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WE ask our readers to take kindly to the fact that this number of The Technic is appearing as a double number at the time at which the January issue is due. The Technic for December was delayed so as to include an article by Mr. Roger M. Newbold, '97—"The Electric Lighting System for Four Wheel Drive Ordnance Trucks." Quartermaster Department and Ordnance Department censorship committees withheld the copy for this article until January 2, when it was released for publication pending certain changes by the author. Finally, upon receiving the copy and the accompanying War Department blue prints January 8, it was found that a further delay of at least ten days would be required to prepare the prints for reproduction. Consequently we have proceeded with other copy prepared for the emergency, reserving Mr. Newbold's article for publication in a subsequent issue. This issue of The Technic has been designated as the December-January number.

By enlarging upon the regular size of The Technic and making several departments possibly more attractive than usual, we have attempted to compensate at least in a measure for our failure to hold to the schedule.

At a recent meeting of the staff of The Technic, the vacancies left by the graduation of the members of the Class of 1918 were filled by election. The staff which assisted in the publication of this number and will assume charge with the next issue follows:

Editor-in-Chief Frederick M. Crapo, '19
Assistant Editor Arthur P. Woolfolk, '20
Alumni Arthur L. Ervin, '19
Reviews John C. Zimmerman, '19
Athletics H. Winton Streeter, '19
Junior Locals George M. Owens, '19
Sophomore Locals Walter L. Osmer, '20
Freshman Locals Edward R. Ronald, '21
Business Manager L. S. Stinson, '19
Asst. Business Manager George L. Brown, '20

The retiring editor takes this opportunity to thank the members of the staff and other contributors for their assistance in publishing The Technic during the last four issues.

Of vital importance and interest to every engineering student of military age or approaching it, is the engineering student exemption order of December 8, 1917, published in detail in this issue of The Technic.

Not only does the ruling close the long agitation for recognition by the War Department of the importance of conserving the supply of engineers; to ourselves, as students, it comes as the first positive assurance that an under-classman pursuing a course in engineering may obtain an exemption from draft—strictly on his
own merits—until he has completed his course, and that upon graduation he may present himself to the government for assignment to duties selected with due regard to his qualifications as an engineer.

The advantage of the ruling to the student is not in that it affords him an opportunity to evade the draft. The engineering-student exemption order will benefit only the scholar who promises to develop into an engineer, the exercise of whose technical ability will be of more use to his country than his services as a private in the ranks. It carries with it the assurance that the graduate who deserves to be considered a technically trained man will be given the opportunity to serve the nation in such a capacity.

The engineering-student exemption order, it is clear, puts a large responsibility upon the faculties of the technical schools. That their judgments are to be based solely upon scholastic records is of course out of the question. The present material in the engineering colleges of the country must be considered from a broader standpoint than that of scholastic achievements alone, for the requirements of the military engineer include qualities often not possessed by the “good student” or the “honor man.”

THE Board of Managers of the Institute recently acted favorably upon the petition of the Student Council that the salary of the Athletic Director be assumed by the Institute. Doubtless there are many of the student body who do not fully realize the significance of this action—particularly those who have not closely followed the financial affairs of the Athletic Association and other branches of student activities during the past year or two.

When Mr. Mefford was engaged as the Institute’s first Athletic Director two years ago, the arrangement was that he should receive compensation for his services from the Athletic Association. This plan was followed throughout the ensuing year, working considerable hardship on the finances of that organization. When a year later Mr. Gilbert was secured at a considerably higher figure, it was found necessary to increase the student fund, revising the allotment of the total so that the Athletic Association was apportioned the amount of the increase in addition to what it had been receiving under the former allotment. While credit must be given the student body for assuming this additional financial responsibility, a little more foresight at the time might have led to the adoption of a better plan for meeting the increasing expenses of the Athletic Association.

The first year of Athletic Director Gilbert’s administration has been one of big undertakings—and successful ones, for the most part. Nevertheless, a careful survey of the situation at the close of the year revealed that in spite of the increased allotment granted the Athletic Association and the financial assistance of three minstrel performances, with a winning football team, and under conditions generally more favorable than we may expect during the coming year, the standing of the association was more discouraging than ever. Expenditures of considerable sums for badly needed new equipment, heavy financial losses suffered in football games, notably the Thanksgiving game, together with the usual expenses of the Athletic Association had placed that organization in such a position financially that the salary of the Athletic Director for the coming year—the largest single item of expense—could not possibly be assumed under contract. With only three classes of students to contribute to the student fund during the second term, the members of the Student Council were unanimous in the opinion that not even a compromise in the way of sharing this expense with the Institute could better conditions, and the above mentioned petition was drawn up by a special committee for presentation to the Board of Managers.

Consequently, with the decision of the Board of Managers rested also the settlement of the question as to whether the Institute would continue to participate in inter-collegiate sports under capable supervision and coaching during the coming year, and THE TECHNIC rejoices that the board has acted favorably in the matter.

Relieved of this burden, the finances of the Athletic Association may be directed toward removing the debt which has constantly been assuming larger proportions during the past year. True, it may require several years to wipe out the deficit entirely, but we firmly believe that the standing of the association may be reasonably expected to show gradual but steady improvement from now on.

To the student who does not participate in athletics or who does not make the Varsity in any branch of sport, the action of the Board of Managers should appeal most strongly. Not
only does it mean that ultimately his student fund payments will be used in financing activities of his own time rather than toward removing a debt incurred a year or two before—or possibly even before his entrance into Rose. As the Athletic Association's indebtedness is gradually reduced, Director Gilbert plans to use the student fund allotment more and more for such affairs as "Pep Feasts," inter-class and inter-fraternity contests, and all other such events in which every student in Rose may participate if he wishes to avail himself of the opportunity. Then such remarks as "Four football games and a few basketball games—is that all I get for my nine dollars?" from the fellow who does not try out because he has "no chance to make the 'Varsity" will be answered with some satisfaction.

Summarized, then, the action of the Board was most important and well considered. The members are to be congratulated upon their attitude in recognizing the plight of the Athletic Association, which for two years has striven in vain to meet the exceptionally heavy expenses of that period with only the support of the student body.

In this issue we are publishing the Roll of Honor of Rose men in the service. It is our second attempt to compile a complete and correct list of Rose graduates, undergraduates and ex-students who have answered the call to the colors. The original list, which appeared in the October issue of THE TECHNIC, was hurriedly prepared and published without the verification of a large part of the information obtained in compiling it. Consequently the list was neither complete nor accurate, and since its publication we have received numerous additions and corrections from alumni, students or friends who have greatly assisted us in preparing the more authentic and complete Roll of Honor in this number.

This month we have followed the better policy of publishing only the information which we have been able to verify, or that obtained from sources considered strictly reliable. The list is still far from complete, and we would appreciate further assistance on the part of our readers in obtaining the names and complete addresses of all Rose men in the service. Communications should be addressed to the Alumni Editor.

It is to be hoped that Rose will be among the colleges of the country to establish the course in radio-telegraphy as outlined by the government. Such a course would be a decided advantage to those in Class I of the new draft law as well as to those in Class V, who intend to enter the Signal Corps upon graduation.

The course is to extend throughout one term of eighteen weeks' duration and will also be open to men not in the colleges, who have had two and one-half years' college work or its equivalent. It is understood that the Government will furnish all the apparatus required, excepting those instruments which are to be found in the physical laboratory of practically every institution. To have the course installed, a minimum number of ten applicants is required. The instructors are to be furnished by the colleges.

Upon completion of this training, the student may obtain a non-commissioned office in the Signal Corps of the Army, provided, of course, he can qualify physically for enlistment. The opportunity for advancement to a commissioned office is considered to be very good.

IT is the intention to publish the February issue of THE TECHNIC as a combination of the proposed Junior Number and the Thirty-fourth Annual Commencement Number. Part of the issue will contain a résumé of each of the principal addresses in addition to the program of the exercises, and the remainder, class pictures and as many as possible of the usual features of a yearbook. A committee from the Junior Class has been selected to assist in the publication of this number.

For our leading article of this issue, we are publishing in part "Military Engineering," an address delivered by Major-General William Black, Chief of Engineers, United States Army, on the occasion of the twenty-fifth meeting of the Society for the Promotion of Engineering Education at Washington, D. C., July 5, 1917.

Given apparently in an off-hand manner, "Military Engineering" is held by many prominent educators as one of the most important addresses of the war. In the extracts re-printed in this issue, Major-General Black gives his views as an experienced Army engineer upon topics of exceptional interest to engineering educators, graduates and students.
ONE of the questions that come up to all educators now is, which is the more necessary, continuing the school course, or going to the front? I want to tell you how we in the army think of that and what we think of it. It may possibly help you.

As you know, the first class at West Point was graduated in April of this year, two months early. That really did not lose them any of the course, because the time lost from the Academy would have been devoted mainly to review work, so they were able to go into the service and get their diplomas with practically the same training as if we had held them there to graduate in June instead of April.

Due to a dearth of officers in our service, it was concluded advisable to take the second classmen and put them through an intensive course so as to graduate them in August. That does not mean the loss of the entire year, for the reason that ordinarily at the military academy from the middle of June until the first of September the time is taken up entirely in practical outside exercises. They are now given some of them plus a lot of theoretical work. Then the question came up whether it would be advisable to limit the course at West Point to two or three years in order to provide the supply of officers necessary year by year. That was given extremely careful consideration in the War Department, considered first by the academic board at West Point and then afterwards referred to the various officials in the War Department, and practically all the graduates who were on duty there were consulted about the matter. After very careful consideration we came to the conclusion that inasmuch as the supply of officers that could be given by West Point is very small anyway, but a small drop in the bucket compared to the number we have to have, and further inasmuch as the advantage of West Point came from a finished product, formed by four years of severe labor and that that finished product had been, as it were, an example to the rest of the service, so that the man coming into the service from other sources had a sort of criterion to which to work in the way of military discipline, that it would be extremely inadvisable to lower that standard; that the good that would come to our country for the long future required that the four years' course should be kept up, and that men should not be graduated half educated, and although we are in a war of unprecedented magnitude when disciplined and trained men are urgently needed, we concluded to keep up the four years' course at West Point during this war, just as it was kept up during the Civil War, so as to provide the trained, finished product of the Academy for the army as the time went on.

I think that that need exists through all our educational institutions, that the trained technical man should be provided for the future. We all know that men who are eminent in their professions, who never had the advantage of that early training, will themselves be the first to tell you that they have felt the disadvantage. Our country is going to live long after this war. We hope and believe that our form of government is the permanent one of the world. Today it is the oldest government in the world that is settled and fixed—I was going to say with the exception of Japan, but after all the Shogun has gone from Japan, and our government, our form of government, has remained where others have gone. I do not recall a single government which in its present shape is as old as ours, and yet ours is called an experiment. But we believe, and believe truly, that this experiment is a successful one. If that be so, it must be carried on with the same quality of men, the same quality of brains, as we have had in the past. This cataclysm of war must not be allowed to disorganize our structure for all time, and one of the things we will need after the war, just as we have needed it before the war, just as we are needing it to-

So that I would think it a great mistake for the educational institutions of our country to shorten their courses or in any way to cease to provide this trained product, just as I think it a great mistake for our young men to leave these courses before they are trained, excepting those who may be strictly needed. We have enough men for our army without taking all the trained specialists, and particularly men in training and before they are trained specialists.

The engineers of our country responded most nobly to her call. The action taken by the engineering societies about a year ago has been productive of very great good, due to the fact that they were able to get incorporated in the law—I think it was in May of last year—a provision for the engineer officers' reserve corps. The engineer department was ahead of any other department in this preparation, in being ready to meet the call, excepting the Medical Department, which had also had the advantage of the same kind of reserve corps that we had. When we made our request of the engineers to come into active service, they came forward in numbers greater than we could actually handle. It is a mistake for a trained man to go into the ranks with a musket. It is a waste of good material. How many of us will be needed we do not know, but do not let us waste this wonderful material that we have by putting a man who is fitted to be a leader of men, fitted to do high service, to the performing of a service which does not require education or training, with the probability of his complete loss to the country.

So I think we can assure all our young men that the country, for the present, has a supply of young graduates, men who have completed their school training at least sufficient for our needs. The training camps are over-full. In our own corps we have received a great many more applications than we can possibly take care of. There are more men now commissioned in the reserve corps than we can place in the regiments we are forming, and that despite the fact that in the regiments that we will form for the National Army, as it is called—I do not know how large it is, but taking the first call of five hundred thousand men—we will not be able to give more than two regular officers to each regiment. That will be just enough to guide the others.

So I think it would be very advisable indeed for the educational institutions of our country, the schools of technical training, to keep right on with their work. If any young man feels it is his duty to go out, let him go. It may become the duty, the increasing duty, for more of us to go. But in the meantime, we can all of us serve by doing to our level best the duty that lies immediately before us, and be prepared for further calls when they shall come. So much for that subject.

I do not know that there is very much more that you want to hear from me. I want to tell you, however, one difficulty that we have had in filling our engineer corps itself. The number of graduates from the Military Academy has never been great enough to fill the ranks of officers of the regular service. I think the highest proportion of graduates we have ever had in the service at large was not over about forty-four per cent. Since the army has been increased, we are quite unable to get enough men from West Point to fill the ranks of our corps, so that about four or five years ago the provision was made in the law that each year we could obtain from the graduates of technical colleges in civil life a certain number of officers, enough to fill out. As a matter of fact, we never have been able to obtain them. The fault has not been at all with the difficulty of the examination. The fault has been partly with the schools, but mainly with the young men themselves. In civic life, a young man gets a diploma as a civil engineer, and goes right into the employ of some large company, and quickly finds his level. I do not suppose over ten per cent., or fifteen per cent., at the very outside, of all the graduate engineers of the country ever rise beyond subordinate positions; so that a college, a technical school, can freely give a diploma to a man who has answered a certain number of questions and studied a certain number of books, although, as one of the faculty of one of our foremost engineering colleges told me, they know they graduate a number of men who never will be engineers. No particular harm is done the country. The tragedy is good for them, but these men will not be advanced. In the corps of engineers, we are differently placed because, due to things we need not discuss here now, it is absolutely essential in the army that promotion shall go more or less by seniority, partly because of our own form of government. We in the army are very much afraid indeed of
having promotion made by selection. That sounds very curious. It sounds as though we were opposed to having a good man go forward. The trouble is, who will select them? In the past, selection has not been altogether happy. We found it better to take the men as they come along, especially if we can eliminate the men who are notoriously unfit, and in peace times we can get rid of them. The service is better off by letting men go up by age merely. There is less harm to the service.

In time of war it is different. In time of war, a man has a chance to show his mettle, and he may show such commanding preeminence that he must be advanced; but in times of peace, that can not be done. That being the case in the corps of engineers, you can see that each officer of the corps must be advanced through lower to higher duties until, when men come to the top of the corps, they have position and responsibilities which are held by but few men among the civil engineers of civil life. They have enormous responsibilities, and therefore we must be careful, in getting men into our corps, to get only, if possible, the kind of men who are capable of advancing to that position and who are capable of going to these higher responsibilities, because we can not hold them still as you do in civil life. So, out of a class at West Point, all taking practically the same course, we do not want and would not want at all, more than, at the very outside, perhaps one-fifth. We can not get as many as that. This last class that graduated had one hundred and forty members. Of that number we asked for twenty-three for the engineers, and we were a little bit uncertain whether some of them were the best.

From the technical schools, we want only the best. Unfortunately, except for the man who knows the army and who loves the service, there are no inducements for a good, bright, able young engineer to go into the army at all. It is nothing but genteel poverty from beginning to end. It is the scraping of each penny, squeezing it hard, in order to get through; and so these young men from the colleges find they can do better for themselves in civil life, and it is only once in a long time the young man who knows the service and knows the peculiar pleasure we have in being in it, the peculiar satisfaction that comes from living as we do, entirely for our work without anxiety for personal gain, who is willing to come to us, and the result is that I presume the great majority of the men who apply for examination are men whom you yourselves, if you were going to select associates, would probably reject. The result is they are rejected, and we get a very small proportion who pass.

I think that is one reason why we have been able to get so few men from civil life into our corps through these annual examinations. We want them, we need them. Today, as soon as all promotions for which there are vacancies are made, there will not be a single lieutenant in the corps of engineers; any man who gets a commission in the corps of engineers becomes a captain right at once. Of course, that is not as we would like to have it, but it only shows how difficult the situation is. We have just had an examination in June for which we have not yet heard the results. There were many applicants and we hope we can get a number of good men from them; but in looking over the questions and in looking over the answers, as I wish all of you gentlemen could do, I realized, as I think you would all realize, there is something wrong with the teaching. When a man can graduate at a technical school and work five years on railroad location and then can not make a little topographical map without any difficult features on it, he does not know topographical surveying very well.

Again, we have always in the Military Academy carefully paid a good deal of attention to descriptive geometry, and I find that is being dropped more and more from the ordinary courses. I think that is a great mistake, gentlemen. He is a very poor engineer and never will rise to a high position or do great things who can not visualize a problem before him, who can not see, before he has laid a stone or dug a single shovelful of earth, the completed work standing out. Is there any single study in the curricula of the schools which will aid that visualization as will descriptive geometry? So I would commend to you a little bit of thought about that, whether it is not wise to give a little more.
The Rose Technic.

Schools? West Point does not teach it concretely. The engineering course is quite short, but the mental training at West Point is very, very long, and very, very hard. West Point does teach those boys to concentrate themselves on whatever they have before them. It does teach them that the lesson of the day is the task of the day and the thing to be learned. It discourages very decidedly a man making side excursions into knowledge, no matter how important they may appear. The first thing it asks is, “here is a certain task you are put upon to perform. That is your duty. Have you done your duty?” That is drilled into cadets from the time they enter until the time they leave. That is one thing.

Then another thing: If you will examine that curriculum of West Point carefully, you will find that it gives to anyone who has apprehended it, who has learned it thoroughly, the tools that will open the gates of any profession, and has given him a mind after that training that enables him to use those tools, and then the mere acquisition of knowledge afterwards is a very simple thing. Are the educational institutions of our country taking that view? Are not some of them trying to cram a whole lot of facts, so-called practical work, into men without giving them what is much more essential, training; that training of the mind which will make it a machine capable of coping with anything, and with that devotion to duty, that idea of duty that makes the man feel that the thing that is put before him for the day is his task and no matter how alluring other things may be, no matter how unpleasant that task may be, how distasteful, yet that is the thing to be done and that must be done before anything else? I think those are the things West Point gives, and you know whether the other institutions follow.

In the engineer corps, it became necessary last year to change our policy. At first when we started to obtain men from civil life we were groping around to see what we could do and we restricted the application for entrance into the corps to graduates of a few of the better known institutions of learning. We did not get material from them, as I have told you. Out of twenty-five or thirty candidates, only two or three passed. I know that out of a class of five that entered a year and a half ago, we had to send two out. There are only three left. You see we give a man, when he comes in, what we term a provisional appointment, which is a most wise provision of law. After a candidate gets a second lieutenancy, he can go right on up, but yet with that provisional appointment during his first two years and if during that time he is found incapable of handling men, incapable of getting the full grasp of the situation—it is not only a question of the mental examination, but a question of the man himself—then he is allowed to depart—in peace. Last year, the policy was changed and candidates from practically all the schools of civil engineering of the country are admitted to the examinations. We want quality of man rather than quality of education, if the choice must be made.

Military engineering is one of the most simple things in the wide world, and it practically amounts to giving a man a lot of experience, so that if he is told to do a thing, he will take anything that is around there—it does not make any difference whether it is the conventional thing or not—and do it. That is all there is to military engineering. Of course, there is a science of fortification, and it is most interesting. There is a science of war. Take that question of the science of fortification, and trace it back through the early times, and you will see that it consists right along of certain fixed principles which were learned years and years—yes, centuries ago. As the weapons of war changed, and the missile weapons increased in power, the practice of fortification simply changed to meet the new conditions. The material was changed from wood to stone, and then to earth. You know they tried to go back to stone, but they had to give it up. Earth is the best.

So you can see a gradual growth all through, and it is a most interesting proposition. In the science of war, the principles have remained the same. The great soldiers of a thousand years ago should be the great leaders of today. It is simply the application of the principles that has changed slightly, not very much even in that. This war is being fought on three dimensions, where we had one before, and I am not sure they will not find the fourth before we get through with it. At any rate, there is nothing specially new. The missiles are the same, the means or instruments are the same—simply improved, and being improved, their application changed. So it is not so very difficult to learn to be a soldier, because after all, gentlemen, the profession of being a soldier or...
the fact of being a soldier is much more a mental and moral attribute than anything else—the willingness to subordinate one’s will absolutely to the will of the person placed in authority over him, and then the willingness to accept responsibilities within the sphere assigned to one for action. That is the main thing in being a soldier, but it takes a long time to get it, I can assure you.

I must say I know of nothing that would help you more as educators than to have military discipline with your work. I wish you could be at West Point and see the ease with which the instructors conduct a recitation. The young men march in there and take their places. The section leader reports all present, or as the case may be, and they seat themselves, and then they go up to the board, and the instructor has not anything at all to do except to find out what they know. The whole question of discipline, of keeping quiet or anything of that kind, is not present at all, and it is a mighty good thing for the boys as well.

On that question I would be glad to say something more. We have had a great many applications for officers to go to the schools, especially the engineering schools, for the purpose of instructing. Just at present, it is quite impossible for us to comply with those requests. The supply of officers is too limited. If this war continues, gentlemen, I am afraid there will be a very large supply coming back—it has been found so abroad—in men partly disabled. Just now we can do nothing. That applies to all our service because you want to get good men at these schools or you do not want anyone at all; but there will be a supply coming, we fear, from the front before very long. Then we will be able to do a little toward assisting in the education at these schools.

England sent, under stress of circumstances, her entire trained army into Belgium. Then England went to work with a volunteer army and drained off all her young men, and when she came to try to raise a further army, she had not officer material. So she adopted the policy, as did France, of taking the troops at the front, observing them carefully, and every man who was in the ranks who showed the intelligence and qualities of leadership necessary, was picked out and sent to a special training school and trained; so that men who do get in as conscripts, if they are the right kind of men, will not remain with a musket over their shoulder very long. We propose to do something of the same sort with our troops. We will use these training camps that we have now and will officer our first army from them. Probably that will be continued in a certain measure, but after that it is proposed that the large number of vacancies that will occur in the commissioned ranks of our army shall be filled from young men who have proved their worth in the very best of military science known—that of actual war.

On December 8, the Secretary of War ordered that the following paragraph be added by the Provost Marshal General to Section 151 of the Selective Service Regulations governing the draft:

"Under such regulations as the Chief of Engineers may prescribe, a proportion of the students, as named by the school faculty, pursuing an engineering course in one of the approved technical engineering schools listed in the War Department may enlist in the Enlisted Reserve Corps of the Engineer Department and thereafter, upon presentation by the registrant to his local Board of a certificate of enlistment, such certificate shall be filed with the Questionnaire and the registrant shall be placed in Class V on the ground that he is in the military service of the United States."

Following the issuance of this order, the Chief of Engineers established certain regulations limiting the exemption privilege to the candidate fulfilling the following conditions:

"(a) He must be a citizen of the United States."

"(b) He must be a student in one of the schools, the names of which are borne upon the list of technical schools approved by the Secretary of War for the purpose of carrying out Section 5 of the River and Harbor Act approved February 27, 1911, relating to appointments from civil life to the grade of second lieutenant in the Corps of Engineers."

"(c) He must be regularly enrolled and must be pursuing a course required for the degree of Chemical Engineer, Civil Engineer, Electrical Engineer, Mechanical Engineer, or some other equivalent Engineering or technical degree."

"(d) He must have made since his entry upon this course at the school a record of standing which will indicate clearly that he may be regarded fairly as deserving a place among the first third, based primarily on the scholastic records, of the young men who have graduated from that institution during the past ten years."
Each candidate for enlistment must submit an application made out in his own handwriting. Copies of this blank may be procured in the office of Doctor Mees. The application is brief, containing only such questions to be answered by the applicant as are necessary for general information or for the War Department records.

Each application must be accompanied by a certificate from the president of the school, properly attested, in the following form:

“I hereby certify that ....................................................

is a regular student, in good standing at .................................................................

.................................................... and is pursuing the ............. year of the course, in

and is a candidate for the degree of ....................................................

“I further certify that in the judgment of the faculty of this institution, as indicated by the academic records, supplemented by his relations with his fellow students and by observation of his instructors, he may be regarded as fairly deserving a place, qualitatively, among the first third of the young men who have graduated from this institution during the past ten years.”

Further instructions regarding applications for enlistment in this branch of the Enlisted Reserve Corps follow:

6. In order to receive prompt consideration, applications from candidates now at college, and who are over 21 years of age, should be submitted so as to reach the office of the Chief of Engineers in Washington not later than January 15th. The application from a person who has not reached this age at the present time must be submitted within three months before or one month after he reaches the age of 21.

7. As rapidly as possible after the receipt of the applications in the Office of the Chief of Engineers, they will be carefully examined, and the candidates whose applications are approved will promptly be sent cards of authorization, authorizing them to be enlisted in the Engineer Enlisted Reserve Corps by an officer authorized to make enlistments in the Army, provided, of course, that they pass the necessary physical examination which will be made under the direction of the enlisting officer immediately prior to enlistment.

8. When thus enlisted the student’s name will be placed on the ‘inactive list’ of the Engineer Enlisted Reserve Corps, and he will be allowed to remain on this inactive list in order to enable him to complete his course at the institution.

9. Immediately after the completion of his course, or upon his discontinuance of the course for other reasons, the student will be given the option of being called into active service under his enlistment and being assigned to some one of the Engineering branches of the Army, or of being immediately discharged and taking his place again among those subject to service under the draft.”

Under the above regulation of the Provost Marshal General, selected students are to be permitted to complete their courses in engineering as exempts, as though they were in the military service of the United States. However, they will not be dressed in uniform, nor will they receive salaries as members of the United States military forces. As stated in the order, the students become members of the Enlisted Reserve Corps of the Engineer Department, and as such are subject to immediate call at any time. Upon graduation, they are to be given the option of being called into active service immediately under their enlistment, or of taking their places among those subject to the call of the draft. It is probable, however, that a number of the graduates will be permitted to enter civilian engineering work necessary for the conduct of the war. All engineering students not included within the groups selected by the faculties of the institutions are subject to the regular provisions of the draft law.

The exemption as first projected was intended to apply to a flat one-third of all engineering students of draft age—that is, the first third to be selected by straight scholastic grading. However, this arrangement met with some disapproval on the part of technical educators, who pointed out that in the first place, as most engineering schools are conducted, it is very difficult to determine a fixed percentage grading of students, because in many schools such a system of marking is not used. Furthermore, it was brought out that the constant reduction in the size of the upper classes in the technical schools would very soon lead to the inclusion within the first one-third of any one class of a number of decidedly poor engineering students—those who are intended to be excluded from exemption by the provisions of the order.

That part of the Chief of Engineers’ ruling calling for the certificates attested by the presidents or heads of the engineering colleges was added to meet this contention. Under this ruling, the faculty of each institution will refer to their records for the past ten years in an endeavor to establish, primarily on the basis of scholastic markings and also future professional performance, the grading above which would be classed one-third of the graduates of the school during that period. It is evident that this may include considerably more than one-third of the present number of students, particularly if a substantial percentage of the students who have already left the college are of the lower class as far as their marks and scholastic achievements are concerned.
On the other hand, it is possible—though not probable, in the opinion of the Chief of Engineers—that this system of determination may include in the draft exempts a smaller numerical percentage than one-third. It remains to those students now in the engineering colleges to put themselves in the first third, entirely through their own scholastic performances or qualifications as future engineers of ability.

The Chief of Engineers has included in his list of schools every engineering college in the United States giving a degree at the end of at least a four years' course. However, it rests within his power to exclude any school whose exempt students apparently fail to measure up to a proper standard. It is understood that a careful watch will be kept upon the exemption methods pursued by the faculties of the various institutions. The Chief of Engineers will be able to keep control of the management of the exemptions either by warning or by excluding the college from the list of accredited schools.

OPPORTUNITY FOR ENLISTMENT IN AVIATION SECTION.

While voluntary enlistments generally ceased for all branches of the Army December 15, this ruling does not apply with reference to those of draft age who make application for the Aviation Section in the "Pilot" and "Balloon" Divisions. In a letter to President Mees, Captain J. S. Reeves, A. S., S. O. R. C., points out certain facts regarding the service at present, in order to dispel certain misinformation as to the status of registrants within draft age and their eligibility for this service:

"Practically all of the available material for these branches is to be found among those of draft age, and as we require them to have a college education or its equivalent, it means that we must look to the colleges in order to raise the army of air-men necessary for the purpose of winning the war.

"Largely, doubtless, through a misconception, young men have enlisted in other branches of the service, thinking that the Aviation Section was closed. Others have not made application, thinking that the general rule applied to the Aviation Section. I should be greatly obliged if you would bring this matter before the attention of your student body, assuring them that if they are otherwise qualified and can pass the examination physically, they can be enlisted at once as First Class Privates in the Signal Enlisted Reserve Corps, being then upon waiting orders until they are called to the training school. When called to the training school their pay begins, at the rate of $100 per month, and upon conclusion of the course of training, say from three months to six, they are commissioned as Second Lieutenants, Aviation Section, Signal Officers Reserve Corps."

Further instructions governing applications for this branch of the service may be obtained in the office of Doctor Mees.

The recent completion of the Catskill water supply system for the city of New York was celebrated at a meeting November 14 in New York City under the auspices of the United Engineering Society.

In this great engineering achievement the water is carried by means of aqueducts and tunnels 120 miles from the Catskill mountains to New York. One of the most difficult engineering problems in connection with the work was the crossing of the Hudson River, accomplished through a tunnel 1,200 feet below the surface of the river. It is of remarkable interest to note that this work was completed over a year before the estimated time of completion, or in less than nine years instead of ten years, and also that the cost was below that estimated, the total cost having been $140,000,- 000, or $7,000,000 less than the original estimates.

GERMANY'S ABUSE OF THE "S. O. S." CALL.

In line with the stories told from time to time relating to Germany's violations of the rules of civilized warfare is the charge made by the survivors of the Norwegian ship Benguela. A German under-sea boat captured the Benguela, and for sixteen days used her as a decoy by sending out "S. O. S." signals. The vessels which came in response to the call were promptly sunk by the U-boat.—The Wireless Age.
The following is from a letter written by Captain W. G. Arn, 13th Engineers (Railway), now in France, to his former college classmate, A. G. Shaver, consulting engineer, Chicago. Captain Arn was formerly assistant engineer, maintenance of way, of the Illinois Central R. R. The letter, from which the more personal paragraphs are omitted, passed the French censor October 22, and was received in Chicago, November 14:

In France—Somewhere, Oct. 21, 1917.

"It is not lack of paper, but lack of time that has kept me from writing to my friends. I do not have time to study French half as much as I would like to. I have sent you one paper with an article about our regiment; this should be better than a letter, as it is better than I can write. It was written by Congressman Medill McCormick, after a visit he paid us in company with Captain de la Ferronay, of the French chamber of deputies, Gouverneur Morris, the short story writer (with Collier's Weekly), and Junius Wood, correspondent of the Chicago Daily News.

"I have had several interesting trips, details of which the censorship does not permit writing. We have met Captain Thenault, Lieutenant Thaw, and several of the men of the Lafayette (American) escadrille, including McMonigal, the latest one to be killed. Our regiment is part of the French army, so we are separated from all the American army and from the American railway regiments, who are with the British army. We are the only American regiment so fortunate as to be thus honored. We operate our line under the absolute block (telephone) system without train dispatchers. Each agent is the dispatcher (have day and night agents), for his station, and each conductor carries the 'train sheet' for his train, it being filled out at each station by the operator as the train passes by.

"Have seen several battles between aeroplanes, and in one case was fortunate enough to see the German plane with its pilot and machine gunner come tumbling to earth like a wounded duck. The pilot had been killed by machine gun bullets, and the gunner was killed by the fall.

"The American railway troops back of the front to be taken over by American troops will have to build some line, but only a limited amount compared with the total they will operate. Mr. Atterbury, vice-president of the Pennsylvania Railroad, is at the head of the railway lines which are to handle American troops and supplies.

"We were attacked by a submarine and had quite a cannon battle, but it did not get near enough to fire any torpedoes. No damage was done to either vessel. Captains Hagelbarger and Fatherson send regards. Remember me to all my friends that you see."

The Chicago evening papers of November 15, contained an interview with Congressman McCormick, mentioned in Captain Arn's letter, and who has just returned from France. He stated that the most enjoyable experience of his trip was the evening spent in company with the men of the 13th, particularly mentioning Captain Arn.—Railway Review, Nov. 17.

Captain Arn and Mr. Shaver are Rose graduates of the Class of '97.
ALUMNI NOTES.

James A. Shepard, '10, formerly manager of the Deming Ice and Electric Co., Deming, N. M., is now located at Bisbee, Ariz., as manager of the Bisbee Naco Water Company.

Lieutenant Edward J. Ducey, '11, and Miss Eula Lee Bishop were married in Washington, D. C., on November 28th.

C. F. Harris, '14, who has been with the Engineering Department of the Cutler-Hammer Manufacturing Co. at Milwaukee, has been transferred to the Sales Department of that company in New York City.

Wayne C. Woodling, '18, and Miss Mary Grigson, of Logansport, were married on the evening of December Twenty-fourth.

Paul J. Grafe, '18, was married to Miss Helen Thickstun, of Terre Haute, on Tuesday, December 12th.

E. O. Poggensee, '14, has resigned his connection with the Commercial Acid Co., of East St. Louis, Ill., and has accepted a position as Assistant Superintendent of the Union Match Co., Duluth, Minn.

A. W. Worthington, '06, until recently erecting engineer for the H. Koppers Co., of Pittsburgh, Pa., is now construction engineer for the B. F. Goodrich Co., Akron, Ohio.

INDIANAPOLIS TECH CLUB NOTES.

The first meeting of the year was held on Friday, November 16, at the Chamber of Commerce Building. We were fortunate enough to have Dr. Mees with us, and to be enlightened of a goodly number of the current happenings at the Institute through his very interesting talk. We are indeed very grateful to Doctor Mees for giving us his time and energy on such occasions as these.


The election of officers resulted in the present "gang" using the steam roller and being re-elected, namely, H. A. Schwartz, President; W. H. Insley, Vice-President, and W. B. Shook, Secretary-Treasurer. It is rumored that Schwartz is already seeking a third term.

Quite a bit of "pep" was aroused over the arrangements for attending the Rose-Butler football game. Everyone pledged himself for two or more tickets, and they were all taken. It is needless to state that it was some game. We take off our hats to the I. C. A. L. champions!

Wilbur D. Shook, '11, Secretary-Treasurer.

It is mentioned in a French contemporary that the machine works of Fonderie des Gobelins, in Paris, have recently substituted stellite for high-speed steel for use in turning shells. By the use of stellite, a daily production of 120 six-inch shells was increased to 200. With high-speed steel, twenty minutes was consumed in taking a rough cut at a speed of 60 feet; for finishing, the same speed was used. With stellite, the roughing speed was increased to 85 feet, and the finishing speed to 125 feet per minute. For completely finishing 1,000 six-inch shells, the cost of stellite was found to be six cents per shell.—Machinery.

A recent announcement by the Quarter-master General runs to the effect that the decision to send the 30,000 war trucks from Detroit to the Atlantic seaboard under their own power will release some 15,000 freight cars in addition to moving 90,000 tons of war material.

Of the 18,293,000 people now supplied with filtered water in the United States, 74 per cent., or 13,411,000, are supplied from 682 rapid sand filters, the remaining 26 per cent., or 4,882,000 people, being served from 54 slow sand filters.—The Engineer.
THE ROLL OF HONOR
ROSE MEN IN THE SERVICE

STUDENTS

ALLEN, LEROY, '18
Certified in Draft.*

BRUNING, WILLIAM H., '19
Corporal, Battery A, 150th Field Artillery, 67th Brigade, 42nd Division, American Expeditionary Forces, France.

COMBS, BERT L., '18
Third Officers' Training Camp, Camp Morse, Leon Springs, Texas.

CORTLEYOU, CHESTER H., '18
Private, Mechanical Division, Aviation Corps, Jefferson Barracks, St. Louis, Mo.

GRAFE, P. J., '18
Private, Engineer Corps, on way to France.

GEIGER, CARL E., '18
Private, Co. D, 336th Infantry, Camp Taylor, Ky

HECK, HERMAN H., '20

HENRY, DAVID B., '18
Certified in Draft.

HOWARD, DANIEL M., '18
Camp Taylor, Ky.

JONES, R. P., '20
Private, 64th Aero Squadron, Newport News, Va.

PRICE, RALPH E., '18
Private, Battery D, 324th Field Artillery, Camp Sherman, Ohio.

OWEN, R. J., '19
Co. I, 334th Infantry, Camp Taylor, Ky.

SMITH, GEORGE L., '20
Camp Taylor, Ky.

SPRENGER, FRED W., '18
Co. G, 3d Batt., 159th Depot Brigade, Camp Taylor, Ky.

THIRY, K. PAUL, '19
Third Officers' Training Camp, Camp Lee, Petersburg, Va.

WAGGONER, R. M., '20
Private, Medical Corps, Jefferson Barracks, Mo.

WAGNER, WILLYS P., '20
Private, Hospital Corps, Jefferson Barracks, St. Louis, Mo.

WOODLING, W. C., '18
Certified in Draft.**

GRADUATES

ANDERSON, GEORGE L., '16
2nd Lieutenant, Field Artillery, O. R. C.

ANDREWS, CARL B., '08
Captain, E. O. R. C.

ARN, WILLIAM G., '97
Captain-Adjutant, 13th Regiment Engineers, 1st Battalion, American Expeditionary Forces, France.

ARNOLD, ARTHUR T., '15
2nd Lieutenant, School of Military Aeronautics, Cornell University, Ithaca, N. Y.

BEAUCHAMP, J. MERCER, '13

* Granted furlough until December 1, 1917.
** Granted furlough until January 1, 1918.
Brauns, E. Dwight, '15
2d Lieutenant, Aviation Corps, Mineola, L. I.

Brennan, Albert F., '13
1st Lieutenant, 342nd Field Artillery, Camp Funston, Kansas.

Brennan, Edward M., '09
1st Lieutenant, 309th Regiment Engineers, Camp Taylor, Ky.

Bringman, Frederick W., '14
1st Lieutenant, Artillery.

Brooks, George W., '16
Meteorological Branch, Signal Corps, Washington, D. C.

Buckley, Edmund T., '09
1st Lieutenant, Caterpillar Track Division, France.

Burns, Ruel C., '13
Cadet, Call Aviation Field, Wichita Falls, Texas.

Carlisle, Clarence F., '16
Private, Bureau of Mines, America University Experiment Station, Washington, D. C.

Cox, Warren R., '14
Red Cross Field Ambulance, care of American Express Co., 11 Rue Scribe, Paris, France.

Curry, Glen M., '09
Captain, Coast Artillery, Fort Screver, Savannah, Ga.

Drake, T. E(8., '15
Certified in Draft.

Ducey, Edward J., '11
1st Lieutenant, Engineering Corps.

Dudleston, Charles S., '15
1st Lieutenant, Aviation Corps, Gerster Field, Lake Charles, La.

Dunn, T. Edward, '15
Assistant Chief Instructor, Motor Transport School, Wilbur Wright Field, Fairfield, Ohio.

Finkelstein, Samuel, '15
2nd Lieutenant, E. O. R. C.

Finley, Ralph E., '16
2nd Lieutenant, Co. E, 113th Regiment Engineers, 3th Division, Camp Shelby, Miss.

Ford, W. Ellis, '98
Captain, E. O. R. C., Camp Pike, Little Rock, Ark.

Galloway, John D., '00
Major, E. O. R. C. (Now in France).

Gillum, Joseph S., '15

Goldman, Harry S., '14
2nd Lieutenant, Searchlight Detachment, Washington Barracks, Washington, D. C.

Goodman, Leon, '05
Captain, 106th Regiment Engineers, Camp Cody, Deming, N. M.

Grammer, L. Earl, '09
2nd Lieutenant, 341st Field Artillery, Camp Funston, Kans.

Gray, Chesleigh, '13
1st Lieutenant, Air Service, Signal Corps, Construction Dept., Garden City, L. I.

Hamilton, Paul B., '08
Hospital Corps, Ft. Riley.

Hansen, Arthur C., '14
1st Lieutenant, 1st Regiment Engineers, American Expeditionary Forces, France.

Hatch, Fred N., '06
R. O. C.

Hickman, Raymond N., '11
Paymaster, U. S. N.

Holden, George W., '17
Sergeant, Ordnance Dept., Washington, D. C.

Howe, Homer A., '15
1st Lieutenant, Ordnance Dept., Watertown Arsenal, Watertown, Mass.

Hughes, Earl E., '13
Private, 11th Training Co., 3rd Brigade, 161st Depot Brigade, Camp Grant, Ill.

Hunley, E. Bradford, '08
Company 1, 316th Regiment Engineers, Camp Lewis, Washington.

Kelso, Byron L., '08
Captain, Camp Taylor, Ky.

Korenfeld, Frederick H., '11
Lieutenant, Engineers U. S. R. Camp Beauregard, La.

Lancet, Kenneth E., '14
Sergeant, Engineering Corps, Camp Taylor, Ky.
LAWLER, JOHN M., '12
1st Lieutenant, 1st Regiment U. S. Engineers, American Expeditionary Forces, France.

LEE, THOMAS L., '09

LEFEBRE, CHARLES C., '14
Third O. T. C., Camp Grant, Ill.

LYON, CLAUDE A., '14
2d Lieutenant, E. O. R. C.

MAYROSE, HERMAN E., '15
Corporal, Company H, 129th Infantry, Camp Logan, Texas.

MCKEE, LOREN T., '11
1st Lieutenant, 3rd Division Ammunition Trains, Fort Oglethorpe, Ga.

MINER, ERWIN J., '07
2nd Lieutenant, 143d Regiment Engineers, Camp Dodge, Iowa.

MONTGOMERY, JOHN T., '98
Captain, Engineers' U. S. R., Replacement Troops, Fort Leavenworth, Kansas.

MOORE, JAMES G., '14
Battery E, 136th Field Artillery, Fort Sheridan, Ill.

O'BRIEN, BERNARD, '09
Lieutenant. (J. G.) U. S. N. R. F.

OGLESBY, MILTON L., '93
Brooklyn Navy Yard, Brooklyn, N. Y.

REAGAN, OLIVER E., '12
2nd Lieutenant, Aviation Corps. Construction Dept., Garden City Aviation Concentration Camp, Garden City, L. I.

REDDIE, WILLIAM W., '12

REISS, FREDERICK H., '08
2nd Lieutenant, Field Artillery.

REYNOLDS, O. FRANK, '05
O. R. C.

ROBBINS, JOHN F., '08

ROBINSON, GOLDSBOROUGH, '18
2nd Lieutenant, Signal Corps.

ROCK, SAMUEL M., '92
1st Lieutenant, Coast Guard, U. S. N.

ROGERS, FRANK A., '14
Camp Taylor, Ky.

SCHOFIELD, ALONZO D., '07
1st Lieutenant, C. R. R. C., France.

SCHOONOVER, JAMES M., '14
1st Lieutenant, 310th Field Signal Battalion, Camp Custer, Mich.

SCHOPMEYER, GEORGE E., '14
447th Depot Detachment, Base Headquarters, American Expeditionary Forces, France.

SCOTT, JOHN T., '14
2nd Lieutenant, 335th Infantry, Camp Taylor, Ky.

SERVICE, JERRY H., '12
Instructor, School of Military Aeronautics, Ohio State University, Columbus, Ohio.

SHAW, HENRY E., '10
1st Lieutenant, 332nd Field Artillery, Camp Grant, Ill.

SHELDON, J. ERNEST, '15
Sergeant, 309th Ammunition Train, Camp Taylor, Ky.

SMITH, HERBERT A., '14
Camp Taylor, Ky.

SMITH, RICHARD L., '09
Captain, Artillery.

SMITH, ROWLAND M., '15
2nd Lieutenant Aviation Corps.

SMOCK, H. EUGENE, '16
School of Military Aeronautics, Georgia Institute of Technology, Atlanta, Ga.

STOLZ, ROSEO R., '16
2nd Lieutenant, E. O. R. C.

STOKES, MARVIN W., '14
1st Sergeant, Quartermaster Dept., Camp Merritt Ice Plant Co. 301.

STRECKER, ROBERT A.
Captain, 309th Regiment Engineers, Camp Taylor, Ky.
THE ROSE TECHNIC.

TEMPLETON, CHAS. N., '13
1st Lieutenant, Engineering Corps.

TEMPLETON, ROBERT J., '14
1st Lieutenant, Engineers, U. S. R., Washington, D. C.

TILLEY, JAMES M., '11
2nd Lieutenant, Field Artillery.

TILLEY, MILTON, '17
School of Military Aeronautics, Ohio State University, Columbus, Ohio.

TRIMBLE, RAY, '16
Ward H, Medical Corps, U. S. Naval Training Station, Portsmouth, Va.

WALLACE, HUGH E., '15
Private, Aviation Corps, Jefferson Barracks, Mo.

WEINHARDT, ROBERT A., '16
1st Lieutenant, Aviation Corps, Kelly's Field No. 1, San Antonio, Texas.

WENTE, WALTER C., '17
Sergeant, Field Hospital 329, Sanitary Train 308, Camp Sherman, Ohio.

WILLIAMS, CHESTER A., '17
2nd Lieutenant, Field Artillery, 311th Ammunition Train, Co. B., Motor Section, Camp Grant, Ill.

NON-GRADUATES

ABBETT, EDWARD B., '10
Captain, Artillery.

ADAMS, STANLEY, '08
Corporal, Coast Artillery.

BUCK, RALPH P., '18
Landsman's Quartermaster Dept., U. S. Navy, Pensacola, Fla.

CHARMAN, HOWARD C., '15
1st Lieutenant, Infantry.

DUNCAN, JOHN M., '08
2nd Lieutenant, Field Artillery.

EWENS, EDWIN, '19
2nd Lieutenant, Coast Artillery.

GOODMAN, EDWIN R., '17
1st Lieutenant, Infantry, O. R. C.

KURFEES, LELAND S., '20
Camp Shelby, Miss.

LAMMERS, R. EARL, '14
Sergeant, 1st Truck Co., 309th Ammunition Train, Camp Taylor, Ky.

MERING, FRED W., '20
U. S. S. Smith, care Postmaster, New York City.

MILLER, IVAN C., '18
Aviation Corps, Ellington Field, Olcott, Texas.

OFFUTT, R. KEITH, '17
1st Lieutenant, Machine Gun Company, 152nd Infantry, Camp Shelby, Miss.

PETRI, J. STANLEY, '19
Camp Shelby, Miss.

PUCKETT, EDMUND L., '11
Aviation Corps.

REESE, JOSEPH, '19
Machine Gun Co., 33rd Infantry, Camp Taylor, Ky.

REYNOLDS, MYRON B., '04
Captain, 305th Regiment Engineers, Camp Lee, Petersburg, Va.

ROHM, ARTHUR, '13
1st Lieutenant, 340th Field Artillery, Trench Motor Battery, Camp Funston, Kans.

SCOTT, RICHARD, '18

SCOVELL, ROBERT J., '08
Captain

SMITH, CHESTER C., '18
Sergeant, Medical Corps, Fort Riley, Kans.

SNEAD, J. MILVIN, '08
Captain.

STEIG, ERNEST R., '16
2nd Lieutenant, Co. L, 343rd Infantry, 84th Division, Camp Grant, Ill.

STONE, GEO. M., '02
Captain

THOMAS, HERBERT C., '09
First Lieutenant.
PROGRESS IN CONCRETE SHIPBUILDING.

Following the predictions of the foremost European and American marine engineers and naval architects, rapid strides are being made in the development of the reinforced-concrete ship. Quoting a writer in *Sea Power*, December:

"Investigation discloses the fact that concrete boats are neither novel nor impracticable. Concrete has not heretofore been used extensively for ocean-going vessels, but salt water vessels of various kinds have been built of concrete successfully, and the necessity of the times has forced its adaptation to the building of transatlantic vessels, both here and abroad.

"In this matter, Norway has been a pioneer. There the building of ocean-going vessels of concrete has been going on for some time; several have been launched and are now in service. They are now building vessels of this type for Sweden and England, as well as for themselves.

"On our continent a visible evidence of this type of construction is found at Montreal, where a concrete ship of regular lines is to be launched shortly. Similar construction is now under way at San Francisco. Plans for other plants have been drawn, the money provided and their building under way."

In the December 13 issue of the *Engineering News-Record* appears an interesting description of the *Namsenfjord*, a concrete vessel of 350 tons capacity recently launched at Moss, Norway, and now in service for Norwegian coastal traffic. The vessel has received Class A-1 rating from Lloyd’s, and is reported to be remarkably stable and steady. The performances of *Namsenfjord* are being closely watched by marine experts, as its construction involves numerous features of design which are now being employed in ships of considerably larger proportions and tonnage now in the process of building. The Fougner Steelconcrete Shipbuilding Co., designers and builders of the *Namsenfjord*, now have on their ways power-contract, awaiting the approval of the Norwegian Government, a 4,000 ton freighter.
UNDER circumstances anything but favorable, Tech's soloists, blackface artists and "Jazz" specialists engineered their second annual Minstrel Show before two fairly large audiences at the Grand Opera House, December Thirteenth and Fourteenth. With less than two weeks' time for rehearsals and preparation, Director Pritchett, the Minstrel Show Committee and the cast worked up a production that may well be considered a success—from the financial as well as the musical and theatrical standpoint. The patronage and support afforded by the alumni, student body and other Rose boosters in the city was certainly encouraging, though probably not quite up to the hopes and expectations of the committee.

Preparations for the "Turkey Day Grid Tussle" (Tribune) and other student activities kept every Rose man busy until after the Thanksgiving holidays, but the hopeful songsters, jigsters and "Jazzers"—real talent, with the "pep" that has marked all of Tech's activities this term—began work in earnest after the grand finale of the football season. The Red Cross Minstrels, given under the direction of Mr. Pritchett late in November, had enjoyed first choice of this season's "rag" classics, as well as the first slice of town talent patronage, but the Engineers merely took these handicaps as "pep" instillers. With three student teams to dispose of tickets, the committee had gone about the financial end of the Minstrels in business-like order. Grafe, Barnes and Zimmerman captained the teams composed of Manson, Heedwohl, Steffen, Hill, Wallace, Whitcomb Moore, Bryan, Werner, Cromwell, Woodruff, Chester Wagner, Long, Fred Owens, Tilley, Stoner, Gray and Burns. Fred Crapo acted as chairman of the campaign and Mr. Max Hammel, '01, headed the alumni committee.

In justice to these workers it must be said that their efforts and success in this end of Tech's Minstrels has not been fully appreciated. To these men—and the committee—we owe the financial success of the undertaking.

Two days before the date of the first performance, Director Pritchett lost two of his most promising stage satellites, Grafe and Douthitt, both end men. "P. J." sacrificed a brilliant future before the footlights to join the ranks of the two greatest organizations in the world—the Benedicts and the United States Army—while "Douth" left school to enlist in the latter organization only. To Pritchett the news of this loss must have been about as pleasant as that of Chicago's purchase of Alexander and Killifer to a Philadelphia ball fan. "Chick" Springer and "The Vincennes Wonder" (he deserves it)—Mr. George B. Henry—were engaged as eleventh-hour men. Too much credit cannot be given "Chick" and "Seed" for their services in the "pinch." They were substitutes—but they were the stars.

Affairs were probably just a little "rocky" when the curtain rose Thursday evening with Woodruff—"the sweet singer from Louisville" (Mique O’Brien, Tribune)—featuring "The Boy in the Uniform." The opening number was written by Wm. K. Hamilton and Leo Baxter, of Terre Haute. The hoisting of the front drop revealed the crack Rose Poly regimental chorus in uniform (uniforms by Lamb Mfg. Co.—Adv.). The waving of flags with the music—for the most part—added to the militarism of Pritchett's talented assemblage. Interlocutor Leslie J. Heedwohl introduced "Dick" Gillum, balladist, who sang "Bluebird" in creditable style. "Bob" Tilley and "Chick" Springer blackfaced as the "ex-treme" ends, and both performed as veterans might be expected. Tilley's number was "Huckleberry Finn," and "Chick" sang "Mother, Dixie and You." Mr. Interlocutor, arising and pointing
to his right, introduced balladist Fred Crapo, whereupon “Fritz” arose—decidedly to the left of Mr. Interlocutor. Crapo’s singing of “You and I” proved beyond doubt that he had not resented the insult.

“Seed” Henry and “Chuck” Connelly relieved Tilley and Springer on the far-corner chairs, and following this change in the staff of Major Heedwohl, Connelly entertained by singing the “Beale Street Blues.” Steffen continued activities in the musical line with “Calling Me Back to You.” “Seed” then came in for his turn, and to say that his work “got over” well doesn’t do the Vincennes representative justice. Curiously enough, the two “pinch” men were the class of the end performers, but this is not to be taken to the discredit of the other blackfaced jokesmiths. “Seed’s” execution of “Down South” and his comical finger pantomine make him the top-notcher of the end men.

Woodruff—again the star of the balladists—ended the solo singing of the first act with “Love Bird,” and the act closed with the entire company singing “So Long Sammy.”

Intervals of the typical Minstrel Show jokes—many of them at the expense of helpless Faculty members—bolstered up the first act, while the “dummy” ends afforded no little amusement at both performances. Wiedemann, Froeb and Engelhard as one trio “tore loose” in great style, kicking holes in the atmosphere and handling the “tamboos” like professionals. Pence, Justus and Sliger on the opposite end evidently had certain misgivings regarding the seams of their uniforms (and by the way, “Gil” wants to know where those uniforms are!) The two trios in action closely resembled Detroit University versus Tech in football.


Variety featured the second act, which opened with the Ewart Brothers in novelty singing and dancing. In “A Little Jazz” the audience was treated to the best instrumental music produced by Tech talent in years. Hill’s directing and “Jazz” work on the violin and the accompanying of Brown were especially creditable. Others who assisted in the generating of the Jazz were Wildermuth, ’18, violin; Thompson, cornet; Rosenbaum, ’21, Greenbaum, ’21, Moore, ’20 and Foulkes, ’21, banjo-mandolins; Howard, ’18, clarinet; Bierbaum, ’20, trombone, and Phillips, ’20, drums.

The “Rose Poly Four”—Morgan, Pickett, Jones and Morgan (none of whom go to Rose Poly)—offered quartet and solo music which was well received by the audience, though probably with less interest than that manifested in Tech student efforts.

“A Salute to the Colors” again featured “The Major’s” army. The performance closed with Woodruff’s singing “The Star Spangled Banner,” followed by the entire company’s singing the patriotic anthem for the grand finale.

The Friday evening performance was a decided improvement over Thursday’s production, but Mr. Manager evidently decided to guarantee his show some enthusiastic applause on the second night by admitting the Post carriers to Tech’s usual stronghold—the “Roost”—on free tickets.

Claude M. Gray, ’20, Fred M. Crapo, ’19, Joe Engelhard, ’20, Arthur Rosenbaum, ’21, P. J. Grafe, ’18, George M. Owens, ’19, and Coach Gilbert composed the Minstrel Show Committee. Gray, as Chairman, handled the financial affairs of the production, Crapo acted as property manager and Grafe had charge of the advertising.

At this writing it is estimated that approximately $225.00 was netted in staging this year’s show. Seventy-five per cent of this amount will be turned over to the Athletic Association, and the remainder to THE TECHNIC. While the profits fell considerably short of the amount which the committee had hoped to realize, there is nothing about the student management of the production which can be criticized. Coach Gilbert was unable to be present when his services were most needed, and his ability to cut down the unnecessary expenses incurred in producing the show was certainly missed. However, the satisfying success with which this year’s Minstrels met represents the hardest kind of work upon the part of the committee, cast, and student teams—much of it thankless labor for which the “live wires” deserve the appreciation of the entire student body.
SPECIAL STUDENT COUNCIL MEETING. Nov. 13, 1917.

Called to order at 8:10 P. M., at Theta Xi House by President Long.

Orr absent. Engelhard present for Gray; Falls for Robinson.

Minutes of previous meeting read and approved.

Skinner reported that Freshman green caps had not arrived.

Moved by Bergmann, seconded by Wiedemann, that Long be permitted to advance Mr. Gilbert $175.00 toward the Athletic budget. Carried.

Moved by Crapo, seconded by Engelhard, that the Thanksgiving Day football game be played at the Baseball Park, and that Rose students be charged 50c for general admission with a grand-stand reservation, while all others be charged 30c for general admission, 25c for grand-stand reservation, and $1.00 for auto reservation. Unanimously carried.

Discussion of Rose Minstrels. Long appointed the following minstrel committee: Property man, Crapo; Gray, Grafe, G. Owens, Rosenbaum.

Moved by Bergmann, seconded by Barnes, that an extension of one year be asked on the note of $858.53 held by the Board of Managers, said note to be paid sooner than one year if possible. Carried.

Adjourned.

GOLDSBOROUGH ROBINSON, Recording Secretary.

A. A. of E. MEETING.

Representing the American Association of Engineers, Mr. A. H. Krom, of Chicago, gave a short talk before a group of students, including members of the association and a number of men from the Junior Class, on Friday, December 7th. Following Mr. Krom's outline of the purpose, work and organization of the association, arrangements were made to organize a local body of members prior to the establishment of a permanent chapter of the American Association of Engineers in Rose and the city of Terre Haute. A. N. Barnes, '19, was elected to assume charge of the temporary organization.

ATHLETIC ASSOCIATION.

At a recent meeting of the Athletic Board, Fred M. Pence, '20, was elected President to succeed James E. Orr, who graduates in January. J. G. Burns, '21, was elected Vice-President, and Clark Foulkes, '21, was re-elected Secretary-Treasurer.

The following student managers were elected by the board: Football, R. F. E. Wiedemann, '19; Assistant, Rex Self, '20; Basketball, A. N. Barnes, '19; Assistant, Joe Engelhard, '20; Baseball, H. A. Hearn, '19; Assistant, J. S. King, '20; Track and Tennis, D. P. Cromwell, '19; Assistant, A. S. Bixby, '20.

THE RED CROSS CAMPAIGN.

Tech students played an active part in the recent Membership Campaign conducted by the American Red Cross Society. Following short talks given by Doctor Mees, Doctor White and Professor Faurot at the General Assembly of December 17th, in which the work of the organization and the purposes of its campaign were outlined, practically every student—excepting the Seniors engaged in thesis work—volunteered to assist in the task of soliciting for memberships throughout the city. The classes scheduled for the afternoon of the Seventeenth were dismissed in order to accomplish the work within the shortest possible time. Over sixty blocks of the city were canvassed by Rose students.

STUDENT COUNCIL MEETING.

December 18, 1917.

Called to order 7:35 P. M. by President Long at Theta Xi House. Pence present for Orr; Yatsko for Robinson. Prof. Wischmeyer representing Faculty Athletic Committee. Crapo representing Y. M. C. A.

Minutes of previous meeting read and approved.

Report of committee for investigation and improvement of financial condition of Athletic Association (Gilbert, Orr, and Long).

This committee recommended that the committee co-operate with the Faculty Athletic Committee in petitioning the Board of Managers to assume the salary of the Athletic Director.

Recommendation ratified by vote of Council.
Above committee instructed to confer with Faculty Athletic Committee at 4:00 P. M. on December 19.

Mr. Gilbert reported for November.

Moved by Barnes, seconded by Skinner, that Gray be authorized to turn over $100 of Minstrel Show profits to Mr. Gilbert to be applied on the December budget. Carried.

Y. M. C. A. committee reports success of recent campaign.

Skinner reports arrival of green caps for Freshmen.

Moved by Gray, seconded by Barnes, that Freshmen be allowed to discontinue wearing of green caps from December 21 to the evening of March 16, 1918. Carried.

Election of Student Council officers for remainder of school year: President, Crapo; Vice-President, Wiedemann; Recording Secretary, Barnes; Financial Secretary, Gray.

Athletic Association reported the following officers elected: President, Pence; Vice-President, Burns; Secretary, Foulkes; Basket Ball manager, Barnes; Assistant Basket Ball manager, Engelhard; Foot Ball manager, Wiedemann; Assistant Foot Ball Manager, Self; Track Manager, Cromwell; Assistant Track Manager, Bixby; Baseball Manager, Hearn; Assistant Baseball Manager, J. King.

Awarding of letters:


Reserve “R’s”—King, Briggs, Kremer, Stinson, Skinner.

Adjourned.

GOLDSBOROUGH ROBINSON,
Recording Secretary.

GENERAL ASSEMBLY.

On January 10th, the student body was entertained with a very interesting and instructive illustrated lecture by Mr. C. D. Franks, District Engineer of the Portland Cement Association. Mr. Franks told of the value of good roads to a nation at all times and especially in conditions such as the present. He discussed briefly the construction of concrete roads and also spoke of several other uses of concrete as in ship building and bridge construction.

THE PEP FEAST.

If anyone had chanced to wander into the Rose “Athletic Emporium” about 8:30 o’clock on the night of December 19th, it would not have taken him long to discover the Purity League was not in session. Although the weather was below zero, there was certainly a hot time in the old Gym. that night for a pep feast was given in honor of the departing seniors.

Everybody gathered automatically around the squared ring in the center of the floor, expecting one of “Gil’s” stunts, like his famous (?) Badger Fight, when two lithesome pugilists appeared prepared for action. When the excitement caused by this startling surprise had subsided, our own well known promoter, Rufus “Lefty” Gilbert announced the contestants as “Battling Hogan” and “Spike O’Reilly.” These gentlemen, otherwise known as McCormick and Burnett then entertained the gang with a very spectacular and interesting bout, illustrating the “manly art of self defense” as it should be done.

Following this, the feature of the evening was introduced in the form of a battle royal. In this little game eight colored giants romped over each other until one of the big boys delivered just a bit too much of a wallop with his trusty right, giving his opponent momentarily a view of that great beyond. The big black came to with revenge in his eye but soon lost it at the sound of several revolver shots which ended this part of the program.

“Phil” Monninger gave his headline act consisting of imitations of musical instruments concluding with some songs and stories which went over big. Mr. Monninger certainly has a world of talent in this line and his act had the “Hip” beaten to a frazzle.

After this very hilarious program, “Lefty” got down to business and announced those who had won the much deserved football R’s. He also told of the decision of the Athletic Association to present each of the I. C. A. L. champions with a bronze medal. Those who drew the prizes, were Grafe, Barnes, Floyd, Gray, Engelhard, Bake, Springer, Reinhard, Brophy, Boring, Reinking, Henry, Howard, Burns, Orr and also King, Kremer and Skinner who received Reserve R’s. Besides the members of the team there is one other who can wear one of these medals. This is Mr. Leever, “Gil’s” Chief Advisor, who has done much towards helping the team to victory by his never failing interest.
Owing to his graduation, "Doc" Orr was given the privilege of appointing a successor for captain of basketball for the coming year, and selected "Slivers" Floyd. We are sorry to see "Doc" go but a better selection for filling the place could not have been made and great things are expected of "Slivers" this season.

After several impromptu speeches, Professor Hathaway completed the evening with his few words, which always form an important part of every school gathering. The party was rated as a great success and the departing seniors felt that the whole school was pulling for them.

ROSE STUDENTS TO HAVE RIFLE PRACTICE.

Arrangements have been made by the Institute authorities to install an indoor rifle range in the west room of the basement of the main building. At present this space is used by the Civil Engineering department in storing experimental models of bridges.

While the assistance of the War Department in securing rifles for practice is assured, two .22 Calibre rifles are to be purchased by the school for immediate use, until those to be furnished by the government arrive. The Civilian Marksmanship Division of the Militia Bureau—that branch of the War Department with the object of extending rifle practice to civilians—has advised Professor Coles to organize a rifle club for each company in the Institute. During the spring two .22 Calibre rifles and two indoor rifle carriers will be supplied each club, as well as plenty of ammunition for each member.

Eventually every student in the Institute will be given rifle practice as a branch of military training. By affiliating with the National Rifle Association, the local organizations can receive further assistance in this work.

Representing the Institute, Professor Frank C. Wagner attended the conference held at Washington, D. C., December 29th, called by the Chief Signal Officer of the Army, Major-General Squier. The conference was called for the purpose of discussing and deciding upon certain questions of policy regarding the cooperation of the engineering colleges with the Signal Corps of the Army—particularly in the establishment of special technical courses of instruction in electrical communication, with a view of preparing Electrical Engineering undergraduates for special service in the Signal Corps.

MILITARY APPOINTMENTS FOR 1918.

Following is a list of the newly appointed officers of the Rose Battalion:

Battalion Staff—
Major, John Zimmerman, '19.
Sergeant Major, Stuart Stimson, '20.
Adjutant, Kenneth Huston, '20.

Quartermaster Department—
First Lieutenant, Frank F. Peker, '19.
First Sergeant, James S. King, '20.
Sergeants, Gray and Kessler.

Company A—
Captain, R. F. E. Wiedemann, '19.
First Lieutenant, D. P. Cromwell, '19.
First Sergeant, F. M. Crapo, '19.
Second Sergeant, A. N. Barnes, '19.
Third Sergeant, L. S. Stinson, '19.
Fourth Sergeant, C. W. Young, '20.
Sixth Sergeant, R. C. Manson, '20.
Corporals, A. A. Geiger, '19; R. A. Leathers, '19;

Company B—
Captain, J. A. Wallace, '21.
First Lieutenant, N. A. Ruston, '20.
Second Lieutenant, R. E. Woodruff, '19.
First Sergeant, W. C. Bryan, '20.
Second Sergeant, J. R. Cain, '19.
Third Sergeant, J. F. Reinking, '20.
Fifth Sergeant, D. C. Maxwell, '20.
Sergeants, Gray and Kessler.

Signal Corps—

The following note was presented to the Board of Managers in accordance with the motion passed by the Student Council:

To the Board of Managers of Rose Polytechnic Institute:

Gentlemen:—

On behalf of the Student Body of Rose Polytechnic Institute, we wish to express to you a unanimous sentiment of thanks and appreciation with reference to your recent action in voting to assume the salary of the Athletic Director.

You have removed a heavy burden from the shoulders of the Student Body which insures for the future the maintenance of athletics and opens new fields for the development of Rose spirit.

Signed,

FRED M. CRAPO,
FRED M. PENCE.

Committee appointed by the President of the Student Council.
STUDENT COUNCIL MEETING.

January 3, 1918.

Meeting called to order at 8:05 P. M. by R. P. Long. Robinson absent. Cain present for Barnes. Gilbert present.

Minutes of previous meeting read and approved.

Committee on presentation of petition to Board of Managers relative to salary of Athletic Director reported that the Board had acted favorably on the petition. They will therefore assume the payment of the salary of the Athletic Director.

Committee appointed composed of Crapo and Pence to extend vote of thanks to Board of Managers in regard to their action on the petition.

Moved by Weidemann, seconded by Bergmann, that $40 of the Symphony Club fund be turned over to The Technic. Motion carried.

Reported by President Pence of Athletic Association that Decker, Failing and Zimmermann had been voted Military R's.

Gray reporting for Minstrel Committee reported that this matter was as yet unsettled.

Moved by Bergmann, seconded by Skinner, that Gilbert, Crapo and Gray, acting for Student Council be empowered to borrow $500.00 for one month to be advanced on Jan. Budget. Motion carried.

Financial report (attached) read by Long, Financial Secretary. Accepted.

Moved by Bergmann and seconded by Skinner that Mr. Long as Financial Secretary be granted his commission of one per cent of total receipts of $5922.17, amounting to $59.22. Motion carried.

Installation of officers for new year and discussion of business continued.

Moved by Wiedemann and seconded by Pence that Faculty be petitioned to allow and so arrange the schedule that compulsory gymnasium work may be provided for students of Rose. Motion carried.

Moved by Bergmann, seconded by Wiedemann that meeting be adjourned. Carried.

ALVIN N. BARNES,
Recording Secretary.

Per J. R. CAIN.
IGHTING their way to a 20 to 0 victory over the Missouri School of Mines eleven on Thanksgiving Day, the Engineers completed the most successful football season Tech has enjoyed in years. Of an exceptionally heavy schedule of ten games, Rose won six clean-cut and decisive victories, four of which gave Gilbert’s eleven clear title to the I. C. A. L. championship. The University of Detroit eleven—an aggregation of acknowledged professionals—was the only opponent able to score more than one touchdown against the Varsity.

Tech’s superiority in the I. C. A. L. cannot be questioned. Early season contests were those with Hanover and Wabash. Last year at the downstate college the game ended in an argument which was decided 1 to 0, Hanover. When Gilbert’s husky Engineers went to Madison this fall, they must have had this deal fresh in their memory, for they piled up a 51 to 0 count against the Hanover aggregation. Wabash was weakened by the loss of two professionals, and Rose avenged her defeat of the year before with a 6 to 0 victory over the Scarlet. Tech’s next I. C. A. L. contest was with Franklin—the slowest and most erratic exhibition of the year. While the Engineers outplayed Franklin in every respect, there is little to be proud of in the 12 to 6 victory over the Baptists. On the Butler game rested the I. C. A. L. championship, the Indianapolis eleven having defeated both Earlham and Franklin by one touchdown, 6 to 0, and Rose having defeated the rest of the teams in the secondary conference. Tech settled the question in business-like fashion with a 25 to 0 triumph over the Butler College eleven.

DePauw, Washington University and St. Louis University defeated Rose by one touchdown. The fiercest kind of fighting featured every contest, and in our estimation, DePauw is the only eleven of the three which earned a victory. While the Engineers battled the Methodists to a standstill for practically the entire game, better punting and a thirty-five yard run for a touchdown gave the Green castle eleven a victory it deserved.

The two St. Louis teams, Washington and St. Louis University, proved hoodoos for Tech. In the Washington game, Rose was sadly off-color, but the Engineers could have scored at least one touchdown with an even break in the officiating. Washington’s only marker followed a decision which forced Tech to put the ball in play on the two yard line after an intended place kick had been fouled for a touchback. St. Louis University earned the touchdown which gave them victory over Rose, but the Irish were saved when time was called at the end of the game with Tech’s touchdown but...
a foot away on the second down. Tough, wasn’t it?

The trip to Detroit resulted in the 84 to 0 lacing that mars Tech’s record for the season. The University of Detroit evidently makes a business of the sport—with good results. The only loss suffered by the powerful Detroit eleven was the 14 to 3 setback at the hands of the University of Michigan early in the season, when the Wolverines were at their best. Two former I. C. A. L. stars opposed Rose in this encounter—Allen, a member of the 1915 Wabash Varsity and fullback on Eckersall’s second All-Western selection that year, and Hendrian, last year a star on Coach Buss’ DePauw squad. Two of Tech’s regulars, “Doc” Orr and “Head” Gray, were out of the game owing to injuries, but this is not offered as an explanation for the defeat. Detroit probably could have beaten Gilbert’s squad at its best by over thirty points. The only good resulting from this slaughter was the fact that every Engineer probably knew more football Sunday than he did Friday.

Tech, appearing for the last time, played in true championship form against the Missouri School of Mines, and the Thanksgiving victory over the Miners made a fitting close for the 1917 season.

To Coach Gilbert goes a large part of the glory for the season’s success. “Gil” put fight in the team from the word “go.” He knew his business—not only the game itself, but how to handle “The Poly Engineer.” With the same material that was available at Tech in 1916—less, in fact—Gilbert made a winning team of what had been a consistent loser the year before.

Six members of the Varsity made all-state or all-I. C. A. L. selections of Indiana sport writers. “Lou” Bake was placed on the second all-state (including Notre Dame and the two Conference universities—Indiana and Purdue) and on the all-I. C. A. L. selection of “Heze” Clark of the Indiana Daily Times. Captain Grafe was placed at quarterback on all the first I. C. A. L. selections. Too much credit cannot be given “P. J.” for his work in football this year; his services off the gridiron—as a “pep” instiller and in rounding up likely material for the squad—will be missed next year almost as much as his stellar work in handling the team from the quarterback position.

“Butch” Barnes also made all the I. C. A. L. selections, being placed at guard by Clark of the Times. Barnes’ consistent work at tackle featured every game of the season, and won for him the captaincy of the 1918 team. “Butch” is exceptionally fast for a heavy man, and more than one fast backfield opponent was brought down from behind by Tech’s Captain-elect this year. Barnes’ ability to punt may also prove a great help to Gilbert next fall.

“Chick” Springer was another all-I. C. A. L. selection representing Rose. The work of “Chick”—the smallest man on the Varsity—in receiving and returning punts was some of the best football Tech rooters have enjoyed in years, and his catching of Bake’s long-distance heaves in the Butler game undoubtedly stamps him as the best end in the A. L. With “Chick” back there to receive the kick, the other ten Engineers always felt a sense of security that will be sorely missed next year, unless another star enters Rose in September.

Why “Slivers” Floyd was not awarded the position of center on Clark’s first all-I. C. A. L. is something Tech’s followers will never be able to understand. In the Butler game, Floyd undoubtedly outplayed Mullane, who was given preference over “Slivers” in Clark’s selection. In the same contest, Mullane’s aggressiveness in questionable tactics resulted in his being laid
out by some husky Engineer—and the Engineer was fully justified in doing so (ask Grafe). Why such aggressiveness should be considered more valuable than Floyd’s consistently brilliant work is a question which we can answer with but the mere fact that Mullan is a Butler man—and that the *Times* is an Indianapolis paper. Excepting probably at Detroit, Floyd outplayed every center he opposed, including Bruce, all-Missouri center of 1916 on the M. S. M. eleven. Moreover, Floyd’s ability to play any position on the line—from end to end—entitles him to as much consideration as his all-around playing center. “Slivers” has one more year at Tech, and we expect to see him on the all-state team in 1918.

“Doc” Orr was placed as half-back on Clark’s second all-I. C. A. L. An injury to his ankle kept “Doc” out of several important games this season, and his absence from the line-up clearly demonstrated his value to the team as a consistent and dependable back and an accurate forward passer.

Early in the season, Rose lost two stars who undoubtedly would have been placed on all-I. C. A. L. selections, had they been able to participate in all ten games of the schedule. They were Gale, fullback, and “Head” Gray, guard. Gale, who left school after the DePauw game, was unquestionably the best backfield man in the I. C. A. L., according to “Heze” Clark. Gray was forced to quit after the Franklin game, owing to an injury to his shoulder. “Head” was one of the mainstays of Tech’s powerful line, and it is hard for any Rose man to believe that the big guard could not have made the all-I. C. A. L., had he been able to finish the season.

Rose loses Captain Grafe, Springer, Bake, Orr, Howard and Henry with the graduation of the 1918 Class. Grafe has already enlisted while Springer and Howard, both of whom were granted furloughs until December 1st after having been selected in the first draft, are now subject to call at any time. In these six men, Tech loses the backbone of her 1917 I. C. A. L. champions, and Gilbert will be forced to uncover some phenomenal material to make up the loss.

And leave it to “Gil” to uncover it!

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**ROSE—ST. LOUIS.**

In one of the fiercest battles ever staged on the local lot, St. Louis University handed Rose the short end of a 6 to 0 count. The teams were as evenly matched as any two teams ever were. While the Irish had something on Gilbert’s machine in the way of an aggressive backfield, the Engineers’ showing on the defense was admirable. Two fumbles by Tech backfield men paved the way for the only score of the game. The two misplays occurred in rapid succession, and the St. Louis eleven began its successful drive after the second fumble had given them the ball in midfield. It was the only time the visitors found the Rose defense for consistent gains.

The first three quarters were spent with no scoring. Two line bucks, end runs, or spread plays would fail, a forward pass would drop incomplete, and on the fourth down it was always punt. Due to Tech’s fumbling, St. Louis worked the ball to the Rose eight yard line just before the end of the third quarter. The Engineers held and Howard kicked to Connors, who was downed in his tracks by “Slivers” Floyd. A St. Louis forward pass failed, but a second, Doran to Gleason, netted eight yards. A third was good for fifteen yards, and the Irish threatened to score. Connors faked a punt, and then went straight through the line for ten yards more. Baker hit the line for five yards, and followed with another plunge good for two yards. With the ball on the two foot line, Tech held for two downs, but on the next buck Baker shot over for the only touchdown of the afternoon. Doran failed at goal.

Score: St. Louis 6, Rose 0.

On the following kick-off, Reinhard brought the rooters to their feet with a pretty return to the St. Louis forty yard line. “Ick” nearly got away for a touchdown on the run. St.
Louis got the ball on downs, however, and succeeded in working the ball to the Rose twenty-five yard line. After Tech held for three downs, Connors tried a drop kick, but the effort missed. Play was resumed on Tech's twenty yard line. With about six minutes to play, Rose started a drive for a touchdown, working two end runs for substantial gains. A forward pass, Howard to Engelhard, netted thirty-five yards, and line bucks brought the ball to the St. Louis twenty yard line. The Irish put up a stiff defense, and Rose resorted to forward passing for gains. Bake's heave to Reinhard looked good for a touchdown, but a St. Louis man deliberately pulled "Ick" away from the ball. St. Louis drew fifteen yards as the penalty, although the ruling is to put the ball in play on the defenders' one yard line after interference on a forward pass in this territory. The penalty gave Rose the ball on the five yard line.

Referee Herrick's mistake in not giving the Engineers the ball on the one yard line undoubtedly cost Tech the game, for on the first play following the penalty, Engelhard hit off center for over four yards. With the ball less than a foot from the goal line, time was called as the play was started. Two seconds more would have saved the game. This game was surely a tough one to lose, for the score as it stands certainly fails to do justice to the showing made by "The Fighting Engineers."

The line-up and summary:

**St. Louis University (6) Rose (0)**

*Gleason* L.E. *Springer*

*Strubinger* L.T. *Floyd*

*Meinhardt* L.G. *Howard*

*Murphy* C. *Henry*

*Leffler* R.G. *King*

*Poirrot* R.T. *Barnes*

*Bonechi* - *Reinhard*

*Connors (Capt.)* Q.B. *Grafe (Capt.)*

*Boggart* L.H. *Engelhard*

*Mannington* R.H. *Brophy*

*Baker* F.B. *Bake*

*Touchdown—Baker. Referee—Herrick (West Point). Umpire—Wilder (Purdue). Head Linesman—Schultz (New York University).*

Substitutions—(St. Louis University) Signago for Leffler; Boggart for Manning; Doran for Boggart; Cuthbertson for Meinhardt. (Rose) Bake for Floyd; Floyd for Henry; Brophy for Bake; Orr for Brophy; Reinking for Orr; Boring for King; Wiedemann for Boring; Moses for Springer.

Score by quarters:

<table>
<thead>
<tr>
<th>St. Louis University</th>
<th>Rose</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 0 0 6</td>
<td>0 0 0 0</td>
</tr>
</tbody>
</table>

**ROSE-BUTLER.**

On November 24th, Tech won undisputed title to the I. C. A. L. championship for 1917 by decisively eliminating Butler College—25 to 0. Credit must be given the Indianapolis eleven for its defensive play, but the Butlerites were no match for the Engineers in weight, speed or experience. Tech's off-tackle plays worked consistently for substantial gains, while several long forward passes, Bake to Springer, were directly responsible for one touchdown made by the Engineers.

Quite a large number of Rose alumni of the Indianapolis Tech Club turned out to see Gilbert's eleven clinch the secondary title in a romp.

The game in detail follows:

First Quarter:—Captain Grafe won the toss and chose to receive. Butler kicked off, and held Tech for downs on the twenty yard line. Howard punted to Butler's forty yard line. The Rose line held, and an exchange of punts resulted with the play again on the forty yard line. Butler made three first downs on forward passes, Dailey to Agnew, bringing the ball to the Rose thirty yard line. The Engineers held for three downs, and Dailey then made an onside kick which Meyers recovered, giving Butler the ball on the Rose ten yard line. Tech held for downs, and "Scroob" Howard punted out of danger. Dailey punted back to the Rose thirty yard line. Rose worked a forward pass and a series of end runs, with Grafe, Engelhard and Brophy carrying the ball, for consistent gains to the Butler four yard line. On the second down Grafe was thrown for a loss of two yards; Engelhard failed to gain off tackle, but on the next play "P. J." went through for a touchdown, with Bake and Barnes as "piano movers" on the line. Grafe punted out to Springer, and kicked goal. Score: Rose 7, Butler 0.

Butler received the kick-off on the thirty yard line as the quarter ended.
Second Quarter:—Rose held Butler for downs on the thirty yard line. A punting duel gave Tech the ball in mid-field. Orr passed to Engelhard for fifteen yards, and in three off-tackle drives Engelhard, Grafe and Brophy made two first downs. Bake then dropped back and heaved a pass to Springer for another touchdown. Grafe failed at goal. Score: Rose 13, Butler 0.

Butler received Floyd's kick and returned it to the twenty yard line. Springer received Dailey's punt on his forty yard line, and Tech began another march toward the Butler goal line with line plunges and off-tackle plays. The half ended before further scoring occurred.

Third Quarter:—Rose received the kick-off on the thirty yard line; Howard punted forty yards to Dailey, who was downed in his tracks by Floyd. On the first play time was taken out for Agnew, who was injured. Butler could not gain in three downs, and Dailey punted to Springer, who made a pretty return to the center of the field. Grafe made five yards around right end. Time was taken out for Mullane, who was hurt in the play. On two first downs, Tech brought the ball to the Butler twenty-five yard line. After the next play, Mullane was carried off the field. The Butler center had shown a decided tendency to smash Captain Grafe's cracked lip, so it seemed.

Fourth Quarter:—Reinking, substituting for Orr, Brophy and Engelhard brought the ball to the Butler fifteen yard line with off-tackle smashes and end runs. Engelhard ran around left end for a touchdown on the next play, but "Heze" Clark ruled that Joe had run out of bounds on the one yard line, where the ball was put in play. Reinking was thrown behind the line for a loss of one yard, but Grafe took the ball over on the next play. "P. J." failed at goal. Score; Rose 19, Butler 0.

Agnew received Floyd's kick-off and made a lateral pass to Dailey, who was laid out when tackled on the twenty yard line. In an exchange of punts, Tech was forced back to her twenty yard line. A forward pass, Bake to Springer, failed. Another exchange of punts resulted with the ball again on the Rose twenty yard line. On a spread formation, Bake and Springer executed a brilliant forward pass—the longest of the season—putting the ball past the middle of the field. "Heze" Clark credits "Lou" with a sixty yard heave, and The Technic upholds "Heze" in this case. After this spectacular exhibition, Butler braced and held for three downs. Bake then dropped back and passed to Springer—this time for twenty-five yards. On the next play Grafe went through tackle for a touchdown. He failed to goal. Score: Rose 25, Butler 0.

Tech kicked off to Butler, and the Indianapolis eleven punted back. Rose had taken the ball past mid-field as time was called.

The line-up and summary:

<table>
<thead>
<tr>
<th>Butler (0)</th>
<th>Rose (25)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seyfried</td>
<td>L. E. Springer</td>
</tr>
<tr>
<td>Brayton</td>
<td>L.T. Boring</td>
</tr>
<tr>
<td>Shell</td>
<td>L.G. Floyd</td>
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<tr>
<td>Mullane</td>
<td>C. Howard</td>
</tr>
<tr>
<td>Davis</td>
<td>R.G. Barnes</td>
</tr>
<tr>
<td>Portteus</td>
<td>R.T. Reinhard</td>
</tr>
<tr>
<td>Habbe</td>
<td>R.E. Dailey</td>
</tr>
<tr>
<td>Dailey</td>
<td>Q.B. Grafe, Capt.</td>
</tr>
<tr>
<td>Meyer</td>
<td>L.H. Meyer</td>
</tr>
<tr>
<td>Wood</td>
<td>R.H. Engelhard</td>
</tr>
<tr>
<td>Agnew, Capt.</td>
<td>F.B. Brophy</td>
</tr>
</tbody>
</table>

Score by quarters:

| Rose       | 7 6 0 12 Total—25 |
| Butler     | 0 0 0 0 Total—0   |


Substitutions—(Butler) Sullivan for Mullane; Stover for Habbe; Meyer for Dailey; James for Meyer. (Rose) Henry for Boring; King for Howard; Stinson for Reinhard; Reinking for Orr.

Time of Quarters—Fifteen minutes.

ROSE—MISSOURI S. M.

On Thanksgiving Day Tech put the finishing touches on her most successful grid season in years, when she downed the Missouri School of Mines eleven, 20 to 0, thereby winning the technical school championship of the middle west. With every man starring in his position, Rose put up the ideal game of football, There was no "leaving it to the other fellow." On each play, offensive or defensive, every warrior did his bit—and then some. It was Gilbert cropping out in the team's play, for "Gill" put that "fight-or-turn-in-your-suit" pep into his men that resulted in so many victories this season. There were eleven stars for Rose—you know them all. Here's how the scoring was done:

First Quarter:—Missouri won the toss, and chose to kick. Springer received Oyler's kick-off and returned it to the twenty-five yard line. Engelhard went through the line for two yards, but Rose was unable to gain on the next two downs, and Barnes punted to Wilson, who returned the kick ten yards. The Missouri eleven started a series of plays that made them
look dangerous. Cairns bucking the line for four yards, and Dennison making it first down of the next play. Wilson failed to gain on an end run, but Tech received a five yard penalty for offside play. M. S. M. could not gain on the next two plays, and Cairns punted to Springer, who returned fifteen yards. On the first play, Barnes punted to Wilson, who was downed in his tracks. Dennison hit the line for four yards, but Engelhard stopped Johnston with a pretty tackle. ‘Tech then gained five yards on an exchange of punts. Wilson could not gain around end; Dennison made two yards though the line. Two forward passes attempted by M. S. M. were unsuccessful, but, on the second pass Orr was caught interfering with Dennison, and Rose suffered a fifteen yard penalty. Cairns then passed to Dennison for fifteen yards, bringing the ball to the Engineers’ ten yard line. Johnston failed to gain around end, but on the next play the Missouri back hit guard for four yards. A forward pass was unsuccessful, and ‘Tech got the ball on downs on her eight yard line after the next play. Barnes’ punt was blocked, but Henry recovered the ball and made ten yards before being stopped. After Brophy had hit the line for five yards, Engelhard received a beautiful pass from Bake and dodged through the Missouri defense for a total gain of fifty-five yards, bringing the ball to the Miners’ eight yard line. Brophy hit the line for four yards, and Orr went through for a touchdown on the second down. Engelhard failed to kick goal. Score: Rose 13, M. S. M. 0.

Second Quarter:—Missouri made a desperate effort to turn the tide of the game, and succeeded in bringing the ball to Tech’s ten yard line on cross bucks and a forward pass, Cairns to Wilson. Rose braced, and aided by a five yard penalty handed the Miners for offside play, held for downs. On the fourth down, Cairns’ pass hit the goal post, and Rose had the ball on the twenty yard line. Grafe and Orr made first down by hitting the line, and time was called following Brophy’s two yard gain through the line.

Fourth Quarter:—On the first play of the quarter Bake made nine yards off tackle. Rose was penalized five yards for offside play, and Howard punted to Dennison, who recovered the ball after fumbling. Missouri could not gain an inch in two downs, and Cairns punted to Springer. “Chick” received the kick on his ten yard line, and raced down the side of the field for over forty yards before being downed. Engelhard dropped Bake’s pass, but on the next play Joe caught one from “Lou” for nine yards. Grafe made it first down, and Orr added six yards on an off-tackle play. “P. J.” again made it first down, and two five yard gains by Brophy and Bake made another. Bake was again called back, and “Lou” smashed through for eleven yards. Grafe made seven yards on a split play, and the Tech captain was shoved over for the third touchdown on the next down. “Paul John” kicked goal. Score: Rose 20, M. S. M. 0.

Oyler kicked to Springer, who returned the kick fifteen yards to the Rose thirty yard line. Grafe waded through tackle for an eight yard gain, and Brophy added one yard on the next play. Grafe made it first down, and Bake made three yards through the line as the quarter ended.

Oyler kicked to Springer, who returned the kick fifteen yards to the Rose thirty yard line. Grafe punted out to Springer, who caught the ball on the twenty yard line. “P. J.” added another point by kicking goal. Score: Rose 13, M. S. M. 0.

Springer again received the kick-off and returned the ball twenty yards to his thirty-five yard line. Missouri held after Orr and Grafe had made six yards on two plays, and Barnes punted to Wilson. The Missouri safety man fumbled, and Grafe recovered the ball. Bake and Brophy made two first downs on line bucks, and Tech threatened to score after Grafe added seven yards on a line buck. A five yard penalty for offside play stopped the Rose machine, however, and no further scoring occurred during the first half.

Third Quarter:—Missouri made a desperate effort to turn the tide of the game, and succeeded in bringing the ball to Tech’s ten yard line on cross bucks and a forward pass, Cairns to Wilson. Rose braced, and aided by a five yard penalty handed the Miners for offside play, held for downs. On the fourth down, Cairns’ pass hit the goal post, and Rose had the ball on the twenty yard line. Grafe and Orr made first down by hitting the line, and time was called following Brophy’s two yard gain through the line.

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Springer received the kick-off and returned the ball to the thirty yard line. Bake went through for five yards, but the Miners forced Howard to punt as time was called.
The line-up and summary:

Missouri School of Mines (0) Rose (20)

Bohn L E     Springer
Place   LT  Bake
Oyler L G     Henry
Bruce C.      Floyd
Dorris R G  Howard
Morris R T  Barnes
Stevens R E  Reinhard
Wilson Q.B  Grafe
Johnston L.H  Engelhard
Dennison R.H  Orr
Cairns F.B  Brophy

Score by quarters:
Rose  6 7 0 7—Total 20
M. S. M  0 0 0 0—Total 0

Touchdowns—Orr, Engelhard, Grafe. Goals from
touchdown—Grafe (2). Referee—Robinson (Indiana).
Umpire—Grogan (Washington. Head Linesman—
Wilder (Purdue).
Substitutions—(Rose) Reinking for Orr; Boring for
Henry; Henry for Boring; Kremer for Reinhard.
Time of Quarters—Fifteen minutes.

Franklin was the only rival able to score on
Tech. Pipe this:
Rose 51 Hanover  0
Rose  6 Wabash  0
Rose 12 Franklin  6
Rose 25 Butler    0
Total: Rose . . .94 Opponents. . . . .6

We take our hats off to Joe Engelhard. The
speedy half played a mighty steady game all
year, and in our frank estimation deserves a
place on one of the all-I. C. A. L elevens.
But Joe has two more years of it at Tech, and
they can’t keep a good man down!

“Sis” Bake was interviewed after making
the all-State. Here’s the dope: “I wonder
what I ever did for Heze!”

HIGHER MATHEMATICS.

A 60-yard pass—180 feet—2,160 inches—
5,400 centimeters. ("Mac”—please check).
Some pass!

“The position of quarterback on the all-
American selection is again awarded to Gilbert,
the brilliant pivot man of the powerful Rose
eleven. His excellent field generalship, open
field running and punting and his remarkably
accurate left-handed passing in all of Tech’s
games this season entitle him to the position on
the honor eleven for the second time. Young
Gilbert developed under the able tutoring of
his father, the venerable Rufus ("Lefty") Gil-
bert, old-time minor league luminary and Ath-
etic Director at the western technical institu-
tion since 1917."
—Collier’s Weekly, December, 1938.

“Young Gilbert,” who now fights in the 10-
15 pound class, was born December 12.

Extreme cold weather together with trouble
with the heating system in the Gym, delayed
Tech’s start in basketball. The first practice
was not held until the first week in January
which is just about one month late. Games
scheduled in December and two January games
had to be canceled for the simple reason that
Tech had no team. The Indiana game, however,
will probably be played about March 1st.
Coach Gilbert’s call for candidates was well
responded to. From last year’s squad Capt.
Floyd, Reinking and Rolshausen are out for
positions. Among the new men, Froeb, Normal
High; Biller, Staunton High; Krausbek, Wiley
High; Burns, Garfield High; and “Little Al-
vin” Barnes who plays football, are all show-
ing ability of no small quality. “Ick” Reinhard,
last year’s captain, has yet to make his appear-
ance but is expected to show up at any time.
The loss of the Seniors is going to be a big
blow but then there seems to be an abundance
of good material and with Gil behind it, Tech
should have a well-balanced team. The first
home game is with DePauw University, January
11th, and the remaining schedule is as fol-
lows:
Jan. 19—Rose vs. Indiana Dental College, at Indianapolis.
Jan. 25—Rose vs. Detroit University, at home.
Feb. 1—Rose vs. Wabash, at Crawfordsville.
Feb. 2—Rose vs. Louisville University, at home.
Feb. 8—Rose vs. Normal, at the Y. M. C. A.
Feb. 9—Rose vs. Butler, at home.
Feb. 20—Rose vs. Indiana Dental College, at home.
Feb. 23—Rose vs. Louisville, at Louisville.
Feb. 26—Rose vs. Normal, at home.
Feb. 28—Rose vs. DePauw, at Greencastle.
March 1—Rose vs. Indiana University, at Bloomington.
March 8—Rose vs. Normal at Y. M. C. A.

Games are also pending with Franklin and Wabash. The Faculty Athletic Committee advised the canceling of the Dayton and Illinois trip, also one to Kentucky.

TECH-DEPAUW.

On Friday, January 11th, a Rose team just four days old tackled the DePauw five and lost an exciting contest. Everything considered, the showing was all that could be expected. Tech fought throughout the game and a little more practice should remedy the few faults that showed themselves. Capt. "Slivers" Floyd held down the pivot job and covered the floor well at all times. "Jake" Reinking put up an aggressive game as usual and Froeb led the team in points.

Line-up and summary:

<table>
<thead>
<tr>
<th>DePauw (48)</th>
<th>Rose (23)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ramsey</td>
<td>Froeb</td>
</tr>
<tr>
<td>Carlisle</td>
<td>Burns</td>
</tr>
<tr>
<td>Smith</td>
<td>Floyd</td>
</tr>
<tr>
<td>McClure</td>
<td>Krausbeck</td>
</tr>
<tr>
<td>Billingsley</td>
<td></td>
</tr>
</tbody>
</table>

Field goals—Ramsey, 5; Carlisle, 6; McClure, 3; Billingsley, 1; Ball, 1; Isenberger, 2; Froeb, 3; Burns, 1; Floyd, 1; Reinking, 3; Rolshausen, 1. Poul goals—McClure, 9; Billingsley, 1; Ball, 2; Froeb, 5; Substitutes—DePauw: Ball, Isenberger, Bauchert. Rose: Pence, Rolshausen, Biller, Barnes. Referee—Wilder, of Purdue.

DIFFERENTIALS

Gems from Gas Engines.

"Lou" Bake—"I don't see how you can ground the magneto on an automobile when it is running!"
Charman—"I say, how about those hit and miss spark plugs?"

R. P. I.

"Bill Smith made an awful break at the Style's tea."
"How so?"
"Some one handed him a cup of hot chocolate with whipped cream on it."
"What's wrong with that?"
"Well, he put his foot on the round of the chair and blew off the cream."—Tiger.

R. P. I.

Harbulak—"I see that the Germans are using several animals in the war."
Woodling—"How so?"
Harbulak—"Well, it says here that they use rams, and they are using ewe boats, you know."
Stude—"Let me see that picture of the girl who has the twelve thousand dollar income."
Marriage Broker—"Not much! We don't have to show the picture when she has an income of twelve thousand."

R. P. I.

Son: "Papa, who will bury the last man?"
Pa "His wife, my boy."

R. P. I.

Wagner—"I feel like forty-eight cents!"
Bergmann—"Why not thirty cents?"
Wagner—"C'est la guerre."

R. P. I.

Bake—"It says here two hundred dollars a year for labor. Let's see, how many men would that be?"

R. P. I.

50—50

Clerk—"This book will do half your work."
Student—"Gimme two—quick."—Widow.
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She—"You're a waster! Very few girls would marry you."
He—"Very few would be enough."—Jester.

"Spring is here at last."
"Why so? Did you see a robin?"
"No, but they have started to dig up the steam pipes on the campus."—Widow.

Senior—"Have you been through Calculus?"
Frosh—"Yes, but it was dark and I didn't see much of the place."—Orange Peel.

First Imp—"Notice how cool Hell's growing?"
Second Imp—"Well, you know this is fuel conservation week."—Life.

R. P. I.
"How is your sick husband?"
"Oh! He isn't very good and I discovered last night that he is color-blind."
"Tell me about it."
"He got delirious and talked about his little girl with blond hair."
"What makes you think he is color-blind?"
"Why, my hair is black."—Froth.

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