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Rose-Hulman Institute of Technology

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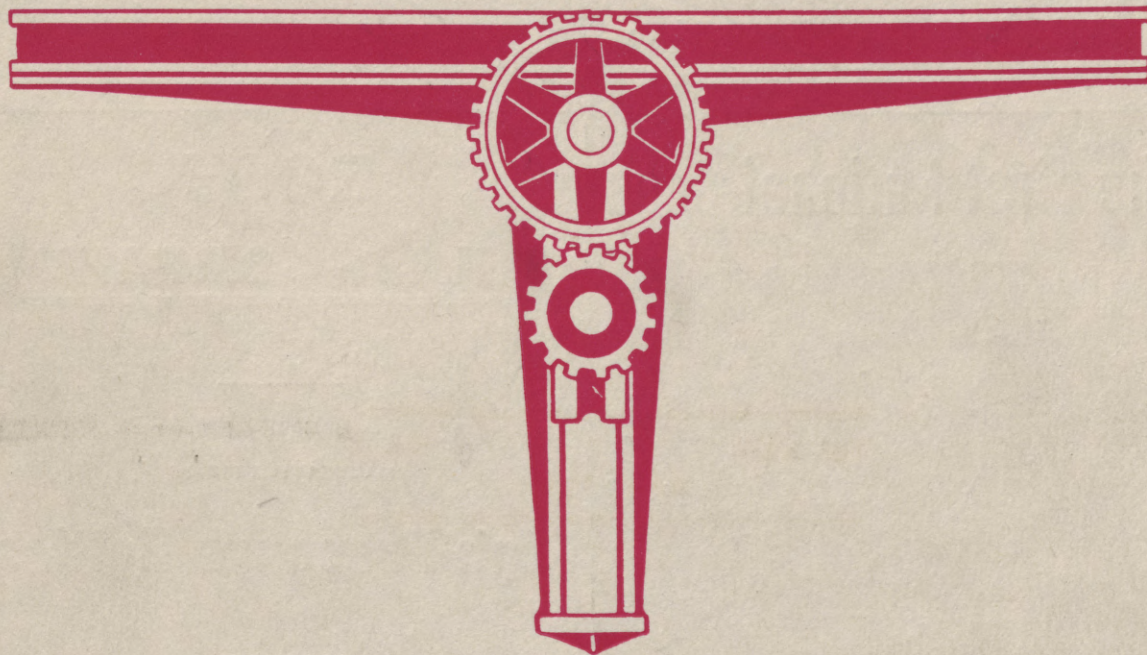
Vol. XXV

No. 8

MAY, 1916

THIRTY-SECOND COMMENCEMENT NUMBER

THE TECHNIC



ROSE POLYTECHNIC
INSTITUTE

BERGMANN 16

JUNE, 1916

VOL. XXV, No. 9

TERRE HAUTE, IND.

WE DO THE LARGEST TAILORING
BUSINESS IN THE CITY

"There is a Reason"

ED SPARKS

Tailor and Haberdasher 715 Wabash Ave.

*The last thing to forget in the Summer
and the first thing to remember
in the Fall is:*

*Patronize Rose
Advertisers!*

The First National Bank



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Capital and Surplus, - \$1,000,000.00

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GLASS COMPANY**

MANUFACTURERS OF

High-Pressure Bottles

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PUT IT DOWN!

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Toggery in town, and then come in and
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Don't pass this store when you're out. You'll miss the BEST if you do. Many
new kinks in cut and make-up. Handsome new suitings in Checks and Stripes.
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ESTABLISHED 1867

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WATCH BRACELETS,
ELECTRIC CIGAR LIGHT-
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An Appropriate Gift That the Girl Graduate
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Mewhinney's Chocolates

Your Dealer Can Get Them for You Fresh
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The Suits that are not only up to the minute, but a few seconds ahead. Styles that will be copied by the other fellows next season.

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OTHER FEATURES

Our Pipe Organ—Percy G. Robbins, Organist.
The Orpheum Four—Walter C. Dorsey, Contra Tenor; Frank J. Holland, Tenor; Walter J. Schwartz, Baritone; Geo. L. Peltier, Bass.
Our Orchestra—George Hoback, Director; LaVern Stahl, Violinist; Jos. Mayes, Violinist; Jack O'Grady, Drums, Xylophones Traps etc.

ALWAYS FIVE CENTS

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A Full and Complete Line of

Basketball and Football Supplies

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Terre Haute, Indiana

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Rose Dispensary Bldg., Corner Seventh and Cherry

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Shoe Repairing System in the City

Shoes Called For and Delivered Promptly

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Opposite Big Four Station

Three Good Barbers

Our Work Pleases Particular People

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The Minimum Monthly Meter Rate is

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For which 3000 gallons of water may be used without additional cost. This is about 100 gallons, or 40 buckets of water, per day for TWO CENTS.

**THE TERRE HAUTE
WATER WORKS CO.**

ALWAYS TRADE WITH OUR ADVERTISERS. MENTION THE TECHNIC—IT WILL HELP US



VOL. XXV

TERRE HAUTE, IND., JUNE, 1916

NO. 9.

THE TECHNIC

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TERMS.

One Year	\$1.00
Single Copy15

Issued Monthly at the Rose Polytechnic Institute.

Entered at the Postoffice, Terre Haute Ind., as Second Class Mail Matter.

PERHAPS this is anticipating, yet as the next TECHNIC will not make its appearance before October 20th, it might be well at this time to say something about the Business Men's Athletic Association, which is being organized by Athletic Director Mefford in conjunction with Mr. Westphal of the Indiana State Normal.

The benefit which both schools may derive from such an organization will unquestionably be great. Rose has for some time been handicapped in her athletics by lack of funds

and lack of interest on the part of the people of Terre Haute; the first evil being a natural outcome of the second. According to Mr. Mefford the proposed organization of Terre Haute business men should bring in from four to six thousand dollars each year. This means that Rose will be able to count on from two to three thousand dollars a year more than in previous years.

Two or three thousand dollars should accomplish a good many things that need accomplishing. For one thing, the much abused general fund would not be annually swallowed up by the athletic deficits. At present athletics cost Rose in the neighborhood of four thousand dollars a year. It takes no genius to realize what it would mean to have one half of this amount supplied us through the medium of the Business Men's Association. How the amount which would thus be left in the General Fund could be used need cause no anxiety.

However, we can not acquire two or three thousand dollars by simply wishing for it. The proposed organization means that we will be able to put out better equipped, better trained, better handled teams; it also means that we must be prepared to give the worth of the money for every dollar that is turned over by this association. Before this, however, we must be able to convince the people of Terre Haute that they shall receive the worth of their money, and that the Business Men's Association will prove as big a benefit to them as to us.

Are we capable of doing this? Far be it from us to produce the little hammer, yet from the experience we have had in attempting to induce the Rose student body to "patronize our advertisers" * * we might say much. We are sure that unless there is a grand awakening on the part of a number of our apathetic under classmen, the whole idea will have a most hilariously farcical ending.

Nothing can be accomplished without a certain amount of hard work, and that certain amount of hard work in this case will be more than can be accomplished by a handful of loyal workers, who are now groaning under the burdens that have already been unceremoniously dumped upon them.

Mr. Student, do you realize that the Athletic Association *needs* that money? Do you also realize that *you*, yes *you*, not the other fellow, must get behind this? Just think it over. You are going to have a nice long summer in which to do so. Then if you decide that you are too busy, and that you have no time to give to your school except that required by your schedule, why we'll try and get together and petition the faculty to abolish athletics, and we'll also argue with them until they see the folly of ever allowing any social festivities, then we'll stick the knife into the organizations from the Technic down to the Symphony Club and call it a good job.

That's too drastic for you? Sure it is! But do you realize that none of these things can go on unless they have backing, and lots of it? What's the use of doing things in a luke-warm, disinterested, apathetic, half-hearted way? If we can't do 'em up brown, let's call all bets off and sell out!

Come back next fall with the determination to do *your* part. If we stick together we can accomplish marvels. Let's go out for a record, and make next year the best the school has ever seen. We have a flying start for a good year, if we care to follow through.

Let's put Meff's scheme through first. Then we can give that football team the best sup-

port a Rose team has ever had. We can *make* them win that championship if we get behind them and pull for them.

What do you say?

THE most sterling quality to be found in man is dependability. From the experience gathered in an attempt to put out the May issue of the *TECHNIC* on time we are tempted to say not only sterling, but exceedingly infrequent.

It seems hard to believe that it was necessary to omit several pictures from this number simply because the pictures were never taken, when one considers that those pictures were supposed to have been taken for the *Modulus* last October, yet such was the case.

It is regrettable and lamentable that such procrastination is to be found in any college man, let alone a man who has the intention of someday (someday is a good word) becoming an engineer. If it is true, and there is very little doubt that it is true, that the habits which we form in college follow us through life, Heaven help the absent brothers! !

CONTRARY as it is to the usual custom we are running a short Alumni article in this issue. Nathan A. Bowers, '10, has for the second time this year contributed to our Alumni section.

The article gives an idea of the success which has attended the electrification of part of the Chicago, Milwaukee & St. Paul R. R. and as the work of electrification which has been carried on and almost brought to completion during the past year, has created no little interest in engineering circles, it is with a great deal of pleasure that we present it.

From the results shown by the operating statistics of the newly electrified division, it would seem that the time when all railroads shall be operated under electric power, rather than steam power is by no means distant.

Thirty-Second Annual Commencement
OF THE
Rose Polytechnic Institute

June Eighth, Nineteen Hundred Sixteen

PROGRAMME

MUSIC

INVOCATION

ALUMNI ADDRESS

THEODORE L. CONDRON, '90
Chicago

MUSIC

COMMENCEMENT ADDRESS

CHARLES HENRY BENJAMIN
Dean of the Schools of Engineering,
Purdue University
Lafayette

MUSIC

PRESENTATION OF DIPLOMAS

WILLIAM C. BALL
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BENEDICTION

MUSIC

THESIS PRESENTED FOR THE DEGREE OF ELECTRICAL ENGINEER,
JUNE, 1916

D. P. SAVANT, B. S., '12, M. S., '14,
The Theory of Commutation.

THESES PRESENTED FOR THE DEGREE OF MASTER OF SCIENCE,
JUNE, 1916

ERNEST W. KLATTE, B. S., '09,
The Calculation of the Secondary Stresses
in the Trusses of a Skewed Railway Bridge.

CLAUDE E. REESE, B. S., '13,
A Study of the Manufacture of Coal Gas,
Carburetted Water Gas, Pintsch Gas, with
Original Designs.

THESES PRESENTED FOR THE DEGREE OF BACHELOR OF SCIENCE,
JUNE, 1916

CLARENCE F. CARLISLE,
Design of a Steel Mill Building.

AMBROSIO d'AMORIM,
WARREN R. SPENCER,

GEORGE W. BROOKS,
MAHLON E. MANSON,
An Investigation of the Waste Products
from the Cattle Barns at the Merchants
Distillery, with a view to their Recovery.

Test and Study of Hydraulic Shunt Flow
Tube.

ELMER GADBERRY,
MORRIS J. MCKEEVER,
An Investigation of the Effect of Various
Kinds of Pretreatment on the Creosoting
of Wood.

ROY I. KATTMAN,
Tests on the Economy of Screening Wabash
Valley Gravel for Use in Concrete. (With
F. Guy Coates.)

RICHARD D. LEITCH,
JOHN F. O'BRIEN,
The Practicability of Installing a Plant at
the Terre Haute Water Works for the
Manufacture of Aluminium Sulphate So-
lution.

RALPH E. FINLEY,
Design of Substructure and Approaches for
a Highway Bridge across the Wabash River
at Durkee's Ferry.

FREDERICK W. KINGERY,
SAM P. STONE,
Comparative Measurement of Automobile
Road Resistance on Various Roads and
Pavements.

J. HOWARD O'LAUGHLIN,

Design of a Sewerage System for Northern
Part of Terre Haute.

RAY TRIMBLE,

Design of a Reinforced Concrete Highway
Overhead Bridge at Glenn.

J. ALBERT DAILEY,

ALLEN D. MERRILL,

WILLIAM H. MOTZ,

Efficiency Test of Miller-Parrott Baking
Co.'s Power Plant.

CLARENCE L. DAVISON,

H. EUGENE SMOCK,

ROSCOE R. STOLTZ,

Design and Construction of High Fre-
quency Alternator.

GLEN W. EVANS,

ROBERT F. LEINBERGER,

Determination of the Dielectric Strength
of Insulations.

EDWIN S. FLARSHEIM,

The Construction of a Film Recording De-
vice for an Oscillograph.

FRANK J. KLINE,

CLARENCE T. TRUE,

Power Tests upon Multiple Unit Control
Interurban Cars between Terre Haute and
Indianapolis.

ROBERT B. LARR,

ALBERT L. SOMERS,

Train Resistance Tests and Speed Time
Curves of T. H. I. & E. Interurban Cars
running between Terre Haute and In-
dianapolis.

SIDNEY C. LEIBING,

The Hot Wire Anemometer.

J. HAROLD OVERPECK,

Design and Construction of Lecture Room
Oscillograph.

GEORGE G. ANDERSON,

OSCAR P. HUTCHINSON,

An Experimental Study of the Relative
Strength of Square and Filleted Corners.

JOHN C. BARRETT,

F. CARR GOLDSMITH,

GEORGE MAIER, JR.,

Test of Vandalia Power Plant.

J. PAUL BROWN,

JOSEPH H. CARTER,

Efficiency Test of Reconstructed Power
Plant of the Columbian Enameling &
Stamping Company.

THOMAS T. HARDMAN,

An Investigation of the Temperature Con-
ditions in Band Brakes.

DAVID W. HITE,

Effect of Humidity Variation upon Power
of Gasoline Engine.

RALPH A. STEWART,

ROBERT A. WEINHARDT,

Test of 5000-K. W. Turbo-Generator at the
River Station of the T. H. I. & E. Traction
Company at Terre Haute, Indiana.

F. CASPAR WAGNER, JR.,

Design of a Six-Cylinder Automobile En-
gine.

VERNE L. WHITACRE,

The Adaptability of Vanadium Bronze for
Bearings.

DEGREES CONFERRED JUNE 8, 1916

Civil Engineer.

LUTHER S. ROSE, B. S., '92,
Professional Record.

Electrical Engineer.

DONALD H. ATHERTON, B. S., '05,
Professional Record.
D. P. SAVANT, B. S., '12, M. S., '14,
Professional Record and Thesis.
ALBERT W. WICKS, B. S., '92,
Professional Record.

Master of Science.

ERNEST W. KLATTE, B. S., '09,
Study, Thesis and Examination.
RUSSELL E. LAWRENCE, B. S., '13,
Study and Examination.
CLAUDE E. REESE, B. S., '13,
Study, Thesis and Examination.

Architectural Engineering Course.

Clarence F. Carlisle.....Denver, Colo.

Chemical Engineering Course.

George Wheelock BrooksChicago, Ill.
Elmer GadberryTerre Haute
Richard Duddleston Leitch.....Terre Haute
Morris John McKeever.....Terre Haute
Mahlon Ellis Manson.....Terre Haute
John Francis O'Brien.....Terre Haute

Civil Engineering Course.

Ambrosio d'Amorim, B. S. in E. E., '06...
.....Rio Janerio, S. A.
Ralph Emerson FinleyIndianapolis

Roy Irvin Kattman.....Brazil
Frederick William Kingery.....Terre Haute
Joseph Howard O'Laughlin.....Terre Haute
Warren Russell Spencer, A. B. Ind. U. '12
.....Russellville
Ray TrimbleTerre Haute

Electrical Engineering Course.

James Albert DaileyTerre Haute
Clarence LeRoy Davison.....Terre Haute
Glenn Wood Evans.....North Terre Haute
Edwin Simon Flarsheim.....Louisville, Ky.
Frank Jackson KlineTerre Haute
Robert Bayless Larr.....Terre Haute
Sidney Christopher Leibing....Terre Haute
Robert Frederick Leinberger....Terre Haute
Jay Harold Overpeck.....Terre Haute
James Luther PirtleSullivan
Harold Eugene Smock.....Terre Haute
Albert Lehner Somers.....Terre Haute
Roscoe Randle Stoltz.....Casey, Ill.
Sam Payne Stone.....New Orleans, La.
Clarence Truman True.....Terre Haute

Mechanical Engineering Course.

George Gust Anderson....Forest Lake, Minn.
John Cornelius Barrett.....Terre Haute
John Paul Brown.....Terre Haute
Joseph Henry Carter.....Terre Haute
Frederick Carr Goldsmith.....Terre Haute
Thomas T. Hardman, B. S. in C. E., '14...
.....Onley, Ill.
David Walser Hite.....Terre Haute
Oscar Pugh Hutchinson.....Clinton
George Maier, Jr.....Terre Haute
Allen Donnelly Merrill.....Terre Haute
William Harrison Motz.....Terre Haute
Ralph Agee Stuart.....Terre Haute
Frank Caspar Wagner.....Terre Haute
Robert Allen Weinhardt.....Terre Haute
Verne Lamburn Whitacre.....Riley

HONORS

The twenty-eighth award of the Heminway gold medal for the highest standing throughout the entire course was made to Edwin S. Flarsheim, of Louisville, Ky.

The bronze medal, a copy of the Heminway gold medal, offered for the highest standing during the freshman year, was awarded to Simon Werbner, of Terre Haute.

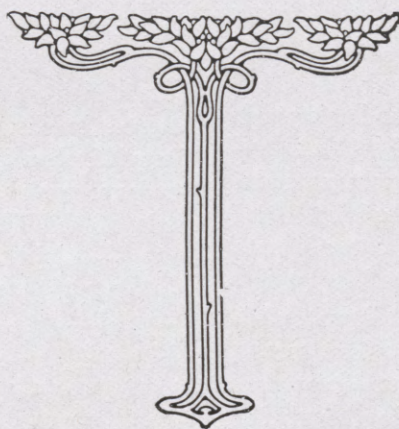
Those who received honorable mention were:

Senior Class—Warren R. Spencer, Russellville, Ind.; Oscar P. Hutchinson, Clinton, Ind.; George Maier, Jr., Terre Haute, and George W. Brooks, Chicago, Ill.

Junior Class—Fred W. Hild, Terre Haute; Henry C. Gray, Louisville, Kentucky; M. Harold Smith, Indianapolis; Floyd S. Carpenter, Louisville, Ky., and Edgar N. Goldstine, Terre Haute.

Sophomore Class—Goldsborough Robinson, Louisville, Kentucky; Herbert Hutchinson, Clinton, Ind.; Richard F. Bergmann, Logansport, Ind., and Julian A. Vrydagh, Terre Haute.

Freshman Class—Lester S. Stinson, Terre Haute, William H. Bruning, Indianapolis, and Robin E. Woodruff, Louisville, Ky.



The Scrap Heap

COMMENCEMENT ADDRESS

By

C. H. BENJAMIN,

Dean of Schools of Engineering
Purdue University

SEVERAL years ago at the annual dinner of a well known engineering society, a prominent English engineer was one of the guests.

In the course of his after dinner remarks, the Englishman said that he had been asked the customary question as to what in America had most impressed him and that he would have to answer "your scrap heaps."

As a nation we have the reputation of being wasteful and of casting aside things which to other nations seem valuable.

Individually and collectively our back yards are littered with waste material which deserves a better fate. While this is a national habit, it begins with the individual and characterizes our homes as well as our places of business.

We waste food to an extent that is well nigh incredible to a native of Europe. The scraps from the tables in our homes, our clubs and our hotels would afford nourishing food for many people.

Soup from the meat bones, salad from the vegetables and puddings from the bread crusts would furnish a wholesome and appetizing meal for the native of France or Italy. We not only waste the food but we toss away the receptacle.

The tin cans which litter our back alleys will some time be a source of revenue. Processes for removing from these the tin and making it a marketable commodity are even now in vogue.

With the ascending scale of prices it is almost a crime that we are so careless of the use of containers.

One of the reasons for the high prices which worry us is the fact that we buy everything in small packages instead of in bulk as did our fathers. Bottles from the druggist, cartons and boxes from the grocer, glass, tin, paper, wood, all find their way to the scrap heap and we may even be obliged to pay for their hauling to the town dump.

The Egyptians and Greeks are known by their buried treasures, the Babylonians by their lettered bricks, even the Scandinavians by their "kitchen middens." But what will future explorers have of us when they dig in the sands of the Wabash and the Ohio?

On an occasional visit to England, my family and I have lived in lodgings and had our meals served in a private sitting room. You may believe that we found no waste of material there. Cracked and broken china pieced together with lead rivets, steel knives worn almost to the handle with continued scouring, table linen embroidered with darning cotton and the stately architecture of the domestic fowl fairly polished with the endeavor to scrape more meat from the bones,—these all spoke eloquently of a rigid economy.

If we pass over discarded utensils, our furniture and our clothing, to some other less opulent individual, the waste is not so great, but when we burn or bury material which possesses an actual market value, we are economic criminals.

No less a personage than the Secretary of the Federal Department of Commerce has deemed it necessary to call the attention of individuals and of civic bodies to the present shortage in materials for the manufacture of paper, and to urge that every citizen aid in a campaign of saving waste paper and cotton or linen rags. The cost of lumber and of wood generally is also increasing rapidly and will soon reach a point which will be prohibitive as far as general building operations are concerned.

It is but natural that the individual tendency towards carelessness in small economics should be reflected on a larger scale in the conduct of municipal business.

The man who is wasteful at home will be wasteful in business. Our public utilities are under the control of individuals and it is small wonder that water, gas, electricity, coal, and the hundred and one items of municipal equipment and supplies are used extravagantly.

It is but a step from the town or city affairs to the business of the State. Here we find water power running to waste or controlled by the private corporation, standing timber neglected and subject to the depredations of the lumber shark and the inroads of fire, arable land scalped of its soil by washouts and floods, and invaluable streams of oil and natural gas soaking into the soil or wasting in the air.

It is true that we are today more or less awake to the seriousness of these losses and are in a half hearted way trying to stop the leaks.

It is to the credit of the national government and its officials that Federal government is checking many of the abuses and that each administration in turn is lending its efforts to stop the reckless and selfish misuse of natural resources.

It is little to *our* credit, however, as citizens of the town or of the state that we are often more concerned with temporary local advantages, than with the general good of the country.

We are inclined to object to the efforts of the government to restrain us in our use of the forests, the mines and the water powers and to be jealous of Federal control.

We forget that at most we are but tenants of this land of ours and that we have no permanent claim to it. The world is coming to recognize more clearly the justice of the theory that the earth belongs to the community and not to the individual; that it is his but temporarily to improve and to realize on his improvements, and that he has no right to injure it or depreciate its value.

The reservation of national forests and parks by the Federal government and the increasing tendency towards government control of great natural resources are encouraging symptoms.

The almost criminal neglect in the past of our great stores of animal life, the needless and wilful slaughter of birds, of fish and of four-footed animals must always be subjects of regret to the economist and to the nature lover. And today it is surprising to note the indifference, even opposition, on the part of many people, to any attempt at regulating these things. We are so afraid that in some way our personal liberty will be impaired, as to resent just and necessary regulations.

Carelessness and extravagance have characterized even our industrial operations, where the profits have depended on a reasonable measure of economy. Manufacturing enterprises and industrial developments have gone to the wall for lack of ordinary prudence in this regard.

It is not difficult to see the reason for all this. Our inheritance has come too easily. As the youthful heir, where he becomes possessed by the stroke of a pen of riches which he did nothing to accumulate, is likely to be prodigal of those riches, so we, who have received from nature forests, mines and fertile fields, have failed to realize our responsibilities as trustees, garnering what we have not grown, reaping what we have not sown. Even the newly landed immigrant coming from a country where every foot of soil and every pound of produce is precious, becomes intoxicated with the new abundance and forgets his canny thrift.

But there is a bottom to every well and a boundary to every lot. We are beginning to hear that dismal sound of scraping at the bottom of the bin and to realize that our patrimony is in danger of exhaustion.

And so today our papers and our politicians, our lecturers and our laymen have for the keynote of their appeals that comparatively new word "Conservation." And it is because conservation is largely the work of the engineer, because salvage from the scrap heap is an engineering problem, that I have so chosen my subject today.

Twenty years ago the use of power at Niagara Falls was confined to a few mills located on the bluffs below the falls. The banks at this point were precipitous and about 150 feet high. The water wheels or turbines in use at that time were not adapted for high heads and were accordingly located at levels only forty or fifty feet below the summit of the bluff. The water leaving the wheel at this point fell idly the remaining distance so that only one-fourth or one-third of the energy was utilized.

Now all this is changed. The water brought from above the falls in an open canal flows to the lower level in large steel penstocks, where it is delivered to high pressure turbines which drive the electric generators. From this point the energy is carried by electric wires wherever it is needed, and practically all the energy is saved.

There is naturally a difference of opinion as to the use of Niagara water for utilitarian purposes.

On the one hand the capitalist who deems it a crime to let good water power run to waste.

On the other hand, the nature lover and the artist who think it a crime to sacrifice natural beauty and grandeur for business.

Perhaps the safe middle way will be discovered whereby a maximum amount of power may be utilized without appreciable diminution of the picturesque qualities of this noble cataract.

Year by year, since coal mining began in this country, piles of refuse coal have accumu-

lated at the mouths of the mines until today there are literally mountains of this slack coal or culm awaiting resurrection. In Europe all such material is used, but in this country prices have not justified its removal. Burned directly as powdered fuel by means of blowers and air pipes, or molded into briquettes with a bond of some tarry matter, it is an admirable fuel. If burned at the mine's mouth it may serve to generate electric power and build up new industrial centers. With the increasing cost of coal and its derivatives, this neglected product is bound to be recognized and used.

And again in the mining of gold by the older methods, more than one-third of the precious metal was abandoned in the tailings. The introduction of the cyanide process for further reduction of the ore has resulted in saving more than half of this wasted metal. Whereas for every nine ounces of gold in the ore, three and one-half ounces finally found their way to the dump, now only one and one-half ounces are rejected and possibly some future inventor may save even a part of this.

The piles of tailings which cumbered the ground suddenly became gold mines in their own right and so much more of the precious metal was available for use.

Of all our great natural sources of wealth, our forests seem to suffer the most and it is only of late that people in general have realized the seriousness of the situation.

When the first immigrants landed on the wooded shores of New England they found an apparently limitless forest bounding their horizon, a forest which sheltered wild beasts and Indians, a forest which hindered the planting of the soil and the building of houses.

To a certain extent it was regarded as an obstacle and an enemy and so abundant was it that the wildest dreamer never thought of its possible disappearance.

The early settler cleared and burned a spot for his cabin and his crops and when this clearing "ran out" as the phrase was, he cleared and burned again, so that the stately

forest of pine and spruce and maple was burned that its ashes might help to raise corn and beans.

Verily our grandfathers paid dear for their whistles.

Gradually the pine and the spruce and the hemlock disappeared from our Eastern states and the lumberman sought the new forests of Michigan and Wisconsin. These in turn have fallen beneath the axe and the saw and our only remaining reserve is on the mountain slopes of the far northwest. If a reasonable attention had been paid to the preservation of young trees, we would not now mourn our destitution. But no, the greedy woodman cut out what was marketable and paid no further attention to the land, leaving his "slashings" a ready victim to the fires set by careless berry pickers and hunters. Tracts of land have been purposely burnt over in the hope that the yield of blueberries and raspberries might be thereby increased.

Hemlock trees were robbed of their bark by the tanners and left to rot on the ground, while the young spruces which had escaped the axe of the lumberman fell a prey to the pulp manufacturer, for whom no sapling was too small.

Indiana fifty years ago was noted for its groves of black walnut and this valuable wood was so plenty that it was used for fence rails. Where walnut occurred in a grove with oak and hickory it was sometimes burnt on the field, as at that time it was not thought fit even for merchantable fire wood.

The extensive Singer cabinet works were located at South Bend on account of the abundance of walnut in that vicinity. The table tops and cabinets for the Singer machines were jointed and paneled from the solid wood.

Today the visitor to these shops sees the tops and panels glued up of small strips of the cheaper woods and then covered with a thin veneer of the precious walnut.

This wood which was once burned to get it out of the way is now so valuable that a cubic foot of it is worth over a dollar.

If all the wood which has been cut had been put to good use we would have no right to complain; it is the fact that so much of it has been wasted that vexes us.

It is our duty today to further as we best can all reasonable plans for putting our few remaining forests under such intelligent supervision, that they may not only be wisely used but indefinitely preserved.

My recent reference to the manufacture of wood pulp and of paper leads me to say more about our wastefulness in this regard. The prevailing shortage of materials for paper-making which has already been mentioned may ere long become a serious matter. This is at least a situation easily understood by and remedied by the individual.

In each household we take one or two daily papers weighing perhaps three ounces each, a Sunday paper weighing twelve ounces, a weekly magazine weighing six ounces and two or three monthly magazines weighing from twelve to sixteen ounces each. The total weight of paper coming into the average home per month may well be ten or twelve pounds or one hundred and twenty pounds to one hundred and fifty pounds annually.

The wrapping paper, the boxes and the cartons help swell the total. All our groceries come in pasteboard packages or in paper wrappers while the clothing from the shop or the laundry and the flowers from the greenhouse come in attractive boxes.

This may seem a trifling matter, but when we remember that the consumer pays directly for all this material and that it forms no small part of the present high cost of living, we must admit that the items are worth considering.

If we assume that our printed paper total is increased fifty per cent by the wrapping paper items, we have a grand total of two hundred pounds per annum for the family or perhaps fifty pounds per capita.

To this may be added paper stock in the shape of cotton and linen rags. The prospective shortage of materials for paper-making is

bound to increase the value of paper and rags and should lead to more care in their salvage and sale.

Old shoes and rubbers are perhaps the most humble and prosaic of our contributions to the scrap heap but they nevertheless have a distinct money value. The cost of leather and of rubber is continually increasing as is evident from the mounting prices of foot wear.

The grimy tramp who knocks at your back door and shows you with an insinuating smile his ragged shoes while he begs for the loan of your cast off footgear, is really a thrifty tradesman and makes a comfortable living by selling his wares to the dealer in such stock.

Rubber of all sorts, be it in the form of shoes, rolls or tires, is valuable and by modern processes may be regenerated and converted into sheet rubber which is nearly as good as the original stock.

I would be the last one to suggest that you as individuals should show your thrift by promiscuous habits of saving.

The New England habit of picking up stray bits of material, broken pieces of hardware and miscellaneous utensils to hoard them in garret or cellar against the time of need, is not true economy. It is an old saying that we only save by spending and material like money must circulate to make good.

Intelligent care of animal life is as important to our national and individual welfare as that of vegetable or mineral resources. When we consider the wonderful number and variety of fishes, birds and four-footed animals which thronged the water, which clouded the air and which peopled the land of our continent, we must feel profound shame and regret at the way we have squandered our heritage.

The extinction of the buffalo or bison was the first chapter in the history of our wantonness.

Even as late as the seventies there were immense herds of these valuable animals on our western plains, while today a few scanty families subsist in private and public reservations. And they were not killed for use in a reason-

able manner, they were slaughtered by the hundreds merely to gratify a misguided impulse for sport or to satisfy the cupidity of the fur dealers.

The continual contest for the preservation of the sealing industry is a matter of modern news and I need not go into detail concerning it. I would only allude to a peculiar phase of its history.

The contest has not been so much to preserve the seal as to preserve the industry; not to prevent the killing of seals but to prevent an indiscriminate slaughter of females and of young which in a short time would exterminate the race. So greedy and so short sighted has the sealer become as actually to try to destroy his own business. "Heaven protect us against ourselves" should be his prayer.

The rigid game laws in the states of Maine, New Hampshire and Vermont have had a remarkable effect in preserving animal life and permitting a natural increase. It is probable that deer, moose and caribou are more plenty today than they were twenty years ago.

Fortunately in this case the cause of conservation keeps step with that of business and the thrifty New Englander realizes that in saving the game he is increasing his revenues. The provinces of Canada have learned the same lesson and the hunter must be satisfied with from two to six weeks of shooting and with a very limited number of trophies.

The most conspicuous victim of bird destruction was the passenger pigeon. I say *was* advisedly, for the bird is extinct in this country and there is a large standing reward for eggs or young of the species. And yet I can well remember when enormous flocks of these passed over northern Maine and lighted in the woods or on the fields. Diminished in numbers and terrified by the indiscriminate slaughter, they left the country not to return. Whether they still exist in some safer environment, I am unable to say.

The most of our game birds are more adequately protected by the laws of the several

states, for the very sufficient reason that hunting is a considerable source of revenue to the community.

The birds which are valuable for their plumage have no such protection and probably the only way to save them is by so educating the people that public sentiment will condemn bird destruction.

Unfortunately the Federal government can only extend protection to birds as they migrate, on the principle, I suppose, that they become interstate commerce when on the wing.

But public opinion is slowly changing and the birds number more friends each year. Much of the better influence comes through the children. It is just as easy to interest a healthy boy or girl in building nest boxes and food houses for birds as to leave them to their primitive habits of stone slinging and nest robbing. The influence of our boy scouts and campfire girls is making itself felt. The parents themselves are beginning to be interested in the study of bird life and the bird glasses and the camera are coming into general use.

If our women could once and forever rid themselves of wearing bird plumage in their head gear, the safety of our birds would be assured.

I am afraid that fashion is responsible for a large share of the distress and suffering in the animal kingdom. The present senseless custom of trimming everything with fur has had its distressing accompaniment in the woods and on the plains. If every fair lady who wears an egret on her turban or fur trimming on her coat could be in at the death and could witness the cruelty and the suffering attendant on the hunter's success, few of them would care to see a plume or a fur collar again.

One of the most encouraging signs of the times is the marked disposition on the part of those in power to conserve the national possessions whether they be mineral, vegetable or animal. Such men as Gifford Pinchot, Frederick Newell and Franklin Lane deserve the recognition and esteem of their countrymen for

their disinterested and determined efforts to safeguard the inherited wealth of the country.

We hear much in these warlike days of preparation for repelling the invader and this is as it should be. But it is of little avail to protect our house against marauders and leave it to be plundered by our own servants.

By all means let us have men and guns to police our borders and to drive off intruders, but at the same time let us watch our own citizens lest they steal and waste the very things we wish to protect.

We may fear the cupidity of a German or a Japanese but let us not overlook the robber tendencies of our own coal barons and lumber kings.

And now, gentlemen, we come to what after all is more important than all these other things—the waste, the scrapping of men.

This is a day of organization, of management, of efficiency. We are rather congratulating ourselves that we have emerged from the former darkness and that we are now adopting such systems as shall do away with that waste of time and material which has so long hampered us.

And so perhaps we are, but at serious risk.

What our English friend meant when he alluded to our scrap heaps was the accumulation of materials and machines at the back doors of our factories, discarded merely because in the great competitive race for business, we can no longer afford to carry them. They are like the wounded which have to be abandoned on the field of battle, abandoned alike whether the tide of battle flows or ebbs. A machine may be in good order and in perfect repair but if it can not keep the pace in manufacturing it is doomed.

This is termed depreciation by obsolescence, and is just as fatal as depreciation by wear or by neglect.

Efficiency is just now the shibboleth and it means material and physical economy, the production of more goods with the same labor or with the same material.

The laborer is artificially stimulated by the prospect of premiums or bonuses to do his utmost and he is made to feel that his position and his income depend upon the amount of his output.

He is continually watched and guided by inspectors and bosses and lives in an atmosphere of nervous tension.

I do not mean that he is subjected to any unreasonable or cruel supervision. It is not that; it is that he is become a part of a great machine, a cog in a great wheel, interesting only as far as he adds to the total.

The whole thing is impersonal and *unhuman* not *inhuman*.

If you do not believe this, you have only to visit a large factory where modern methods prevail.

The place is clean, well-lighted and well-ventilated. The employes have advantages and privileges which were unheard of years ago.

But each worker has become an automaton; his motions have been counted and studied and reduced to a system. He could no more change than could the soldier on parade. His only thought is to keep up with the machine, catch up the piece, turn it, insert it, withdraw it, drop it and so on, missing as few strokes of the machine as possible. You feel that every motion by every man in the room is studied, restrained. It is inconceivable that one should cough, sneeze or stub one's toe.

You get nervous, you want to interrupt, to drop something, break something. I fancy the worker often has the same feeling. There must be an enormous sense of relief when the whistle blows.

All this tends to exhaustion, to growing old before one's time. As the workman passes forty he begins to feel the strain and relaxes a little. He becomes a less desirable employee, he is depreciating by obsolescence, he knows it and his employer knows it. And at about fifty he is ready for the scrap heap.

It is becoming increasingly difficult for a man at middle age or later to procure employment in the manufacturing industries. The

larger corporations plan to take care of their employes as they grow old by providing other work adapted to their failing powers. The one time expert mechanic is relegated perhaps to the stock room, then to janitor service and finally to the chair by the entrance gate, becoming a sort of superannuated watch dog who amiably smiles with his toothless jaws at the casual visitor.

Perhaps this is all right but all veterans are not so fortunate. More or less sporadic attempts at pensioning our soldiers of industry do not solve the problem. What the employee wants is not charity but steady employment and any system of management which squeezes the human orange dry and throws the rind upon the refuse heap, is economically a mistake and socially a crime.

I believe in efficiency, yes, but in an efficiency which economizes men as well as time, spirit as well as material. After all our greatest asset is not our material wealth or our economic production, but our living men and women, and it is for them that we should plan.

The late William James called our attention to the reserve power, the second wind, which he considered one of our greatest possessions and urged that we should avail ourselves of it to the end that our accomplishments might be greater.

No one can doubt that this reserve energy exists and that in great emergencies we can call upon it and do things otherwise impossible. On the other hand, we should remember that it is given to us as a reserve and one which is not to be drawn upon carelessly. It is like a savings account in a bank, a very desirable resource to have in grave financial crises but not one which should be called upon in our every day business.

Too many of our business men, our leaders of industry, are thus sapping their reserves of nervous energy until at forty-five they too are worn out and ready for the scrap heap.

There is rarely a case of nervous prostration among business men which could not have been prevented by a reasonable use of mental

and physical power. When a man tells me with a touch of pride, "I have not had a vacation in twenty years," I can predict that in a few years more he will take an enforced vacation in a sanitarium.

As engineers and also as members of the community, it will be your privilege and your duty to actively assist in construction work, in building up new industries and in advancing new interests.

This is a noble privilege and yours is a noble profession.

In doing this work of upbuilding, do not forget that more important duty of conservation, of utilizing what *is* to the full extent of economic efficiency.

As you go out about your business may you be instrumental in establishing the reasonable usefulness of material resources, of human labor and above and beyond all of the spirit of man himself.

Alumni Address

By

T. L. CONDRON, Class of '90

IN casting about for a theme for this address I have recalled some of my experiences and acquaintanceships during the thirty years since I entered this institution. Perhaps a brief review of some of these will be accepted by you in lieu of words of advice and admonition, of which no doubt you have received a full share during the four years of your course.

My life up to the time I came to Rose had been spent in Washington City where I was born. My father, a Baptist minister, left his pulpit at the breaking out of the civil war to enter the army. Evidently he was "proud enough to fight" for he responded to the first call for volunteers and served throughout the war as chaplain of a Delaware regiment. Unfortunately, my father died before I was four years old so I missed his instruction and guidance. Had he lived I might have graduated from a theological seminary, instead of a technical school, and this morning be delivering a baccalaureate sermon to this class instead of an alumni address.

In Washington City I knew intimately Prof. Cleveland Abbe, to whom more than to anyone else this country is indebted for the weather bureau of today and for the great system of government meteorological observations and weather predictions with which we are all so familiar. Professor Abbe was the original "Old Probabilities," and forty years ago it was quite common to hear: "What does 'Old Probabilities' say about the weather this morning?"

Professor Abbe was intimately acquainted with and a great admirer of Dr. T. C. Mendenhall who, in 1886, was called to the presidency of Rose. At that time I had been working for seven years in a store in Washington City and it was beyond my highest hopes or expectations to have a college education, but my Aunt, to whom I am most indebted for everything, and Professor Abbe were insistent that I should leave the store and go out to Terre Haute to study engineering under Dr. Mendenhall. In their opinion the "great opportunity" was to be a pupil of Dr. Menden-

hall's, regardless of where or under what circumstances; and after I had been such a pupil I could fully agree with them in this opinion. Thus you see how a preacher's son, with his own way to make in the world, came west to Terre Haute to study at Rose as the result of good advice and financial aid.

Dr. Mendenhall delivered many instructive lectures to his pupils and had that rare talent of making his lectures, not only instructive, but wonderfully interesting. Perhaps no lecture I have ever heard made a more lasting impression upon me than one he delivered in the hall of the old Normal School in this city during my freshman year. This lecture was upon the Charleston (N. C.) earthquake which had occurred just a few months before, and therefore the event was fresh in the minds of his hearers. He first told how he had welcomed the opportunity to go to Japan a few years before to teach in the University of Tokio, because that would give him a chance to study earthquakes and make observations with a seismograph. He said that the first quake he experienced in Japan was rather more disconcerting than he had anticipated, the second was really unpleasant and the third more than satisfied his yearning for earthquakes. After that he felt the same terror of earthquakes that filled the minds of the native Japanese in the University. He explained how the disturbance of *terra firma* left one without any foundation to rest upon, so that your faith and confidence in everything became, indeed, shaken. But what most impressed me in the lecture was his bringing to our attention, as it had never before been brought to mine, the relative roughness or smoothness of the earth's surface. Instead of the surface of the earth being like the rough skin of an orange, he demonstrated that relatively the surface of the earth was more smoothly polished than the enameled paper surface of an ordinary 16 inch school globe. On such a globe two inches represents one thousand miles, or one inch represents five hundred

miles, hence, five miles, the height of the highest mountain peak or the greatest depth of the sea, would be equal on such a globe to one one-hundredth of an inch, or about the thickness of a sheet of paper. Mt. Everest in the Himalaya Mountains, the loftiest peak on the earth, is about five hundred miles from the sea and rises about five miles above sea level, hence, on this 16 inch globe, the true representation of this lofty peak would be a quite gradual sloping up, within a distance of one inch, to a height equal to the thickness of a sheet of letter paper. Greater irregularities of surface will be found on the glazed surface of such a school globe. Dr. Mendenhall also told us that the flattening of the earth at the poles which scientists have so exactly calculated, is so slight that if an ivory billiard ball were exactly made to the proportions of the earth, the most delicate measuring instruments would scarcely record the difference between the diameters through its poles and through its equator. It was Dr. Mendenhall's way of presenting scientific facts that made them sink into his hearers' minds and often remained there as permanent knowledge.

Of the faculty that was here when I entered in 1886, only Prof. Wickersham remains. Our Registrar, Mrs. Burton, was as gracious then as now. Our honored president, Dr. Mees, and Prof. Howe came in during my second year. It is with peculiar regard and esteem that I think of these men and of their collaborators during the four years of my course. Especially do I recall Dr. Noyes, who made chemistry vital in interest, and Prof. Waldo, who not only taught mathematics but also was a master in character building. My instructor in freshman mathematics, Prof. Parkhurst, "hitched his wagon to a star" literally, and during his stay in Rose built himself a telescope as a fad. For many years now he has carried on important astronomical work in the great Yerkes observatory and recently it was my privilege to visit that observatory with my family and by his generosity we

were all permitted to gaze upon some of the wonders of the heavens. His first measurement of stars was in sizing up the mental breadth or narrowness of the Freshman, of which I was one. At that time we were rather nebulous, with but dim brightness near the horizon.

Our civil practice should have started in our 2nd year but by a peculiar fate it began earlier. The chair of Civil Engineering was being temporarily filled by Capt. Fitch, father of one of my classmates, and a practical as well as practicing engineer. Being called upon to run a "location survey" for a projected railroad across the state of Illinois to St. Louis, he offered to take a number of students into the field for actual practice. It was late in January when we started on a survey to last two weeks or more. The experience was fine, especially for those who were far enough along to be entrusted with instruments. My particular job was axman, chainman or rodman, by turn, and I found pounding stakes into frozen ground anything but a light occupation. On this survey I learned that a 100 ft. chain could make more mistakes in measuring distance than could possibly be made by any animated creature. Our chains were real chains and not tapes, and when one was broken, as occasionally happened, we could easily heat a link and bend on a new eye. Of course the length was affected thereby and perhaps that accounted for certain noticeable discrepancies.

Our four years passed all too soon, and truly we learned modesty regarding our own attainments and our abilities, for we were constantly impressed with how much we had yet to learn in every subject we studied. I believe there is a benefit to be gained by impressing upon engineering students the fact that they have learned much that many other men have not learned. In many professions I believe the teachers lay great stress upon that feature. It is true that it does not lead to so much modesty but it gives their graduates a greater self reliance and ofttimes an assurance

which leads them to rush in where even angels fear to tread and, as a result, win both gold and laurels.

When I came out of Rose I had to "hunt for a job." After calling upon several engineers I arrived at the office of the then most celebrated bridge engineer in America, Mr. George S. Morison. He enquired what I knew. My thoughts turned to my experience with Dr. Mees and Prof. Howe and I naturally replied that I did not know anything well, that I was just ready to begin to learn. Mr. Morison was quite a gruff man and I remember how he glared at me and rather frightened me by something resembling a grunt. "You mean to tell me you are a graduate of an engineering school and admit you don't know anything but are just ready to begin to learn?" I added that of course I knew some things theoretically but nothing practical. Fortunately for me Mr. Morison had studied law and had only become an engineer after leaving college because he found his tastes and talents lay in that direction. Having graduated in law, where we must suppose self assurance is taught, he was taken by my answer and offered me a position, at what to me was an astonishingly generous salary for a beginner. The year I spent in his employ was a profitable one and my only regret was that, being out in the field, I saw very little of Mr. Morison himself. He was one of the great men of the engineering profession and in later years I came to know him very well and to win his friendship, which I highly prized. He was a man of large vision and thought in large units. One of his distinguishing characteristics, and a characteristic that belongs generally to successful men, was that he surrounded himself with high-class assistants. Several of the men who were principal assistants to Mr. Morison have since become famous engineers in this country, and all of them acknowledge their indebtedness to the training and experience they gained under his masterful direction. Two experiences I had with Mr. Morison may not be out of place

to relate. After some months on the reconstruction work of the bridge across the Mississippi river I was transferred to Nebraska City to take charge of a relatively small piece of work, including making an earth fill across a bog or swamp. The contract had been let under certain specifications before the work was turned over to me, and called for the contractor to spread a mattress of willows not less than 2 ft. thick over this swamp the full width of the fill, before placing any earth filling. It was a unit price contract and called for so much per cubic yard to be paid for excavation and so much per yard for earth fill, but no mention was made of how the mattress was to be paid for. The assistant engineer, who drew up the specifications and contract, realized that a question would arise and told me to make the best bargain that I could with the contractor when the question did come up. Now I knew even less about the cost of willow mattresses over swamps than you graduates of today and this assistant engineer, who was not a graduate himself, had an unfortunate way of expressing the opinion that graduate engineers never did know as much as non-graduates, so you see it behooved me to say nothing. As he did not know about this matter himself, his game was to bluff it over to me. When the question arose I did my best to appear wise before the contractor and to claim that he was entitled to no compensation for willow mattresses as none was called for but that he must, according to said contract, place said mattress. At last after much discussion I agreed to recommend that fifty dollars be allowed him as an extra for the mattress. He did not think it enough but, poor fellow, he had no way of judging either. When I verbally reported to Mr. Morison that I had agreed to allow fifty dollars extra, I waited expecting him to blow me up for squandering so large a sum of money (you see that meant nearly a month's salary to me.) Instead, he said nothing and probably smiled inwardly. I modestly repeated my reckless offer and asked if that was

proper. Mr. Morison glared at me and almost roared out, "If you agreed to allow fifty dollars you agreed to allow fifty dollars; go on." The contractor proved to be incompetent and financially irresponsible and after he collapsed I had to carry on the entire job on a cost account basis. It cost about \$1,500 instead of \$50 to place the willow mattress. I have often wondered what Mr. Morison really thought about my \$50.00 extra.

Some years after this and when I was not in Mr. Morison's employ, he asked me very abruptly why I had not joined the American Society of Civil Engineers. I had gotten over being scared of him for I knew that beneath his gruffness he had a very generous heart, especially for young men. I told him there were two things I had wanted to do that year, one was to join the Society, the other was to get married. I had gotten married and postponed the other expense. He mused a bit and then said, "I guess you did the right thing for I joined the American Society thirty years ago and haven't gotten married yet." In one particular at least I did better than he for I also joined the Society as well as married.

I am fortunate in having worked under and come in more or less intimate relations with some big men in the engineering profession. And even before I entered Rose it was my good fortune to work for a big, broad gauged merchant, a Mr. Beveridge, of Washington City, who had many of the characteristics of great engineers. He, too, was a man of large visions and he made his visions come true. Sometimes I have regretted that in entering upon a professional career, I had to lose the inspiring influence of this man, who did so much to instill in his employes the right sort of manliness and character.

With the high and low tides of engineering construction work, I have had considerable experience. At a time when work was scarce and young engineers were plenty I was glad to have a letter from Dr. Calvin S. Woodward, Dean of the Engineering School of Washing-

ton University, saying that if I would come to St. Louis he would see that I got employment. He was one of the great and good men of our profession and throughout his long life he was constantly helping and encouraging young men. Like Prof. Abbe, he started something. Dr. Woodward started manual training in St. Louis, and it might be said in the United States, by opening the Manual Training School of St. Louis. This School did not pretend to be a college but did prepare boys for practical mechanical work combined with such study as could well follow a course in the ordinary grade schools. Today we have hundreds of manual training high schools in the country, but it is Dr. Woodward who may truly be called the father of the system in this country. He was pre-eminently a teacher and his specialty in the University was applied mechanics and higher mathematics. He could make these subjects of absorbing interest to his pupils.

When I reached St. Louis it was my particular good fortune to find immediate employment under Prof. J. B. Johnson, then at the head of the Civil Engineering Department of Washington University, and also in charge of the timber testing for the U. S. Dept. of Agriculture in the laboratory of Washington University. Prof. Johnson and his associate Prof. Turneure were then writing, "The Theory and Practice of Modern Framed Structures." As every structural engineer of today knows, this book has been the standard text and reference book on this subject in this country for the past 20 years. Prof. Johnson was a very different man from Dr. Woodward but had the same love for his fellowmen, especially for young men and boys. His optimism was inspiring and certainly his example of untiring energy did much to stimulate the hundreds of students who came under him, to greater and more sustained efforts. This splendid man and teacher of men met a seemingly untimely death in an accident near his summer home, shortly after he had become the

Dean of the Engineering School at the University of Wisconsin. While all civil engineers in our country today are familiar with Prof. Johnson's books on engineering topics, probably comparatively few have read what in some respects was his most impressive paper, entitled "A More Rational View of Death." This paper was read by him before a meeting in St. Louis, and was also read at his own funeral by the officiating clergyman. The whole paper was published in the Journal of the Western Society of Engineers in 1902, in a Memorial to Prof. Johnson. In this paper he said, "If we can succeed in looking upon death as a friend—and will generally admit that death is not inherently an evil but next to life itself the greatest earthly blessing, then we might hope to maintain towards it a more cheerful and reasonable bearing." And further on he said, "Now I do not care, as a scientific man, to commit myself for or against any theory of a future life, for the truth or falsity of which I have no sufficient evidence to enable me to formulate an opinion, but the absence of any decided views on this subject does not trouble me in the least as I once supposed it would. What I cannot know, I cannot be accountable for and hence I choose to shape my course with the knowable things of this world, rather than the unknowable, feeling satisfied that whatever the future has in store 'no evil can happen to a good man in life or in death.'" In view of the fact that he met sudden death in an accident the following expression regarding sudden death seems prophetic. "It must be regarded at times as an unfortunate, sad and pitiful result of the operation of a most beneficent law. These are the cases of untimely death; to overcome which stimulates the race, and which are rapidly being eliminated with the progress of science—even here death must be regarded as the unexpected visit of a friend, and not as the stealthy stroke of an enemy—coming quietly and in the most friendly way, leading us into the great unknown from which we have noth-

ing to fear if we are not afraid to live." And further he said, "It often seems that lives were cut short in the midst of their allotted tasks, leaving them incompleated, yet often the real benefit of a life comes only after it has ceased to exist—a thousand minds are stimulated to carry on what one has begun, and so the work grows and spreads by the death of its originator as Christianity itself did when its founder was called away before his work was scarcely begun."

These are noble expressions of a noble mind. A mind that could concentrate upon the calculations of stresses in a complex structure and with equal power contemplate the great mystery of life and death. I have many times been thankful for the influence that such men as these have had upon my mind and soul.

Never having kept a diary I have failed to record many interesting and valuable experiences with several eminent engineers it has been my good fortune to know. It is a constant education to meet and have dealings with men who have achieved to eminence in our profession and I regret not having recorded, at the time, some of the pleasant and profitable experiences with such men as Alfred Noble, Octave Chanute, C. C. Schneider, Horace Horton and others whose names are as indelibly fixed in the engineering history of our country as are the names of any statesmen in our political history. The time is coming, let us hope, when the men whose talents and labors increase the comforts and conveniences of life and promote the arts of peace will rank in public esteem above those men whose claim to fame is their valor in war. Our Capital City is adorned with many statues of heroes. At the head of the great avenue up which the victorious union army marched to disband in 1865, stands now the statue of General Sherman and would it not be appropriate to have carved upon its pedestal his classic phrase, "War is Hell," so that all who gaze upon it might ponder on that dreadful fact. The statues of those who have made earth more

like unto heaven are few, but there are no more imposing statues in that city than the one of Martin Luther, the Reformer, and of Hahnemann, the Physician. It is proposed to add to these the statue of Alfred Noble, the Engineer, so that men and women and children may look upon the face of one who conceived and built great engineering works that benefited the human race.

One can hardly believe that when Octave Chanute spent years in studying and experimenting with gliding planes, in order to advance the art of navigating the air, he could have realized that the immediate and most important results of his labors would be to make possible more terrible destruction by great guns whose certainty of aim is now directed by aeroplanes. Because of air scouts the target is neither within sight nor sound of the gun that destroys it. A gentler, more courteous or kindlier man never lived than Mr. Chanute, sometimes called the "father of aeronautics," but his great work was the building of railroads and bridges to add to the sum of human comfort and convenience. Let us not despair, however, for peace will come again on this earth and the work of the engineer in promoting peace will never cease.

A few weeks ago I was in Portland, Oregon, and met again an engineer I have known for many years. He is an engineer who dreams dreams and sees visions and, being an engineer, he makes his dreams come true. Years ago Mr. Samuel Lancaster, the engineer of a small city in Tennessee, was not satisfied to simply fill his position and do what came to hand, but constantly endeavored to make his city better in every way. He realized that bad roads hindered human progress and determined to make the roads leading into his city true highways and avenues for transportation. Of course he met with opposition and obstacles, but he persevered. His success attracted wide attention and our National Government engaged him to spread throughout the land the "good roads doctrine." This he did with

great success. Then the far Northwest, that part of our country which in many ways is a generation in advance of other parts, claimed him, and he made the roads in and about Seattle models for the nation at large. Ever since the first pioneers laboriously hewed their way into Oregon, it has been deemed impossible to build a road into Portland along the Columbia river. Because of the rugged mountains rising abruptly from the river's edge, transportation had here to be by rafts and boats. It meant much to have a highway along this rapid flowing river, where in the early days many lives were lost, but the task seemed impossible. Mr. Lancaster saw a vision of a great boulevard along the Columbia to be used for Commerce and pleasure. With the enthusiasm of a few big-minded men to finance it and the skill and energy of a great highway engineer to direct it the task was accomplished. Now the great Columbian Highway, which rivals in scenic grandeur the most famous drives in Europe, is a reality. By most skillful planning the road skirts the mountainside, crosses deep ravines and even bores its way into rocky promontories, and nowhere is the grade steeper than 5 per cent nor the curves of less than 100 ft. radius. Thousands of people find delight in motoring along this beautiful highway in perfect ease and safety, where fifty years ago the pioneers required weeks to travel a few miles and many lives were sacrificed because of the dangers of the way. Young men, you should have visions of big things and the determination to make your visions come true.

I cannot close without paying a tribute to one of the great engineers that I have known so intimately that I feel qualified to judge, somewhat at least, of his ability. You who have taken the course in Civil Engineering have a more intimate knowledge of him than

can those who have followed the other courses of this Institute. It is not every engineer that has the power to impart his learning to others, nor does every teacher have the faculty of enthusing his pupils with his own love of his profession. Both of these qualities are found in a rare degree in the man who for more than twenty years past has been the teacher and the inspirer of the civil engineering students of Rose, and it is with deepest regret that we learn he has decided to lay aside his work in this school and retire from the profession of teacher. I am sure every man who has been a student under Prof. Malvered A. Howe feels that he is the peer of all great engineering teachers of our country and that the engineering profession owes him a large debt for what he has done as a teacher and an author. We are sorry to see him leave this Institute, because we realize it will not be easy to fill his place, and this middle west needs now more than ever men like him who can clearly analyze the problems of engineering construction and arrive at conclusions for the guidance of those who must build rather than study. This is a rare accomplishment, for too often those who would investigate and analyze difficult engineering problems themselves become so confused that they fail to arrive at any conclusions.

Therefore, in conclusion, and speaking for the alumni, I extend to Prof. Howe the appreciative thanks of his many pupils and sincere friends, and to the other members of the Faculty and the Board of Directors our loyalty to Rose and our pride in its past history and confidence in its glorious future. We gladly welcome these graduates into the fellowship of the Alumni; may you each and all be successful in your professional careers and add to the splendid reputation of your Alma Mater.

Address of W. C. Ball on Awarding Diplomas

MR. PRESIDENT, LADIES AND GENTLEMEN, AND
ESPECIALLY YOU GENTLEMEN OF THE
CLASS OF 1916:

The special significance of this event is not what has been said here on this occasion, admirable in matter and manner as have been both of the addresses to which you have just listened. What you have done in the past four years out at the Institute, the daily grind of duty and your safe navigation of all sorts of seas in all sorts of weather, and your harborage here at the end of the voyage—these are the significant features of this occasion. My function, speaking for and on behalf of the Board of Managers and the Faculty of the Institute, is to hand to each of you a diploma as tangible and visible evidence of what you have done. Based upon the known curriculum of the Rose and backed by the achievements of your elder brothers, the former graduates, these diplomas have a real value. Knowing your educational pedigrees and the performances of your predecessors, prophecy concerning your careers must necessarily be rose colored. You have all the incentives to earnest endeavor that others have, and then some; personal ambition, love of those of your own blood who love you and have made sacrifices for you, love of a country that has done much to open all the doors of opportunity and hope for you, regard for the name and fame of the founder of the Institute—all the motives that prompt men to go fast and far, you have; and then in addition you are bound in honor to transmit to your successors at the Rose the unbroken record of successful achievement that has made your diplomas of value to you in the workaday world as evidence of training, ability, and staunchness.

I might well pause here and give you your diplomas, but I cannot forego the opportu-

ity of saying a few words of farewell to you as Rose graduates, and of welcome to you as Freshmen in the university of the world. It is a very crazy and turbulent world, just now, young gentlemen, that you are becoming citizens of. If it were governed as a well regulated insane hospital is governed, half the inmates would be put in straight-jackets to keep them from hurting themselves and others and destroying everything in sight that is combustible, and, if you please, "bustible."

As engineers, it seems altogether likely that you will be kept more than busy in restoring what has been wantonly, wickedly, and insanely destroyed, not, however, in our own country, which has fortunately kept its head in this world catastrophe of unreason. No national limit, however, need circumscribe your activities. The world is the field for trained engineers, and the world just now seems bent in its drunken delirium upon destroying all that its skill and genius and toil has created of utility and beauty during many busy and fruitful years. So, you are coming into your own at a time when there is the greatest need of just those things Rose has fitted you to do, and at a time, too, when the supply of men mentally and physically fit seems likely to be smaller than ever before. As engineers, it will be your business to help restore what has been destroyed, but a higher duty will rest upon you as citizens and men to make impossible, if possible, for all time a recurrence of these fits of murderous insanity.

This is a rather large order for young men just starting out in life and more interested just now in their first jobs than in anything else in this world. Certainly, I know that; but you can make modest beginnings at it right off. Youth is as prone to heat as sparks are to

fly upward. Quit that; keep cool yourselves, and make others keep cool,—even if you have to punch their heads. With which paradoxical advice, I am going to bid you farewell and

Godspeed. Come back to your alma mater whenever you can, and as often as you can. You will be welcome, of course; and, why not?—it is your intellectual home.

How Will You Answer?

The *Butler Collegian* says:

“Strive to be able to answer the following questions in the affirmative, when your education is completed:—

“Has your education give you sympathy with all good causes and made you espouse them?

“Has it made you public-spirited?

“Has it made you a brother of the weak?

“Have you learned how to make friends and keep them?

“Do you know what it is to be a friend yourself?

“Can you look an honest man or a pure woman straight in the eye?

“Do you see anything to love in a little child?

“Will a lonely dog follow you in the streets?

“Can you be high-minded and happy in the meaner drudgeries of life?

“Do you think hoeing corn just as compatible with high thinking as golf?

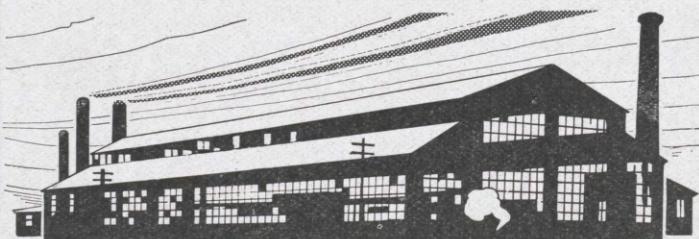
“Are you good for anything to yourself?

“Can you be happy alone?

“Can you look out in the world and see anything except dollars and cents.”

What can *you* say?





ALUMNI - NOTES

Operation of the Recently Electrified Division of the St. Paul

By

NATHAN A. BOWERS, '10

OUT in the high altitudes of the Rocky Mountains during the stormy months since the first of the year, the electric locomotives operating on the 115-mile stretch of the Chicago, Milwaukee & St. Paul Railway between Deer Lodge and Avery have made such a creditable showing that railway officials are now pointing with pride to operating statistics that warrant the enthusiasm shown by the proponents of the 3000-volt electrification plan. In the month of February the freight traffic over this line doubled in volume at the same time that operating difficulties increased enormously. Temperatures went down to 40 deg. below zero at times, snow storms blocked the lines, then came the highest water since the road was opened, and in the midst of the flood a main line bridge burned. But through all the operating difficulties and in the congestion of traffic and stress of extraordinary conditions, the eleven electric locomotives replaced fifteen steam engines in regular service over 1.6 and 2 per cent grades without a hitch, although the operation of the high voltage

equipment was new to all, the overhead construction had barely been completed, and no special repair shop equipment had been provided for the electric locomotives.

Since the regular operation of electric trains began about the middle of January, not one of the electric locomotives in regular service has been laid up in the shops for more than a day at a time. In fact they have been needed constantly for service, and there has been only the brief periods between runs to make such inspections, repairs and changes as were necessary. Experience thus far at the Deer Lodge shops would indicate that when electric locomotives have entirely replaced all steam engines handled at this point, the reduction in the shop force will be about as follows: Boilermakers 98 per cent, blacksmiths 60 per cent, machinists 20 per cent. At present the shop attendants provided especially for the electric locomotives include three crews each consisting of three electricians and three helpers.

Up to the present only very minor difficulties have arisen in the operation of the electrical equipment. Some pantagraph trouble has developed which may have been due to the fact that it has not been possible to establish and maintain clearances perfectly at the out-set, and partly because the operators have not had sufficient experience to foresee the dangers of pantagraph trouble. However, no change in weight or design of the pantagraphs has been deemed necessary. Flashovers or burnouts have occurred in one of the motor armatures, but this has not been at all serious because the first trip to the roundhouse after the accident located the trouble and a spare armature was substituted with only a slight layover. Thus far the cause of trouble in the two cases mentioned is not known. The first was sent to the factory for examination, and the second which occurred recently, and in which the damage was apparently not extensive, is being stripped at the Deer Lodge shops.

It is interesting to note the readiness, or rather the eagerness with which engineers and firemen from the steam equipment take up the study of the electric equipment. No difficulty was experienced in developing in a short while proficient crews for all of the electric locomotives and all of these came from among the local men formerly handling steam equipment. Instructors from the General Electric Company who were sent out with the new locomotives to break in enginemen came prepared to give a thorough training and particularly to facilitate the location of trouble by making sure that the men got a thorough understanding of the wiring diagrams.

Among the through passengers on the Milwaukee line now there is a notable amount of comment on the much easier movement of trains when operated by the very powerful electric locomotives. In fact the appreciation expressed regarding the added comfort and convenience, was such as to constitute a strong "boost," which is certain to be a very desirable advertisement for the new road.

REPORT OF THE THIRTIETH ANNUAL MEETING OF THE ROSE POLYTECHNIC ALUMNI ASSOCIATION, THURSDAY, JUNE 8, 1916

THE thirtieth annual meeting of the Rose Polytechnic Alumni Association was called to order by President O. C. Mewhinney, '91, in the Freehand Drawing Room of the Institute at 3:20 p. m., June 8, 1916.

The following men responded to roll call: '86, Foltz and Scott; '87, Mering; '88, Peddle; '89, Wiley; '90, Condrion; '91, McCormick and Mewhinney; '92, Bixby and Rose; '93, Hood; '94, Royse; '95, Tuller; '97, Arn; '01, Clay, Gibbons, Hammel, Lyon, Miller, Riggs and Schwartz; '02, Fishback; '03, Cushman; '06, Butler, d'Amorim, McComb and C. Wischmeyer; '07, Routledge and J. B. Shickel; '08, Stock; '09, Wilson; '10, Standau and Stokes;

'11, Corbin, W. H. Evans, Fitzpatrick, Heppner, Ker, Shook, Voelker and Wyeth; '12, Albrecht, B. L. Heer, Schoonover and Spindle; '13, Baines, Denny, Gray, Reese and Templeton; '14, Kauffman, LeForge, Lyon, Schoonover and Tygart; '15, Gwinn, Stevens and Turner; '16, Brooks, Brown, Carlisle, Coates, Flarsheim, Hite, Hutchinson, Kingery, Kline, Larr, Leibing, McKeever, O'Brien, Smock, Somers, Spencer, Stoltz, Stone, Stuart and Whitacre.

The election committee retired to count the ballots. The minutes of the last meeting were read and approved. The Treasurer submitted the following report:

To the Rose Polytechnic Alumni Association:

I herewith submit the following Treasurer's report for the year ending June 8, 1916:

ALUMNI FUND.**Receipts.**

Bal. on hand June 7, 1916.....	\$ 384.60	
Dues for 1914-15 since last report	\$ 62.00	
Bal. from Banquet Fund.....	.55	
Dues for 1915-16	227.00	289.55
Total receipts		\$ 674.15

Disbursements.

To Election Committee.....	\$ 43.28
To Executive Committee	41.00

Current Expenses of Secretary.

Traveling expenses of Representatives to Board Meetings.....	34.39
Printing, postage, clerk and misc.	108.72
Technic for Annual Report.....	66.75

\$ 294.14

Bal. on hand in Alumni Fund, June 7, 1916	\$ 380.01
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BANQUET FUND.**Receipts.**

Cash received at Banquet.....	\$ 220.50	\$ 220.50
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Disbursements.

Hotel, waiters, cigars, etc.....	\$ 204.25	
Menus	15.70	
Bal., turned over to Alumni Fund55	\$ 220.50

LOAN FUND.

Bal. on hand June 7, 1915.....	\$ 942.52
Interest on Bank Deposits.....	13.21
Bal. on hand June 7, 1916.....	\$ 955.73

ROSE TECHNIC SUBSCRIPTIONS.

Subscriptions received	\$82.00
Paid to Bus. Mgr. of the Technic.....	\$82.00

BILLS RECEIVABLE.

Balance on hand June 7, 1915.....	\$300.00
Loan No. 8	100.00
Loan No. 9	50.00
Loan No. 10	50.00
Loan No. 11	25.00

Balance on hand June 7, 1916.....	\$525.00
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INTEREST

Interest on Bank Balance.....	\$ 13.21
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FUNDS ON HAND.

Loan Fund, June 7, 1916.....	\$955.73	
Alumni Fund, June 7, 1916.....	380.01	\$1,335.74
		<hr/>
Bills receivable, June 7, 1916.....		\$ 525.00
Cash balance		810.74

CASH IN BANKS.

T. H. Trust Co., Savings Dept.....	\$694.67
T. H. Trust Co., Checking Acct....	116.07

Cash on hand June 7, 1916.....	\$ 810.74
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Respectfully submitted,

CARL WISCHMEYER,

Secretary-Treasurer.

On motion of Schwartz, '01, seconded by Riggs, '01, the Treasurer's report was accepted as read.

President Mewhinney presented the following minutes of the meeting of the Advisory committee:—

On December 3, the Advisory Committee of the Association, appointed by President Mewhinney, met to consider ways and means for assisting in raising funds to be used in the erection of the new buildings on the Hulman Farm site. The following members of the committee were present: Mewhinney, '91, Waters, '88, Layman, '92, Hood, '93, Royse, '94, Pirtle, '98 and Miller, '01. Messrs. H. St. Clair Putnam, '86, Benj. McKeen, '85, and John G. D. Mack, '87, who are also members of the committee, were unable to attend. Foltz, '86, who is the architect for the new buildings, Dr. Mees and Mr. Ball also attended.

The sum of \$150,000 was set as a goal, to be raised by the Alumni during a ten year period, provided an equal amount be raised by citizens of Terre Haute. Messrs. Royse and Miller were appointed a committee to draw up a form of subscription note, the note to include a release in case of death or impairment of earning capacity.

Messrs. H. St. Clair Putnam, Waters, Layman and Pirtle were appointed to make definite recommendations to the committee and the Board of Managers relative to a plan of campaign and the employment of a solicitor to raise the necessary funds.

On the same evening the committee reassembled, with the same men present, and also Mr. Condron, '90, and Mr. Rea of the Board of Managers.

The members of the committee, as an expression of their attitude in the matter of subscriptions, pledged a total of \$6,900.

ARTHUR M. HOOD,
Secretary.

President Mewhinney also stated that the Institute authorities were hopeful of getting contributions from both the Rockefeller and Carnegie boards. The Board of Managers has appointed its two Alumnia members, Royse, '94 and Failey, '96, as a committee to have full charge of the money raising campaign. This committee plans to engage an expert as campaign manager, and have already met with a man who will probably be engaged. Mr. Mewhinney also stated that the various Tech Clubs will be called on to assist.

Schwartz, '01, moved that the meeting endorse the plan of immediately employing an expert as campaign manager for the work, both among the Alumni and outside. Seconded by Riggs, '01. Carried.

The Alumni campaign of 1902 was referred to, at which time about \$12,000 was added to the endowment fund of the Institute. Mr. Hood stated that this sum was kept separate from the general funds of the Institute, and only the income is used for current expenses of the school.

Fishback, '02, on behalf of the Cleveland Rose Tech Club, challenged any other Rose Tech Club in the country to display as much Rose spirit as did the Cleveland Club at a recent meeting, when every member present agreed to subscribe to the new school fund when called upon to do so.

Mr. Mewhinney explained that present plans were to raise \$500,000 in addition to the \$100,000 realized by the sale of the old plant. Of this total amount \$400,000 is to be used in building the new plant, and \$200,000 is to be added to the endowment.

Mr. Royse outlined the plan of campaign, and stated that the campaign manager had practically been decided on. The man in

question will be appointed soon if certain inquiries now under way bring satisfactory results. His fee for the work, amounting to about 7 per cent is to be paid by the Board of Managers, so that every cent given by Alumni will go to the Institute. The campaign among the Alumni will probably be started before the close of 1916, provided the Carnegie and Rockefeller boards take definite action by that time. It was thought best to await their action, as any amount they give will probably be given on the condition that the Alumni raise a similar amount.

Hammel, '01, expressed doubt as to the sufficiency of \$200,000 increase in endowment. He stated that the teachers at Rose are underpaid, and that the endowment should be increased sufficiently to make increased salaries possible. Mr. Rose, '92, seconded this statement and said it was imperative that salaries be increased.

Mr. Royse stated that the Board of Managers realized that the salaries were low, but he considered it better not to place the goal of the campaign too high. It is better to have the goal within reach and attain it, than to fall short of the amount set. A successful campaign frequently attracts contributions from unexpected sources.

In reply to an inquiry from Mr. Schwartz, Mr. Royse stated that the net income from the Heminway bequest for the last year was over \$9,000 and in later years this will be increased to about \$14,000 when certain annuities now being paid revert to the Institute.

At this point the election committee reported as follows:

To the Members of the R. P. I. Alumni Ass'n:

Your committee on elections hereby submit their report for 1916.

In response to request for nominations for candidates for Alumni representative on the Board of Managers, 259 replies were received. W. A. Layman, '92, received 84 votes; H. W. Foltz, '86, received 72 votes; Claiborne Pirtle,

'98, received 38 votes; Max Hammel, '01, received 37 votes; W. H. Insley, '00, received 20 votes. Eight other men one vote each. Total 259.

On final vote for Alumni Representative: W. A. Layman, '92, received 226 votes; H. W. Foltz, '86, received 151 votes.

For President and Vice-President, A. M. Hood, '93, received 72 votes; S. S. Roberts, '98, received 60 votes; W. A. Layman, '92, received 40 votes; R. L. McCormick, '94, received 184 votes; H. A. Schwartz, '04, received 24 votes.

Respectfully submitted,

CHARLES E. SCOTT

THOS. E. ROUTLIDGE.

June 8, 1916. Committee on Elections.

Whereupon Mr. W. A. Layman, '92 was declared elected Alumni Representative on the Board of Managers, R. L. McCormick, '91, President and A. M. Hood, '93 Vice-President for the ensuing year. In reply to requests for a speech, Mr. McCormick thanked the Association for the honor.

On motion of Schwartz, '01, seconded by Rose, '92, the thanks of the Association were conveyed to Mr. Condron for his interesting and able address at the commencement exercises.

Schwartz, '01, as member of last year's executive committee, asked for an expression of opinion from the Association as to its choice between the formal toasts as usually given at the banquets and the informal program of "stunts" at last year's banquet.

Peddle, '88, moved that the chair appoint a committee, with Schwartz as chairman to arrange for a special program for 1918, the last year at the old location, with the idea of making this a special event and trying to get every alumnus who can possibly come to be here. Seconded by Fishback, '02. Arn, '97, offered as an amendment that the committee consist of one man from each class. Wiley, '89, suggested an executive committee of three or five who could call on one member of each class for assistance. Rose, '92, said that such a

committee is too large. Peddle withdrew his motion, whereupon a motion by Rose to appoint Schwartz a committee of one was seconded and carried.

Ker, '11, said that coming in on the Vandalia Railroad, he was unable to locate the site of the new school, and thought that a large sign should be placed in a conspicuous place.

Moved by Foltz, '86, seconded by Ker, '11, that the Association recommend to the Board of Managers that two large signs be placed, one on the north visible from the Vandalia, the other on the south visible from the interurban, stating that this is the site of the new Rose Polytechnic Institute. Carried.

Schwartz again asked for an expression of opinion in regard to banquet programs. C. Wischmeyer, '06; moved that the Association express itself in favor of the informal program. Seconded by Clay, '01. Hood, '93, seconded by Arn, '97, offered the amendment that the Executive Committee be given full power to arrange the program. Moved by Condron, '90, seconded by Shickel, '07, that motion and amendment be tabled. Carried.

Moved by Wiley, '89, seconded by Clay, '01, that the Association go on record as having enjoyed the informal banquet of last year. Motion carried.

Hammel, '01, reported that the class of '01, had its headquarters at room 206 at the Deming and would welcome any Alumni visitors.

On motion of Schwartz, '01, seconded by Clay, '01, the secretary was instructed to convey to Mrs. Burton the thanks of the Association, and accompany same by a suitable floral token.

Arn, '97, brought up the question of military training and expressed himself in favor of making it compulsory at Rose. Royse, '94, reported that the Board of Managers had acted favorably on this question, and that it was up to the Faculty to arrange the work so that military training could be included. He stated also that government assistance would be asked for.

On motion of Arn, '97, seconded by Schwartz, '01, the Association went on record as approving this action of the Board.

The following men were nominated for President and Vice-President to be voted on next year: Wiley, '89, Schwartz, '01, Shook, '11, Hood, '93 and Pirtle, '98.

Foltz, '86, Peddle, '88 and Schwartz, '01 were unanimously elected as executive committee.

On motion of McCormick, '91, seconded by Clay, '01, the election committee consisting of Scott, '86, Johonnott, '93 and Hammel, '01 was elected to serve again.

On motion of Riggs, '01, seconded by Schwartz, '01, the class of 1916 was admitted to membership in the Association. Motion carried unanimously by a rising vote.

Adjourned at 5:30 p. m.

CARL WISCHMEYER,
Secretary-Treasurer.

ALUMNI BANQUET.

THE thirtieth annual banquet of the Alumni Association was held at the Deming on the evening of June 8, 1916. The following men were present:

Dr. C. H. Benjamin of Purdue University, Dr. C. L. Mees, Mr. W. C. Ball, Dr. John White, Prof. F. C. Wagner, Prof. H. A. Thomas, Prof. C. C. Knipmeyer, Prof. A. S. Hathaway, Mr. H. L. Coles and Mr. Hal Melford; W. D. Hickman of the Post; Mr. Snively of the Star and the following Alumni:

Albrecht, '12; Arn, '97; Baines, '13; Bixby, '92; Buck, '13; Burns, '15; Butler, '06; Clay, '01; Condron, '90; Corbin, '11; Drake, '15; W. H. Evans, '11; Everson, '05; Fishback, '02; Fitzpatrick, '11; Foltz, '86; Gibbons, '01; Goldman, '14; Gray, '13; Gwinn, '15; Hammel, '01; B. L. Heer, '12; Heppner, '11; Hildreth, '94; Hood, '93; Kauffman, '14; Ker, '11; LeForge, '14; Lindemann, '08; Lyon, '01; McComb, '06; McCormick, '91; Maddex, '11; Mering, '87; Miller, '01; Modesitt, '06; Peddle, '88; Poggensee, '14; Read, '09; Reese, '13;

Reid, '15; Riggs, '01; Rose, '92; Routledge, '07; Royse, '94; Schoonover, '14; Schoonover, '12; Schwartz, '01; Scott, '86; J. B. Shickel, '07; Shook, '11; Standau, '10; Stevens, '15; Stock, '08; Stokes, '10; Templeton, '13; Tuller, '95; Turner, '15; Tygart, '14; Voelker, '11; Wallace, '11; Webster, '10; Wiley, '89; C. Wischmeyer, '06; Wyeth, '11 and the following members of the class of 1916:

Brooks, Brown, Carlisle, Dailey, Finley, Flarsheim, Goldsmith, Hite, Hutchinson, Kingery, Kline, Larr, Leibing, Leinberger, McKeever, Manson, O'Brien, Overpeck, Smock, Somers, Stoltz, Stone, Stuart, True, Wagner, Weinhardt and Whitacre.

The menus were cleverly arranged with the appropriate quotations printed below:

"This night I hold an old accustomed feast."

Courses

"It almost makes me wish, I vow,
To have two stomachs like a cow."

Fruit Cocktail

"Just an ingenious device for removing superfluous appetite."

Tomato Bouillon

"To blow and swallow at the same time isn't easy to be done."

Fried Spring Chicken

New Potatoes in Cream Early June Peas

Hot Rolls

"How much older art thou than thy looks?"

Roman Punch

"So coldly sweet."

Stuffed Tomato Salad Toasted Wafers

"I warrant there's vinegar and pepper in it."

Strawberry Ice Cream Cake

"All that 's sweet was made but to be lost when sweetest."

Coffee Cigars

"The man who smokes thinks like a sage and acts like a Samaritan."

"To try thy eloquence now 'tis time."

Discourses

"In fine nothing has been said now that has not been said before."

TOASTMASTER Omar C. Mewhinney, '91

"High places have their precipices."

ADDRESS OF WELCOME..... Mr. W. C. Ball

"Small cheer and great welcome make a merry feast."

SWEET SIXTEEN..... George W. Brooks, '16

"We know what we are but not what we may be."

THE FACULTY'S JOB.. Prof. Frank C. Wagner

"To sit right down in all the muss,
An jes' thank God it ain't no wus."

THORNS Luther S. Rose, '92

"I've allus noticed great success
Is mixed with trouble more or less;
And it's the man who does his best,
That gets more kicks than all the rest."

PREPAREDNESS.....G. Harry Clay, '01

"I love the rooster for two things—
One is the crow that's in him and the other is the spurs
That are on him to back up his crow with."

THE ENGINEER.....W. Arnold Layman

"Notwithstandin' I haint writ much for the papers of late,
nobody needn't flatter theirselves that the undersined is ded."

"Well goodbye Jim;
Take keer of yourse'f!"

Toastmaster Mewhinney called for a number of speeches not on the regular program. Dr. Benjamin gave a short talk on "The Dean's Job," and illustrated his points with a number of good stories. He said he should like to have Rose mark him "Return in five years" as he wanted to come again and see the new school. His talk was enthusiastically received. Dr. Mees was called on and responded briefly. He was given an ovation which lasted several minutes. Several others were called on and responded, among them Miller, '01; Mering, '87; Fishback, '02, and Wiley, '89.

Scharwartz, '01, on behalf of the Association presented Mr. Hood with a Rose seal watch fob in recognition of his faithful service as secretary since 1906.

The evening closed with a "song" by the members of the Class of 1901, under the direction of John Philip Sousa Clay, after which everybody was ready to go home.

CINCINNATI DISTRICT ROSE TECH CLUB DINNER.

ON the 27th day of May, six o'clock at the Business Men's Club, Cincinnati, Ohio, the Second Annual Dinner of the Cincinnati District Rose Tech Club was held. This dinner was all that it was advertised to be, and more, in fact, it surpassed our fondest expectations, and if some of the fellows who never partake of Rose Dinners or Meetings could have been to this one, they would have been convinced, that whenever Rose men have hold of any undertaking, probabilities become possibilities and possibilities become true facts and results.

In the selection of Pete Klinger, '96, for Toastmaster the success of the Dinner was assured. Pete is some Toastmaster. You may all know what a fine Toastmaster Foltz, '86, has made at the Alumni Dinners back at Rose. Well, Foltz was with us and he was seen to take down notes from Klinger.

Our President Fritz Brachmann, '98, (Ex-President Brachmann now) showed us what a Dinner "getter" he was when the waiters came in with tray in one hand and—we will let you guess what was in the other.

Klinger started the evening off by telling us, that he had just one meal in the last twenty four hours, and suggested that we eat. (The facts are, most of us had already started.)

We had planned this Dinner as a "Get-Together" Dinner for all the Rose men in this part of the country and a glance at the following list will tell you how well we succeeded.

R. P. I. was represented by Dr. C. L. Mees and Prof. Arthur S. Hathaway.

Indianapolis Rose Tech Club by Herbert Foltz, '86.

Terre Haute Rose Tech Club by Prof. John B. Peddle, '88.

Columbus, Ohio, by Henry R. Voelker, '11.

Portsmouth, Ohio, by E. C. Bradford, '11.

Dayton, Ohio, by P. W. Klinger, '96, Toastmaster, W. E. Baker, '11, Walter D. Grebs, '99, Wm. J. Fogarty, '92, Wm. C. Knopf, '08, Watson J. Klinger, '96, Walter E. Rankin, '12, E. R. Weaver, '13.

Cincinnati, Ohio, by Fred C. Brachmann, President C. R. T. Club; Clifford E. Albert, '93, Lester J. Backman, Ex-'10, J. W. Dale, Ex-'94, Alvin Dreifus, '12, Harry E. Harkness, '09, Davis Levi, '13, J. D. Lyon, Ex-'92, Frank Maltaner, Ex-'09, A. A. Piper, '10, Sec'y & Treas. C. R. T. Club, Luther S. Rose, '92, Fred L. Townley, Ex-'00, Cale Wamsley, '98, Louis Werk, '96, F. C. Dugan, Ex-'09.

After the above did justice to all the good things placed before them, Toastmaster Klinger got up and gave a long, delightful eulogy of some one, we all thought of

Lincoln or Washington, but when Pete finished, Dr. Mees said, "Dats Me," and we were off. Dr. Mees was at his best and that is "Nuf Ced." We all enjoyed everything Dr. Mees had to say and would have yelled for more, but, Klinger started in again to tell us about one other distinguished gentleman, and then called upon Professor Hathaway. "Hath" started in on us by telling us we must all have brains if we ever expect to get anywhere. After this remark there was not one sound in the hall, even the waiters stopped and the lights grew dim, then we could see the dusty old blackboard in Hath's room, we heard some one say something about pushing that way and going this way, and Pete said he saw Towley slip out of the room with a tennis racket under his arm. Klinger then woke us up by telling us about another gentleman, who he knew well had asked to be called upon, and looking toward the head of the table, we could see Professor John B. Peddle. He took the floor and told us in his good modest way how glad he was to be with us, and he told us something else, but the writer never was very good about remembering those things.

Klinger up again, he said he had always wondered and wanted to know just one thing, and that was, why an architect, that was a specialist in designing jails, prisons and the like was chosen as School Architect for the new R. P. I. Mr. Foltz then took the floor and explained in detail everything about the plans for the new buildings. Mr. Foltz had drawings, etc., with him and we all certainly did enjoy his talk. A great many questions were asked and enthusiasm was shown over the plans and work already done.

Klinger then started in and said good and bad things about us all, but, we all came back at him and the score was fifty-fifty at the close.

The last one up was Brachmann and he told us what the missing link was. For the benefit of those not at the Dinner we will give you the secret word, "*Enthusiasm*." This is the link that must be used in everything we

do to do it right, and obtain results that the Boss likes to see.

At the end of the Fritz's talk he said that nominations were in order for President, and also Secretary and Treasurer of the Cincinnati District Rose Tech Club. We all hoped that Brachmann would serve another term but Fritz was not like most politicians and would not accept, stating that he felt things should be passed along, and someone that was engaged in engineering work should be chosen. After considerable talk pro and con Mr. L. S. Rose, '92, was chosen President and A. A. Piper, '10, given a second sentence for his past good work as Secretary and Treasurer.

Mr. Brachmann was the first President of the Cincinnati District Rose Tech Club and it was his hard work and enthusiasm that placed the club up among the leaders in Rose Tech circles.

Mr. Rose, the new President, is chief Valuation Engineer for the New York Central Lines and is located in Cincinnati. Mr. Rose has always been a very active member of the R. P. I. Alumni and he has some great plans in store for the Cincinnati Rose Tech Club this coming winter.

Mr. Piper, or "Pipe" as he is better known, has been Secretary and Treasurer of the C. D. R. T. Club for the past year and he has run Ex-president Brachmann - a close race when it comes to boosting Rose and every one connected with it.

After the election of officers for the coming year a number of College yells were given and all voted the Dinner to be the best ever.

NOTES.

L. S. Rose, '92, President of the C. D. R. T. Club and Walter R. Gibbons, '01, both of Cincinnati, attended the Alumni Dinner given at the Hotel Deming, Terre Haute, following the graduation exercises at Rose.

Wm. C. Knopf, '08, has recently accepted a position as Southern Sales Manager for the Domestic Engineering Co. of Dayton, Ohio, and he will be located in the South.

ROSE LEAVES

SIXTH ANNUAL ROSE MEMORIAL DAY EXERCISES.

ON Wednesday afternoon, May the seventeenth, the faculty and entire student body assembled at the Institute, and from there proceeded in special cars to the Highland Lawn Cemetery. Here, in conjunction with The Rose Orphan Home and the Rose Ladies Aid Society, the usual Memorial Day exercises were held at the grave of Chauncey Rose. Rabbi Kaplan, of the Temple Israel, pronounced the invocation, and William C. Ball, president of the Board of Managers of the Institute, presided. The first speaker, John T. Beasley, a trustee of The Rose Orphan Home, gave an outline of the life of Chauncey Rose, dwelling upon the benign and lovable qualities of the man himself, and enumerating some of the manifold services rendered to the community by him. This address was followed by the placing of a wreath on the grave of Mr. Rose by children of The Rose Orphan Home and then the graves of Mrs. Sarah A. Heminway and Miss Susan K. Francis, members of the Rose household, were similarly decorated by the Rose Ladies Aid Society. Prof. Howard Sandison, Vice-President of the Indiana State Normal School, then gave a biographical sketch of Josephus Collett, a life-long friend of Mr. Rose and himself a benefactor of the Institute. This concluded the exercises. The faculty and student body of the Institute then proceeded to decorate the graves of Josephus Collett, James McGregor, Col. Richard W. Thompson, Judge William Mack, and other friends of Mr. Rose and benefactors of the Institute.

The weather conditions being favorable, the attendance at the exercises was unusually large.

The third Wednesday in May offers an opportunity to Rose students to pay a tribute of respect and gratitude to the founder of the Institute, and it goes without saying that such a tribute will be paid by all Rose men on every Rose Day for all time to come.

THE SENIOR RECEPTION.

THE evening of June 7th marked the thirty-second Senior Reception given by the Rose faculty to the members of the graduating class. According to the usual custom the members of the Junior class were also present as guests and with the guests of the Seniors class who were present almost one hundred couples enjoyed the festivities.

Among the Alumni who were present were: J. S. Riggs, '01; G. H. Clay, '01; H. M. McComb, '06; Herbert Foltz, '86; W. B. Wiley, '89; A. S. Bixby, '92; Max J. Hammel, '01; H. R. Voelker, '11; W. D. Wallace, '11; A. H. Albrecht, '12; C. E. Reese, '13; Charles Le Forge, '14; H. A. Smith, '14; John Ried, '15; Charles N. Stevens, '15; L. D. Gwinn, '15.

The guests were greeted in the parlors by President Mees, Miss Mees, Mrs. Burton and other members of the faculty and their wives.

The grand march was led by Howard O'Laughlin, '16, and Miss Edna Glick.

The ballroom of the Hotel Deming was beautifully decorated for the occasion in old rose and white. Ribbons of crepe paper were festooned from the chandeliers to the centre of the hall, and the lights were shaded with showers of rose paper.

Punch was served throughout the evening, and during the intermission following the sixth dance a dainty luncheon was served in the large dining room.

The Dayton Payne orchestra furnished the music for the program of twelve dances which was carried out.

The unique cover design for the programs which represented a moonlight view of the old school tower was the work of O. L. Stock, '08.

PROFESSOR HOWE.

AS announced in the last issue of THE TECHNIC, Professor M. A. Howe has resigned from the Chair of Civil Engineering and retired from teaching. At a meeting of the Board of Managers on June 7th, his resignation was accepted; and by unanimous vote the following entry was ordered to be made in the minutes of the Board:

"The Board of Managers of the Rose Polytechnic Institute accept with sincere regret the resignation of Professor Howe. It desires to record that it appreciates to the highest degree and fully recognizes his splendid service during the twenty-nine years of his connection with Rose Polytechnic Institute. Loyal and unselfish, he gave the best he had. His earnestness and enthusiasm was infectious, and his lofty view of life's duties and his sterling manhood were strong features in making his work effective in the Institute. In holding before his students high ideals and encouraging them to their attainment, he has given through them much to the world.

"During his incumbency of the Chair of Civil Engineering, he not only performed all his duties as professor with brilliant results, but found time to add to scientific literature many authoritative works, and carry out experimental investigations which have become classics. His uncompromising honesty and absolute sincerity has led to the unchallenged acceptance of his work. Fearless in the expression of his conviction, his position could never be misunderstood.

The Board of Managers feels that through his retirement there will be left a vacancy long to be felt.

To retain his interest in Rose, to honor him deservedly as man, teacher, and engineer, he is appointed Professor Emeritus in Civil Engineering in the Rose Polytechnic Institute with all the privileges associated therewith.

"The Board of Managers wishes him all good and happiness in the future, and trusts that the memory of his connection with Rose and the Board may be a happily cherished one and that he may continue to feel that we are bound in strong ties of friendship and common interests."

SENIOR OFFICERS.

AT a meeting held two weeks ago the present Junior class elected officers for the coming year. This step was taken in order to eliminate the usual confusion in the fall, and to put authority in definite hands in order that "the opening exercises" of the Institute might be properly conducted.

The following men were selected:

W. Edward Richard	President
Walter S. Risser	Vice-President
Floyd S. Carpenter	Treasurer
Walter C. Wentz	Secretary

ST. PATRICK DAY COMMITTEE.

AT the last meeting of the Student Council, and according to the custom inaugurated last year, the St. Patrick Day committee was chosen from members of the Junior class. The ballot elected the following men:

W. Edward Richard, Chairman.
 Fred W. Hild.
 Walter S. Risser.
 Richard Aitken.
 Henry C. Gray.

This committee announces that the next St. Patrick celebration will be a record breaker, and promises to furnish a good many thrills at the initiation services of the Order of the

Elephant. With as able a man as Richard at its head this committee should have no great difficulty in carrying out its promises. The committee will probably do a great deal of work during the summer, and will have definite plans formed by the last of October.

M. E. P. GETS BETA PHI CHARTER.

THE granting of a national charter to M. E. P., by the Beta Phi Fraternity, concludes the history of one of the oldest and strongest fraternities at Rose.

M. E. P. was organized in October, 1903, with a feeling of real fraternal friendship by the following men: John Edward Dailey, Oscar Frances Reynolds, Chas. Raymond Demmitt, Merle Roland Reed, Roy Wilson Hill, Edgar Ernest Larkins, John Osborn Bland, Leo Francis Dorn, Addison Wolcott Lee, Maxwell Sharp Barker, Jr.

Since its organization, M. E. P. has initiated 82 men, eighteen of whom comprise the active chapter, while of the remaining 64, more than 80 per cent have graduated from Rose.

In school affairs, the fraternity has always taken an active part, and in professional life, its members have done their part in upholding the reputation of Old Rose.

And though the old name is gone, the new Theta Chapter of Beta Phi still holds to all the ideals and expects to become as much a part of the Institute as M. E. P. became.

STUDENT COUNCIL MINUTES. MAY MEETING.

Meeting called to order by O'Laughlin with Leibing, O'Brien and Tilley absent.

Financial report of St. Patrick's celebration given by Weinhardt. Report accepted.

Moved by Carlisle, seconded by Wyman that an appropriation of \$21.05 to cover deficit of St. Patrick's celebration be taken from General Fund. Carried.

Report of financial secretary. Report accepted.

Moved by Carlisle seconded by Grafe that all money needed by Athletic Association be taken from General Fund. Carried.

Nominees for committee to serve on St. Patrick's celebration of next year.

Davis, Aitken, Goldstine, Gray, Risser, Whelan, Wyman, Hild, Richard and Wentz. Committee elected by Student Council.

Richard, Chairman; Hild, Risser, Aitken, Gray.

P. J. GRAFE,
Record Secretary.

WHERE '16 IS BOUND.

G. G. Anderson, American Blower Co., Detroit, Mich.

John C. Barrett, Firestone Rubber Co., Akron, Ohio.

George W. Brooks, Western Electric Co., Chicago, Ill.

C. F. Carlisle, King Bridge Co., Cleveland, Ohio.

J. H. Carter, Algoma Steel Co., Soo, Ontario.

J. A. Dailey, General Electric Co., Schenectady, N. Y.

C. L. Davison, General Electric Co., Schenectady, N. Y.

G. W. Evans, General Electric Co., Schenectady, N. Y.

R. E. Finley, Vandalia R. R. Co., Indianapolis, Ind.

Elmer Gadberry, Firestone Rubber Co., Akron, Ohio.

D. W. Hite, Toledo Railways and Light Co., Toledo, Ohio.

O. P. Hutchinson, Nordyke & Marmon Co., Indianapolis, Ind.

R. I. Kattman, Vandalia R. R. Co., Terre Haute.

F. W. Kingery, C. & E. I. R. R., Danville, Ill.

F. J. Kline, Bowman Elec. Lt. and Power Co., Marmarth, N. Dak.

R. B. Larr, Fairbanks, Morse & Co., Indianapolis, Ind.

S. C. Leibing, General Electric Co., Schenectady, N. Y.

R. F. Leinberger, General Electric Co., Schenectady, N. Y.

R. D. Leitch, Terre Haute Water Works Co., Terre Haute.

George Maier, American Radiator Co., Chicago, Ill.

M. E. Manson, Armour & Co., Chicago, Ill.

A. D. Merrill, Columbian Laundry Co., Terre Haute, Ind.

W. H. Motz, Frick Co., Waynesboro, Pa.

J. F. O'Brien, E. I. Du Pont de Nemours Co., Wilmington, Del.

J. H. O'Laughlin, City Engineer's Office, Terre Haute, Ind.

J. H. Overpeck, Westinghouse Electric & Mfg. Co., East Pittsburg, Pa.

H. E. Smock, General Electric Co., Schenectady, N. Y.

W. R. Spencer, Fort Pitt Bridge Works, Canonsburg, Pa.

R. R. Stoltz, Westinghouse Electric & Mfg. Co., East Pittsburg, Pa.

S. P. Stone, with Sam Stone, Jr., Architect, New Orleans, La.

R. A. Stuart, Western Electric Co., Chicago, Ill.

R. Trimble, Indianapolis & Frankfort R. R., Indianapolis, Ind.

F. C. Wagner, Jr., General Electric Co., Schenectady, N. Y.

V. L. Whitacre, Commercial Distilling Co., Terre Haute, Ind.

R. A. Weinhardt, Pennsylvania Lines, Pittsburg, Pa.

In Memoriam



To the memory of Frederick K. Wyman, class of 1917, who was drowned on the afternoon of May 31, while swimming in the Wabash river. The sad news of his death came to us as a deep shock and a great sorrow, and to his bereaved parents we extend our heartfelt sympathy. His loss was indeed a

loss, for he was a friend of all. His ready smile and abundant good humor, his never failing cheerfulness and his big heartedness made him friends with all who came in touch with him. We would say more, but to what avail? He was our friend.

FACULTY RESOLUTION.

There has been taken from our midst by an untimely death a promising and lovable boy of high character, Fred Wyman, of the Junior Class. We all remember him as a faithful worker, earnestly and cheerfully applying himself to the task set before him, one who promised in the full fruition of his life to become a worthy graduate of Rose Polytechnic and fill his place in the world in a creditable and useful way. He will be missed in classroom and on the campus, for he has many friends which he so well deserved.

To all the members of his family, the Faculty extends its sincerest sympathy and the assurance that their sorrow is shared by it.

It is ordered that the above be made a part of the regular minutes of the Faculty, and a copy thereof be furnished the daily papers, be transmitted to the family, and posted upon the bulletin board of the Institute for fifteen days from September 13th, 1916.

(Signed) C. L. MEES, President.

June 5, 1916.



ATHLETICS

ROSE—DEPAUW.

ON May the eleventh, the Poly nine invaded Greencastle and came home victorious, balancing up the defeat that we suffered earlier in the season. Rose started scoring right off the reel and was never headed. A total of fourteen hits netted six runs for the Engineers, while DePauw could only connect with Brown's delivery for six safeties. The team played real ball both in the field and at bat. Trimble, Stotz and Reinhard led with the willow, each getting triples. DePauw never had a chance. Score by innings:

Poly	1 1 0 0 0 2 0 2 0	—6 14 3
DePauw	1 0 0 0 1 0 1 0 0	—3 6 1

Batteries—Brown and Bake; Ford, Miller and Morrows.

ROSE—BUTLER.

ON the eighteenth of May, the Rose nine journeyed to Butler and played a disputed game with that school. Rose claiming to have won 11 to 8, while Butler said that they were victors 8 to 7. Nothing can be put over on Meff, so he lodged a protest and the game was awarded to Rose. The trouble was over five runs that Rose had scored and the umpire ordered into discard about an inning later, claiming an unannounced change of the batting order.

ROSE—E. I. S. N.

IT took Rose just eleven innings to defeat Charleston Normal in the second game of the season with that school. The Suckers won the first, and now things stand even up. The score was four to four at the close of the ninth, with both pitchers, High and Brown, going splendidly. Trimble opened the tenth with a hit but died en route. In the eleventh, Bake beat out a hit and advanced to second on an error. He took third likewise. "Old Reliable" Joe singled, (did you ever know him to fail when we needed a run?) scoring "Lefty Looie." Pud then scored his teammate by singling after Ick and Casey had rolled out. In the Suckers half it was one, two, three. Score by innings:

Rose	0 1 0 2 0 0 1 0 0 0 2	—6 12 2
E. I. N. S. ..	0 1 1 0 0 1 0 1 0 0 0	—4 7 5

ROSE—I. S. N. S.

ROSE POLY, Elephant, Band, etc., invaded Parsons Field on Friday, the nineteenth of May, and won the third straight victory from the Teachers, by a score of 6 to 5. The game was exciting from start to finish. Normal took a one run lead in the first stanza, on two singles after two were out, but they could not hold it. Brown of Normal, was pitching invincible ball for the first three

innings, only nine men facing him, but he "got his" in the fourth. Trimble first up, started the "balloon ascension," with a clean single over short. When the flight ended Rose had three runs to their credit. Another followed in the fifth and when two more happened in the sixth, the score of 6 to 1 looked bad for Normal. Crim then relieved Brown and the Teachers immediately began cutting down the lead. The ninth inning saw a score of 6 to 5. "Our" Brown then tightened and struck out the next two batsmen and forced the other to roll out to Trimble. Thus winning the last game he will ever pitch against Normal.

Much enthusiasm was in evidence throughout the game. Rose's elongated yell-leader, together with firecrackers, band and cannon, made the struggle a real one. For the second time, the mighty Elephant got Normal's goat.

Score:

ROSE POLY

	AB.	R.	H.	P.O.	A.	E.
Trimble 2b	5	1	2	0	2	0
Kline, 3b.	5	0	1	0	4	6
Coates, cf.	4	1	1	2	0	0
Bake, c.	4	0	0	4	2	0
Carter, 1b.	4	2	0	15	0	0
Stotz, rf.	4	1	2	2	0	0
Reinhard, ss.	3	0	1	1	5	0
P. Brown, p.	4	1	1	1	3	0
McKeever, lf.	4	0	0	2	0	0
Totals	37	6	8	27	16	6

STATE NORMAL.

	AB.	R.	H.	P.O.	A.	E.
Holt, cf.	5	1	0	1	1	0
Wilson, 2b.	5	0	0	3	1	1
Bayh, 3b.	5	2	0	1	1	1
Flint lf.	3	0	2	1	0	0
Clark, rf.	4	0	0	3	0	0
Lowe, 1b.	3	1	1	8	0	0
Clodfelter, ss.	4	0	1	1	1	1
Powers, c.	4	0	0	9	2	0

C. Brown, p.	2	0	0	0	3	2
Crim, p.	2	1	1	0	2	0
Totals	37	5	5	27	11	5
Rose Poly	0	0	0	3	1	2
Normal	1	0	0	0	0	3

Innings pitched—By C. Brown, 5 1-3; Crim 3 2-3. Base hits—Off C. Brown, 6; Crim, 2. Base on balls—Off Crim, 1; P. Brown, 2. Struck out—By P. Brown, 5; C. Brown, 6 in 5 1-3 innings; Crim, 3 in 3 2-3. Wild pitch—C. Brown, 2; P. Brown, 3. Two-base hits—Crim, 1. Double plays—Brown to Carter. Left on bases—Poly, 5; State Normal, 7. Stolen bases—Trimble, 1; P. Brown, 1; Holt, 1; Lowe, 1; Clodfelter, 2; C. Brown, 1. Time—2 hours. Umpire—Donnelly.

ROSE—WASEDA.

PLAYING a steady, plugging game, the Waseda University nine of Tokio, Japan, defeated Rose by a score of 21-11. The Japs have a fast, well coached ball team and there are few things they don't know about the great American game. The Engineers took an early lead, but loose playing towards the end cost the game. Brown was on the shelf waiting for Wabash and McKeever was chosen to hurl. Johnny Mikels taking left field. Fifteen clean hits including homers, triples and doubles coupled with ten errors is enough to beat any ball team, though the Japs all played well. They team systematically together, and from appearances ought to go back East with a good number of victories. Score by innings:

Waseda	1	0	2	0	3	5	0	2	8	—21	15	3
Rose—	1	2	0	5	0	0	1	0	2	—11	8	10

Batteries — Ito, Kiski and Ichioka; McKeever and Bake.

ROSE—WABASH.

WABASH won for the second time this season from Rose by defeating them in a sea of mud 6 to 1. The game was delayed for an hour by rain and then played on a

heavy field. Sturgis for Wabash kept the Rose hits scattered so that seven of them netted only one run. Brown pitched well, but was a little erratic, although he struck out nine "Little Giants." Rose had a few chances to score in spite of the fact that our men were frequently on base. Allen, of Wabash, led with the club, slapping out two triples out of five times up. Stoltz kept up his batting streak by tearing off two of the seven hits off Sturgis. Score:

WABASH

	AB.	R.	H.	P.O.	A.	E.
Nelson, c.	3	1	1	7	1	0
Pfohl, 3b.	3	2	2	0	0	1
Allen, ss.	5	2	2	3	3	1
Rovenstein, lf.	3	0	2	3	0	0
Kerns, cf.	4	0	0	1	0	0
Hoffing, 2b.	2	0	0	3	1	0
Clements, 1b.	4	0	0	6	0	0
Green, rf.	4	0	0	4	3	0
Sturgis, p.	3	1	0	0	1	0
Totals	31	6	7	27	9	2

ROSE POLY

	AB.	R.	H.	P.O.	A.	E.
Trimble, 2b.	4	0	1	3	2	0
Kline, 3b.	4	0	1	1	0	0
Coates, cf.	3	0	0	1	0	0
Bake, c.	4	1	1	12	0	0
Carter, 1b.	3	0	0	6	0	0
Stoltz, rf.	4	0	2	2	0	0
Reinhard, ss.	4	0	0	0	2	0
Brown, p.	3	0	1	1	2	1
McKeever, lf.	3	0	1	1	0	0
Totals	32	1	7	27	6	1

Wabash	1	0	0	0	2	0	2	0	1	—6
Rose Poly	0	0	0	0	0	0	1	0	0	—1

Stolen bases—Hoffing, Pfohl. Sacrifice hit—Nelson. Sacrifice fly—Allen. Three base hit—Allen (2). Home run—Nelson. Double plays—Reinhard to Trimble to Carter; Brown to Carter; Green to Clements. Struck out—

By Brown, 9; by Sturgis, 7. Bases on balls—Off Brown, 8; off Sturgis, 2. Wild pitch—Brown. Time—1:41. Umpire—Westphal. State Normal.

THE Faculty fulfilled their answer to the Senior challenge by drubbing the near-grads by a score of 11 to 9, thereby proving that they were still the wiser men. Mefford, in the box for the Profs. pitched fine ball and was in turn given sensational support, especially by one shortstop called Hathaway. This man accepted two sky-scraping flies and a fierce bad-bouncing grounder without a bobble. At bat, he hit every time up and it was only by fast miraculous fielding that he was thrown out at first. Doc White and megaphone were on hand in the role of umpire. Like some reactions, his decisions are reversible and especially so when the Seniors threatened to score. The usual attraction was on second base. We believe it was Billy Ranel's bait to catch men stealing. At any rate, the teachers had their share of the spoils, the Seniors not daring to idle on second when runs were so dear. The Faculty battery, Meff and Ranel is indeed one of the best we have seen in years. Besides holding the Seniors, they each scored three runs and tore off 4 hits.

A little trouble threatened in the seventh when the Profs. claimed it to be the ninth, but after a little argument, it was decided to play another inning. The Seniors were shut out and their courage—thusly renewed, the Faculty condescended to once more engage in battle. The Seniors were then again held scoreless and the "old boys" were victorious. "Safety first" is indeed a good policy. Score:

SENIORS.

	AB.	R.	H.	P.O.	A.	E.
Kingery, c.	3	1	1	9	2	0
Smock, 1b.	4	1	1	9	0	0
Leitch, p., ss.	4	0	1	1	2	0
Maier, 2b.	3	1	1	1	0	0
Barrett, ss., p.	4	1	2	1	3	2

Davison, 3b.	4	2	2	3	0	0
Whitacre, rf.	2	1	1	0	0	0
Somers, lf.	2	0	0	0	0	0
Hutchinson, cf.	3	0	1	0	0	0
Holloway, cf.	1	1	0	0	0	0
Stone, lf.	1	0	0	0	0	0
Anderson, c.	1	0	0	0	0	0
Finley, 2b.	1	1	1	0	0	0
Etc.						

Total33 9 11 24 7 2

FACULTY.

	AB.	R.	H.	P.O.	A.	E.
Ranels, c.	4	3	4	10	2	0
Mefford, p.	5	3	4	2	5	0
Wischmeyer, 1b.	4	1	1	9	1	0
LeForge, 2b.	4	1	1	4	3	1
Thomas, 3b.	3	0	1	0	0	0
Hathaway, ss.	4	0	1	2	0	0
Davis, lf.	3	2	2	0	0	1
Coleman, cf.	3	0	1	0	0	0
Stock, rf.	3	1	1	0	0	1

Totals33 11 16 27 11 3

Base on balls—Off Mefford, 3; Leitch, 1; Barrett, 1. Struck out—By Mefford, 10; Leitch, 4; Barrett, 4. Two base hits—Stock. Three base hit—Barrett. Home run—Barrett. Single—Hathaway. Stolen bases—LeForge, Davis, (3) Ranels; a few; Davidson, even more. Caught off first—Hathaway. Time—2 hours. Umpire—White.

I. C. A. L. TRACK MEET.

THE fourteenth annual I. C. A. L. track meet, held on Rose Field, May 20, was won by DePauw by the narrow margin of two points, the seven contesting teams finishing as follows: DePauw, 41; Wabash, 39; Franklin, 20; Earlham, 13; Rose Poly, 1; Normal, 0; Hanover, 0.

Butler had tennis entries only.

Ike Myers gave the Gold and Black a good start by winning the mile, the opening event,

in 4:36 4-5, lowering the old record by two seconds. DePauw held the lead by consistent plugging, and although they were once tied by Wabash they were never headed.

Myers, as usual, was the individual star, taking firsts in the half, mile, and two mile events. Cauldwell, of Wabash, who never wore a track suit until this year, broke the discus record with a heave of 124 ft. 10½ inches, and won the broad jump by covering 22 ft. 5½ inches. He scored thirteen points in all for Wabash. Bailey, of Franklin, also came in for honors, gathering thirteen points by annexing firsts in the high hurdles and high jump, and landing second in the pole vault. Binhack scored the only point for Rose when he managed to pick up a third in the shot put, but this does not mean that Rose "laid down." They fought every event to a finish, and lost only because the other fellow was "a little bit better."

Although this season has not been an exceptionally bright one for the Rose track team, Coach Mefford deserves considerable credit for what he has done. This year has been but a beginning for Rose in track. Next year should witness the development of a first class, well balanced team.

Summary of the meet:

TRACK.

100-yard dash—First, Sweet, Wabash; second, Nicholson, Wabash; third, Adams, DePauw. Time, 10 sec.

880-yard run—First, Myers, DePauw; second, Burns, Wabash; third, Short, Franklin. Time, 2 min., 6 2-5 sec.

120-yard high hurdles—First, Bailey, Franklin; second, House, DePauw; third, Norris, DePauw. Time, 17 sec.

220-yard dash—First, Sweet, Wabash; second, Nicholson, Wabash; third, Jones, DePauw. Time, 22 1-5 sec.

Mile run—First, Myers, DePauw; second, Short, Franklin; third, Hutton, Earlham. Time, 4 min., 36 4-5 sec.

220-yard low hurdles—First, Jones, DePauw; second, Hamilton, Franklin; third, House, DePauw. Time, 27 sec.

440-yard dash—First, Adams, DePauw; second, Simms, Wabash; third, Burns, Wabash. Time, 52 3-5 sec.

Two mile run—First, Myers, DePauw; second, Canaday, Earlham; third, Cross, Franklin. Time, 10 min., 28 sec.

FIELD.

Discus Throw—First, Cauldwell, Wabash; second, Mills, Earlham; third, Bowen, Franklin. Distance, 124 ft., 10 inches.

Running High Jump—First, Bailey, Franklin; second, Delap, DePauw; third, Cuttrell, Earlham. Height, 5 ft., 6½ inches.

Shot Put—First, Morrish, Earlham; second, Cauldwell, Wabash; third, Binhack, Rose Poly. Distance, 39 ft., 11½ inches.

Running Broad Jump—First, Cauldwell, Wabash; second, Nicholson, Wabash; third, Woodruff, DePauw. Distance, 22 ft., 5½ inches.

Pole Vault—First, Cook, DePauw; second, Bailey, Franklin; third, Lemaster, DePauw. Height—10 ft., 11½ inches.

Individual point winner—Myers, DePauw, 15. Cauldwell, Wabash, second, 13.

TENNIS.

IN the Tennis Tournament, Rose reigned supreme. Mayno, Hanover, and our own "Dutch," played to the finals in the singles and it looked as if "Frosty" would have a run for his money, but no; the games went 6-2, 6-3 and 6-0, so for one more year Rose retains the Tennis title. Wenté played the usual cool, consistent game that has won for him in past years.

In the doubles, Owens and Wenté, representing Rose, eliminated Butler, who had tennis entries only, 8-6 and 10-8, but lost the next sets to Hanover. The men played hard, and to win. We'll get 'em next year.

Wabash lost to DePauw in the semi-finals, but entered protest as Bridges of the Gold and Black was ineligible. After some delay the protest was granted, but twilight tennis didn't agree with the Wabash men and Hanover won 6-2, 6-1 and 6-3. Results:

SINGLES.

Hanover, 6-6.

Butler, 0-1.

Wabash, 6-6.

Normal, 1-1.

Rose Poly, 6-6.

Hanover, 2-2.

DOUBLES.

Rose Poly, 8-10.

Butler, 6-8.

Hanover, 6-6.

Earlham, 1-1.

Wabash, 6-6.

Normal, 3-4.

Rose Poly, 6-6-3.

Hanover, 2-8-6.

DePauw, 7-3-6.

Wabash, 5-6-4.

Annulled.

FINAL.

Wabash, 2-1-3.

Hanover, 6-6-6.

FOOTBALL.

THIS coming fall the Rose foot ball team will fall one of the most strenuous seasons of years. Manager Aiken and Coach Mefford have practically completed the schedule, which includes games with the fastest teams in this locality. At present it stands as follows:

Sept. 30. Wabash at Crawfordsville.

Oct. 7. Washington U. at St. Louis.

Oct. 21. DePauw here.

Oct. 28. Franklin at Franklin.

Nov. 4. Vanderbilt at Nashville.

Nov. 11. Earlham here.

Nov. 18. Winona Aggies here.

The Tulane game at New Orleans on Christmas Day is still under discussion. The Washington U. game may be brought here in connection with the Centennial celebration.

NOTES.

Mefford has at last succeeded in organizing his tennis club. The courts will be put in shape immediately, and will be kept in condition all summer. Students of Rose or friends of students may become members upon the payment of a fee of one dollar. Membership shall entitle them to all privileges of the courts for the summer. The money obtained in this manner will be used in buying new nets and backstops and in keeping the courts in condition.

Evidently we have a Freshman with us who is somewhat of a wonder. "Ick" Reinhard was recently elected captain of both the basketball and baseball teams for next year.

The honor is a double one, for not only is it exceedingly infrequent to elect a man to two captaincies in the same year, it is a deal more infrequent to hand out the responsibility to a second year man.

"Ick" is a deserving man. He starred for Rose both on the resin floor and the diamond during the past year, and has shown his loyalty and devotion by much hard service, even if that service has not been of long duration. He is quite versatile, seemingly at home in any position on either team. In basketball he started at center, played awhile at forward, and ended the season at guard. He has the reputation of being the best foul goal shooter in the I. C. A. L. In baseball he played first base and shortstop mostly, but occasionally put in an appearance on the mound as a matter of diversion.

In spite of his comparative youth he is the man for the positions, and we wish him success.

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IN attempting to complete the editorial files of the TECHNIC it has been found that several numbers are missing. If any of the Alumni possess any of the following numbers, we will be glad to pay 25c per copy and at the same time will appreciate the assistance thus rendered towards helping us complete the files.

The following numbers are missing:

Vol. XVII. Number 1.

Vol. XVIII. Numbers 1, 2.

Vol. XIX. Number 2.

Vol. XXII. Numbers 1, 2, 9.

Vol. XXIV. Number 3.

DIFFERENTIALS

MURDER WILL OUT!

Jojo—Just think, one calory of heat will do about 41,000,000 ergs of work.

Is-he (To Weeks)—I'll bet ten cents that much work would lift a nickle a centimeter.

Student (Returning home at 12:30 p. m. and talking to himself)—“Believe me, if a guy can live on love I've sure had a good square meal.”

Officer (to wounded Irish soldier)—“So you want me to read your girl's letter to you?”

Pat—“Sure, sir, and as it's rather private, will you please stuff some cotton in your ears while you read it?”

Pole Cat—An animal to be killed with a pole—the longer the pole the better.

Jojo—“Now you all know what absolute temperature is. What is it, can any one tell me?”

Is-he (In Roads and Pavements)—“I notice in that last picture you showed, the road had no ditches.”

Mac—“Yes, that was in a town, and they generally just use gutters.”

Is-he—“Uh-huh.”

Irreverent coincidence—Pg. 87—Rose Handbook.

Friday, March 17.

Poly Night Celebration.

President Thompson, died, 1885

Smith (On trips through Rose museum, pointing to skeleton of *Dinosaurus Longtailus Echtyonimus*)—“What is that Doctor?”

Doc White (registering citric acid smile)—“That, Mr. Smith, is all that remains of one of your ancestors.”

Civil (Boning for final exam.) (“*!!!? ! ; * *”) (culled by censor.)

Same Civil (On vacation job. Hip deep in pond, holding chain)—“Gee, I wish it was September.”

Furry—“Did you get exempt in scientific?”

Harbulak (controlling himself with difficulty)—“It's a good thing I ain't an Everett True.”

Chorus from Wente and Aitken (ex-chemists) on hearing of the four year exam for senior bottle washers:—“We may not have so MUCH brains, but we're long on JUDGMENT!”

Rector (Reading from Board)—“H, 0.234; C O, 0.245; O, 0.217—Say, what's that mean?”

Aitken—“The year they were discovered, of course!”

ECHOES OF THE PAST.

C. A. Williams—“Where's my triangle?”

H. C. Thomas—“I saw Mac going out of the door chewing something awhile ago.”

Wiedemann—“I don't understand what the difference ratio is.”

Hath—“Why, difference ratio is the ratio of the differences.”

Stoner—“I'm taking the civil course.”

Fair One—“Oh, I just think it would be great to be a surveyor and know how to dig a ditch straight.”

Probst (in Calculus)—“Why, anybody can understand that, but what does it mean, Fesser?”

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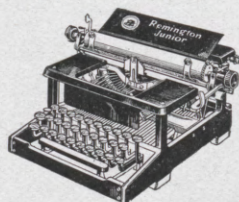
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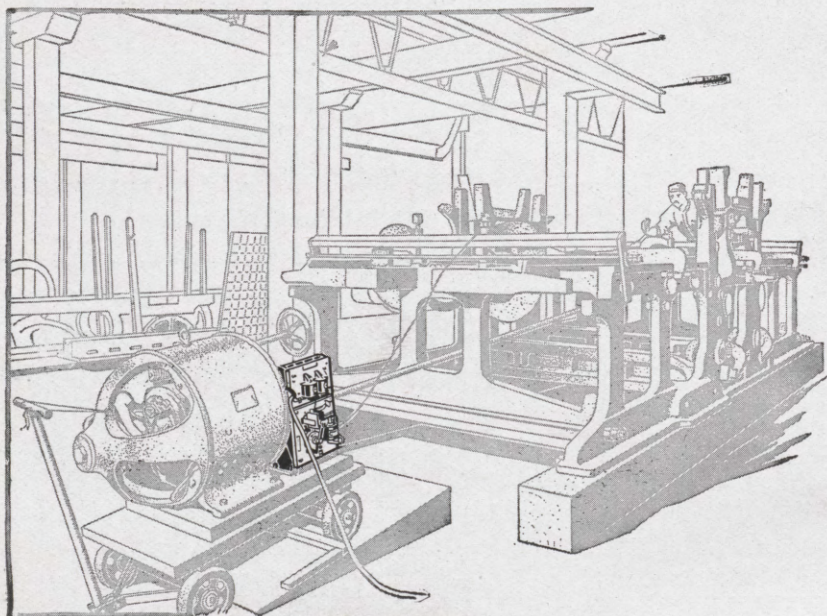
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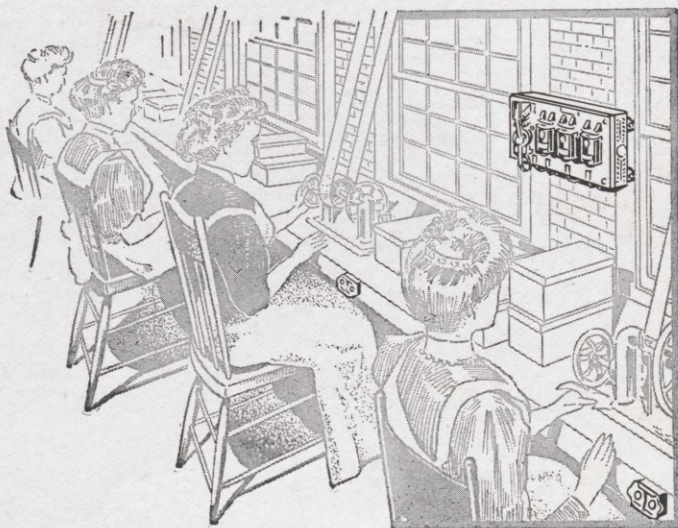
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