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Rose Technic Staff

Rose-Hulman Institute of Technology

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WI TH so much talk of Preparedness on every side, and so great an interest being evinced in all matters pertaining to the Military it might be well at this time to call attention to the possibilities of the Summer Military Instruction Camp for Students which have for the past three years been so successfully carried on under the direction of the War Department.

Fort Benjamin Harrison at Indianapolis has been selected as the place for the training camp for the central states next summer. There will be three camps held; the first begins July 5, and the last ends Oct. 5.

These camps offer a student a pleasant outing and an education which, although not bringing any monetary returns perhaps, may at some time be of inestimable value. The educational work has been under the supervision of a Committee of University Presidents, whose report on the camps held last summer is printed on page 165. Any student who may think of attending the camps may obtain further information by addressing Henry S. Drinker, President of Lehigh University, South Bethlehem, Pa.

PROBABLY the most interesting engineering work now going on in the state of Kentucky is that which is being carried out under the direction of the United States Government on the Louisville and Portland Canal. This work was made necessary by the Rivers and Harbors Act of 1910 which provided for the improvement of the Ohio river from Pittsburgh to Cairo, and included the improvement of this canal. Some time after the passage of this bill several separate contracts were let, and the Henry J. Bickel Co. of Louisville received the contract for widening the canal to a width of two hundred feet.

It happens that A. G. Butler, ’10, is superintendent and engineer in charge for this company, and from him we have been able to obtain an interesting description of the work which this company has by now almost com-
pleted. The illustrations which accompany the article are interesting in showing the progress of the work. We regret that lack of space prevented us from using all of the prints which were sent. It might be noted that Mr. Butler is the third Louisville man who has this year contributed an article to the Technic.

FROM Nathan A. Bowers, '10, we have received an article and set of illustrations showing how powder was placed in an unusually large blast in order to secure best results. The excellent photographs depict the results very accurately and give a very good idea of the size of the blast, and the map shows the method of placing the charges and the amount. Our only regret is that the article is so short.

We regret that we were unable to issue the new school number this month as advertised. It would have been impossible to have secured several very important cuts had this number made its appearance this month, and due to lack of time, it would have been necessary to omit several details which we hope will help in making this number just a little out of the ordinary.

News of Other Colleges

The students of Columbia University earned during the last academic year, according to the annual report just issued by the secretary of the Students’ Appointment Bureau, $103,016.74. This, however, is about $40,000 less than last year’s earnings. The decrease is attributed to the war.

The ways which the students found of earning all or part of their expenses were numerous. Many of them earned considerable by acting as dancing teachers or dancing escorts. Tutoring was in many cases found remunerative. One student sold some of his own blood for transfusion at $4 an ounce. Another made $800 as camp leader during the summer, while still others waited on table or tended furnaces.

Cornell is to have a semi-centennial in 1918. One of the events will be an unveiling of the statue of Ezra Cornell.

Harvard enjoys the distinction of having the youngest professor in the country, Professor Norbert Wiener, a recently appointed assistant professor in the department of philosophy, is only nineteen years old. He earned the degree of Bachelor of Arts at sixteen years, and Doctor of Philosophy at seventeen years.

A swimming pool to cost approximately $14,000 is being projected at Harvard.

Harvard university is to have a “course in military medicine.” An officer of the U. S. Army is to have charge of it. Since, in time of war, more men are killed by microbes than by bullets, such a course is regarded as a very necessary part of “preparedness.”

There is an army of 21,102,113 Americans at present engaged in actual college life in the United States. No other single country in the world can equal this record.

The girls of Ohio Wesleyan are planning to support a “Sister College” in Japan on much the same plan as Heidelberg supports Yamagata. Kassin Yo Gakko is the school which the girls will help to support. Their contribution will go to one of the teachers, Miss Rosa Powers, an alumna of Wesleyan.

“Carefully compiled statistics show that the men entering college young are on the average better, both in their studies and their conduct. On the whole they are the more intelligent and industrious youths; and this appears in the examination for entrance as well as in college work.”—President Lowell of Harvard.
THE ROSE TECHNIC.

Report of the Advisory Committee of University Presidents on the Summer Military Instruction Camps for Students

NOVEMBER 17, 1915

THESE camps have now been in operation for three successive Summers. In their growth and admirable management during the past two summers of 1914 and 1915, they have more than fulfilled the expectations of those endorsing them, based on the first year's experience in the summer of 1913. The camps of 1913 and 1914 were held before the breaking out of the great war abroad, which has brought into greater prominence than before their value to the nation.

We repeat the hearty endorsement given in our reports on the Camps held in 1913 and 1914. This year they were visited by a number of the members of our committee, and the committee as a whole has given attention and thought to their educational usefulness in the summer season.

The students attending are under careful oversight. The excellence of food, sanitation, and medical care, has been well maintained. The students have an ideal five weeks outing, pleasurable and beneficial to them; and the instruction, drill, cavalry exercises, field manoeuvres, field surveying and field work generally, give them in the continuous five weeks training, an insight into military matters. They are, in addition to this regular work, given ample time for recreation and rest.

We commend the camps to the authorities and students of the Universities and Colleges of the country. We believe that the training given is excellent, and a great benefit, mental and physical, to the students attending.

PRESIDENT JOHN G. HIBBEN, Chairman, Princeton University.
PRESIDENT A. LAWRENCE LOWELL, Harvard University.
PRESIDENT ARTHUR TWINING HADLEY, Yale University.
PRESIDENT JOHN H. FINLEY, University of the State of New York and Commissioner of Education.
PRESIDENT H. B. HUTCHINS, University of Michigan.
PRESIDENT GEORGE H. DENNY, University of Alabama.
SUPERINTENDENT E. W. NICHOLS, Virginia Military Institute.
PRESIDENT BENJAMIN IDE WHEELER, University of California.
PRESIDENT J. G. SCHURMAN, Cornell University.
PRESIDENT EDMUND J. JAMES, University of Illinois.
CHANCELLOR J. H. KIRKLAND, Vanderbilt University.
PRESIDENT A. C. HUMPHREYS, Stevens Institute of Technology.
PRESIDENT H. A. GARFIELD, Williams College.
PRESIDENT HENRY STURGIS DRINKER, Secretary, Lehigh University.
ST. PATRICK’S DAY, 1916—or rather let us say Rose Day, 1916—what a wonderful day it proved to be! Only a year ago the celebration of “Poly Night” was inaugurated, and the Order of The Elephant was launched forth with the first trumpet, but this year the observance of Poly Night has grown into an all-day celebration and instead of a repetition of the first brief trumpet of our sacred beast we have a mighty thirteen hour roar lasting from one o’clock in the afternoon until two o’clock in the morning. The committee in charge of the celebration, Frederick W. Kingerly, Robert A. Weinhardt, John F. O’Brien, Sam P. Stone and C. F. Carlisle, cannot be given too much credit for the successful program which they arranged.

The effect of this celebration upon the “morale” of the school cannot be estimated. Instead of the chronic grouch with his sneers and sarcasm we have on every hand the cheerful grin and all the enthusiasm that rightfully should be with us.

In the founding of the Order of the Elephant Rose discovered exactly what she needed for the resuscitation of apparently extinct school spirit and fast failing enthusiasm. To give all the details of this most wonderful of all days which have place in the Rose Handbook would be impossible. We have neither space nor time. Let us therefore choose a few of the more important scenes which were enacted and attempt to portray them to the best of our ability.

The first scene is in the main hall in front of the bulletin board. It is a certain Tuesday morning about two weeks ago. The pungent smell of wood smoke is still heavy—but that has nothing to do with the story. Two arch-plotters stand before the bulletin board, scanning for the fifty-fourth time the announcement they placed there only the day before. This statement is an itemized account of what is to be done with a certain collection of half dollars. Each man holds in his hand a number of green cards. They seem to be waiting for something to happen. Finally an outer door slams. A victim in the guise of a Freshman approaches. The plotters exchange glances. The taller says, “Let’s get ‘im”—and they do. They strike him hip and thigh in true grid-iron fashion, and down he goes in a crumpled heap. The short plotter hastily fastens a green card to the coat lapel of the fallen foe while his ally makes a quick search of the victim’s pockets. Suddenly his eyes gleam, he stops in his search, and exultantly draws forth a shining fifty cent piece.

“Our work is done,” he mutters and he and his companion disappears in the gloom of the old main hall.

For a time the victim lies inert. Finally he revives and gains his feet in a dazed manner. He sees the card on his coat, and looking closely reads, “I am a booster for Rose St. Patrick’s Day”—and so the story starts.

The next scene shows the corner of Seventh and Ohio streets. This is a very short scene. At first we only heard a confused murmuring, but this gradually swells to a chorus of many voices, and the sound of many running feet. A flying vanguard first breaks upon our vision. They come and are gone in a breath. Now comes a few panting followers and finally the entire Rose Polytechnic tears by at top speed headed in the direction of Heinl, the
florist. They are gone, and the excitement is past—but not for long. In a moment the program is repeated. This time, however, the scurrying vanguard heads in the direction of the Hippodrome. Then too, we notice that on the coat lapel of each man, just above the green card, is a little bouquet of orange colored blossoms. So much for that—on with the story.

We now find ourselves in the Hippodrome. We look for our friends. Ah, here they are in the center section. We sit down and patiently await developments. Outbursts occur in different parts of the house now and then, but there is no rioting. Now the assembled body breaks forth in song. It is something about a wreck—a rambling wreck—now whatever can that mean? The song is hushed, however, as a handsome young man strolls down the right aisle. All is still, then something breaks forth from the south-east corner (by the piano). It sounds like this:—"E-e-e-yah! Ty-gett Ty-gett Ty-gett! Wow."

Another silence prevails as even a more handsome young man saunters down the left aisle. He mounts the runway leading to the stage and addressed the assembled savages in a quiet well-bred voice. We cannot hear plainly but we can guess at what he means from what we hear. "Fellows," he says, "Let us—order—management—performance—every, body—six forty five—three degrees—Elephant—be there!"

We think we are to rest for awhile, but not so. A wild-eyed chap with a lump in his throat mounts the stand and implores the gang to "give 'em Yae Rose"—and the gang does. And he says "R. P."—and they do. And he says, "Three Beers"—and they do indeed.

But now the orchestra puts in an appearance and the show begins. It is a vaudeville show—not out of the ordinary. The climax occurs when a daring individual goes swimming in a milk can, and having seen this the assembled body moves out hurriedly as if important business awaited.

Now let us skip a few hours and then take up a post on the corner of Seventh and Wabash. It is a rather busy evening; traffic is heavy and a number of people throng the sidewalks. The traffic cop is a busy man. Suddenly down from the north comes a fanfare of trumpets, a rattle of drums, and a flare of green light. Now what can this be? We now hear music—old and familiar music—music that predicts a "Hot Time in The Old Town Tonight." Evidently we are about to witness a procession. Sure enough! On it comes headed by a band—how do we know?—why a large sign proclaims the fact to the world. The band is headed by a convict drum-major. He seems to have mastered every feat known to twirlers of the baton since time began. He leads and they follow clad in gorgeous uniforms of green and orange, and shaking the
plate-glass window panes with the glory of their music.

Following the band come two huskies bearing aloft a banner on which is emblazoned "Seniors." They carry green lights—but then so does everyone else. They are clad in a green mechanics uniform, and printed on their backs is the insignia of the course which they have adopted. Charlie Chaplin hats ornament their learned brows.

But what is this that follows? A coffin shrouded in black. Oh yes, the sign following explains. It says, "We are planting the Rose Poly Jinx." A number of chaps clad similarly to the sign bearers follow. They hesitate at the corner, however, and a skinny youth shrieks directions at them. Then comes the answering growl, "We—ah Seniors!"

The Juniors follow. They also carry a large sign denoting their denomination. They are clad in flowing green robes and green turbans. The robes are decorated with white elephants and the letters '17.

Following the Junior sign limps a decrepit elephant in the last stages of decay. He seems a fit patient for a hospital, for he rocks from side to side as he walks and continually steps on his own feet in spite of the commands of his master, that, "You guys gotta keep step—now, left—right—left—right!"

Finally after many anxious enquiries as to "How long can you keep goin', Casey?" and muffled replies from the inside, the elephant crumbles, and must be led away en-section.

The Juniors also pause at the corner and give vent to—"Bolts and Nuts—Beveled Gears—'17—Engineers!"

Now comes the Sophs headed by "The Good Ship Rock & Rye"—alias, "Oscar III." Their elephant under heavy guard follows. The spearmen cluster thick about it. At the corner they cut loose with, "Rah—Rah—Rah, Rah, Rah—'18—'18—'18."

But what have we here now? A green robed company clad in the attire of the Ku-Klux-Klan. They are masked and mysterious. As is always the case a sign explains matters. "1919," we read, "We put the Toot in the Institute," and we see that our fear was needless and that it is only Freshmen with whom we have to deal. A green snake is carried along by a number of the Klan and it winds from one side of the street to the other in a most realistic manner.

But what is this? A still cold form inert upon a stretcher. Can it be that this is a real Ku-Klux gang after all. It must be that they have vented their wrath upon the poor unfortunate we see shrouded in that ghastly white sheet. Poor devil!—but wait, what is the sign that dangles from the swinging stretcher? It reads "He wouldn't pull for Rose," and so we forget all sympathy and say, "It serves him right!"

The entire parade marches past. The leaders are coming back, but we have no time to wait for them. If we are to attend the dance that is to follow, we had better leave our post at once and procure a clean collar. We leave, but when we have gone two blocks we hear a mighty racket, and looking back see the traffic cop, and likewise the traffic sewed up in a mob of wild, circling, green clad dancers. But we have no time to wait for the riot alarm to be sounded. We hurry on after our laundered linen and regulation dance regalia.

The high cost of space (in these columns)
THE ROSE prevents us from attending the dance all evening. Let us drop in, therefore, at the climax of festivities. We take up our position on the balcony, and gaze down on the circling merry-makers. In the center of the floor is a giant Elephant with a small green hat cocked aggressively over his left ear. Lest we forget, he is labeled conspicuously with the numerals "18."

Green and orange are the predominating colors in the scheme of decoration. The lights are concealed by green and orange shades, green and orange ribbons are strung from light to light, and bright green festooning is draped from each corner of the hall to the center of the ceiling. The garb of the dancers is the same as that we saw in the parade earlier in the evening. It is a motley throng that swarms below us.

We are told that the degrees in the Order of the Elephant have been conferred earlier in the evening, and we notice that each man wears a green badge. We understand that these are the badges of the four different degrees which have been given the Loyal Sons of Rose. We ask a nearby individual how the whole affair began.

“Oh,” says he, “the band led the grand march, and believe me it was a grand march. They nearly shook the building down before it was over.” We enquire as to the style of program used. Our friend produces his own. It is decorated with a rampant green elephant and the name of the order. Down below is the proclamation, “St. Patrick was an Engineer.” We open the program and see that the order of dances spells, “St. Patrick the Engineer.”

But while our attention has been thus distracted something has been happening on the floor below us. Some one has brought forth bushels and bushels of serpentine ribbon. The air is filled with it. It drapes the festooning and forms a tangled mass on the floor. Our sentiments can best be expressed by the old quotation, “Gosh, what a night!”

Now the favors come to light. Rattlers, horns and noise makers of all description put in an appearance. Vari-colored bunches of shredded tissue paper mounted on long sticks are in evidence. Our blood tingles, we must take part! We descend the steps and venture out on the floor. But we are not to stay long. Blam! Something hits us in the eye. Biff! Bang! Slam! The tissue paper favors are evidently weapons. We are beset on all sides. This is no place for us.

As we beat a hasty retreat the clock strikes twelve. If we are to write up a story and get in a detailed report of the days festivities to New York by night press rates we must lose no time. As we leave the hall, the committee in charge falls on our neck and in a thankful voice tells us that they are a lucky, lucky crew, and that this is really the best thing that has ever happened in the history of Old Rose. We pass out into the darkness just in time to avoid being seized by two enthusiastic Juniors who want to tell us of their plans for next year. As we revive somewhat in the cold night air, a sigh of relief escapes us.

It is over until next year.
THE FIRE.

THE Sunday night of March 5, was an exciting one for Old Rose. A fire started in the basement under the Sophomore Descript room, and when it was discovered at about seven o'clock it had already penetrated to the room above and looked very serious. An alarm was turned in immediately, and it was not long after the departments arrived before the fire was well under control. With a great deal of smoke and excitement the blaze appeared to be far worse than was really the case, and Joe Bruner did his duty nobly by turning in a second alarm whose greatest effect was to bring a number of Rose Students to the scene of action. The fire was extinguished in less than thirty minutes, and with water and wet plaster the only dangers to be feared these men went gallantly to the work of rescuing the drawing instruments from the charred and water soaked lockers. Just as the last set of instruments was being put in a place of safety the plaster fell with a crash, and fortunately there was no one under it as it came down.

The firemen left the building several hours after the fire was declared “out,” but the next morning smoke was seen issuing from the east air shaft, and they were summoned again, much to the delight of the eight o'clock classes who stood about in groups and watched the firemen seek in vain for the origin of the smoke. Nine o'clock classes were called with the firemen still prowling about the building, but they must have found that which they sought, since no trace of either smoke or firemen could be found at noon.

Fortunately the damage was almost wholly confined to the one room. The biggest loss was by the damage of the drawing instruments.

Spontaneous combustion is supposed to have caused the fire.
coat rooms with a hungry, disappointed look in their eyes. Let us hope there will be peanuts next time.

A **MODULUS DANCE** was held on the evening of February 25, and although not largely attended, was a success—socially if not financially. As the committee lost but two dollars they consider the dance a perfect success, and are hoping for a brilliant repetition in the near future.

Good music helped make the evening an enjoyable one. Light refreshments consisting of “bottled pop in the basement” were served throughout the evening. A few good circles livened up proceedings considerable and helped give every one a good time. Doctor and Mrs. Johonnott acted as chaperones.

Apparently the Junior Class is unfortunate in not having a first class advertising manager, for the advertising issued before the last dance wasn’t worth two whoops, judging from the gate receipts. They should be strongly advised to choose some man with lots of pep to carry on a publicity campaign in regard to their Modulus dances. He’ll need it (the pep.)

**AFTER** the basket ball game with Butler on Saturday, February 19th, the Indianapolis Rose Tech Club entertained the team with a dinner at the Hotel English. Quite a number of the grads were on hand for both the game and the dinner.

Judging from the noise that the Old Boys made when Rose came up from behind and won a hotly contested victory one would have thought that there were at least 50 there; actual count at the dinning table showed the following:—D. McDaniel, ’07, W. C. Noelke, ’04, W. B. Shook, ’11, L. A. Snider, ’05, H. Foltz, ’86, E. M. Brennan, ’09, J. N. Compton, ’15, D. M. Hubbard, ’12, K. V. Wood, ’13, and E. P. Wallner, ’15. Several others attended the game but were unable to stay for the dinner.

As the team had to catch a train at midnight lack of time cut short almost all the speech making but at that quite a few interesting talks were heard. Mr. Foltz gave a short talk on the new school, and “Jap” Davis, captain of the basket ball team, Athletic Director Mefford, and Coach Gilbert also aroused much enthusiasm with their talks on “Athletics” and “Athletic Conditions at Rose.”

The festivities were ended when good rousing cheers for “Old Rose” were given in the lobby of the hotel.

**OFFICIAL SCHOLARSHIP RECORDS.**

The following figures show grade averages for the first term of this year. The second column of figures excludes the grades of students who have failed and withdrawn from the Institute.

<table>
<thead>
<tr>
<th>Class</th>
<th>Average</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Senior Class</td>
<td>78.0%</td>
<td></td>
</tr>
<tr>
<td>Junior Class</td>
<td>78.4%</td>
<td>79.0%</td>
</tr>
<tr>
<td>Sophomore Class</td>
<td>78.0%</td>
<td>78.8%</td>
</tr>
<tr>
<td>Freshman Class</td>
<td>74.4%</td>
<td>77.0%</td>
</tr>
<tr>
<td>All students</td>
<td>77.0%</td>
<td>78.1%</td>
</tr>
</tbody>
</table>

As Freshmen were not pledged by fraternities during the first term, the following figures exclude Freshman Class grades.

**FRATERNITIES.**

<table>
<thead>
<tr>
<th>Fraternity</th>
<th>Average</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alpha Tau Omega</td>
<td>77.0%</td>
<td></td>
</tr>
<tr>
<td>Sigma Nu</td>
<td>77.2%</td>
<td>77.8%</td>
</tr>
<tr>
<td>Theta Xi</td>
<td>78.5%</td>
<td></td>
</tr>
<tr>
<td>Alpha Chi Sigma</td>
<td>78.3%</td>
<td>80.5%</td>
</tr>
<tr>
<td>P. I. E. S.</td>
<td>76.2%</td>
<td>76.8%</td>
</tr>
<tr>
<td>M. E. P.</td>
<td>81.6%</td>
<td></td>
</tr>
<tr>
<td>V. Q. V.</td>
<td>76.4%</td>
<td></td>
</tr>
<tr>
<td>All Fraternities</td>
<td>77.5%</td>
<td></td>
</tr>
<tr>
<td>Non-Fraternity men</td>
<td>81.1%</td>
<td></td>
</tr>
</tbody>
</table>

**STUDENT COUNCIL MEETING OF MARCH 3, 1916.**

Meeting called to order by President O’Laughlin.

Carlisle appointed secretary pro-tem.

Report of Financial Secretary:
Amt. received from Weinhardt............$628.00
Student Fund .................. 695.25
Paid out .................. 451.01
Amt. deposited in bank .............. 244.24

Hild asked that the support of the Student Council be given the Technic Staff in the publication of a large May number to take the place of the Modulus.

After careful consideration it was moved by Risser and seconded by O'Brien that the Student Council give all the support necessary to the success of this project. (Motion carried.)

Carlisle reported that the expenses of Mefford for the month of January were satisfactory.

O'Brien excused.

A discussion then followed as to the advisability and possibility of the Student Council holding general assemblies with the student body.

Hild and Stuart were appointed to investigate and determine whether or not such a plan would be feasible.

Moved by Hild, and seconded by Risser, that meeting be adjourned. (Motion carried.)

C. F. CARLISLE,
Secretary Pro-Tem.

American Electrical Apparatus for Russia

With the conclusion of the war in Europe electrical apparatus of American manufacture will be greatly in demand in Russia, according to a statement made by Nicolai Fedotoff, electrical engineer for the Petrograd branch of the Siemens-Schuckert company, to a representative of the Electrical World.

Mr. Fedotoff recently arrived in the United States from Petrograd and expects to make a study of the manufacture of telephone material with the intention of placing here a large order.

Electricity is now widely used in Russia, he stated, and when the war is over the necessity for the rehabilitation of the empire's industries and the large demand that will be made on them for the reconstruction of the war-swept areas will create a tremendous demand for generators, motors, line equipment, and all of the other electrical equipment which is needed for industrial installations.

A further point brought out by Mr. Fedotoff in this connection was that American and English technical men of sound training would be needed in Russia. The war has taken many of her engineers and when the period of reconstruction begins their ranks will be found to be seriously depleted. For this reason Russia will offer a brilliant opportunity to engineers who have received their training in England or the United States.

The Penalty of Folly

Methuselah, Jared, Lamech and the others had gone to the Old Settlers' reunion near Ararat. It was Methusaleh's 900th birthday, and he capered around like a kitten, throwing balls of ophir wood at the rag dolls, taking chances in the grab-bag conducted by the Canaan Congregational Church, and acting a perfect hog about the pink lemonade barrel and the candied popcorn stand.

"Better be careful, Meth," Lamech warned him. "You'll overdo yourself, old man."

But the ancient cut-up paid no heed, and proceeded to ride on the merry-go-round with a woman of the Tubalites.

Alas, how fondly foolish is age! In sixty-nine fleeting years the old man was dead.
Widening the Louisville & Portland Canal, Louisville, Ky.

By A. G. Butler, '10

This work is part of the project to provide a nine foot slackwater stage in the Ohio River from Pittsburgh to Cairo. The Canal is built around the rapids known as the "Falls of the Ohio" and is provided with locks at the lower end. The proper stage is maintained by a movable dam at the head.

The canal was first built sixty-four to sixty-eight feet wide and three feet deep, by the Louisville & Portland Canal Company, from 1825 to 1830. The Government became a stockholder in 1826 and gradually acquired all the stocks and bonds and became sole owner in 1874. The first locks were fifty by two hundred feet and made in three lifts of 8.66 feet each. From 1860 to 1872 the canal was widened to ninety feet and new locks, eighty by three hundred feet, consisting of two lifts, of thirteen feet each, were constructed. At this time the location of the locks was changed. Later the dam was raised to provide for a nine foot stage in low water. The basin above the locks was widened in 1893.

The Rivers & Harbors Act approved June, 1910, providing for the improvement of the Ohio River from Pittsburgh to Cairo included widening the Canal to two hundred feet, construction of the new locks, reconstruction of the dam and clearing the basin at the head of the Canal. The first two items are under contract and the latter two are complete.

In this article we deal with widening the Canal, work on which began May, 1913. The Canal is to be widened from 15th Street to 26th Street, a distance of 6,200 feet, the old canal filled and an emergency dam of the Boule type constructed above the locks. This dam will be used to close the Canal in case of accident to the locks.

The contract for widening the Canal includes the following work:—Excavating the canal to a width of two hundred feet; constructing the new concrete canal wall and removing the old masonry wall; constructing concrete pier for the new bridge over the Canal at 18th Street, concrete foundations for the section of the emergency dam between the old and new north canal walls, extension of the dry dock culvert, drainage culvert where required under the canal embankment and a retaining wall across the old locks below the guard gates.

This work embraces 770,000 cubic yards of earth excavation, 205,000 cubic yards of rock excavation, 550 lineal feet of drilling bolt holes, 24 cubic yards of stone paving, 490 cu-
WIDENING THE LOUISVILLE & PORTLAND CANAL,
Louisville, Ky., April, '13

UNITED STATES, CIVIL ENGINEERS

Scale: 1"=150'
bic yards of reinforced concrete, 16,951 cubic yards of plain concrete, 48,300 square feet of channelling, 385 feet of 24 inch cast iron pipe, 24 lineal feet of 16 inch cast iron culverts, 1,536 pounds of iron chech posts, 12,200 square yards of macadam roadway. This to be completed in three years.

Practically the entire plant was bought new for this contract and consists of the following machines:

One steam driven air compressor.
One motor driven air compressor.
One Smith 31 cu. ft. concrete mixer.
Two Lidgerwood-Crawford, class B-F drag line excavators, 70 foot boom, 2 cu. yd. Page bucket.
One Ingersoll-Rand channeller.
One Sullivan, duplex channeller.
One Ingersoll-Rand wagon drill.
Five Sullivan tripods drills.
Five Ingersoll-Rand jackhammer drills, air.
Twenty-four 12 cu. yd. Western, wooden body, air dump cars.
One spreader car.
Two portable engines.
Three two drum hoist engines.
One motor driven hoist, Thomas.
Five class B-S Porter locomotives, 14x20 inch cylinders, 37 ton on the drivers, standard gauge.
One Link Belt locomotive crane, capacity 20 ton, standard guage.
One Monarch pile hammer, 3,800 pounds.
Three 12-inch Morris centrifugal pumps, direct connected to 50 horse power motors.
One 6-inch Buffalo, centrifugal pump, direct connected to 25 H. P. motor.
Five 3-inch Nye pumps.
One 4-inch Nye pump.
One 6-inch Nye pump.
One jaw rock crusher.
One ten ton road roller.
One 7½ cu. yd. Thew traction shovel.
One 1½ cu. yd. traction steam shovel.
One Model 61, Marion Steam Shovel, standard gauge, 2½ cu. yd. dipper.
In forming a working plan a contour map on a scale of 40 feet to the inch was made, and each scheme proposed was worked out on blue line prints of this plan. This quickly showed the advantages and disadvantages of each scheme and aided materially in the selection of equipment.

The working plan was for drag line No. 1 to start at station 59 and work west making the embankment, drag line No. 2 to follow loading all the surplus on cars to be disposed of in the new levee from station 59 to 80 and in filling in the old canal. Owing to delays in the erection of the drag lines, drag line No. 1 was helped out from station 50 west by the Thew shovels and teams and the Marion shovel loaded some of the surplus east of station 50. The levee from station 59 east was made from a trestle, the raise from the loading track to the trestle being made on a three per cent grade. This was easily ascended with four loads. The fill in the old canal was made from a trestle on one side and from the old roadway on the other.

Some 15 feet of earth was left behind the old wall as a cofferdam but this was removed later as it was found to have a great deal of rock in it and was of little value as a dam. Also a prism was left behind the new wall to serve as back fill. After the completion of the new wall this was pulled down by teams with slip scrapers. The embankment was left 15% high to allow for shrinkage and this was found to be close to the actual shrinkage when the banks were finally shaped some eighteen months later. The slopes were planted with Bermuda grass by the Government forces.

The rock work followed behind drag line No. 2. The ledge was found to be some five feet of hard limestone over cement rock which was slightly softer. This rock was difficult to drill and channel and did not shoot well for shoveland work. In channelling a five piece drill of one inch steel was tried but found to be worthless. This was changed to a three piece bit of ½ inch steel; and even with this bit the steel was often broken and bent.

The first drilling was done with the wagon
February 26, 1916. Rig for picking 35 ton Thew steam shovel out of canal.

May 29, 1914. Drag line No. 2 loading cars.
May 15, 1915. Drill boilers and drills.
May 14, 1915. Left to right, present canal, channeller behind old wall, locomotive crane, Marion steam shovel, concrete plant and pump house.

February 26, 1916. 35 ton Thew steam shovel raised and resting on barge.

August 14, 1914. Locomotive crane, Marion shovel and channel cut on the face of new wall.
May 15, 1915. Concrete plant.
September 1, 1915. Left to right, D. line No. 2, blacksmith shop, drill boilers, channeller and drill.

September 1, 1915. Forms in detail.

August 14, 1914. Dump trestle at old canal.
Class B-3 Porter locomotives, 12 cubic yard cars.
May 15, 1915. Marion steam shovel, condition of rock, and in the background the power house of the Louisville and Interurban Ry. Co.
September 1, 1915. Buckhill gang.

drill but the smallest hole that could be drilled with this drill was too large to allow a proper distribution of the dynamite and the drills were changed to tripods with 3½ inch cylinder and hollow steel thru which live steam was forced to muck out the holes. These drilled a hole of 1½ inches at the bottom and gave a much better distribution of the dynamite. Steam was furnished these drills by a 60 H. P. horizontal boiler and a 40 H. P. vertical boiler mounted on a flat car. This car was kept close to the drills so that the steam loss was small and there was practically no time lost due to moving the boilers.

Different spacing of holes was tried and the best spacing was found to be holes on seven foot centers with a hole in the center of the square. All holes were drilled 18 inches below grade and at times even this did not pull the bottom ledge. Between these steam drill holes smaller holes were drilled with air thru the limestone ledge to break this ledge and save block holing. The large holes were loaded at the bottom and at the bottom of the limestone ledge and the small ones were single loaded.

Different dynamos were tried from 40% to 75% and it was found that the best results were obtained with the 75%. This required an average of 0.4 pound per cubic yard, pit measurement.

The rock was handled by the Marion shovel and disposed of in the levee from station 80 to 84, in rip rapping the river slope from station 70 to 80 and in the roadway from station 50 west. The surplus was used in filling the old canal.

Before filling the old canal it was necessary to extend the discharge culvert for the dry dock from a point where it entered the old canal, to the river, a distance of 600 feet. This culvert required a cut of some twenty feet thru mud deposited from the river. The culvert was a box of reinforced concrete four feet wide by six feet high, resting on the ledge or on piers founded upon the ledge. The cut was very wet and steel sheet piling was used for a cofferdam at the river and for sheeting the ditch some 200 feet back from the river. The rest was sheeted with wood. Nye pumps were used to take care of the water.

As stated above it was first intended to leave some fifteen feet of earth behind the old canal wall to serve as a cofferdam but this scheme was abandoned. The first thousand feet of wall exposed was backed by a thin slab of concrete to stop the leakage but this was not found to be very effective and required considerable corking. The rest was left open and wooden wedges driven in the weep holes from the back of the wall. The small leaks were stopped by means of a mixture of sawdust and cinders and manure placed on the outside in wooden boxes nailed on long rods. These boxes had holes in the bottom and the suction of the water carried the material into the holes and stopped the leaks. This method proved very effective. Before blasting the last cut next to the old wall, the ledge was channelled back of this wall leaving a strip of from eight to twelve feet under the wall to be dredged out.

The first section to be dredged extends from station 62 to station 27. At station 27 a cross dam was placed between the old and new walls. This dam is of Lacakawanna steel sheet piling tied together with rods and filled with sand and gravel. This material is placed in lifts of about twelve inches and makes a very effective puddle. When the dam is first unwatered there is a great deal of leakage but this gradually checks and at the end of a week the dam is practically dry.

The pumping plant consists of three twelve inch Morris centrifugal pumps direct connected to fifty horse power motors. Ordinarily one of these pumps handles all the water. In addition to this the contractor has constructed a 24 inch sewer from station 0 to the dry dock culvert. This takes care of all the water in the lower pit.

The new canal wall is of concrete four feet wide on top and stepped so that the width is approximately 50% of the height. This is set on the ledge, the face being flush with the
channel cut. The wall is dowelled to the rock with one inch square twisted rods on 3\(\frac{1}{2}\) foot centers. It is poured in alternate monoliths of 40 feet. Blaw steel forms are used and found to be very satisfactory. The concrete plant as shown in the photographs was made from old timbers on hand and has proven very efficient. The arrangement is extremely simple and few men are required to operate it. The sand and gravel is taken from barges in the canal by a clamshell bucket on the locomotive crane and placed in the small storage hoppers; from these it is dropped into the charging hopper and here measured and the cement added; then dropped to the mixer; mixed, hoisted, and spouted to place. The batch used is four bags of cement; eleven cubic feet of sand, and twenty-four cubic feet of gravel. The plant has a capacity of 50 cubic yards per hour. Both the mixer and the hoist are motor driven and use approximately 40 K. W. per 100 cubic yards of concrete at 1\(\frac{1}{2}\) cents per K. W. This is a decided saving over steam. Three sets of forms were used and held in place a minimum of fifty hours. The record run was thirty-five sections or 1,400 lineal feet in thirty-five consecutive working days.

Most of the plant is on a single eight hour shift. Drag line No. 1 was on double shift throughout and the entire plant was on double shift during 1914 but it was found that the greater overhead and pumping charges on the single shift were more than offset by the greater output. At present the work is about 90% complete and will be finished by June 1916. The work is under the direction of Major J. C. Oakes, Corps of Engineers, United States Army.

The contract was let April, 1913, to the Henry Bickel Company of Louisville, Ky. The sub contract for dredging the old wall was let to the Western Rivers Company of Point Pleasant, W. Va.

Rose Alumnus Gets Boost

THE Trinidad Section Bulletin, the official organ of the National Electric Light Association, carries each month a brief account of some one of the managers of the different branches. In the September issue the place of honor goes to James A. Shepard, class of 1910, who is manager of the Deming Ice & Electric Co., Deming, New Mexico. Haskell Dial is the author of the story, which we reproduce below:

"Soothed and inspired by the music of Carranza-Villa Bombs, synchronizing with the soft whir of Wilson-Lansing diplomatic notes buzzing over the wires, Jimmie Shepard occupies the chair for the Federal organization in Deming, utterly indifferent to his belligerent surroundings. Jimmie’s only interest in the Mexican embroglio is a desire to electrify two or three army corps, and furnish the juice from the Deming plant. In fact, Jimmie’s battle ensign reads, “Electrify everything in sight,” and each report from his headquarters indicates that he is gradually carrying the flag forward.

The present Deming manager arrived in Deming while his father was manager of the Harvey house in March, 1889, and since that time has seldom strayed far from the borders of this city. He has literally grown up with the town, pushing and boosting all the time for a bigger and better Deming. His early education was received in the Deming public schools, and from boyhood he evinced an insatiable curiosity to know what made the
wheels of industry go round, and this same inherent desire to get at the very root of things is still one of his conspicuous characteristics. His youthful experiences, although at times disastrous, enabled him to store away a vast amount of useful information, which was used to good advantage in later years. The many tales of his boyish pranks, and the achievements of his wild experiments along electrical lines, are still related with relish by his boyhood friends. When James had reached the age of 12 he evolved one particularly ambitious scheme for wiring the house of one of his neighbors, which resulted in his taking an automatic header through the cherished plaster ceiling of the dining room, belonging to a rather irate old lady. However, Jimmie escaped uninjured, and it should be recorded that many more of his schemes ended successfully than otherwise.

At the age of 16 he entered Rose Polytechnic Institute and graduated from there with distinction, a large box of medals now reposing in the company's safe attesting to his diligence as a student. Among these medals is one for the highest standing in his Freshman year, and one for the highest standing for the four years of his college career. He was a member of the Alpha Mu fraternity, and the various snickering allusions of some of his college mates, who stop off for an occasional visit, indicate that in the midst of his industrious habits, some time was found to spare for college pranks. After graduating from Rose Polytechnic, Shepard went to Morenci, Ariz., for about two years, where he was connected with the electrical department of the Phelps-Dodge Company.

When the Deming property was acquired by the Federal Company, he came here as electrical engineer and installed the switchboards for the property and in September, 1912, he was transferred to Tucson, to assist in the inventorying and valuation of the Tucson property. At this time, Tucson was just taking on its irrigation pumping business, and Shepard was made Superintendent of Construction, after which he became Superintendent of both the Tucson companies. During this time he had charge of all the transmission lines and substations, which were installed in Tucson, and when it is remembered that these lines total about seventy-five miles, and have some twenty-five substations, it will be evident that this was quite an undertaking. The excellence of such a post-graduate training under that able general, F. E. Russell, needs no comment, and when in May, 1913, a vacancy occurred in the managements of this property, the logical candidate was at hand.

Shortly before coming to Deming, Mr. Shepard persuaded Miss "Joe," daughter of Mr. F. E. Russell, that life in Deming would be unbearable without her companionship, and Miss Russell immediately accepted a partnership in the Deming management, a position which she holds very becomingly. James, Jr., a handsome young duplicate of his father, is the result of this union, and at this time young Jimmy is continually slipping away from his mother, and climbing electric light poles in front of the Shepard residence.

Mr. Shepard, "Jimmie," as he is familiarly known to all of the old-timers, is deservedly popular. There is no "Private" sign on his office door—anyone is welcome at any time, and any possible kick, no matter how trivial or imaginary, is investigated just as exhaustively as though it were of supreme importance. Just here let us say that there are mighty few kicks, and to be able to satisfy life-long friends, and be able to do justice to your company's interests and that company, too, a "Furrener" requires the highest form of diplomacy, and requires too, that everyone realize the honesty and squareness of the manager.

This introduces Jimmie Shepard, manager of the Deming Ice & Electric Co., the right man in the right place."
A—Face of the 155 ft. cliff before blast.
B—Just as the charge was fired.
C—View from the same point as A after the blast.
D—The dust and powder fumes.
How 58 Tons of Explosives Were Placed to Move 400,000 Tons of Limestone

By Nathan A. Bowers, '10

A blast was recently fired in the lime-quarry of the Riverside Portland Cement Company at Riverside, Cal., which was found to have moved about 400,000 tons of rock. The blast was entirely successful, it is stated, in that no blow outs occurred and the full strength of the low grade explosive was developed by a suitable detonating charge of high grade dynamite. The pictures show the appearance before and after the blast, and the drawing indicates the location and quantity of the several charges.

The tunnel was driven through the hill from the side opposite the quarry face so that the six months work required to prepare for the blast was carried on without interfering with the operation of the quarry. The same plans is to be repeated, driving new cross cuts from the same main tunnel, when it becomes necessary to break up a new supply of limestone further back in the hill. The cross tunnels in which the charges were placed were slightly below the level of the quarry floor and were driven so the powder could be placed, approximately, on a perpendicular line through the brow of the cliff to be broken up. The explosive was placed in sumps, or, where there was seepage, in pockets at the level of the tunnel floor.

The tonnages of explosives indicated on the drawing represent 5 per cent Hercules railroad powder, and each of the charges was primed with 60 per cent dynamite as follows: 300 lb. in the 6-ton charges, 200 lb. in the 5-ton charges and 150 lb. in both the 4-ton and the 3½-ton charges. Each charge contained two electric primers, all of which were connected in series and fired by a single machine. The face of the cliff was about 155 ft. high before the blast, the toe extending about 80 ft. from the perpendicular through the crest. After the blast the crest was broken down to a point where its highest elevation was about 145 ft. above the quarry floor and the toe of the slope at some points extended as far as 350 ft. from the perpendicular. The material broken up is a hard seamy limestone, the strata being diversified and irregular.
ALUMNI NOTES

John Sanford, '15, has received a promotion from Chattanooga, Tenn., to Roanoke, Va., where he will begin his new work in his profession as Chemical Engineer. Mr. Sanford spent a few days with his parents, Prof. and Mrs. Sanford, 2025 N. Seventh street, before going to Roanoke.

Kenneth L. Lanoett '14, who has been working at Chattanooga, Tenn., for the last year and a half for the Interstate Commerce Commission, has accepted a position with a large construction company at Havana, Cuba. A concrete structure is just begun which will take one year for completion and will cost $1,000,000. He may be reached through the Cuban Portland Cement Co., Mariel, Province Pinar Del Rio, Cuba.

Rowland M. Smith, '15, stopped a short time at the Institute on March the 6th. He was in charge of a car of high explosives being shipped from Webb City, Mo., to Pittsburgh, Pa., by the Atlas Powder Co. Mr. Smith is employed as a chemist in the Webb City plant of that company.

The Southern California Tech Club on January 22nd, held a luncheon meeting at the University Club, of Los Angeles, and elected Mr. J. H. Johnston '08, President, and F. N. Rumbly '03, Secretary-Treasurer. Another meeting was held on February 19th, with the following attendance: J. H. Johnston, '08; T. T. Barrett, '08; J. N. Johnson, '09; F. B. Lewis, '05; A. E. Wade, '05; R. L. Smith, '09; E. T. Buckley, '09; Paul Hamilton, '11; F. N. Rumley, '03.

Regular luncheon meetings are held on the third Saturday in each month. The club wishes to state that "visiting brothers" are always welcome.

CINCINNATI NOTES

The Cincinnati District Club will hold a smoker at the Queen City Club, corner 7th and Elm Streets, Cincinnati, Ohio, on Saturday evening, March 18th. This smoker will be "king" of them all. A short talk on an interesting engineering subject will be given, together with lantern slides covering this subject in detail, and also a few slides which will no doubt bring back fond memories to all Rose men. All members are urged to be present and if any Rose man is in this district on the above date, he will surely be welcome to come and spend the evening with us.

Joseph E. Davidson, '10, formerly a chemist, is now chief engineer of the finest fruit farm in Ohio, located near Chesapeake, Ohio. Mr. Davidson is an active member of the Cincinnati District Club.

Recent visitors in Cincinnati were: A. A. Bareuthner, '10, now with the Panama Canal Commission, Washington, D. C.; O. M. Bercaw, '10, now with the Cutter Electric Company, Pittsburg, Pa.; E. C. Bradford, '11, now with the Selby Shoe Company, Portsmouth, Ohio.

Raymond T. Myers, (blondie) ex-'12, and formerly of the "Troop of the National Flower" graduated from the Cincinnati University Co-operative School, Mechanical Engineering Department, class of 1915. Mr. Myers is now in the mechanical department of the American Rolling Mill Company, Middletown, Ohio.

Edward H. McFarland, '04, formerly with the Cincinnati Office of the General Electric Company, has recently received a fine promotion and is now in charge of the Turbine Department of the General Electric Company's New York Office.

James Gibbons, ex-'08, is now connected with the C. C. C. & St. L. R. R. Company, Cincinnati, engineering department.

Lester L. Backmann, ex-'10, is connected with Elzner and Anderson, architects, Cincinnati, Ohio. Mr. Backmann is in charge of the structural steel designing for this firm.
ROSE VS. DE PAUW.

The Engineers defeated their old time rivals from Greencastle in a rather slow game, final score 28-17. DePauw showed poor floor work and, marked inability to locate the basket, but led nevertheless at the end of the first half 11-9. Rose opened with a burst of speed in the second period and Brown registered five field goals in rapid succession, while Larr accounted for four more. The pace was too fast for the Methodists who were completely outclassed in this half. Brown and Larr starred for Rose, while Denton at guard played best for the visitors.


Brown ................. F .......... Cook, Delap
Larr ................. F .......... Billingsley
Allen, Davis ........... C .......... Smith
Kingery, Reinhard ...... G .......... Denton
Trimble, Buck .......... G .......... Royse

Field Goals: Brown 8, Larr 5, Cook, Billingsley, Denton 4, Delap.

The game was close and exciting with first one team, then the other leading. Capt. Davis started the fireworks with a couple of long swishers and proved to be the star of the game for Rose, making twelve of the 28 points. Trimble played a nice game at guard, also Reinhard, the Butler forwards being held to three field goals apiece. The second half was fast and rough and in the last few minutes the Engineers forged ahead and were leading by four points at the first whistle.


Larr .................. F .......... Moore
Brown .................. F .......... Barr
Davis (Capt.) ........... C .......... Cornelius
Trimble ................. G .......... Agnew
Reinhard, Allen ........ G .......... Frankfort


Referee: Malarky, Purdue.

ROSE VS. CENTRAL NORMAL.

We sent a badly crippled team against the fast Normal quintet and the latter repeated the defeat administered to us in the first game of the season. Trimble, the most reliable guard of this season, was out with a sprained back, while grippe and various other ailments kept Capt. Davis, Kingery and Buck at home. Though so seriously handicapped the team played a hard, fast game but were outclassed by the speed and accuracy of a team which has not been beaten on its own floor this year.
ROSE VS. HANOVER.

By speeding up in the last ten minutes Rose won a rather slow contest from Hanover in the last home game of the season. Throughout most of the game the visitors played better basketball, and threatened to take the big end of the score on numerous occasions. Rose lead 18 to 16 at end of the first period. Most of the Engineers' scores were made on long shots from well back toward the center of the floor. "Brownie" failed to get started until the second half, but registered four field goals, nevertheless. Larr had his eye and registered a total of 18 points for Rose. Cully and Manaugh played well for the visitors.

Rose 38. Hanover 30.

Larr .......... F. Johnson, Manaugh
Brown .......... F. Cully, Trotter
Davis, Reinhard C. F. James
Kingery, Orr G. C. James
Reinhard, Floyd G. G. Allison
Field Goals: Larr 8, Brown 4, Davis 2, Reinhard 3, Kingery 1; Manaugh 2, Cully 6, F. James 2, C. James 2.

ROSE VS. INDIANA DENTAL COLLEGE.

In an exceptionally fast contest the Engineers lost to the Dentals at Indianapolis in the last game on our schedule, DePauw having cancelled our date at Greencastle on account of their new gymnasium being unfinished. The final score was 23-16 and had not Bobby Larr had to go out with a sprained knee the story might easily have been different. The Dentals maintained a small lead from the first but were not safe until the last few minutes.

Trimble guarded close and Brown did mighty fast work at forward. Deakyne played best for the Dentals.

Rose Poly 16.

Larr, Floyd .......... F. Leveron
Brown ............. F. Deakyne
Davis ............. C. Edman
Trimble ........... G. Heck (Capt.)
Floyd, Kingery ... G. Long

WITH the Indiana Dental game at Indianapolis, March 4th, Rose closed a basketball season which should have been more successful than it was. We won four and lost eight games and were defeated twice upon our home floor. There was enough material for two good teams, but nevertheless a winning combination was not developed until late in the season. This was due partially to the fact that a general attack of grippe early in the season, and then the finals later kept the men from reporting regularly for practice. The team did not really get together until fully the middle of the season. The Engineers were victorious against U. of Louisville, Butler, DePauw and Hanover, and lost to Central Normal (2 games), University of Louisville; Evansville Y. M. C. A., Vincennes Y. M. C. A., Franklin, Butler and Indiana Dental College.

With the close of winter sports, the baseball and track candidates take the center of the stage. Heavy schedules have been made in both branches of sport and some interesting contests are in store.
DIFFERENTIALS

INTERVIEWS WITH CELEBRITIES.

No. 2. Cleopatra.

I rang the bell and was admitted by a manservant, dressed a la Russian Ballet.

"Is the lady of the house in," I inquired? After being assured that I was not a book agent, the servant showed me into the harem room, to await the arrival of Cleopatra. The latter came in as I was gazing at the Police Gazette.

"Good morning," she said.

"Good night," said I. "I had gathered the impression," I continued, "that you would be attired like Gertie Hoffman."

"Ah," said Cleo, sighing deeply, "that was in the old days, when suckers like Anthony grew on every bush." "All that is now past for me, and I'm living the simple life. Why I can't ever get a position posing for a corset advertisement."

Realizing that I had been on a false scent, I took my departure, and as I left I heard her wailing, and cursing the Winter Garden and Theda Bara.

The following is "the most unkindest cut of all."

ROSE POLY HOLDS BASEBALL PRACTICE.

Practice is being held three times a week by the Rose Poly baseball squad on Mondays, Wednesdays and Fridays. Those signed up are: Powers, Sherb, Holt and Clark, catchers; Crim, Nichols, Wellmeyer, Brown and Brougher, pitchers; Holt, Campbell and Crane, first basemen; Grose, Bayh, Meyer and Shipley, second basemen; Lankford, Pancake and Schaupp, third basemen; France, Donovan, Fellmy and Clodfelter, shortstops; Clark, Whippo, Burnett, France, Kautz, Fuller, Lankford and Bayh, outfielders.—T. H. Post.

Jacky, (in Mach. Des.)—"In what direction should the vector be drawn."

Goney—"Toward Main street."

Jo Jo ends recitation by giving frenzied proof about minimum deflection of a prism.

Next day—

Jo Jo—"Now, Mr. Smith, prove the proposition I gave you the last time."

Smith—"Well I can reproduce the figure but I can't give any more of a conclusive proof than you did."

Doc White—"Under what combination is gold most quickly released?"

Student—"Marriage."

Scene, Library: Student picks up copy of Hearst's just arrived. Turns rapidly through the pages 'till he reaches the art section, then: "Wow! c'mere fellers! And then: "Hey there, get away from here with those scissors."

Williams, '17—"Got an answer for that bridge contract problem, Goldstine?"

Izzy, '17—"Yeah—$5,842.39. I think that price would be all right unless some guy loses a couple of rivets or something."

RAREBIT SECTION

IF YOU MUST PARTAKE, DO SO SPARINGLY

After a mad chase the escaped lunatic was carried back to his ward and the affairs of the asylum were resumed as before.

"Beats all," panted an attendant, "how the wheels of a large institution can be stopped by a loose nut."

"How did Teller get his cold?"

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