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THE TECHNIC.

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IT is with great regret that we record what seems to be the passing away of the Telegraph Association. This association was one of the older of the student organizations, having been founded in the days when the Banjo Club, Tennis Club and Wheelmen were in existence, which is so long ago that in THE TECHNIC, Vol. I, No. 2, we read that "a few years ago some progressive students organized * * * the Rose Polytechnic Telegraph Association."

The suspension of its activities is not due to a lack of interest on the part of its members, nor to an outliving of usefulness, nor to financial difficulties, but simply to the impossibility of maintenance of the line. The wires of the association have heretofore been strung on the poles of the Terre Haute Traction and Light Co., and when this company began the use of high voltage current in its mains, notice was given that as a precaution against possible accident, the telegraph line would have to be taken down. No agreement could be made with any of the other companies owning lines of poles in the city, and no way of overcoming the difficulty at a reasonable cost has been devised.

While there seems to be nothing lacking for the completeness of the funeral but the obituary, we hope that if future conditions should ever be favorable, the Telegraph Association may be revived, so we prefer not to say that it is dead, but has suspended operations for a time.

IN June, 1902, the Alumni Association appointed a permanent committee for considering ways and means to help the Rose Polytechnic Institute financially, and during the following year, this committee, after consultation with Dr. Mees, devised the following plan of procedure: first, to obtain a foundation for an increase in the endowment fund by soliciting subscriptions from the alumni; and second, with this foundation as an evidence of good faith and seriousness, to appeal to those of large means to add materially to the original endowment fund.

During that year subscriptions were solicited among the alumni, pledges being asked for stated amounts to be paid yearly for ten years to the Treasurer of the Institute, which were to be placed in an Alumni Fund, the income only from which was to be applied for Institute purposes. The two hundred and ninety-seven alumni at that time subscribed that year nearly $11,000, and at present the pledges amount to over $15,000. This is a very gratifying showing, and no better evidence of keen appreciation and loyalty on the

part of the alumni toward their Alma Mater could be desired.

The solicitation of subscriptions from the graduates has now given place to the second phase of the plan, and work along this line is being pushed as much as possible. To quote Mr. E. F. Folsom, the chairman of the committee having the matter in charge, "We must continue to advertise the R. P. I. every second of the twenty-four hours in every day. We must be boomers, individually and collectively, and we must boom and boom and boom until the endowment fund has been INCREASED BY FIVE HUNDRED THOUSAND DOLLARS. Then and not till then, we'll quit."

This general statement of the present condition of the Alumni Fund will, we hope, serve to remind any of the Alumni who may have forgotten the fact, that there is such a fund in existence, and also prepare the minds of the undergraduates for the favorable consideration of a pledge blank when in the future it is presented to them. If any undergraduate would like to contribute at once, THE TECHNIC will be glad to obtain a pledge blank for him and see that his desire is gratified. Mr. Folsom's address is 445 Newton Claypool Building, Indianapolis.

WITH the advent of another fraternity at Rose during the past month, this phase of our school activity seems to be worthy of some thought.

In 1891, when there were no fraternities at Rose, the editor of THE TECHNIC saw fit to write the following:

"Purdue, Butler, Franklin, Hanover, DePauw, Indiana University and Wabash each possess one phase of college life unknown to us, in the character of factional strife constantly maintained and aggravated by Greek letter fraternities. In all their undertakings, literary, social or athletic, the influence of this evil, as we term it, is felt. In the selection of representatives for oratorical contests, in class elections, in arrangements for social pleasures, and in the organization of baseball and football teams, it invariably enters to the detriment of all best interests. Casual observances by our ball men while on their several trips make it evident that we have an advantage in being free from Greek letter influence. Our students work as one body for the success of their projects, allowing no factional issue to enter as a germ of annihilation, while elsewhere fraternity supremacy is the first element to be considered and the success of an undertaking second."

Now, sixteen years from the date of the above, there are six fraternities at Rose, and they have been conducted in such a way that the forebodings of the editor do not seem to have been justified, but his view of the matter is quoted, as it contains one of the most serious legitimate objections against this kind of organization.

The college fraternity, when rightly conducted, is an efficient instrument for the fostering of close personal friendship, for the teaching of a charitable attitude toward the weaknesses of others and for the development of the fraternal feeling toward one's neighbors. When the activities of a fraternity are confined to these, its legitimate lines, as an organization it hardly seems open to criticism. The fact of the existence of an organization, however, makes a fraternity peculiarly fitted for use as a political tool, and under the leadership of an energetic and ambitious man or set of men, an active and consolidated minority may practically control class and school politics. In fact, we believe that it is not infrequent in some of the larger colleges, for the various fraternities to divide the posts of honor, as far as they may be controlled by election, among themselves, to the exclusion of the non-fraternity men. This kind of fraternity activity is mischievous and to be condemned.

In looking over the names of the men who have been officers of our various organizations for the current year, we find that fraternity men are holding about 55 per cent. of these positions of responsibility, while all the fraternities together include only about thirty per cent. of the students in the school. This is probably to be largely explained by the natural desire of fraternities to count the school leaders among their members, but whether this is the whole explanation or not, it becomes the duty of those fraternity men who are in office to conduct the affairs of their respective organizations so actively and wisely that no one will doubt that they obtained the offices because of their special qualifications for them, and not because of membership in a fraternity. In the election of officers of a society, the best man for the place should be sought for, regardless of fraternity affiliations or lack of affiliations, and any departure from this rule places upon the elected person the obligation of filling the position as well as the best man might have filled it.

For fraternities acting in their proper sphere, we have only commendation, but the results outlined in the above quotation from THE TECHNIC are those of illegitimate fraternity activity, which obtains in some colleges, but which ultimately brings discredit on the school associations and fraternities alike, and which we do not want at Rose.

THE BUREAU OF STANDARDS.

By WILLIAM A. NOYES.

THE Bureau of Standards was established by an act passed by Congress in March, 1901, and began its work on July 1st of the same year. It is in part a continuation of the Bureau of Weights and Measures, which was long connected with the Coast and Geodetic Survey, and a part of the scientific force of that Bureau was transferred to the Bureau of Standards at the time of its organization.

It is custodian of the primary standards of length and mass for the United States, the primary standard of length being the meter. The length of the inch is determined from the meter by the definition that the meter is 39.37 inches in length. The meter was selected as a primary standard chiefly for the reason that the prototype meter in Paris was at the time of its adoption a very much more satisfactory primary standard for the purposes of comparison than the imperial yard.

In the division of weights and measures of the Bureau, in addition to the testing of measures of length and mass, a considerable amount of work is done in testing measures of capacity, especially in the calibration of flasks and apparatus which are used by chemists. Specifications for such apparatus have been prepared and published.

In the division of heat, thermometers and pyrometers are examined. Primary mercurial standards are very carefully compared with the standards of the Bureau and corrections for such thermometers are furnished. Several thousand clinical thermometers are examined yearly and those which show no defects of construction and which are correct within 0.3°F. are given certificates stating the correction which should be applied in using them. Many pyrometers, especially the optical pyrometers which are now coming into extensive use, have been examined and calibrated. In connection with this work the melting points of silver, gold, nickel and other metals have been re-determined. The determination has also been made of the temperature of

The Physical Laboratory, U. S. Bureau of Standards. Washington, D. C.

the electric arc, giving a value of approximately 3700° C.

In the electrical division a great variety of work is carried on; especially tests of electrical measuring instruments of all kinds, and investigations upon the absolute electrical units by means of an electrical dynamometer, a silver coulombmeter, the standard Clark and Weston cells and various forms of apparatus which are used in determining absolute capacities.

Work upon photometry, especially an extensive study of electric lights, is also carried on in this division, and much work has been done toward the establishment of a common standard candle power for such lights throughout the United States.

Mechanical Building, U. S. Bureau of Standards, Washington, D. C.

In the optical division a study is being made of spectral lines, especially with reference to their use in the interferometer, for the establishment of a natural standard of length. At present the world is practically dependent upon the original meter now in Paris for its ultimate standard of length. There is no absolute certainty that this meter may not undergo molecular changes which would affect its length and, while it is perhaps improbable that the length of other standard meters which have been carefully compared with it should change by exactly the same amount, it has long seemed desirable that there should be some means of referring this meter to some natural standard. As is well known, the original attempt to make this meter the ten-millionth part of the earth's quadrant failed, and the determination of the length of the earth's quadrant is accompanied by such difficulties that it is not a satisfactory natural standard. When Prof. Michaelson, of the University of Chicago, invented the interferometer a few years ago the suggestion was made that this instrument furnishes the means by which the length of the meter can be compared with the wave length of certain spectral lines. Some lines in the spectrum of the metal cadmium have been used by Prof. Michaelson for such a comparison, but the quality of these lines is such that they are not altogether well adapted for the purpose and a search has been made for other lines which are more suitable.

The government at present collects about $50,000,000 a year in duties upon sugars which are imported into the United States. This duty is levied on the basis of the readings of the polarimeters and the care of the instruments and the methods in use at the various ports of entry are under the direction of the Bureau.

In the chemical division a considerable amount of work has been done upon the preparation of

mercurous sulphate, mercury and cadmium sulphate for use in the Weston cells which are to be employed as a standard of electromotive force.

In connection with a committee of the American Chemical Society, and otherwise, a large amount of work has been done for the purpose of improving work in technical analysis throughout the country. Two years ago a sample of argillaceous limestone was distributed to professors and instructors in various colleges, universities and technical schools for the purpose of testing the accuracy of the methods used in the analysis of materials which are employed in the manufacture of cement. Very careful analyses to be used as standards of comparison for the results obtained were made by Dr. W. F. Hillebrand, of the U. S. Geological Survey, and by Dr. C. E. Waters, of the Bureau of Standards. In a similar manner a zinc ore was distributed by Mr. W. Geo. Waring and the results obtained by different chemists showed a most startling lack of agreement. A careful determination of the amount of zinc in this ore was made at the Bureau. In a similar manner the analysis of a bearing metal, containing tin, antimony, copper and lead, was made for the Engineers' Society of Western Pennsylvania, and a sulphide ore containing lead, copper and zinc was analysed for the Western Society of Chemists and Metallurgists.

Dr. H. N. Stokes, of the Bureau of Standards, has been at work for some time upon standards of purity for chemical reagents and especially has made a very careful study of the methods to be used in the determination of minute quantities of iron in acids and salts which are used as reagents in the laboratory.

I have been at work for about two years upon a redetermination of the atomic weight of hydrogen, using in part the same method which I used eighteen years ago at the Rose Polytechnic. With Dr. Weber, I have also been working upon a new direct determination of the ratio between hydrogen and chlorine in hydrochloric acid.

During the past year the standard samples of cast iron which were formerly distributed by the American Foundrymen's Association have been turned over to the Bureau of Standards and after very careful analysis at the Bureau these samples are now distributed with certificates giving results of analyses made by five different chemists.

For some months past work toward the preparation of standard samples of steel has been in progress. Through the kindness of the American Steel Manufacturers' Association, bars of Bessemer, of acid open hearth and of basic open hearth steel have been furnished the Bureau, and the preparation of the samples to be distributed is in progress. In the preparation of these samples it was necessary first of all to select a tool which would cut the turnings of such a size that nearly all of the material would pass through a sieve having ten meshes to the inch and be retained by one having twenty meshes. The finer and coarser material is sifted from the turnings. It was also necessary to follow the turned bars from the outside to the interior in order to find out how deep the burning out of the carbon had occurred in the process of rolling and cooling and how near the center it was possible to go before a steel containing an appreciably high content of carbon was reached. By careful attention to these details it is hoped that we may in the end secure samples which are of a satisfactory uniformity in carbon content.

It is not expected that these samples can be used as color-carbon standards, for the reason that it would be impossible to guarantee that the samples have had the same heat treatment as the samples with which they would be compared.

About fifteen samples with a range from 0.1% to 0.6% for the Bessemer steels, and to 1.0% for the open hearth steels, will be prepared.

THE COKE INDUSTRY.

By J. L. LOUCKS, '09.

OF all the successful industries of the present age probably no single one has contributed more to the success of the others than the manufacture of coke.

The first record we have of coke being made in any considerable quantity was about seventy years ago, near Connellsville, Pa., on the Yongheney River.

Strange to say, the greatest coke-producing center of the world today is at the same place where the first was made. At that time several gentlemen who had become interested in coke set about to find some means for its manufacture.

The coal was piled on the ground in large heaps and then heavily banked with dirt and left to burn until it had reached the proper stage of cokeing, but this was not all. A market must be found for their product. They took it to Pittsburg, but failed to find any concern there that was willing to give it a trial. They finally found a manufacturing plant on the Ohio River that gave them an order just to make a trial of the new product, but these people experienced trouble in using it, and pronounced it a failure. The makers did not give up in despair, and after numerous experiments of different kinds it was clearly demonstrated that for many purposes it had qualities far superior to coal, and from this time the use of coke in preference to coal began to increase very rapidly, until finally it became apparent that their method of production was inadequate, and that some other way must be devised to meet the increasing demand. This led to the building of ovens, which were economical both in cost and time. Several kinds have been devised, but the ovens used today have much the shape of a hemisphere, and are called the bee-hive oven, owing to the resemblance of the oven to a bee-hive.

They are generally built along a hill-side, so that their base is about on the level with the top of the cars, as this facilitates the loading of the coke. They are built in rows of from fifty to one hundred ovens, there never being more than two tiers together.

The face or front wall of the oven is from eight to ten feet high and six to eight feet in diameter, and four or five feet high, holding from one hundred to one hundred and twenty-five bushels of coal. A small hole in the top, about fifteen inches in diameter, serves as the chimney and also as charging door, while a door in front, about eighteen by twenty-four inches, is used to draw off the finished coke, this being sealed with fire brick while the coal is burning.

After the oven is filled the coal is allowed to burn thirty-six to forty-eight hours, and for the best quality of coke it is burned seventy-two hours. Water is then turned on and the fire drowned out.

In drawing the coke it is always arranged so that every other one or two are drawn at the same time, so that if the ovens are refilled the same day, the heat already in them and the adjoining ovens will be sufficient to ignite the coal, thus saving the expense of firing them.

The nuisance caused by the smoke and dirt which these thousands of ovens produce is one of no small proportion. It not only keeps the air around them polluted, but extends for miles around. Beside the smoke and dirt the sulphur dioxide which escapes into the air makes its presence noticeable by its effects on metal structures. The ordinary steel roof will not last much longer than four or five years because of the action of the sulphurous acid upon it. The smoke also affects in a serious manner the growth and length of life of the forests.

One might ask why these gases that are given off could not be collected in some way and used for fuel. This could be done, but it would require an oven similar to the Semet Solvay type, which are very expensive and would proably cost more to operate than the increased income would warrant. Besides, natural gas is very plentiful and cheap in western Pennsylvania.

The uses to which coke can be put are innumerable, its particular value being where intense heat is required, as in smelting furnaces and more or less in all iron mills. When crushed it makes a very good fuel for house furnaces, as it gives heat for a great length of time without attention.

But after mentioning all the advantages gained by using coke, it is well to take a look at the condition in which the land is left after the coal has all been mined out. First, in the neighborhood of the ovens the ground is bare and full of gutters and unproductive, and where there is any vegetation it is too dirty to use. The ground from under which the coal has been mined and which was formerly valuable farm land, is left full of holes due to the falling in of the roofs of old mines, and in this way there are thousands of acres of land ruined each year so far as farming them is concerned. This, however, is not true in all cases, for where the coal is from three to four hundred feet deep the surface does not sink. It has been suggested that the land rendered barren by the sinking of the surface could be used to grow timber on, but then again the destructive effects of the gases would work against this.

For the most part the people who labor at the coke ovens are foreigners, their homes being owned by the companies and very near the ovens. Here they seem to live in this bad air and enjoy life, while any other person is always glad to keep himself at some distance.

Dr. and Mrs. White very pleasantly entertained the students in the Chemistry department at their home in Collett Park Place Friday evening, March 15th. An interesting contest was provided. Each guest drew a picture illustrating the title of some book, and when all were complete they were offered for inspection. The one who guessed the greatest number received a prize. A great deal of artistic skill was shown in the drawings, but this in no way compared with the engineering ability necessary to guess some of the titles represented by the different artists. Refreshments were served. Dr. and Mrs. White were assisted by Prof. and Mrs. Williams. Wanner, '09, received a handsome fountain pen for the prize in the guessing contest. At a late hour the boys departed, giving "nine rahs" for the Doctor and his estimable wife.

A chapter of the Theta Xi fraternity has recently been installed at Rose, the charter members being Messrs. Scharpenberg, '07; Cannon, Sievers, Zambrano, Kerrick, '08, and Buckley, '09.

A committee of members of the fraternity, composed of two Purdue men and one member of the Rennsaelaer alumni, visited Rose on January 26th, and the charter was granted to the Rose applicants on February 22nd, their initiation taking place at Purdue on March 30th.

The Theta Xi fraternity was founded at Rennsaelaer Polytechnic Institute, of Troy, N. Y., in 1864. It has eleven chapters at various engineering schools of this country, the membership being limited to students taking technical courses.

Bayard Lucas, '09, has been initiated into the M. E. P. fraternity.

The following gentlemen have been elected as the Y. M. C. A. cabinet for the coming year:

R. L. Smith, President.

J. F. Robbins, Vice-President.

Glenn M. Curry, Treasurer.

W. L. Clore, Corresponding Sec.

FROM OTHER INSITUTIONS.

One hundred and fifty men at the Massachusetts Institute of Technology are enrolled in the Association Bible study classes.

Iowa State College has 48 group Bible classes, with an enrollment of over 600 men.

At Hamilton College half of the student enrollment is in the Christian Association. The group system in Bible study has been introduced and includes a group in each of the nine fraternities.

The association at Washington University Medical Department, St. Louis, had enrolled as members, early in November, 104 of the 214 men in school. This includes the entire Sophomore class.

The Bible study enrollment in Indiana last year reached 1,050, the highest mark in the history of the state work.

As the result of the campaign at Blacksburg, Va., $5,500 was raised in four days toward paying the debt of the association at Virginia Polytechnic Institute. An effort is being made to secure in all $10,000.

At Baylor University, Waco, Texas, the weekly meeting has an average attendance of 500.

The attendance at the association meetings at Amherst College this fall have averaged 150.

At the University of Nebraska there are already 370 men in association Bible classes. The policy calls for 500. The class leaders meet for coaching once a week at supper in the city association building. Over $7,000 worth of employment has been secured for students in this last fall. [The general secretary is a graduate of Purdue.]

At the University of Wooster, Wooster, Ohio, the association Bible classes have enrolled 32 of the 56 fraternity men in the institution. Seven of the twelve Bible class leaders are fraternity men.

Over 500 men are enrolled in association Bible classes at the University of Toronto. A leaders' class meets once a week under the direction of Dr. Elmore Harris.

Three hundred men have been enrolled in Bible study classes at the University of Wisconsin.

The association at Kansas Agricultural College, Manhattan, has over 300 men in Bible classes.

Conferences for the training of newly elected presidents and other officers of student associations were held in different parts of the continent during March and April.

Eastern Presidents' Conference at Cornell University, Ithaca, N. Y., April 11-14.

Pennsylvania Presidents' Conference, at Easton, April 19-21.

Michigan Presidents' Conference, latter part of April.

Officers' Conference of Missouri, at Marshall, March 22-24.

Presidents' Conference for Iowa and Ohio, on April 5-7.

Presidents' Conference for Illinois and Indiana, at Bloomington and Indianapolis respectively, on March 29-31.

[R. L. Smith, of Rose, attended the latter conference.]

ROSE, 5; RAYS, 3.

IN the first ante-season game, April 5, The Rays, a team composed of members of the company playing "Down the Pike," which was holding the boards at the Grand, was defeated by Rose by a score of 4 to 3.

The game was slow, and Douthett did not turn on much steam, while Doremus, who opposed Douthett, pitched hard to win. With the thermometer down to about thirty-five only a few spectators were out.

Rose made her initial appearance in new suits, which are grey, trimmed in navy blue. The "block" R which was used on the old uniforms has been replaced with an Old English R.

The score:

THE RAYS	A.B.	R.	H.	P.O.	A.	E.
Leyton, 3 b.,	4	0	1	0	1	1
Golden, 2b.,	4	1	1	2	4	1
Doremus, p.,	3	2	1	1	6	1
Sterling, ss.,	4	0	1	2	1	2
Rolling, c.,	3	0	1	2	3	0
Ray, r. f.,	3	0	0	0	0	0
Coleman, l. f.,	4	0	2	0	0	0
Wiseman, c. f.,	4	0	0	2	0	0
Becker, 1b.,	4	0	0	15	0	0
Totals,	33	3	7	24	15	5

ROSE	A.B.	R.	H.	P.O.	A.	E.
Baylor, 2b.,	3	0	0	3	3	0
Miner, c. f.,	3	0	0	0	0	0
Douthett, p.,	4	2	1	0	7	1
Backman, 3b.,	2	1	1	1	1	1
Shickel, ss.,	4	0	1	0	1	0
Schmidt, l. f.,	3	0	1	1	0	0
Piggott, r. f.,	4	0	0	0	0	0
Frisz, 1b.,	2	1	0	10	1	0
Mooney, c.,	1	1	0	12	1	0
Totals,	26	5	4	27	14	2

Three-base hit—Leyton. Two-base hit—Schmidt.
Bases on balls—By Doremus, 2; by Douthett, 1.
Struck out—By Doremus, 1; by Douthett, 9.
Double plays—Rose, 2.
Hit by pitched ball—Ray, Doremus, Backman, Mooney.
Umpires—Pritchard and Sawyer.

ROSE, 10; VANDALIA, 0.

The second practice game was an easy victory for Mooney's men. On Saturday, April 6, the Vandalia team was defeated in a slow game—score, 10 to 0. The cold weather made the game slow, and Schmidt, who pitched for Rose, made no effort to speed up.

O'Neil and Meyers did the pitching for the V.-P. team, and a total of 11 hits were made off their delivery.

VANDALIAS	A.B.	R.	H.	P.O.	A.	E.
Deuster, ss.,	4	0	0	3	5	1
Meyer, 2b., p.,	2	0	1	3	1	2
Highsmith, 3b.,	4	0	0	0	0	0
Schofield, c.f.,	4	0	1	1	0	0
Montgomery, c.,	3	0	0	2	1	1
C. O'Neil, p., 2b.,	2	0	1	1	5	0
Tribble, l. f.,	3	0	0	3	1	1
Vendel, 1b.,	3	0	0	11	1	3
W. O'Neil, r. f.,	2	0	0	0	1	2
Totals,	27	0	3	24	15	10

ROSE	A.B.	R.	H.	P.O.	A.	E.
Baylor,	5	4	4	2	6	0
Miner,	3	1	0	1	0	0
Douthett,	5	1	1	1	0	0
Backman,	4	1	3	1	0	1
Shickel,	3	1	1	2	2	1
Schmidt,	5	0	0	1	3	0
Frisz,	3	0	0	10	0	0
Piggott,	4	0	1	0	0	0
Mooney,	4	2	1	9	2	0
Totals,	36	10	11	27	13	2

Two-base hits Douthett, Backman, Shickel.
Sacrifice hits—Montgomery, Backman.
Base on balls—By O'Neil, 4; by Meyers, 2 ; by Schmidt, 4.
Struck out—By O'Neil, 2; by Schmidt, 9.
Umpires—Hadley and Stratton.

THE SCHEDULE.

April 13—Franklin, at Terre Haute.
" 20—I. U., " "
" 22—Millikin U., " "
" 27—E. I. S. N., at Charleston.
" 29—DePauw, at Greencastle.
" 30—Purdue, at Lafayette.
May 7—Millikin U., at Decatur.
" 13—Wabash, at Crawfordsville.
" 18—Culver, at Terre Haute.
" 25—Lake Forest, at Terre Haute.
" 27—I. U., at Bloomington.
" 30—DePauw, at Terre Haute.
June 1—Armour, " "
" 8—E. I. S. N., " "

ALUMNI NOTES.

The alumni members of the Pittsburg district had a Rose dinner at the University Club on the evening of February 8th ; and though the attendance was below expectations, a crowd of fifteen fellows, representing nine classes, was on hand. The list included Edward A. Weller, '88; Samuel G. Wales, '91; Edward D. Frohman, '94; J. C. Carlisle Holding, '94; William D. Wiggins, '95; Harrison W. Craver, '95; Maurice C. Rypinski, '97; Arthur F. Gordon, '97; Brent Wiley, '98; Alfred N. Austin, '03; Harry S. Braman, '03; John C. Sproull, '05; Arthur W. Worthington, '06, and Carl Wischmeyer, '06.

Mr. Weller was selected as toastmaster, and though a representative of the oldest class present, his stock of reminiscences regarding his four years at Rose was a sort of contagion that put each speaker on his feet with "That reminds me," and in fact everyone present contributed to the oratory of the evening.

Announcement has been received of the arrival of a new candidate for Rose at the home of G. Harry Clay, '01, of The Procter & Gamble Co., Kansas City, Kas.

The Elevator Supply & Repair Co., of Chicago, has recently obtained judgment against Henry Pedersen for infringement of certain patents relating to floor lights, car lights and transfer buttons in elevator cars, being awarded damages, profits, costs and a perpetual injunction against him. Mr. S. D. Collett, '91, is the Vice-President and Eastern Manager of the first mentioned company.

The following information in regard to the present addresses and occupation of the members of the class of 1906, was obtained from the forthcoming Rose catalogue, by the courtesy of Mrs. Burton :

R. W. Benbridge, with the Laidlaw-Dunn-Gordon Steam Pump Co., Cincinnati, O.; S. E. Butler, Resident Engineer with Vandalia Railroad Co., Indianapolis, Ind.; C. A. Cadden, with the Stone & Webster Engineering Corps, Terre Haute; H. R. Canfield, with the Adams & Westlake Co., Chicago, Ill.; J. W. Cannon, with Allis-Chalmers Co., Milwaukee, Wis.; J. R. Curry, with Murphy Iron Works, Detroit, Mich.; A. d'Amorim, with Terre Haute Traction and Light Co., Terre Haute; F. A. Delle, Jr., Erecting Engineer, with York Manufacturing Co., York, Pa.; H. W. Eastwood, with The Electric Controller and Supply Co., Cleveland, O.; R. B. Evans, with General Electric Co., Schenectady, N. Y.; A. E. Freudenreich, with the Northern Electric Co., Madison, Wis.; F. N. Hatch, with the Nevada Consolidated Copper Co., Ely, Nev.; W. O. Hensgen, telephone engineer, Chicago Telephone Co., Chicago, Ill.; J. S. Jackson, with Allis-Chalmers Co., Milwaukee, Wis.; J. M. Johnson, with Fairbanks-Morse Electric Manufacturing Co., Indianapolis, Ind.; E. D. Kahlert, Structural Departmentt, Illinois Steel Co., Chicago, Ill.; G. A. Kelsall, with General Electric Co., Schenectady, N. Y.; A. W. Lee, with the Louisville Lighting Co., Louisville, Ky.; E. P. Lee, with Wagner Electric Manufacturing Co., St. Louis, Mo.; Harold McComb, with General Electric Co., Schenectady, N. Y.

C. C. Modesitt is with Engineering Corps, Van-

dalia Railroad Co., Indianapolis, Ind.; Geo. F. Nicholson, Topographer and Draftsman, Mexican Central Railroad Co., Pantepec Edo. de Pueblo, Mexico; W. R. Peck, Civil and Mining Engineer of Fox, Goble & Peck, Big Stone Gap, Va.; F. W. Pote, Telephone Engineer Western Electric Co., Chicago, Ill.; H. E. Rogers, Shop Inspector, Insley Iron Works, Indianapolis, Ind.; J. M. Rotz, with Engineering Corps, Vandalia Railroad, Terre Haute; E. C. Ryan, with General Electric Co., Schenectady, N. Y.; E. J. Schauwecker, with J. C. Meredith, Construction Engineer, Miami, Fla.; Roy Thurman, with General Electric Co., Schenectady, N. Y.; K. D. White, with Chicago Edison Co , Chicago, Ill.; H. E. Wilkins, with General Electric Co., Schenectady, N. Y.; L. J. Willien, Jr., with D. A. Little, Chemical Expert and Engineer, Boston, Mass.; H. J. Wilms, with General Electric Co., Schenectady, N. Y.; C. Wischmeyer, in Electrical Department, Carnegie Steel Co., Youngstown, O.; H. W. Wischmeyer, with the Louisville Railway Co., Louisville, Ky.; A. W. Worthington, with Engineering Corps, Pittsburg Division, Pennsylvania Lines west of Pittsburg, Pittsburg, Pa.

It is said that when the battleship Ohio was in Oriental waters she made her first appearance to English eyes at short range in the harbor of Hongkong. A knot of English and American sailors on the wharf were looking her over and making their comments. One Englishman asked, "Do you have so many of 'em that you have to number them?" "What do you call her number?" inquired the American. The Englishman pointed to her name which was in very plain letters, O-H-I-O, and read it "O-H-10." "Oh, that is nothing," said the American, "O-H-36 has just left the ways at Hampton yards."

Paul Turk, an ex-'09, who has been working for Stone & Webster, of this city, since Thanksgiving, has left for Boston, where he will accept a position under the same company.

BASE BALL LINGO.

He who hesitates is out.

A hot grounder gathers no moss

If at first you don't succeed, try the outfield.

He who bats last bats best.

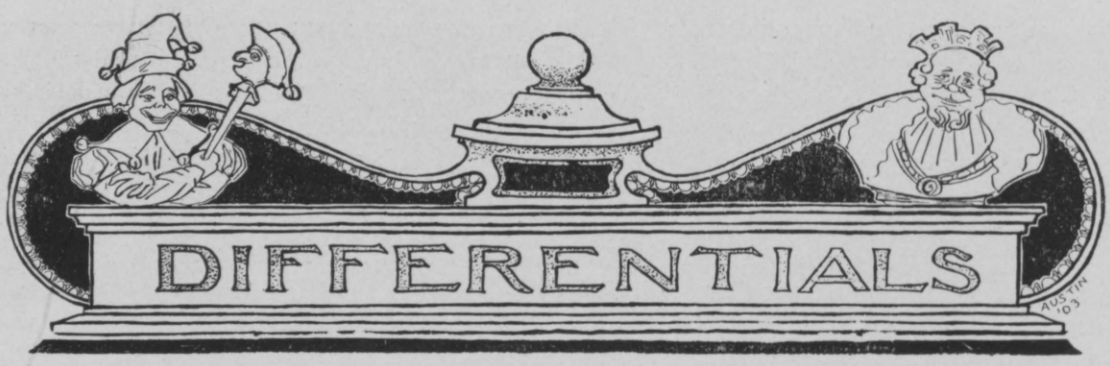
Douthett (entering for Applied mid-term exam.):—"He who enters here leaves all hope behind."

Francis Knopf:—"I am just beginning to see that I have gotten some good from the course so far."

"How can you tell?"

"Why, when I go study, I can see how my brain has been developed."

Cardona (perplexed):—"I wonder who made Mechanics, God or the devil?"



Stock (after listening to Lindeman's conversation during three recitations)—"Say, Lindy, you make more noise than a Ladies' Aid Society."

Mrs. Adams (at Dr. Mees')—Prof. Johonnott over there is one of my heavy basses."

We wonder how the Normals liked the R. P. I. pennants in their last issue of their *Advance?*

A banana peel,
A little squeal,
A flash of hose,
And down she goes.

—*Ex.*

Ortiz (as Bernhardt passes the hat for the Y. W. C. A.):—"I can't put anything in it, I'm married."

From a photograph at Eppert's:

"When the cabin is burned and all is spent,
Come live in my heart and pay no rent."

The Duke:—"With this machine you can get as much power out as you put in; that is, if you don't put any in."

Wanted:—To know who is the Poly student who has been asked to join the Normal dancing club.

The Duke:—"What is a transformer used for, Mr. Jackson?"

Jackson, '08:—"It is used to change a direct current to an alternating current."

There is good timbre in the Second Glee Club. The names of the second tenors are, Woody, Stubbs, Stumpf, Planck and Post.

Jojo:—"Now let us imagine an eye here, with rays of light entering."

Stock:—"Well, they would be eye beams then, wouldn't they?"

Sievers, '08, has developed such a mathematical mind that it is not uncommon for him to place his beans and hash on the bottom of the overturned plate when he sits down to dinner.

I slept in the editor's bed last night,
When no editor chanced to be nigh,
And thought, as sank in its downy depths,
"How easy editors lie."

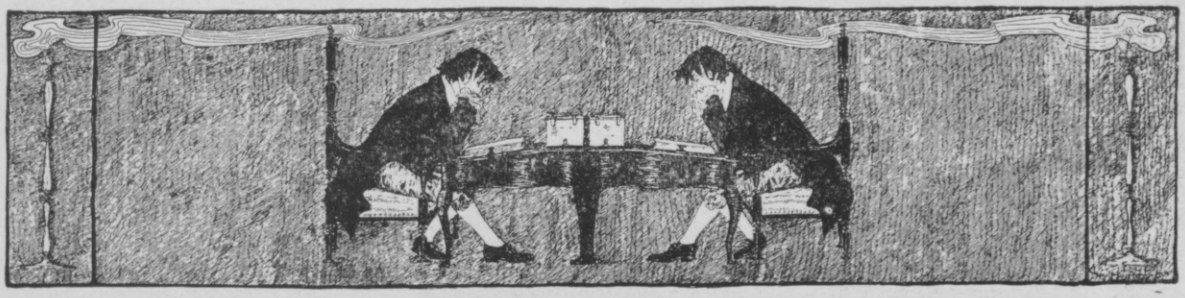
—*Exchange.*

After Prof. Howe's assertion relative to a cofferdam of the Wabash Ave. bridge, that "it was hard to keep that dam tight," Bill Nye tested himself along this line and found that it was not at all difficult to keep in the above mentioned condition.

Krueger, '09:—"When a man goes to Rose he's a Poly, isn't he?"

Albin:—Why, yes."

Krueger:—"Then when he flunks out he must be Polygon(e), ain't he?"



REVIEWS

Boiler Design.

"Some consideration of the trend in locomotive boiler design will reveal the gradual substitution of the wagon top for the straight boiler in recent construction. The boom of the straight boiler was launched with the introduction of the wide fire box, as it presented the first logical step in the development of that type, and its natural advantages, in being especially adaptable to the wide fire box and of cheap and strong construction, led to its general adoption in later boiler design.

The prophecy made at the beginning that the performance of the straight boiler would not be as good as the Belpaire or wagon top types, due to the restricted steam and water space, has been justified by experience. Although under favorable conditions the straight boiler gives very good service on the road and is kept in shape without difficulty, it has been demonstrated that in bad water districts considerable trouble has been experienced from priming, and that foaming water is handled with more difficulty than in boilers having a greater steam space.

The performance of the straight boiler in service, is the best proof that insufficient steam space is provided, as after evidences of priming or foaming are manifest, the water level must be worked down until sufficient steam space is obtained to overcome the tendency of the water to prime. In some designs of boilers priming will continue, under certain conditions, even after the water level has been lowered, until there is just enough to protect the crown sheet, showing that the boiler was lacking in steam space.

The locomotive equipped with a boiler that will not carry a maximum supply of water without danger of priming, except under the most favorable conditions, will fail to handle tonnage transi successfully and will burn more coal, use more oil and require more repairs than a locomotive using dry steam. The movement toward a more general use of the wagon top boiler is a logical one, in view of the performance of the straight boiler."—*Railway Master Mechanic.*

The "All-steel" Mail Car.

In explaining the merits of the "all-steel" mail car the *American Machinist* says:

"In addition to the danger to human life presented by the continuation in use of the ordinary type of mail car, there is another consideration that should hasten its abandonment at the earliest possible moment, and that is the monetary loss and serious inconvenience to business interests, due to the destruction of valuable mail matter by fire and other mediums when railway trains are wrecked. While steel mail cars have been used in the past to a limited extent, there has usually been embodied considerable woodwork in their construction and equipment. The new car on the Pennsylvania road is said to be the nearest approach as yet to the all-steel car, and it is called by that name as it contains only 370 pounds of wood, 2840 pounds of composite and asbestos boards, 3200 pounds of cement flooring, and a very small amount of rubber. Everything else, including mail cases, boxes and doors, is of metal The interior arrangement of the car is along more convenient lines than adopted in the earlier

types, thus facilitating the working of the mails; and structurally it is much stronger than any of its predecessors. It is 70 feet in length, or 10 feet longer than the standard heretofore. It is expected that the absence of inflammable materials in construction and equipment and the strengthened frame will enable the car to successfully resist fire and shock."

The Tehuantepec Railway.

"The Tehuantepec Railway across the isthmus of the same name in Southern Mexico, has been opened to traffic. The road, which is 190 miles long, is designed to transfer the cargoes of vessels from one ocean to the other, and is expected to be a competitor of the transcontinental railroads of the United States. The terminus on the Pacific Ocean is Salina Cruz; and on the other side of the isthmus Coatzacoalcos, on the Gulf of Campeche. At both of these ports extensive works have been constructed for facilitating the speedy and safe transfer of cargoes. The highest point reached by the road is at Chivela Pass, 855 ft. above sea level. At this point the construction work was particularly heavy, there being two horseshoe curves and one tunnel, a maximum gradient of 2.07 per cent. being used and a maximum curvature of 21.8 deg. For the remainder of the line the maximum curvature does not exceed 11.6 deg., and the maximum gradient 1.6 per cent. The bridges are numerous and of steel construction, plate girders and lattice girders of the Pratt type being mostly used. The longest bridge measures 660 ft., made up of seven spans. Standard gauge is used. The ties are creosoted pine, native hardwood or California redwood, laid with 80-lb. rail. The track is a single one, but a double track is to be constructed and has been arranged for. The bulk of the rolling stock has been built in the United States. The locomotives are of the new oil-burning type. The steamers of the American Hawaiian Steamship Co., which have heretofore been running from New York to San Francisco and Hawaii via the Straights of Magellan have discontinued that service, and now run to Salina Cruz, their cargoes being transferred to the Atlantic side by the new railroad."—*The Engineering Record.*

A Thorough Application of Electricity in New York Iron Mines.

On the Lake Champlain shore at Port Henry, New York, an electrical installation is being made which is an interesting example of the growth of electricity in mining. The mines of Witherbee, Sherman & Co., which are scattered over a considerable area, yield upward of half a million tons of iron ore annually, which output is expected to be increased to one million tons when the new electrical equipment is completed. The transmission of power to the various shafts is by alternating current, and 440-volt induction motors are used for driving hoists, pumps, air compressors, etc., the frequency being 25 cycles. The current is generated in several power plants, using both water and steam power, and in the latter both steam engines and steam turbines are used.

At one of these plants, the Kingdom plant, a Pelton impulse wheel under a head of 290 feet, drives the generators, the water being carried for 1⅛ miles through a 32 inch pipe. The current is carried eleven miles to Mineville, at a potential of 6000 volts. At Port Henry a modern steam-generating station is being built of reinforced concrete with a stack of the same material. The boiler room contains four 500 horsepower B. & W. boilers, with space for two more; the generating equipment consists of an 800-kilowatt Curtis steam turbo-generator, with space for a second one. This being a vertical unit the disposition of the space in the generating room has been extremely economical. The switchboard gallery has a reinforced concrete floor, which also supports motor driven exciter sets, and a supplementary exciting unit is provided by a 25-kilowatt horizontal Curtis steam turbo-generator."—*American Machinist.*