, second; Tapy, Normal, third. Distance, 102 feet, 3 inches.

Javelin throw—Schoonover, Rose, first; Newport, Normal, second; Bratton, Normal, third. Distance, 144 feet, 10 inches.

Officials: Referee and starter, Cook, DePauw; scorer, Lamb.

ALUMNI ADDRESS

By J. J. KESSLER, '97

"Father time holds many treasures. There are locked in the storehouse of our memories many recollections of Rose that are precious to us all. In order to recall some of these memories, we will endeavor to review the forty years that have passed since the time when Rose Polytechnic first began to carry out the will of its illustrious founder, Chauncey Rose, "Gave and Bequeathed."

"That gift and bequest has borne fruit for forty years. Who can estimate the benefits that are still to come to the younger men of the future. In some manner or other the life of Rose has come in contact with the life of each one of us, or else we would not be together in this group on this particular morning.

"The original articles of association—written in 1874 and signed by Chauncey Rose and his colleagues, completely outlines the general theory upon which the institution has since been conducted. For any one to maintain that Chauncey Rose had no higher vision than to make this institution simply a trade school, is simply to acknowledge that he had never read the original articles of association. Read them and you will find that the original plan was even broader than the one which was early found practical for financial and other reasons.

1885

"The first class graduated from Rose in 1885 and consisted of three members—Mr. Samuel S. Early, who is assistant to the president and secretary of the Ames Shovel and Tool Co., Boston, Mass.;

"Ozni P. Hood, who is chief mechanical engineer of the United States bureau of mines, and Benjamin McKeen, vice president of the Pennsylvania railroad company at St. Louis, Mo.

1886

"The class of '86 graduated sixteen men. The work of Rose was getting under way. It will be impossible in this short review to name the names of all the graduates who now begin to add to the list of alumni each succeeding year. Herbert Foltz came from the class of '86. From that time to this he has attended every commencement of the institute and has shown in a thousand ways his loyalty to his alma mater.

1887

"Thomas C. Mendenhall came to the institute in 1887 and immediately captured all hearts. His presence was genial, his conceptions were clear and accurate, his thought was rapid, his judgment quick, his conclusion correct. There was no mistaking the value of his influence upon the school. It was in the direction of exactness. Mr. Mendenhall resigned from the institute in 1890 to take charge of the U. S. Coast and Geodetic survey. The class of '87 graduated eight members.

1888

"The class of '88 graduated nine members, including John B. Peddle. Jackie Peddle entered the service of the Institute as associate professor of drawing in 1889 and from that day to this he has given Rose the very best of his talent and enthusiasm. Rose has now graduated altogether thirty-seven men. The men began to feel their common obligation to Rose. An Association of Alumni was effected in 1888. Ben McKeen was the first president and Edward C. Elder the first vice president. This Association has grown each succeeding year as newer classes of men have graduated. It has contributed not a little toward keeping alive the spirit of Rose.

1889

"The class of 1889 graduated eighteen members. By this time the faculty organization had been largely completed and there had become associated together that remarkable group of men who have done so much toward defining the character of Rose. In this year, two freshmen, McCabe and McCormick founded what was known as the Rose Polytechnic Telegraph Association. An orchestra club was organized in November of this year. Johanneson, '93, was its first president and director. A concert was given on May 23, 1890. The orchestra consisted of twelve pieces.

1890

"The class of 1890 graduated fourteen members. The first fraternity was founded in Rose—the Phi Sigma Phi. It was a local frat and for several years held the field.

1891

"Names familiar to Rose men for thirty years since began to appear in the catalogue of the Institute—Ames, Wicker-

sham and Waldo came in 1883, Hathaway and Noyes in 1886, Howe and Mees in 1887, Brown and Gray and Peddle in 1889, Place in 1890, and McCormick in 1891.

"Dr. Henry T. Eddy succeeded Dr. Mendenhall as president of the Institute. He was a scholarly man, a student of books. He was called to follow a man who had resigned when at the height of success but he had the welfare of the institution at heart and he won the respect and appreciation of the student body. The class of 1891 graduated seventeen students, including Robert L. McCormick. He became an instructor in mathematics and German the same year and like Professor Peddle, "Mac" has made the teaching of Rose students his life work. Student activities of several different kinds begin to develop in Rose. The student body is beginning to find itself. Class spirit is becoming evident. The class of '95 begins the account of its class history in the first Modulus published in 1892 with these words.

"Only a few months ago '95 entered R. P. I. and with us came the life of the school."

"On June 12, 1891 the first volume of *The Technic* appeared with W. A. Layman as its first editor. On the editorial page of this first issue appear these words. 'Six short years have passed since Rose Polytechnic Institute was opened to the public on March 7, 1883. In this brief period destiny has worked great results for her. From a position of insignificance she has advanced to great preeminence in the educational world, making strides unparalleled in the history of current events. From Maine to California her reputation for excellence is unquestioned and from all points of the compass do students come to reap the benefits she is able to bestow.'

1892

"In this year occurred an unfortunate fire. The shop buildings were practically destroyed on January 14. While the loss was partially covered by insurance the result of the fire was a serious economic set back to the affairs of the Institution. A. S. Hathaway became professor of mathematics in this year. Mr. Logan was with us and presided over the destinies of the machine shop while 'Arry, the only 'Arry, taught us the rudiments of story telling with foundry practice incidentally thrown in. Up at the main building 'Billy' Ames and his whistle pursued us through drawing lessons. With 'Billy' Kirschner we attempted wild and fearful improvements on Euclid—while Prof. Clarence A. Waldo recited of that beautiful fairyland called Infinity where the centre of the parabola sleeps in peace while two parallel lines meet as they pass by. Nor do we forget Dr. Mees who gave us our physics—not always in homeopathic doses, although even then there was always something which on account of the delicate state of our intellects had to be left for a little later on.

1893

"The class of 1893 consisted of 20 men. Among them was Johannott who continued his studies at Chicago University and at John Hopkins, and in 1900 came back to Rose as a teacher, first as an instructor in physics and later as professor of physics. The Rose Polytechnic Y. M. C. A. was founded in January of this year and the Athletic Association during the following March.

1894

"The Class of 1894 consisted of twenty-one men.

1895

"In March Dr. C. L. Mees was chosen president. In November the chemical laboratory was burned to the ground. It was immediately rebuilt in improved form, but the valuable notes of Dr. Noyes, covering years of work were destroyed.

1896

"The class of 1896 published a second Modulus. This was the day of the bicycle. Many of the faculty rode to and from the Institute on their wheels. Prof. Hathaway rode a famous old vehicle of an ancient vintage. State bicycle records had been made by the Klinger brothers and Ridgely, members of the class of '96. 'Who will beat—who will beat—both the Klingers, Watt and Pete,' was the classic yell that urged them on to victory. Prof. Wagner became connected with the Institute during this year, coming from the University of Michigan where he was assistant professor of mechanical engineering. He immediately filled a place in the esteem of both faculty and students as an efficient and strong addition to the teaching staff.

(Continued on page 27)

Public Sales

We have purchased 122,000 pair U. S. Army Munson last shoes, sizes 5½ to 12 which was the entire surplus stock of one of the largest U. S. Government shoe contractors. This shoe is guaranteed one hundred percent solid leather, color dark tan, bellows tongue, dirt and waterproof. The actual value of this shoe is \$6.00. Owing to this tremendous buy we can offer same to the public at

\$2.95

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"Y" PEPFEST

The Rose "Y" has made a noble effort to make Y. M. C. A. stand for something more than a hand-book committee. Shortly before the close of school, a dinner was given by the "Y" in the dining room of the First Congregational Church, at the modest price of fifty cents, which more than 150 students attended.

The gathering was assembled to chow about 6:30 in the evening and included nearly a dozen professors. The principal speakers of the evening were Dr. John White, Mr. A. C. Gran, secretary of the Terre Haute Y. M. C. A., and members of the 1923-24 "Y" staff.

Sound programs of honest enterprise and entertainment are on the schedule for the coming school year, at the behest of a strong working staff of the Rose "Y."

Story telling and singing, beside the favorite indoor amusement of engineers—eating—were part of the entertainment. The gathering broke up shortly after eight o'clock.

We are minded to think that this is the beginning of many such congenial get-togethers at the instance of what should be our strongest student body connecting link.

The "Y" needs support, unanimous support; Rose men are showing a willingness to give that support, and benefit by the giving.

TECHNIC STAFF 1923-24

Sweeping reorganization was a feature of the last meeting of the staff, and election of officers for 1923-24 of **The Technic**. It was developed at this meeting that in order to secure closer harmony, smoother working and a greater personnel intimacy and efficacy a board of direction would be a forward step. To this end Dr. John White and Prof. Peddle, of the faculty, and A. L. Sherwood, of the student body, were chosen as a Board of Managers for **The Technic**, with the function of promoting closer and more effective synchronism among staff members, and of directing, insofar as is possible, and guiding the policies and efforts of **The Technic**.

A new post of managing editor was introduced into the staff, the function of its incumbent being the purely mechanical details of "making up" the publication and acting as a liaison between editor-in-chief, business manager and publisher.

The staff for 1923-24:

Harold B. Hood, '24, editor-in-chief.
Carson W. Simms, '24, business manager.
Milton E. Feldstein, '25, managing editor.
Clay P. Watson, '24, circulation manager.
Roger Bolin, '25, advertising manager.
Wayne E. Watkins, '26, assistant adv. mgr.
John M. Barr, '25, alumni.
Orville M. Dunning, '25, technical exchanges.
Lewis J. Sisson, '26, jokes.
Perry W. Wilson, '26, athletics.
John Shaw, '25, campus notes.

She: "Could you go over that dam without hurting yourself?"

He: "I d'no; why?"

She: "Fish do."

TECHNICALITIES

"Ah, madam," said the pious visitor. "I am going about giving advice and consolation to unhappy wives. Do you know where your husband is every night?"

"Indeed, I do."

"Alas, madam. You think you do, but he may be here, there, anywhere."

"Well, if he gets out of the place where he is now he has to raise a granite slab that weighs at least a ton, and he couldn't lift a scuttle of coal while he was alive."

When a plumber makes a mistake, he charges twice for it.

When a doctor makes a mistake, he buries it.

When a judge makes a mistake, it becomes a law of the land.

When an electrician makes a mistake, he blames it on the induction—nobody knows what that is.

When a preacher makes a mistake, nobody knows the difference.

When a compositor makes a mistake, the boss says, "The dampful otta know better."

But when an editor makes a mistake, GOOD NIGHT!—Exchange.

Say, old man, I've got to have five dollars and I haven't the faintest idea where I can get it.

Well, I'm glad to hear that, I thought perhaps you thought you could get it from me.

See here Chinn!

Well?

Is this face powder on your coat?

No; billiard chalk. I must have leaned against a cue.

She: What would you give to have hair like mine?

He: Oh, I don't know. What did you give?

With Interest, Possibly

Father: I only punish you to show my love for you, my boy.

Tommy: If I was bigger I'd return your love, Dad.

"How did the receiving teller get his cold?"

"All the drafts in the bank go through his cage."

"It's a hard life," said the traffic officer at a busy crossing.

"What's the trouble?" asked the genial old gentleman.

"I had to stop an actress just now for driving too fast. The look she gave me was bad enough, but the way the Pomeranian yawned in my face was absolutely insulting."

No Cause for Worry

Father—I hope, my son, that you have something in reserve for a rainy day?

Offspring—Yes, Dad! An umbrella!

Buck: "Can you give a definition of an orator?"

Private: "Sure! He's a fellow that's always ready to lay down your life for his country."

MEMBERS OF '23 - - - :

Jimmy Albright, m. e., working in Washington, Ind., leaves in the fall for Yale, to enter the graduate school.

Joe Anstead, e. e., with Western Electric, Chicago.

Ralph Bennett, e. e., working in a steel mill under superintendence of his father, at New Palestine, Ind., goes to Schenectady with General Electric, Sept. 1.

Dick Bledsoe, e. e., with Western Electric, Chicago.

Floyd Benson, Fred Tetzl, Bob Ryan, Art Greipenstroh and Bill Wilson, e. e., student engineers with the Marion Steam Shovel Co., Marion, Ohio.

Wally Boyd, e. e., press department, R. R. Donnelley & Sons Co., printers, Chicago.

Gene Brown, Royce Wright and Shaky Hager, e. e., at General Electric.

Baptist Buffo, e. e., with Illinois Bell, Chicago.

Bob Cash, c. e., with Republic Iron & Steel Co., Kinney, Minn.

Harve Chinn, c. e., Indiana State Highway Commission, headquarters at Indianapolis.

Jim Connelly and Boots Tyler, ch. e., with Hamilton Foundry Co., staying at the Y. M. C. A., Hamilton, O.

Kenneth Cook, ch. e., at home.

Ed Donham, e. e., Illinois Bell, Chicago.

Eddie Dunlap, ch. e., going to Normal, in order to teach school at Sullivan this fall.

Vern Eichin and Al Woollen, e. e., Delco Light, Dayton, Ohio.

Herb Field, m. e., at home.

Miles Griffith, ch. e., Robert W. Hunt & Co., engineers, Chicago.

Paul Hays, m. e., at home.

Herman Heck, ch. e., at home.

Bob Hendrich, ch. e., assistant chemist, St. Joseph Lead Co., Bon Terre, Mo.

Harold Johnson, ch. e., at home.

Harry Kinkle, ch. e., at home.

Doc Leisey, e. e., A. T. & T., Chicago.

Hank McComb, a. e., at home.

Jack McDargh, c. e., Illinois Central, Chicago.

Don Mewhinney, m. e., at home.

Ob Neukom, ch. e., general manager, W. J. Neukom's drug stores, Terre Haute.

Len Quinlan, ch. e., chemist with Illinois Steel Co., Chicago.

Clyde Raeber, a. e., at home, or motoring to California.

Vester St. Clair, e. e., Doherty public utilities, Denver.

Aleck Sherwood, ch. e., Terre Haute Star.

Rusty Snyder, ch. e., carpentering at home; goes to Indiana University graduate school in fall.

Jess Tygart, c. e., Bethlehem Steel Co., Bethlehem, Pa.

Allen Weinhardt, e. e., with Freitag & Weinhardt, hardware, Terre Haute.

Bounce Wesley, ch. e., chemist with T. H. Malleable & Mfg. Co., Terre Haute.

Ed Wolff, e. e., at home, Louisville; goes to Westinghouse October 1.

CIVILS' INSPECTION TRIP

The Senior Civils, with Prof. R. L. McCormick, made a trip to Louisville the latter part of May for the purpose of inspecting the principal engineering projects in and around that city. Only Cash and Chinn were able to go, so that the entire party consisted of but three. The principal, original object of the trip had been to run a test on a bridge across the Ohio river at Louisville, but the railroad temporarily abandoned the project, so that it was impossible for the test to be run. The Civils, however, visited the cement plant at Speeds, a few miles north of Louisville.

Through the courtesy of A. L. Hupe, Rose, '91, the Civils were shown through the plant of the Louisville Water Company, of which Hupe is assistant chief engineer. The municipal, or semi-municipal water plant at Louisville has two pumping stations, one at the river which pumps to the settling basins and treating plant, and the other at the in-town plant which pumps into the mains. Four pumps at the water plant there have a combined capacity of 112,000,000 gallons of filtered water per day.

The new plant of the Louisville Gas & Electric Company, which is nearly completed, was also visited. It will have two new 20,000-k. w. units, besides the three already installed.

Mr. Brinton, father of Brinton, '24, took the Civils through a doll factory. Prof. McCormick, for one, expressed great surprise at the number of engineering operations which were carried on in the factory. The Civils returned to school June 1.

FACULTY MEMBERS NEARLY ALL VACATIONING

Professors Stock, Knipmeyer, Thomas with their families are at Frankfort, Mich., for the summer.

Dr. White is spending the summer at Rehoboth Beach, Delaware.

Prof. Childs is cottaging on Long Island, near Fort Jefferson.

Prof. Peddle is spending most of the summer at home, with an occasional slip-away for a few days.

Prof. McCormick is taking a month's motor tour of the east.

Dr. Johannott is visiting at his former home in northern Illinois.

Prof. Wagner divides his time between staying at home and business trips to Chicago and other cities.

Prof. Faurot plans to leave late in the summer for a vacation trip.

Dr. Sousley is staying at home.

HEMINWAY

The Heminway gold medal for 1923 was awarded James E. Albright for the best scholastic standing for his four years. The bronze replica for this medal, awarded to a member of the freshman class, was given to Perry W. Wilson, '26, for the best scholastic standing in his class.

Honorable mention was made of the records of:

'23—Harold H. Johnson, Edmond E. Dunlap, Ralph B. Bennett.

'24—George O. Rall, Rollin M. Schahfer.

'25—John M. Barr, Milton E. Feldstein, Orville M. Dunning, Gustav H. Pfeiffer.

'26—Perry W. Wilson, E. Wayne Watkins.

LOST ADDRESSES OF ALUMNI

'89
Theodore D. Jones
'90
Otto G. Hess
Harvey J. Lefler
Stephen S. Raymond
Ralph F. Thompson
'91
George R. Carothers
Horace B. Jones
'92
Sigmund S. Frank
Ernest C. Laux
'93
Walter H. Albert
Robert H. Moth
James C. McGregor
'94
Edward Riedel
'95
Edwin R. Burtis
Lawrence E. Troxler
'96
Frank T. Green
Barrington O'Brien
Linus Sanford
James M. VanAuken
'98
Fred W. Schneider
Kimborough E. Voorhes
'99
Cubitt B. Smyth
Arthur C. Thompson
Charles F. Trumbo
'01
Martin N. Troll
'02
Ira Marshall
Don F. Osborne
'03
Wallace D. Bowie
Charles L. Chamberlain
Ernest C. Metzger
Harry W. Palmer
'04
James Newton Ross
John T. Staff, Jr.
'05
Ralph C. Blanchard
Robert M. Wilson
'06
Robert B. Evans
Ernest D. Kallert
'07
Earl G. Albin
Walter M. O'Laughlin
'08
Floyd W. Corson
'09
L. Earl Grammer
Amos D. Pritchard
'11
Don G. Evans
'13
Maurice R. Denny

'16
Elmer Gadberry
Robert B. Larr
'19

John R. Cain
Chester H. Cortelyou

The addresses we have do not reach these men.
Can anyone supply us with late news of them?
MARY GILBERT, Registrar.

SCHOLARSHIPS

McGregor scholarships for 1923-24:

Seniors: George M. Rall and Rollin Schahfer.

Juniors: Clarence A. Anderson, John M. Barr and Milton E. Feldstein.

Sophomore: Lowell E. Muehler.

Rea scholarships:

Seniors: Herbert M. Corban, Charles G. Haupt, C. Howard Marlar, F. Ray Martin and Clay P. Watson.

Juniors: Orville M. Dunning, Gustav H. Pfeiffer and Charles C. Withrow.

Sophomores: Hubert H. Evinger, Harry E. Lewis, Herbert E. Matson, Bruce R. Walsh, Perry W. Wilson and E. Payne Watkins.

COMMISSIONS

Commissions as second lieutenants in the reserve corps of the United States Army were awarded to Herman H. Heck, Buford W. Tyler, Jr., Harve N. Chinn, Harry J. McDargh, Jr., Jesse L. Tygart, Eugene C. Brown, Richard W. Hager, Claude F. Leisey, Sylvester J. St. Clair, Allen J. Weinhardt, Jr., Royce D. Wright, James E. Albright and Floyd W. Benson. Commission for Ralph B. Bennett was withheld on account of his not being of age, but an acknowledgment was given him. The commission is granted for the successful completion of four years of military science and tactics at the Institute.

SLUDGE OILS

A diligent attack upon the problem of eliminating sludge in turbine engine lubrication is now being made in the chemical department of Carnegie Institute of Technology, and if a solution is obtained it will be one of the most important discoveries of the age.

Ever since the introduction of the turbine engine as a power producing force in industry, maximum efficiency has never been fully realized because of the constant recurrence of sludge in oils used to lubricate the engine systems. Sludge has not only impeded the full power capacity of turbine engines, say engineers; it has also resulted in great expense because of wasted oil represented in the sludge formations.

A striking result of the preliminary experiments was that all of the various sludge compounds examined showed the presence of fatty acids, proving that the hydrocarbons of the mineral oils had been oxidized. These fatty acids were usually present in the form of metallic soaps. Examination of the sludges indicates that these soaps are probably really forming greases which comprise the major portion of most of the sludges examined.

The actual cause of the oxidation in each case, however, will require further study as the causes may be found to vary in the plants using the turbines.

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ALUMNI ADDRESS

Continued from page 18

1897

"Rose Tech Clubs had been established in four cities—Chicago, St. Louis, Indianapolis, and Pittsburgh.

1898

"The class of 1898 brought out a third Modulus. It was a handsomely printed volume, full of anecdote and of student fun.

1899

"The Student Council was first organized in this year.

* * * * *

1908

"The year of 1908 marks the passing of Dr. Gray. It is difficult to express in a few words the quality of the love and respect with which the student body of this period, and all of his old students cherish his memory. Rose had lost a strong and unstanding man. A beautiful memorial resolution was prepared by the Alumni body. Beautiful both as to the form in which it was presented and also in its sentiment. Rose still feels the loss of Dr. Gray. He was a man's man and he had done a man's work.

1912

"Foltz wrote the following in March of this year for the Modulus of 1913:

"I cannot find adequate expression for the pleasure these yearly pilgrimages to Rose give me—the sweet memories they recall and the thoughts they inspire. I like to get back in the Amen corner at the morning session alongside of some of the others of ancient vintage and imagine myself a boy once more—to forget for the time there is any such necessity as bread-winning and rent and payrolls—to listen to the good practical talks of our beloved Mr. Ball and parting shots by Dr. Mees—to just look and listen and feel at peace with the world and all it contains. I like to flatter myself when the gold medals and honorable mentions are handed out that the only reason we didn't get any is because there were none on tap in the days when we old birds were pushed out of the nest with much less pomp and ceremony than is the custom now. Why not get the habit and join the improved order of come-backers? These annual reunions will not only give us pleasure but will send us home each year with a deeper appreciation of our debt to Rose and a firmer resolve to live and work still harder for her advancement and our own. Though we are now out from under her protecting wings, we still need her influence and encouragement and she needs ours."

1916

"In 1916 Dr. Mees was granted a year's leave of absence on account of ill health and Dr. White acted as president for the year and later on assumed this important task between the years of 1919 and 1922. Since 1903 Dr. White has been professor of chemistry and has besides this devoted much of his time to athletic work. In all of these activities he has served the interests of Rose with signal faithfulness and devotion, and has begun the organization of what is destined to be an important department of Rose educational activity for the future—namely, the Department of Chemical Engineering.

1917

"Immediately following the declaration of war by the United States of America against the central European powers in April 1917, Rose Polytechnic Institute by formal action of its Board of Managers tendered the United States Government without reserve all of its educational and material facilities. The faculty of Rose was tireless in the performance of its work—patriotically giving its service to the country. Graduates of Rose did their share in the prosecution of the war. Out of 850 graduates we have records of 245 having entered the service in Army, Navy and Marine Corps, 156 as commissioned officers, 35 as non-commissioned officers and 54 as privates. In research and bureau work 20 Rose men, and in industrial work in special lines 90 men were engaged. Rose men were proud to be of service to their country along many special lines that their special training fitted them for.

1919

"After thirty-two years of devoted service on the faculty at Rose—Dr. C. L. Mees was obliged to give up his work on account of ill health. Dr. Mees was born in Columbus, Ohio, in 1853. At the age of 18 he received his first degree at Ohio State University. He studied in London and Berlin during the years 1881 and 1882, and was professor of physics and chemistry at Ohio University from 1882 to 1887. Dr. Mees came to Rose in 1887 as professor of physics.

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"Coming to the Institute in its infancy, his great energy became at once one of the important assets of Rose. He was elected president of the institution in 1895, a position and a trust to which he gave the best years of his life. The history of Rose is largely interwoven with the life work of Dr. Mees and the length of this review does not permit of an adequate recital of its value. Dr. Mees was keenly interested in war work and in spite of poor health took a most active part in the militarization of Rose under the S. A. T. C. In appreciation of his long service, the Board of Managers has conferred upon him the title of President Eemritus. Rose has never had a more capable man at its head or one more universally popular. Probably no man, excepting possibly Mr. Rose himself has done so much for Rose Polytechnic. Dr. Mees has prepared a history of Rose down to the year 1909 and has accumulated a great deal of material out of which the history of Rose could be brought up to date. The author of this sketch gladly acknowledges his indebtedness to sources which Dr. Mees made possible for much of the material he now presents.

1920

"After a period of continuous service from the opening of the Institute, Mrs. Sarah P. Burton, Registrar, completed her active connection with Rose. Her devotion to Rose was complete. She was gentle, courteous, dignified. She remembered every graduate of Rose. Her knowledge regarding all matters regarding the affairs of the Institute was thorough. She could even answer the questions put to her by Freshmen. All Rose men love Mrs. Burton and remember her with the kindest of feelings.

"A summary of 812 graduates of Rose was made by Dr. Mees during this year and shows that 92 4-10 per cent of Rose men who had graduated up to this time were occupied in positions where their engineering education would be considered essential. Rose men are using their training therefore to fit them for their life's work.

1921

"The year 1921 marks an interesting event in that Rose graduated not only a son but a grandson—Bixby, '21, a son of Bixby, '92, was the first graduate of Rose who was a son of a graduate. Thus Rose is serving a new generation.

"Mr. Demas Deming, the last surviving member of the original Board of Managers, died on Tuesday, March 7, 1922, the 39th anniversary of the inauguration of the first president. Mr. Deming's connection with Rose came through a personal relationship with Mr. Rose who requested Mr. Deming to act as treasurer of the trust fund. He handled this fund with wisdom and foresight. With his passing another generation of men have assumed the trust and are carrying on the duties and the obligations imposed upon them by the will and bequest of Chauncey Rose."

(Continued from page 8)

or possibly involve, the design or invention of new or improved articles or machines relating to the business of the employer, to enter into written contract of employment which clearly specifies that all patentable inventions produced by the employee during the period of employment, shall become the property of the employer and such contracts are enforced.

The general principles which have been stated above, are supported by the decisions of many courts, some of the interesting ones being, *Pressed Steel Car Co. vs. Hanson*, 137 Fed., 403, by the Circuit Court of Appeals of the 3rd Circuit; *Peck vs. Standard Parts Co.*, 282 Fed. 443, by the Circuit Court of Appeals of the 6th Circuit; *Ingle vs. Landis Tool Co.*, 272 Fed. 464; *Dalzell vs. Dueber Watch Case Mfg. Co.*, 149 U. S. 37 L. ed., 749, by the Supreme Court of the United States.

The general rule as to relationship of employer and employee, relative to patentable inventions and patents therefor, may be stated as follows:—The right to the patent monopoly does not pass to the employer except in those cases where there is either a definite contract in writing to that effect or the circumstances are such that such a contract may be clearly implied beyond a reasonable doubt, and that

no right passes to the employer where the invention is made by the employee on his own time and at his own expense, but that where the invention is made by the employee on the employer's time and at the expense of the employer, the extent of the right which passes to the employer must be determined equitably by the circumstances of each case.

Conclusion

In view of what has been said above, it seems clear that, in order to avoid controversies, and in justice both to employer and employee, there should be a distinct understanding, between the employer and all those employees who are directly engaged in engineering and development work, which understanding should be reduced to writing and signed by both parties as a preliminary to the employment relationship.

(Continued from page 13)

Upon a motion by Gillum, '19, seconded by Mace, '12, and unanimously adopted, it was

'23 Inducted

RESOLVED: That the Class of '23 of Rose Polytechnic Institute be and hereby are declared elected to full membership in the Rose Polytechnic Alumni Association with power to vote at the business meeting of the Association in June, 1924, and thereafter.

The following motion was offered by Fishback, '02, seconded by Mace, '12, and unanimously adopted:

RESOLVED: That the secretary-treasurer be and hereby is instructed to purchase with the funds of the Association and present to Miss Mary Gilbert, registrar, a box of flowers as an expression of appreciation from the Association for the work she has done for the Association.

Johonnott, '93, offered the following resolution, which was seconded by Hammond, '89, and unanimously adopted:

RESOLVED: That it has been a great pleasure to all Alumni attending this reunion to have Mrs. S. P. Burton with us and to be received by her as a member of our reception committee, and,

BE IT FURTHER RESOLVED: That the secretary-treasurer be and hereby is instructed to defray Mrs. Burton's expenses from and to Washington, D. C., from the funds of the Association.

The following motion was offered by McCormick, '91, seconded by Johonnott, '93, and unanimously adopted:

RESOLVED: That the secretary-treasurer be and hereby is instructed to purchase with the funds of the Association and present to Mrs. Kuhlman a box of candy as an expression of appreciation from the Association of the work she is doing for the Association in writing the minutes of this meeting.

Upon a motion duly made and seconded the meeting adjourned at 5:30 p. m.

Bride: "I want to buy some writing paper, please."

Clerk: "Linen sheets?"

Bride: "Sir! I said writing paper."

—Virginia Reel

Trot, Gallop

Clerk: "This book will do half your work."

Student: "Gimme two—quick."

—Jester

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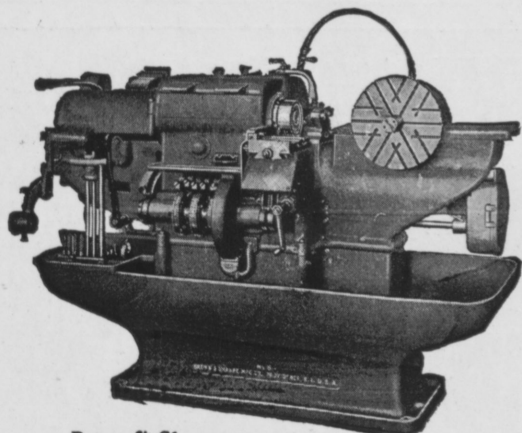
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BETTER LIGHTING NEEDED IN INDUSTRIAL PLANTS.

In a paper read before the Illuminating Engineering Society, February, 1920, entitled, "A Survey of Industrial Lighting in Fifteen States," R. O. Eastman submitted some very interesting data regarding the lighting conditions in industrial institutions. The survey comprises some 446 institutions, in which lighting was considered by 55.4% as being vitally important, and by 31.6% as being moderately important, and by 13% as being of little importance. Practically 58% considered that lighting was as important as power in the operation of the plant, and a small proportion would give more attention to lighting than to anything else.

In considering the present condition of lighting as found in the various plants, only 9% ranked as excellent, about 1/3 ranked as good, 29% fair, 18.8% poor, 3.5% very poor, and 7.8% partly good and partly poor. It was found that the lighting in the offices was far superior to that in the shops; 19% being excellent, 36% good, 31% fair, and only 13% poor and none very poor.

On consulting the executives regarding what factors were most important in considering lighting, the following facts were revealed: Increase of production 79.4%, decrease of spoilage 71.1%, prevention of accidents 59.5%, improvement of good discipline 51.2%, and improvement of hygienic conditions 41.4%. Manufacturers who have good lighting appreciated its value largely from the standpoint of its stimulating effect upon output.

There is no question that any intelligent man who carefully considers the necessity for good lighting in an industrial plant, will agree that it is impossible for a person to do as good work, either in quality or quantity, in poor light as in good light, but yet the result of a careful analysis discloses the fact that only about 40% of industrial plants are furnishing good light to their workers and 60% are operating under poor lighting. It is hard to understand why such a proportion of concerns can be satisfied with a condition which is universally admitted to be a curtailer of efficiency and a prolific causer of accidents. The principal cause of this condition is that those in charge of such establishments have not given the attention to lighting that it demands. They do not know what constitutes good lighting, and in their absorbing interest of other factors of production have overlooked a vital one.

Every safety official should deeply interest himself in the lighting of his plant and insist upon good lighting as much as good goggles, good guards and other necessary accident prevention equipment. Every production manager should insist upon good lighting because the efficiency of the working force is increased by the condition of the lighting furnished. The plant physician should examine the lighting, for eye strain and eye fatigue are directly affected by poor lighting, as is the hygienic condition. Well lighted plants are invariably cleaner than poor lighted places. Plants equipped with Factrolite Glass in all windows are well lighted.

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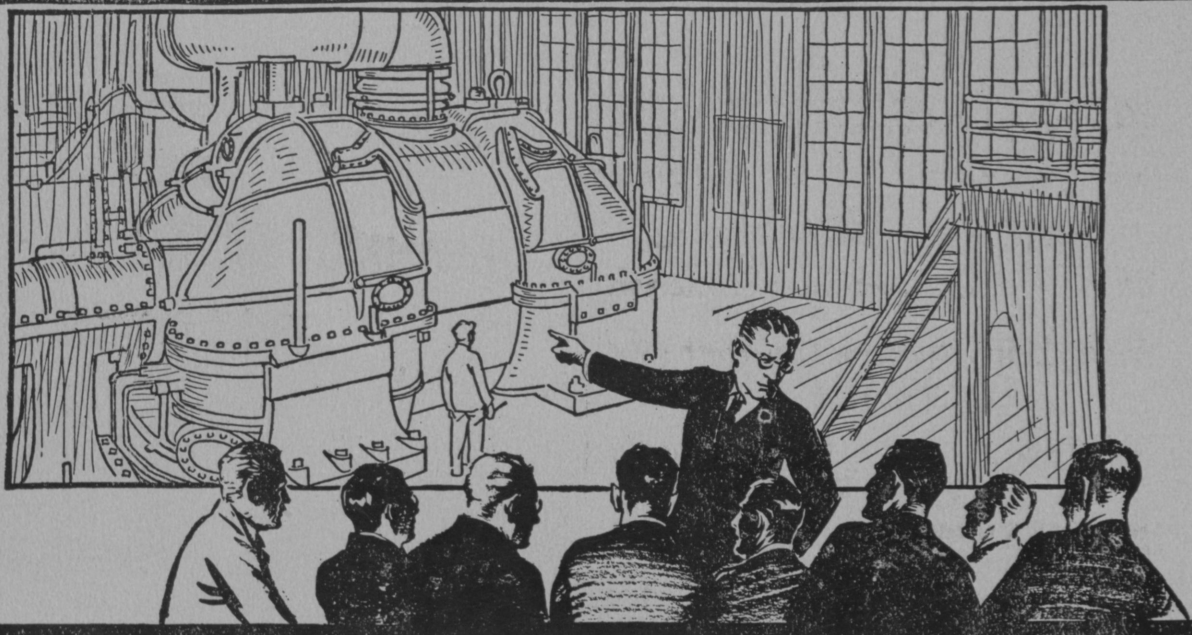
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The great engineers are always at school, always learning, always seeking for more knowledge. They begin with this desire for fuller understanding, and they keep it up to the end.

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is, of its very nature, a University where theory and practice combine to make bigger, broader and more practical engineers.

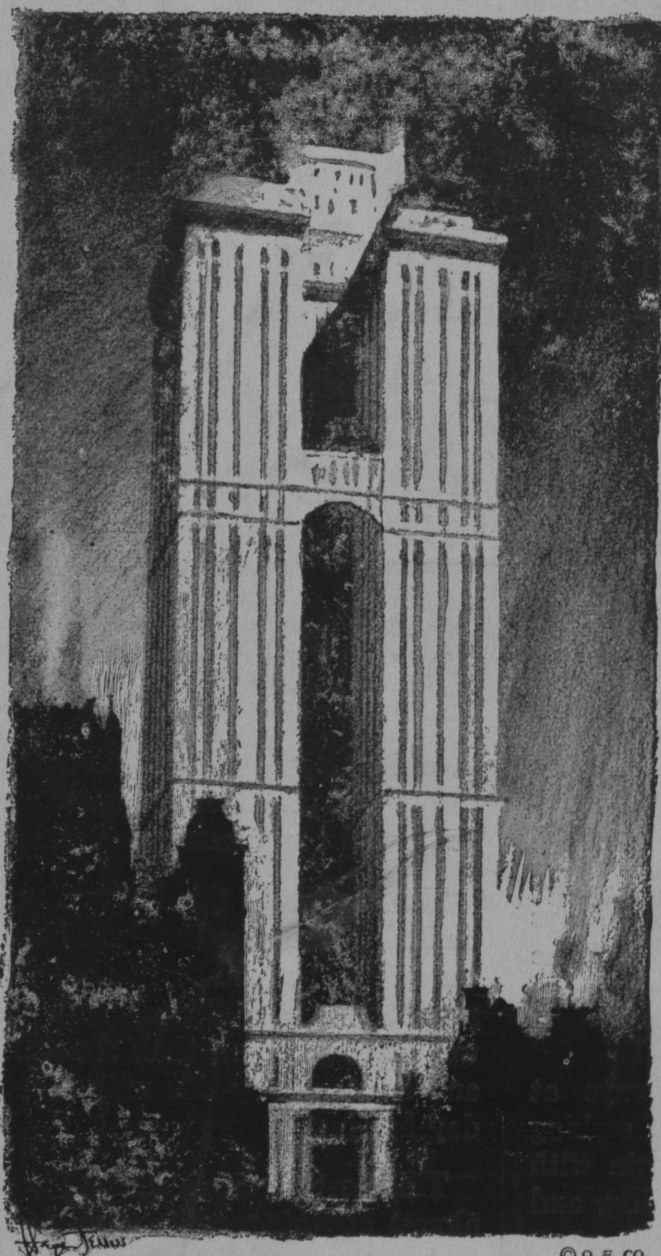
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