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THE ROSE TECHNIC

JUNE, 1918

THE SMALL AMERICAN HOUSE

Herbert Foltz, '86

SINKING OF THE ANTILLES

Lieutenant Ryland D. Tisdale

ROSE MEN IN THE SERVICE

ALUMNI NOTES

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REVIEWS

ROSE POLYTECHNIC INSTITUTE

BEGMANN—10

VOLUME XXVII

No. 8

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VOL. XXVII

TERRE HAUTE, IND., JUNE, 1918

No. 8

THE TECHNIC

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ON June 15, one hundred and three drafted men reported at the Institute for training as automobile mechanics and for intensive military training in addition. The various improvements made in the gymnasium and the main building along with the facilities offered by Rose for such training, make an ideal military training camp.

The gymnasium has been turned into a most satisfactory and complete barracks. Cots are arranged on the main gym floor for the accommodation of the men. Shower baths, toilets and wash rooms have been installed and everything made sanitary and comfortable. Two office rooms for the use of the officers have also been partitioned off.

The mess hall is in the west basement of the

main building. This room has been white washed and put into excellent shape. Special tables were built for the mess hall, a modern kitchen partitioned off and equipped, and a "hot table" installed where the food is served.

The men are under the command of Captain Claude L. Kishler of the United States army, who is assisted by Captain Max Staehle, of the medical department; First Lieutenant Dennis P. Murphy and an officer from the quartermaster corps. Captain Kishler came to Rose from the University of Virginia where he was in command of a company of men taking similar training.

The school work of the soldiers is under the direction of members of the Rose faculty, while the military work which will be for the infantry branch of the service is under the army officers assigned to the post. The entire course will require about two months time for completion and consists of practical lectures and demonstrations, in taking apart and assembling engines, and in operation and repair of transmission, ignition, and carburetion systems. Under the supervision of an instructor who disables some part of the car, the men are trained in repair work.

There will be at least three divisions of one hundred men each given the training course at Rose. The work and housing of the men has been so arranged so as not to interfere in any way with the curriculum of the Institute in the fall.

FOR nearly a year there has been much public discussion of the proper function of colleges and of the duty of college students in the present emergency. Last July President Wilson said:

"It would seriously impair America's prospects of success in this war if the supply of highly trained men were unnecessarily dimin-

ished. There will be need for a larger number of persons expert in the various fields of applied science than ever before * * * I therefore have no hesitation in urging colleges and technical schools to endeavor to maintain their courses as far as possible on the usual basis * * * Those who fall below the age of selective conscription and who do not enlist may feel that by pursuing their courses with earnestness and diligence they also are preparing themselves for valuable services to the Nation."

The vital contribution of the colleges is now formally recognized in an announcement just issued by the Secretary of War. As a military measure the colleges of the country are by this announcement officially designated as training centers for the United States Army. The prospect of Rose becoming such a military unit is greeted with much enthusiasm by all connected with the Institute. The announcement received by Doctor Mees follows:

"In order to provide military instruction for the college students of the country during the present emergency, a comprehensive plan will be put in effect by the War Department, beginning with the next college year, in September, 1918. The details remain to be worked out, but in general the plan will be as follows:

"Military instruction under officers and non-commissioned officers of the Army will be provided in every institution of college grade, which enrolls for the instruction 100 or more able-bodied students over the age of eighteen. The necessary military equipment will, so far as possible, be provided by the Government. There will be created a military training unit in each institution. Enlistment will be purely voluntary but all students over the age of eighteen will be encouraged to enlist. The enlistment will constitute the student a member of the Army of the United States, liable to active duty at the call of the President. It will, however, be the policy of the Government not to call the members of the training units to active duty until they have reached the age of twenty-one, unless urgent military necessity compels an earlier call. Students under eighteen and therefore not legally eligible for enlistment, will be encouraged to enroll in the training units. Provisions will be made for co-ordinating the Reserve Officers' Training Corps system, which exists in about one-third of the collegiate institutions with this broader plan.

"This new policy aims to accomplish a two-fold object: First, to develop as a great military asset the large body of young men in the colleges; and second, to prevent unnecessary and wasteful depletion of the colleges through indiscriminate volunteering, by offering to the students a definite and immediate military status."

THE honor given the Rose Battalion in selecting it as honor guard of the Blue Devils was more than appreciated by all members of the Institute. That the Battalion was thus chosen as "Terre Haute's best drilled military unit" reflects much credit upon Professor Coles as well as the student officers. An appreciation of the work of the two companies was published by the *Terre Haute Tribune* as follows:

"The excellent work of the Rose Polytechnic soldiers in acting as honor guard of the Blue Devils calls to public mind the efficient service being contributed by these students.

They have remained at their task, equipping themselves as expert engineers and at the same time have undergone military instruction to so perfect themselves that they will be exceedingly competent military units when the school doors close upon them.

"This splendid body of young Americans made up of youths from all parts of the country, with a predominant element of Terre Haute and Vigo county material, has made a marked impression by their appearance in recent patriotic events here and the Terre Haute public is proud of them. While their young compatriots have been in the training camp or have gone to the front, these young Americans have not lost any time, but have 'plugged' on, acquiring knowledge that will make them keen agents in military operations and they have taken to drill work with avidity.

"When the score of war is written, Old Rose will have enabled Terre Haute to claim another military unit. The congratulations of the *Tribune* go out to these willing patriots."

Doctor T. C. Mendenhall, former president of Rose was awarded the "Franklin Medal" on May 15. This medal was founded in 1914 by the Franklin Institute and is awarded only to "those workers in physical science whose efforts in the opinion of the Institute, have done

most to advance a knowledge of physical science or its application."

The award to Doctor Mendenhall was made in recognition of his "fruitful and indefatigable labors in physical research, and particularly his contributions to our knowledge of physical constants and electrical standards."

THE list of Rose men in the service which appears in this issue is as complete and accurate as we have been able to obtain. On account of the constant changing from place to place there may be some unavoidable mistakes in the list. We would sincerely appreciate it if, during the summer months, every man would send his correct address and the name and address of any Rose man in the service whom we have not heard from.

MR. HERBERT FOLTZ, '86, has contributed for the leading article of this issue, a paper recently read by him before the Indianapolis Rose Tech Club on "The Small American House." Mr. Foltz is consultant architect for the new Rose Polytechnic buildings, and is one of the many graduates, whose rise to professional honors and success has brought ever increasing honor to their alma mater.

WHILE not of a technical nature, the description of "The Sinking of the Antilles" published in this number is of exceptionally great interest. The article was written by Lieutenant Ryland D. Tisdale, U. S. N. who served on *The Antilles* until the time of its sinking, and is published with the sanction of the Committee on Public Information.

HONORS

The thirtieth award of the Heminway Gold Medal, for highest standing through the entire course, was made in January to Goldsborough Robinson, of Louisville, Ky.

The Bronze Medal, offered for highest standing during the Freshman year, was awarded to Sidney Reibel, of Terre Haute.

Honorable mention was made as follows:

In the Junior class: John R. Cain, of Terre Haute; Simon Werbner, of Terre Haute; Ivan C. Mendenhall, of Terre Haute; Alvin N. Barnes, of Terre Haute.

In the Sophomore class: Harold C. Exline, of Sullivan; Arthur P. Woolfolk, of Louisville, Ky.; Stuart C. Stimson, of Terre Haute.

In the Freshman class: George R. Armstrong, of Terre Haute; Edward R. Ronald, of Louisville, Ky.

The Small American House*

By

HERBERT FOLTZ, '86

F. A. I. A.

Acknowledgment is here made for material and inspiration to the Honest House, by Ruby Ross Goodnow in collaboration with Rayne Adams; "Successful Houses and How to Build Them," by Charles F. White, Jr.; "The Enjoyment of Architecture," by Talbot F. Hamlin; also to various architectural magazines. For the sake of brevity specific credit is therefore in most cases omitted.

There are few things which concern us more intimately than the houses in which we live; fewer still are the things in which we take a greater interest than the homes which we individually own. The actual size of the house does not so much matter, and we may even venture the statement that the degree of interest which an owner takes in his home is in something like an inverse ratio to its size.

It is difficult indeed for us to create a house which is expressive of the owners, and at the same time consistent in all of its parts, true to a chosen style or character, and containing throughout the elements of good design, for the simple reason that we are still young as a people, our social traditions are not so well established as to indicate clearly what is to be our future, and in consequence, what will be the character of the homes which will result.

We are a population intensely satisfied with certain things. We are well schooled—that is to say we know our arithmetic, and we know how to buy and sell. We know that a house must have plumbing fixtures and hot water and must be well heated. But few people have been taught that sheer utility is not the end of things. Few of us are taught to look for beauty, that the ultimate value of a civilization lies largely in what it contributes to beauty.

We hear a great deal about the improvement of the mind, and yet thousands of well educated people live in houses which are too atrocious for words. Some of them are not hypocritical in this matter; they do not know that their houses are atrocious. We condemn a man who shows bad taste in the selection of his clothes, but many of us do not care enough to notice whether the house he lives in is in bad taste, nor what there is about it that makes it so.

Some day we shall appreciate beauty more. In the meantime we are all in the melting pot. When we have melted a little more, and our economic system has become more stable, we shall have time to think whether the houses we live in are cheap or gaudy or pretentious.

Usually the first step in the process of home building is the selection of the site and here too often the first mistake is made. In most cities where the growth has been rapid and without adequate thought or supervision, the size of building lots has been generally regulated by local practice and the tradition that has grown up from the days when the city was a country town that the average width of a lot in the residence district should be 40 or 50 ft. is a most unfortunate one. It is the real estate men in this case who have been the offenders and it is only in very recent years that they have begun to realize that intelligent regulation of the size of lots and the placing of suitable restrictions on their use increases not only the beauty of the city but also the selling value of the property. In certain cities where the city plan idea has been developed, such things are regulated by law.

Many additions were platted years ago with the thought that they were at the edge of town and the lots were made small so that the prices could be kept within the reach of purchasers of comparatively small means. As a result, much full of these untrained men whose taste is open of this property is on the market for the reason that the lots were not large enough to accommodate a good-sized house and leave sufficient space to insure light, air, a driveway and some lawn space.

It seems reasonable to assume that 40 feet should be the minimum width for a lot in the districts intended for the cottages of workmen. In a district where it is expected that larger houses will be built, the minimum width of a lot should be about 70 ft. and there should be some restrictions in each addition as to the minimum distance that a house shall set from the property line. If you have for subdivision a frontage on a good residence street of 500 ft., I believe experience will verify the

*—Read before the Indianapolis Rose Tech Club, March 22, 1918.

statement that seven lots of 70 ft. in frontage will bring more money than ten lots of 50 ft. frontage. That is, each lot will be worth more per front foot. Better houses will be built and each house will increase the value of the whole neighborhood.

The placing of restrictions on an addition, restrictions that are legally drawn and that can be enforced, adds much to its value and nothing to its cost. When, after two or three good houses have been built in an unrestricted neighborhood and some enterprising non-resident crowds an apartment house on one of the corner lots, the whole neighborhood is damaged. Such things should not be permitted and they can be prevented by the creation of a proper public sentiment and co-operation.

I am sure we can all remember when an east front lot commanded a premium over the price of its neighbor across the street. I believe the preference now is for the lot with a west or south front. This is of course explained by the change in our method of living. The front porch, that once indispensable adjunct to the modern house where the family might sit out evenings and Sunday afternoons to see and be seen, is gradually following in the wake of the parlor and the spare room, the only difference being that the parlor and spare room have disappeared altogether and the porch has been moved around to the side or the rear of the house. While the family porch remained in front, an east exposure was necessary to avoid the hot rays of the afternoon sun. With the front porch at the back, the conditions reversed and the premium has moved across the street. The transfer of the porch to the side or rear has also worked a transformation in the "back yards" without much expense into beauty spots good to look out upon and work in.

Another factor entering into this change of front has been the greater consideration to the orientation of the house. Many people are beginning to believe that the day is better started with breakfast in a sun-lit room, which means a dining room in the southeast corner, an arrangement hardly possible in the east front house. The kitchen too is better located in the northeast corner, free from the afternoon sun. The living room, the successor of the parlor and reception room, is primarily a night room and can therefore be given a southern or western exposure with least sacrifice of comfort and convenience. A south exposure gets little or no sun on the longest summer days. A north

exposure gets the late sun, the east and west the forenoon and afternoon sun, but the south receives none as the sun passes through a point near the zenith rising north of east and setting north of west. A south exposure for the living and sleeping rooms, therefore, is to be desired, giving warmth in winter and comfort in summer.

As far as topography is concerned, a level lot is always capable of excellent treatment. A lot sloping down from the street gives the advantage of large cellar windows at the back, and a door instead of a balkhead. A small lot sloping down toward the street is usually disadvantageous.

When you have finally chosen the site of your house, you are probably next confronted with the selection of your architect. Sometimes he gets into the game before the site is chosen but not often. More often he is approached about two weeks before you are ready to start building and you are much surprised to learn that he really has some other work on his boards ahead of yours, also probably in a hurry. He is usually told what and how you expect to build and how much it is to cost and his first business is to effect some kind of a reconciliation between demand and supply.

Selecting your architect is much like selecting your doctor or dentist or lawyer, with a difference. The difference is in the relationship after selection. With the doctor and dentist, it is one of professional adviser to patient; with the lawyer, professional adviser to client; with the architect, generally as employee to employer. This is unfortunate and in many cases keeps the trained architect out of the field of domestic architecture. It isn't that he scorns your house project—he loves it. And when he does turn his hand to it—the real architect, I mean—he usually makes it charming and worth while. It is much more difficult to design a small house well than a large one and all the more reason why the services of a trained architect should be obtained. But the client who wants a small house for a reasonable amount of money is not often found. Generally he wants a large house for a very small and insufficient amount. And so there are very few *new* small houses that have both convenience and charm. The smaller they are, the more attention they require and the less they receive. They should all be good, because people love them so. Poor little houses!

It is unfortunate that we accept the architect

so casually here in America. In most European countries he must hold a diploma or license before he is permitted to practice his profession. Over there a man may build his own house from his own plans but if he employs an architect, it is with the understanding that the title implies a special, serious training. We Americans demand this proof of the fitness of our lawyers, our doctors, our dentists, and our veterinarians, but we have no hold on the men who call themselves our architects and engineers. Any man who can drive a nail may call himself an architect and perpetrate one dreadful house after another. The country is full of these untrained men whose taste is open to criticism on the ground of immaturity, if for no other reason. Therefore, when you select your architect, you should make sure of his training and fitness to deal with your particular problem and not go to him simply because he calls himself an architect. Proof of his ability is much easier to establish than is that of ability in any of the other professions and fortunately for you, his fee is uniformly the same in all sections of the country.

In placing your project in the architect's hands, you are for the time being entering a business partnership with him. You must be honest with him as to your minimum requirements and the maximum amount you have to spend. Too often these qualifications are reversed in the client's statement and much time is wasted on preliminary study and sketches in getting started right. Each must have the confidence of the other. You should tell him all the things you would like to have in the home, taking care to differentiate between essentials and non-essentials; impress upon him your mode of living, your ideas about the use and furnishing of the several rooms; the extent and manner of entertaining, the likes and dislikes of the members of your family, the relative importance of pictures and music in the household, requirements as to service accommodations, the storage of plunder; in fact, give all the information you can in order to get your personality over to him. A rough sketch indicating your proposed plan will help some. You may propose a hundred plans later but unless you have a clear idea of the arrangement of your rooms, you'd better let him do his own grouping at first. He will use his knowledge and experience in the interpretation of your supposed requirements, adopting those which he knows to be fundamental and eliminating

others which are trivial. If he is wise, he can make this elimination process so gradual that you won't notice it, chiefly by the substitution of other and better details, methods or arrangement. It requires diplomacy and perseverance sometime, especially when the client is a clientess, but I have heard of occasional cases in which the arguments of the architect have prevailed even under these circumstances. I have read somewhere that the ideal client is the man or woman with a building problem to be solved, honest enough to admit his or her own limitations, and foolish enough to trust a professional adviser implicitly.

A client once gave an architect a problem pretty much as follows: (Pages 130-131 in the *Honest House*.)

"We must have a huge living room, no matter what happens to the rest of the house. We will do without a real hall—a tiny little box of a place will serve—and we will do without a proper dining room, and have a breakfast room instead. The breakfast room will be sun parlor and conservatory as well, with flowers and vines and a tiled floor. It must be very gay and sunny, with *comfortable* chairs and a gate-leg table and a built-in dresser for our blue china and pewter, and magic sliding partitions that will make it a part of the living room. We will have most of our meals alone, and sometimes one guest, or two—but only a dozen times a year will there be as many as six people or more—then we can "repair" to the living room and eat on the great black oak table.

"We will do away with the conventional kitchen. Please plan us a compact laboratory of a place, with a big laundry in the basement that will serve also for overflow kitchen things. We will never require more than one servant, so the kitchen may be very small. People who build kitchen closets are such idiots—having wide shelves eighteen inches apart, when narrow shelves close together and a few deeper ones at the bottom would hold all the utensils and provisions for a hotel. Please plan a long cupboard in the laundry, with an ironing board that will swing down and many six-inch shelves below it that will hold irons and wax and holders and such. And the long outside panel will be painted with—with—I don't just know what, yet. Something gay, with yellow and orange in it. And there will be many shelves, in the laundry, where I can display my cherished tins and jars and things full of provisions and jellies and jams. There will be one

vermillion chair for the washlady, and quite a lot of color, for it must never become a dreary place.

"And there must be casement windows everywhere, and thin glass curtains, and thick inside curtains of shimmering stuffs that will be drawn at night, and no window shades. And many closets, a cedar lined one for linen, and so many in the kitchen. The kitchen must be fairly walled with closets and drawers."

Essentially a woman's letter, but the architect gets a feeling of her real needs, her personality, the quality of her family's life, and he has inspiration to go ahead. The flowers and vines and pewter and ironing wax and jellies are not his specifications, but they linger in his imagination and become a part of the invisible house that gives him inspiration.

A great deal is said about the usual increase of a house over the estimated cost and for this the architect is universally blamed. Many times the blame is justified but also many times the increase in cost is simply an index to the growth of the owner's conception of what a house should be, during the preparation of the drawings and specifications and later during the progress of the construction. No one with an alert mind can fail to become immensely educated during this experience, and the results of this education are bound to show in increased cost. Let me here interpolate a prose poem contributed by J. Edward Tuft and clipped from a recent magazine. I leave you to draw your own conclusions.

"We like the plan of cottage though we changed it once or twice—just some minor alterations that should not affect the price. Where it shows a single window, wife suggests a double door, and she'd like the kitchen better if it had a maple floor. The parlor should be longer, with a fireplace to the east, and one more double window on the other wall, at least. The woodwork in the dining room should be of better grade, and on the south my daughters want a dormer window made. They also think the sleeping porch a little bit too small, and wish a full length mirror built in every bed room wall. The porches must be widened out, with larger pillars there; and then, in place of yellow pine, we want an oaken stair. The side walls should be raised a bit—at least a foot or so; and substitute for narrow eaves the modern bungalow. With these few changes, we all think the plan is very nice—just some minor alterations that should not effect the price!"

There are two kinds of houses, big and little. This may seem a most arbitrary classification. So it is! Nevertheless, it holds true as a basis for discussion. The house with from five to ten rooms is the home of the average home-builder. It costs from \$4,000 to \$15,000 and we call it a "small house."

It is noticeable that a great many small houses are square, or approximately square, in plan. A common type is planned with a central entrance hall, and the second floor hallway is thus reduced to a minimum. With a rectangular house, longer in one dimension than in the other, the second floor hallway must usually be longer. But what is saved in space in the square plan is usually lost in appearance. The square plan house is less flexible and less suitable to a variety of room arrangements. Moreover, the longer house will as a rule give a better looking house for the reason that one gets the impression of a dominant sense of direction. This does not necessarily mean that a square house is always bad.

A house may have either an "open" or "shut" plan. The Colonial house with its central entrance, its staircase in full view as one enters, and the living rooms all opening from the hall and all visible to the visitor, is an example of an open plan. In a house planned like this, there is little or no sense of privacy.

The "shut" plan is one in which the visitor on entering sees little except the room in which he finds himself. He does not penetrate at once into the privacy of the house. He is received, so to speak, in a waiting room.

These two types correspond to the types of humanity which we meet every day. Some people like a sense of privacy, and other don't care. Most American houses are so planned that the only privacy is on the second floor and when an unwelcome visitor comes, everyone is forced to flee to the security of his bedroom.

The importance of vistas in houseplanning is too often overlooked. In any plan there are important positions and unimportant positions and those of importance should always be at the ends of vistas and from this fact can be deduced the value of axis. The axis is merely an abstraction of the simplest line of sight and usually signifies simplicity and directness, as well, for it is always easier to walk in a straight line than to turn many corners. Even in informal houses the importance of the axes should not be lost sight of, as these result in well defined symmetrical views with interesting fea-

tures as their climaxes, always more beautiful and impressive than views that are lacking in this orderly relation.

With these general observations, let us note some of the essential things which should be striven for with a view of convenience in your room arrangement. In order to have your house beautiful as well as convenient, you must resign yourself to make concessions on both sides, and it is necessary to look at what constitutes the essential practical conveniences. You should not be forced to sacrifice the appearance of your house to obtain these.

Economy of space is most important, since it has a direct relation to the cost of the house. Often houses are built with rooms that are never used. I know of many houses which have a small reception room to the left of the hall as you enter. In most cases, the only person who ever enters this room is the maid who dusts it. The average reception room is so much waste space. You can waste space by the bad planning which results in long second-story hallways, in kitchens which are too big, and which require many steps to cross, in badly shaped rooms into which it is impossible to arrange ordinary furniture conveniently. These mistakes of plan cost money, and they can all be avoided.

If you contemplate the employment of one or two servants, the house plan should be considered as having two distinct divisions: The living and service quarters. In the latter are grouped the kitchen with its dependencies, such as pantry, laundry, service porch, and servants' bedrooms. If the house is of two or more stories, the service quarters should, if possible, have a separate stairway.

Of an eminently practical nature are the matters of heating and plumbing. The installation of these two systems adds greatly to the cost of the house, and should be reckoned with from the beginning.

An attempt should be made to keep the plumbing fixtures in close proximity. You can easily see that if your house is planned so that your kitchen is on one side of the house, the laundry on another, and the bath room on a third, your water supply pipes have to run a considerable distance to connect to various fixtures. If they are near together you save the expense of this piping.

The front hall must be reduced to a minimum in a small house, so as to serve only for stair and coat room accommodations. The hall may

even be omitted, and the front door opened into the living room with the coat closet and the stairs on one side of the room. To insure protection against the weather on entering the house, the entrance can be under a covered porch. The living room should face the south if possible. It should be light, but you must beware of too many windows and doors.

The dining room should have preferably an easterly exposure, as the only family meal at which it is possible in winter to have the sun is breakfast and this is also the time in the day in winter, spring and fall, when the warmth of sunlight is most welcome. In the dining room it is a fine luxury to have a bay window if you can. The room should open from the hall or living room, and should be directly accessible to the kitchen. It may be made a thoroughfare from the kitchen to the front door, although this is not an ideal arrangement.

The kitchen should be a laboratory pure and simple if the mistress is to use it alone. If it is to be used by a servant, it may be a combined laboratory and living room. There should be direct access from the kitchen to the cellar without the necessity of going out of doors. The larger and more usual type of kitchen is commonly used also as a sitting room for the servant. A good solution of the larger kitchen is to use the laboratory kitchen with an alcove or additional room to be used for a service dining and sitting room.

Discuss and amplify these things with your architect, and you will probably get a very good house. The temptation to quote an architect who is still a friend of all his clients is great. The architect is Mr. Harrie T. Lindeberg, and he disproves the adage that you can't build a proper house without making an enemy of your client. His theory of successful house planning is this:

"If you wish a successful house, give your architect a free hand, not into your pocketbook, but into your confidence and faith, believing he will work many times the harder, knowing that you trust his judgment and stand behind his decisions; and when all is said and done, and your house is built, and you are proud of being its owner, give now and then a little credit where it is due, and don't be guilty of that bromidic speech, 'We designed the house ourselves; the architect just drew it out for us!'"

Simultaneously with the consideration of the interior details of your house, you should take stock of yourself and discover just what you

have to put into the house that will make it a home. Here, more than anywhere else, you will have greater freedom to follow your own inclinations and put your good taste and common sense to a test. Cheap and changing fashions have done much to deter American women from the real appreciation of the principles of home making. Prosperity has come so easily, and there is such a fatal facility of imitating good things, that we have ever-changing epidemics of fashions and periods in house furnishing that are disastrous to the development of taste. It is the women who try to follow these fashions who have the dreadful, dishonest houses that flourish all over America. As the interior details have a very definite relation to the furnishings, this relationship should therefore be evidenced in the character and finish of these details.

The three rooms which ordinarily have the most detail in them are the hall, the living room and the dining room. In these rooms it is not uncommon to have fireplaces, wainscoting, cornices, beamed ceilings, and built-in furniture, in addition to the trim which is common throughout the house. These are architectural elements but their character and disposition should be given as much care as seemingly more important details.

A room consists broadly of three elements, the floor, walls and the ceiling. Of these the walls present the greatest opportunity of bad design and bad treatment. To give an impression of lightness, the tone of your floor should be kept darker than your wall and the walls darker than the ceiling. To insure a gloomy interior, reverse the order and keep the ceiling darker than the walls, and the walls darker than the floor. The height of your ceilings should depend to a certain extent on the amount of window space. Not so very long ago a room height of 11 ft. was not unusual, whereas now 9 ft. to 9½ ft., except for very large rooms, is generally recognized as adequate for the first story rooms and from 8½ to 9 ft. for the bed rooms. One advantage of the lower ceiling is that it makes the room easier to decorate and heat. If you use a beamed ceiling, do not make the beams project more than 4 inches below the ceiling. The treatment of a low ceiled room is simple: The wall color should meet the ceiling, with a narrow molding as a dividing line.

There are many ways of lowering a ceiling which is too high. The simplest method is to

drop the picture rail 4 or 5 feet and treat the wall space above the rail as a part of the ceiling. The eye will not often travel higher than the picture rail. The other method is to have a simple wainscot 3 or 4 feet high, finished to match the adjacent woodwork, with a smaller space between the picture rail and ceiling. Wainscots should be sparingly used in rooms with low ceilings and then only with light colored woodwork.

There are as many kinds of stairways as houses. The design of the stairway is almost always a stumbling block. If it is in evidence, it is the most important thing in sight. This is undoubtedly the most difficult detail on the interior to handle and, by the same token, it is usually abandoned by the owner and left to the architect to work out as best he can. Stairways in general may be divided into three classes, each of which follows closely tradition with slight variations. For the wide, long hall, nothing has been found better than the Colonial stairway; for the square hall or living room, screen enclosures are generally used; in the third class will be found the box or enclosed stairway. These differ from one another for the most part only in minor detail and those which are best are so because of their simplicity and direction and the absence of over-ornamentation. On the practical side, it is necessary not only to provide for tall people with eccentric headgear, but for the occasional moving of trunks and furniture, and so the head room should be more ample.

Undoubtedly the most abused feature of the interior furnishings of the house is the fireplace and mantel. Aside from its decorative value and the traditions which center about its hearth, the fireplace serves a distinctly utilitarian function in keeping the air of the room fresher—it is the best ventilator you can provide. I believe that every home, big or little, should have at least one fireplace. And it should be a real one, not a sham one. It should be an integral part of the room and its mantel, the chief duty which is to frame the opening for the fire, should correspond with the finish of the room's woodwork. Thousands of dreadful stock mantels are annually turned out and find their way into as many homes to clash with everything else in the room. Have you ever seen a fire place faced with rough brick in a room where polished furniture and silk curtains are used or a wonderful boulder creation topped with a stone slab with a row of cut glass

vases jauntily arranged on top? I think most of us have. These are of course extreme cases but they serve to illustrate the length to which we can go in such matters. One can now obtain really good tiles for the facing and hearth and if you can't afford tiles, good old-fashioned brick will do—not fancy ones or those of the pressed variety. The wood shelf should be simple and dignified and above it, if the room has a cornice, the chimney breast may be filled in with paneling, or the space used decoratively for a good picture, or a plaster cast.

But of most importance is to have a real-for-sure fireplace with a hearth. Have as many radiators as you choose but avoid the false mantel and filled-in fire place, all too apparent imitations of an honored tradition. You can forgive people who tolerate one of these false mantels in an apartment because you know that often the landlord admires the thing and refuses to allow its removal. But how can such a thing be tolerated in your own home? Somehow, one feels that a man should be honest in his own home, even if he does blink at shams in other people's houses.

There was a time when the hearth was to the house what the heart is to the body—it stood for much more than mere physical comfort—for family loyalty. When we were children, didn't most of the things that really mattered have the open fire for a background? What chance have our children in the modern homes that are so full of conveniences and so empty of tradition? Material things have improved amazingly, but if we have lost a jot of the strong feeling for family that should be ours, our gain amounts to little, for the happiness of the whole world depends first upon the conservation of family life.

So let us plan for one real fireplace in each home and an occasional fire in it, where you can gather the children around you and teach them the things the hearth has stood for for hundreds of years; a place where Christmas is Christmas, where stockings can be hung and stories told, and where, in the years to follow, the children may come in their day-dreams and bless the memory of the place you made home.

When it comes to the exterior of the house, if you are wise you will stick close to your architect until the general questions of style and materials have been determined and then let him alone to work out the details. This assumes that the plans have been vised and revised until they are in the main satisfactory

and the problem now relates to the walls and their openings, the roof and its cornice, columns and pilasters—all involving skillful and trained attention—to the vexatious matters of proportion, balance, shadows, composition, and the infinite details which he understands, or should understand, how to dispose of best. The pity of it is that he too often doesn't understand or else doesn't care. If the architect could work up his houses first into clay models, then it would be easier for both himself and his client to think of the house as having three dimensions, length, breadth and height. The ability to visualize the house as it will finally be is possessed by most architects but it is difficult for the average layman to form a mental picture from a single-plane elevations and as a result he is accustomed to think of his house in two dimensions only. Some day the small scale model will come into more general use but it will not go very far towards solving the small house problem because of its expense.

If your house has good lines and correct detail but has not proportion and balance, it is sure to be disappointing and commonplace. You may not be able to tell why because these elements are generally so vague and misunderstood. It is true that certain fundamental rules for proportion are accepted as standard but in most cases proportion is and always must be an individual matter, varying with the development of the mind of the individual or a nation. Like good taste, it is a chimera. At any attempt to define it as a permanent standard, it eludes us. It is a matter of training the eye and unless an object or a person pleases the eye, it is wanting in that quality which we recognize as proportion. In general, we may consider it as that element which relates one dimensions to another, each part to the other, and all parts to the whole, depending for its measure of goodness or badness upon the extent to which it pleases or offends the eye.

Balance is more easy of definition and application. It is the law of nature that makes for a condition of rest, of equilibrium. A simple illustration is that of the grouping of windows in the wall of the house. But balance should not be confused with symmetry. The symmetrical arrangement is seen at its best in our colonial architecture and gives an impression of formality, dignity and reserve. The unsymmetrical arrangement is characteristic of the English cottage type and is naturally freer in expression and more intimate in character. In

every case, regardless of arrangement of the openings in the wall, an accidental or unsymmetrical facade must have balance just as surely as a symmetrical one. An unsymmetrical composition implies a contrast, but the contrasting elements must make on the eye impressions of approximately equal importance, or the balance will be lost.

There are fixed fundamental rules generally recognized as necessary to give the exterior of the house a certain predetermined character. These relate to whether or not it should have the appearance of breadth or height. The introduction of horizontal motifs will secure the former and vertical lines tend to give the effect of height. The site and setting have much to do with determining the lines of the exterior. A tall house never looks in harmony with its surroundings if set on a high lot or on a lot without trees and by the same token a low house is out of place on low ground. It is a good axiom that every house should be so designed as to give the impression at completion of having grown up from its site and if you can go farther and create a feeling that it is sitting down rather than standing up, the illusion is complete and you will have gone a long way in solving the problem of a successful house.

The roof and its cornice go far toward making your dreams come through true or untrue. The roof is to the house as the hat to the man or woman and we all know that many are misfits. The roof lines form the connection between the house and the sky as a background and these the lines should not be harsh and angular but soft and free from irritating breaks and terminations. Dormers should never be so prominent as to break the main sky lines and turrets and towers are to be shunned. The pitch of the roof—that is its height as compared with the width of its base—should be studied with reference to the point of view of the observer in the street. The level of the lot again enters into the consideration of this feature of the house and it is because of undue study in this regard that many houses which look well on paper are disappointing from the view point of the passer-by after completion.

Roofs are divided into three general classes, the gable, the hip, and the gambrel. It seems that it ought to be a simple matter with only three types to select from, to choose one and play safe, but just as there are only a few kinds of windows and many ways of misplacing them, so there are many mistaken ways of misfitting

the roof. Each roof must be studied with reference to the mass of the house and its environment and a careful selection of the type best suited adopted. Then will follow questions as to the proper design of the cornice and gable terminations, whether these should be open or boxed, thin or deep, with little or much overhang. The materials employed in the construction of the house play an important part in determining the character and projection of the cornice, depending to a large extent on the importance of shadows to the wall and shadows immediately suggest color and color in turn gets back to materials.

The consideration of the entourage of his house is new to the average American home-builder. It savors of that expensive newcomer, the landscape gardener. Architects are doing everything in their power to hasten the appreciation of the entourage but are hampered by the average man's determination to spend so much on his house and to let his grounds take care of themselves. Our foreign neighbor dreams always of his house and garden as a well-considered whole. No matter how swell his little place may be, he finds some way of enclosing it and making all of it a part of his family life. He works from the outmost boundaries in, with his house always as his point of departure and point of arrival.

With the growth of suburban life in this country, however, a more kindly attitude toward the garden is apparent. The three influences chiefly responsible for this change of attitude are the architect, who wishes to see his house placed to the best advantage; the American habit of travel and adaptation to his own use of things which he sees; and a really genuine pleasure in living out-of-doors. When we have lived down the false theory that a house is a man's business and the flower garden is merely a woman's frill, to be added if she feels equal to the work of it, we shall have made a long step in the direction of a fitting setting for the house.

We can all make our places attractive with but little expenditure of money if we will put our minds to it. Every foot of the small lot should be laid out properly and bordered with orderly flower beds or the closely clipped lawns spotted with geometric patches of color. You should consider the approaches, the placing of out buildings, the views from certain windows—everything. Flowers should be kept close to the house, or lattices, or hedges, or

walls, and a certain feeling of space preserved. The real pleasure of planting flowers lies in placing them where they will follow something. A rose covered arbor or trellis is much more charming than an orderly bed of roses. On a small lot, it is best to plant flowers where they will supplement the trees and shrubs, and tell in striking spots of color. A mass of flowers is always lovely, just as a field of weeds is lovely, but if you have a well planned garden your flowers should be against or around things, in long shallow borders against a hedge, along the rim of a terrace, or around a tree. Nothing is more unfortunate than a stretch of green lawn dotted with isolated crescents and stars.

The house should always be the heart of the entourage and the paths should always lead to it, but their direction need not be straight. Winding paths may go pretty much as they please if accompanied by shrubs and flowers, but straight walks should always lead to something. There should be a vista of something attractive to the end of the walks that lead directly from the house. For this reason, the main walks are sometimes laid out in line with the windows of the living room or dining room, so that the eye can follow the walk to the picture that lies at the end. Our American habit of making the main approach a direct line from the street to the front door is open to criticism.

The sharp line of the foundations can be softened by the use of shrubbery, and ivy on the

wall will tend to pull the house more securely into place. If the house is set on ground higher than its surroundings, a terrace will do much to bring the house into more general harmony with its setting.

In conclusion, I believe that America is today building better planned and more livable houses than is any other country. That they are not better looking houses and set in more friendly environs is to be regretted but the future holds much promise for marked improvement in this direction. The employment of more permanent materials in our construction, largely through necessity, is sure to result in an atmosphere of greater permanency, simplicity and honesty. These materials, obtained from the soil and made available for building purposes in various varieties of stone, brick and cement, being less plastic, do not permit of such freedom in their disposition as the timber heretofore in such general use. The false effort to be fine and the attempts to make our houses appear as something which they are not, are gradually feeling the influences quietly at work for better housing conditions and we are all beginning to produce the logical, coherent and comfortable houses which we should have and some day will have to adequately represent our civilization and reflect our habits and appreciation of those finer qualities which make for better living.

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Sinking of the Antilles

By

LIEUTENANT RYLAND D. TISDALE,

Formerly serving on U. S. Antilles

I WAS ordered to the Antilles in the late spring of last year and since then, and until her sinking, we had been transporting American troops to Europe. We took a part of the original Pershing troops over in June, being attacked en route by submarines; but the escort of American war vessels put them to rout as the convoy maneuvered clear. On another voyage we were attacked by submarines on several occasions—some of these attacks being quite thrilling. Still again we were pursued by a strange sea rover having all the earmarks of a "raider;" but we eluded her. And so the months passed. On every trip there were one or more occasions when we were put to the test—one or more occasions which might have been our last but were not. Our last fateful voyage, while east bound, was quite uneventful, though often we were very near the scenes of disasters.

On the return leg of our last trip the weather was unsettled when we left Europe and continued freshening up until not only the escort but some of the convoy were making pretty heavy weather of it. Seas often came over the high decks as the ocean roughened and the wind rose.

The night before we were sunk, though the sea was rough, was one of peculiarly mixed conditions—when clear it was bright, not moonlight, cold, fairly crisp, with an extraordinarily phosphorescent sea. The white wakes and bow waves of the ship shone as lights in the night. Then throughout the hours of darkness we ran through occasional rain and passing fog. A most unsettled night—one could almost feel the uncertainty of the morrow. But toward morning a fresh wind sprang up, combined with a moderate to rough sea, and the weather cleared.

Just before dawn, October 17, I was aroused by the discovery of a fire on board which, though not serious, proved stubborn and required the best part of an hour to extinguish, situated as it was in interior woodwork. Day had broken before this task was accomplished—a gray, clear dawn and one more day of vigilance under adverse conditions for us and ideal for "Fritz." Having only come off watch

at 4 o'clock. I went to my bunk to lie down. I never did lie down, however. But that is later. The great hulks of our convoy doubtless loomed up as magnificent silhouettes, against the morning sky, to a submarine lurking in our path to westward.

At this time we were several days out on our return passage. But, even so, we took no chances. Lookouts were always on watch throughout the ship—in the masts, on the bridge, along the decks, and the guns' crews at their guns. Many eyes are better than few. But with the rough cross sea broken as it was with white caps, the chance of descrying the tiny tube of a periscope as it rose above the sea was much reduced.

Just after I got to my room the lookouts aft and on the bridge reported excitedly, "Torpedo abaft port beam!" And, sure enough, there, between 300 and 400 yards away was a Schwartzkopf torpedo rushing toward the Antilles at about 40 knots speed—25 yards a second—and bearing almost broad on the port quarter.

Emergency speed was immediately jammed on the engines and the helm put over in order to present the smallest target to the almost inevitable blow of the torpedo as it sped along, porpoising through the wave crests. At the same time the general alarm signals were given and the ships of the convoy warned; but, before even the helm was got hard over, the blow had been given, the torpedo striking almost abreast the engine room aft bulkhead and tearing a great hole in the side at the engine room and just aft also at hold No. 3. It was then 6:48 a. m. The ship being light—in ballast—filled rapidly and listed heavily and almost instantly to port—about 30°, I should say.

The shock of the explosion was very severe and even such a sturdy ship as the *Antilles* shivered and shook from stem to stern. The stern began to settle at once and the ship to pivot in the fore and aft line about below the bridge.

There was no doubt on board as to what had happened. The shock automatically sent everyone to his emergency post—passengers and crew off watch to their boat and life raft

stations, while the guns' crews were at their guns eager for a crack at the submarine. But "Fritz" was wise. He had probably been up against American gunners before and much preferred to work "sight unseen" than to give us a sportsmanlike run for our money. He never even came up for a moment to see if he had been successful.

One could feel the ship sinking fast, the bow rearing up in the air as the stern settled. The naval commander in charge of the ship, realizing the hopelessness of the situation, almost immediately gave the order to the crew and passengers for abandoning ship, which, despite the heavy listing to port and the rapid sinking was quickly carried out. Four of the ten boats were not only safely lowered loaded with the members of the crew, but were got clear of the ship's suction.

Meantime the guns' crews remained coolly and calmly at their guns, hoping against hope for a shot at the "sub" though they knew, could feel, the ship sinking fast. But in vain. Then came the orders from the commander on the bridge to save themselves. This came so late that there was scarcely time. Yet these gallant lads wished only a crack at the U-boat. Very shortly after, just about 4½ minutes from the time the torpedo first was seen, the ship took her final plunge—carrying two of the gunners with her into eternity.

When these forward guns had to be abandoned, I ran up with the rest to the upper deck in order to be better able to jump clear of the ship's side. This I was about to do when I saw the commander still on the bridge. Believing he might not realize from where he was the imminent plunging of the ship, I jumped off the rail and rushed up to the bridge to entreat him to get clear. He said she'd soon be gone, but that he was going down to see to a boat that had caught on the careened-up starboard strakes and which the chief engineer and a Navy chap had been trying to cast loose and set adrift.

On my way up to the bridge I had passed Watson, one of the two radio operators who were lost. He wanted to know if there was anything he could do. I told him, "No," to "get overboard." I never saw this splendid man again.

When the commander and I ran down from the bridge to the upper deck, where in some manner I lost track of the commander, I could see people struggling in the water. Just then the ship gave a lurch and seemed to right her-

self as though the water in the dowels had equalized on each side. No one was in sight on the ship. I then jumped or dived, I can't remember which, from the upper deck—about 45 feet—into the water. I learned later the commander had crossed the deck to the other side when I lost track of him.

Just after I came up I saw the ship's bow shoot into the air almost vertical—I was very near the ship's side then—and down she plunged. Almost as I glanced there was an explosion on board—the boilers. I heard hissing steam, just behind me it seemed, as I struggled frantically to get away from near the ship.

Then I was caught, engulfed, in the water and drawn under, how far I don't know, I couldn't estimate. It felt more like great waves, huge masses of water passing over me, than that I was being carried down with it. I shut my mouth and eyes, automatically I suppose, and tried not to swallow any water: the while struggling to get to the surface. I remember thinking I wouldn't get through it all.

But I did. When I came up again all was water, water, just water. I could see a vessel, apparently far off, from my low position, and endeavored to swim toward her. Every now and then as I rose on the crest of a big wave I'd see some of the escort and boats and wreckage and swimming people. I swam for these, as they were nearer.

But with the wind and sea, the boats and wreckage were drifting to leeward almost as fast as one could swim. Finally, after what I should estimate as about an hour and a quarter, I found a raft and "grabbed ahold" and clambered on board. Near by was another. These two I lashed together. Looking around I noticed several persons on a big raft to leeward, some of whom I recognized; among them the master and chief engineer. Apparently they had made better time of it than had I.

A piece of plank floated by which I commandeered to use as a paddle, and I began picking up men struggling in the water—among these, the chief officer, a member of the guns' crews, and several Spanish firemen whom I did not know. These last were very frightened. Then I saw the boatswain on a large raft and, paddling over, I "transferred my flag," as my little rafts had become overcrowded. Then it was for the first time I noticed that my binoculars were still around my neck. I had used these while at the guns forward. Strangely enough, I was terribly thirsty, though it would

seem I'd been surfeited with water for life. I was not hungry, though I'd had nothing since 6 p. m. the day before. But I believe I'd have given my eyeteeth for a cigarette. We got lunch later after being picked up.

We were all cold and shivering. Somebody started to sing "Nearer my God to Thee," but that was too much, even though it was cold and we were driftwood at sea. Several times we got jammed in amid wreckage, as it seemed all to drift together. Then we spied a boat and sculled toward it, but found it to be a modern "good ship *Tuscarora*" with plenty of decks but no bottom.

Then the sun rose, bright and cheerful. I believe I appreciated it more at that moment than at all the others in my life put together. It didn't bring any heat or much extra light, but Lord how it cheered us.

About this time one of the escort, which had been patrolling the scene of the disaster on the hunt for the submarine, began the rescue work. We were picked up among the last, about three and a half hours from the time we had been sunk.

Those moments were anxious ones. Everyone wanted information about his mates, his friends. Who had perished? Who was saved? Was "Tom" rescued? What happened to "Dick?"

The escort did wonderful rescue work and gave us warm clothing, hot toddy, and medical attention. They just opened up their hearts to us.

Later, after a fruitless search for more survivors, the course was set for Europe. The Kaiser had made his first score in half a year. Sixty-seven were missing on the final roll call; 167 were present.

I mentioned that four boats were safely got clear. Of the others, one was blown to pieces by the explosion, several could not be lowered in the short time, as the ship careened up on the starboard side; others had been jammed and two were capsized at the water by the sea and and by the confusion incident to the disaster.

On the whole the conduct of both the military contingents and the merchant personnel was excellent and that of the naval personnel magnificent. Frequent and careful drills had been held by the naval commander in preparation for just such an emergency, and these plans worked well when the test came.

During the lowering of the boats quite a few men were killed and injured; two were hurled

against the ship's steel sides and crushed when their lifeboats capsized; another, a helmsman, was struck in the head and killed by the lower block of a boat fall as he was sliding down another fall into the water. Others were doubtless struck by falling wreckage or boats or the like.

When one considers that the ship had disappeared in less than five minutes after the torpedo was seen, it is worthy of note with what little confusion the whole catastrophe was attended. This is one of the many results of careful drilling and supervision.

Three men in the engine room were drowned or killed almost instantly when the torpedo struck. One man there, however, who was on the upper gratings at the time, managed to escape through the engine-room skylight trunk. All but two of eighteen firemen in the firerooms were almost instantly overcome. Two of the firemen escaped through the circular section ventilators—how I cannot see; but they did.

Most of the soldiers who perished were quartered in the vicinity of the explosion. One was seen by a comrade to have been killed by a large fragment of steel blown in from the ship's side by the explosion. Several of those in the sick bay, including two of the apprentices, were trapped attempting to reach safety.

Others were unable to keep themselves afloat or from drowning in the rough sea. Some may have drowned by being without the life preservers they were ordered to have at hand continually. Had the life preservers not been always so ordered, doubtless few except those with boats would have been left to tell the tale of the *Antilles*, as the high seas made swimming very difficult.

When the torpedo struck, with its ensuing explosion, many doors and bulkheads were demolished. All the lights in the interior of the ship were put out of commission. A number who were below were trapped, became confused in the darkness and perished. One of the lookouts in the main topmast was thrown out by the shock of the explosion, fell to the steel deck below and was crushed.

Many received injuries of various kinds. One had his face severely cut by the radio antennae as the ship sank; others were badly bruised and knocked about.

One of the lifeboats that capsized had in it an Army officer who happened to have his hat on. As the boat turned over it fell off and, by force of habit, I suppose, he grabbed for his

hat, forgetting his own danger; and he must have succeeded, for after I was picked up I think I saw him with an Army hat, and that is one article Navy ship's stores do not carry.

In the case of another lifeboat safely lowered, one of the Navy gun's crew—an ordinary seaman—later got in it and, finding a boatload of "paralyzed" persons, took charge and got safely clear from the ship. The officer detailed for this boat had perished in the engine room. The lifeboats which got away safely did valiant work later, picking up persons struggling and swimming about in the water. One of these had the second mate in it, another the third, and I believe another had the fourth mate.

The surgeon reached his boat too late, but, seeing it in the water, made a flying dive and landed safely with only a few bruises as the result. Many such incidents occurred.

One of the gunners, finding some one without a life preserver, gave his to him and went searching for another. He was almost drowned—picked up from the water unconscious and nearly "done for," and was in a serious condition for days.

Another gunner clambered onto a floating box which he discovered to be part of an ammunition magazine. Thinking it had explosives in it, he had the forethought to warn the rescue vessel of this fact.

One of the most heroic deaths of all was that of the senior radio electrician, who, though he knew the ship was doomed, heroically remained at his station in a futile attempt to send out an S. O. S. warning.

An amusing incident which occurred was that concerning a young Navy seaman who, happening to be on the raft onto which the naval commander in charge of the ship clambered among the wreckage, when he saw the commander very ceremoniously wished him "Good morning, sir," according to the custom in the service upon first meeting one's superior officer in the morning.

The conduct of the personnel was magnificent throughout, displaying not only the time honored bravery of the service but what perhaps is even more important, coolness in and devotion to duty under stress of disaster and danger.

FATALITIES NOT SO GREAT AS SOME SUPPOSE

The military hospitals commission at Quebec has kept an account of how Canadian troops fared in the war and has compiled some interesting and assuring statistics based upon its investigations and observations.

Addressing Canadian mothers and fathers, the commission says:

If your boy goes to the front—

He has 20 chances of coming home to 1 chance of being killed.

He has 98 chances of recovering from a wound to 2 chances of dying.

He has only 1 chance in 50 of losing a limb.

He will live 5 years longer because of physical training.

He is freer from disease in the army than in civil life.

He has better medical care at the front than at home.

In other wars from 10 to 15 men died from disease to 1 from bullets.

In this war 1 man dies from disease to every 10 from bullets.

This war is less wasteful to life than any other in history.

Only 10 per cent of all the Canadians disabled for further service have been physically unable to engage in their former occupations.

If your boy is one of the 10 per cent the government will re-educate him in another vocation at which he can earn a living.

This doesn't mean that war is danger-free occupation, and that life in the trenches is as comfortable as in the easy chair at home, but it does make it appear less fearsome than it has been painted over here, especially by pro-German Socialists, disloyal pacifists and German born traitors in America.

THE ROLL OF HONOR

ROSE MEN IN THE SERVICE

STUDENTS.

Bruning, William H., '19. Sergeant Battery A, 150th Field Artillery, 67th Brigade, 42 Division A. E. F., France.
 Hauck, J. Walter, '19. Aviation Section, Signal Corps, Waco, Texas.
 Heck, Herman H., '20. 466th Aero Squadron, A. E. F., France.
 Jones, R. P., '20. Private, 64th Aero Squadron, A. E. F., France.
 Newman, I. Warren, '21. Aviation Section, Waco, Texas.
 Owen, R. J., '19. 1st Cadet Squadron, Ellington Field, Houston, Texas.
 Phillips, Don W., '20. Camp Taylor.
 Smith, George L., '19. Certified in Draft.
 Stock, Harry E., '20. Naval Training.
 Thiry, K. Paul, '19. A. E. F., France.
 Waggoner, R. M., '20. Private, Medical Corps, Jefferson Barracks, Mo.
 Wagner, Willys P., '20. Private, Hospital Corps, A. E. F., France.
 Wallace, James A., '21. U. S. School of Military Aeronautics, Instruction, Indianapolis.

GRADUATES.

Albrecht, A. H., '12. 24th Co., 159 Depot Brigade, Camp Taylor, Ky.
 Allen, LeRoy, '18. U. S. Army, Camp Taylor, Ky.
 Anderson, George G., '16. 2nd Lieut., 333d Heavy Artillery, Camp Jackson, S. C.
 Andrews, Carl B., '08. Captain, E. O. R. C.
 Arn, William G., '97 Major, 1st Battalion Railway Engineers, A. E. F., France.
 Arnold, Arthur T., '15. 2d Lieut., Aviation Section Signal Corps.
 Beauchamp, J. Mercer, '13. Lieut. (J. G.) U. S. N. R. F., U. S. S. Illinois.
 Binhack, Arvil M., '17. Research Department, Aviation Section, Waco, Tex.
 Bowsher, W. H., '04 1st Lieut. Engineers Corps, Camp Greene, N. C.
 Brauns, E. Dwight, '15. 2nd Lieut. Aviation Corps, A. E. F., France.
 Brennan, Albert F., '13. 1st Lieut. 342 Field Artillery, Camp Funston, Kansas.
 Brennan, Edward H., '09. 1st Lieut., 309 Engineers, Camp Taylor, Ky.
 Bringman, Frederick W., '14. 1st Lieut. Artillery.
 Brooks, G. W., '16. Sergeant, Meteorological Branch, Signal Corps, A. E. F., France.
 Buckley, Edmund T., '09. 1st Lieut., Caterpillar Truck Division, A. E. F., France.
 Burns, Ruel F., '15. 2nd Lieut. Aviation Section, Signal Corps, N. Y.
 Canfield, Harry R., '06.
 Carlisle, Clarence F., '16. Private, Bureau of Mines, American University Experiment Station, Washington, D. C.
 Carpenter, Floyd W., '17. Ensign, Engineering Duty, U. S. N., Boston, Navy Yard, Boston, Mass.
 Thurman, Christopher, '11. 1st Lieut. Ordnance Dept.
 Coltrin, J. Arthur, '14. Aviation Section Signal Corps.
 Combs, Bert L., '18. 2nd Lieut., Signal Corps, Camp Meade.
 Corbin, Raymond E., '11. Research Department, Aviation Section, Waco, Texas.
 Cornell, Erlund B., '18. Private, 159th Depot Brigade, U. S. N. A.
 Cox, Warren R., '14. Red Cross Field Ambulance, care American Express Company, 11 Rue Scribe, Paris, France.
 Currey, Glenn M., '09. Captain, Colonel's Staff, Tampa, Fla.
 Deming, Hubert B., '14. 1st Lieut., Engineer Corps.
 Drake, T. E., '15. 3rd Reg., 3d Co., U. S. N. Training Station, Newport, R. I.
 Ducey, Edward J., '11. 1st Lieut. 41st Engineers, A. E. F., France.
 Duddleson, Chas. S., '15. 1st Lieut. Aviation Corps, Gerster Field, Lake Charles, La.
 Dunn, T. Edward, '15. Assistant Chief Instructor, Headquarters Aviation Station, St. Paul, Minn.
 Eshelmann, Gordon L., '14. Signal Corps Aviation Section.
 Evans, Thomas M., '17. Asst. Electrical Engineer, C. A. C.
 Failing, C. Krieg, '18. 4th Engineer Officer Training Camp, Camp Lee, Va.
 Finkelstein, Samuel, '15. 2nd Lieut., A. P. O. 717. Care Chief Engineer S. O. S., A. E. F., France.
 Finley, Ralph E., '16. 2nd Lieut. 5th Engineers Train, Corpus Christi, Tex.
 Fitzpatrick, James E., '03. Captain, 20th Engineers Reserve, U. S. N. A.
 Flood, Ralph L., '10. U. S. National Army.
 Ford, W. Ellis, '98. Captain, E. O. R. C., in charge construction, Depot Warehouse, St. Louis, Mo.
 Galloway, John D., '89. Major, E. O. R. C., A. E. F., France.
 Geiger, Carl E., '18. Private, U. S. Meteorological Department, Knoxville, Tenn.
 Gillum, Joseph S., '15. 2nd Lieut.-Adjutant, 506th Service Battalion, A. E. F., France.
 Goldman, Harry S., '14. 1st Lieut. Searchlight Detachment, Washington Barracks, Washington, D. C.
 Goldsmith, F. Carr, '16. Research Department, Aviation Section, Waco, Texas.
 Goodman, Leon, '05. Captain and Adjutant, 109th Engineers, Camp Cody, Deming, N. M.

- Grammer, L. Earl, '09. 2nd Lieut. 341st Field Artillery, Camp Funston, Kans.
- Gray, Henry C., '17. Ensign Engineering Duty, Navy.
- Gray, Chesleigh, '13. 1st Lieut., Aviation Section, Signal Corps, A. E. F., France.
- Gwinn, Lawrence D., '15. Research Department, Aviation Section, Waco, Texas.
- Hamilton, Paul B., '08. Hospital Corps, Fort Riley, Kansas.
- Hansen, Arthur C., '14. 1st Lieut., 1st Engineers, A. E. F., France.
- Hatch, Fred N., '06. Captain, 35th Engineers, A. E. F., France.
- Hegarty, Edward J., '15. Co. B., 44th Engineers, Fort Benjamin Harrison.
- Henry, David B., '18. Signal Corps, Camp Alfred Vail, N. J.
- Henry, George B., '18. Officers' Training Camp, Camp Lee, Va.
- Hickman, Raymond N., '11. Paymaster, U. S. N.
- Hild, Frederick W., '17. Quartermaster, U. S. Naval Auxiliary Reserve.
- Holding, George W., '17. Sergeant, Ordnance Department, Washington, D. C.
- Howard, Daniel M., '18. 2nd Lieut., Co. D., 309th Engineers, Washington, D. C.
- Howe, Homer A., '15. 1st Battalion O. R. C., U. S. A.
- Hughes, Earl E., '13. Sergeant, 2nd Temporary Ordnance Recruit Co., A. E. F.
- Hunley, E. Bradford, '08. Sergeant, Company E., 316th Engineers, Camp Lewis, Wash.
- Kauffman, Ivan L., '14. Research Department, Aviation Section, Waco, Texas.
- Kelso, Byron L., '08. Captain, Co. B., 309th Engineers, Camp Taylor, Ky.
- Kingery, Frederick W., '16. Co. B., 44th Engineers, Fort Benjamin Harrison, Indianapolis, Ind.
- Klatte, Fred G., '18. U. S. National Army.
- Knox, Harry W., '17. 3d Reg., 3d Co., U. S. Naval Station, Newport, R. I.
- Kornfeld, Frederick H., '11. 1st Lieut., Engineers, U. S. R., Camp Beauregard, La.
- Lancet, Kenneth E., '14. 2nd Lieut. Co. A., 523d Engineers, Camp Humphreys, Va.
- Lawler, John M., '12. 1st Lieut., 308th Engineers, Camp Sherman, O.
- Lawrence, Russell E., '13. Research Department, Aviation Section, Waco, Tex.
- Lee, Thomas L., '09.
- LeForge, Charles C., '14. 2nd Lieut., Engineers.
- Levi, Davis, '13. 46th Squadron Aviation Section Signal Corps, Camp Greene, N. C.
- Long, Robert P., '18. Research Department, Aviation Section, Waco, Tex.
- Lyon, Claude A., '14. 2nd Lieut., 302nd Reg., Pioneer Engineers, Camp Upton, N. Y.
- McKee, Loren T., '11. 1st Lieut., 3d Division Ammunition Train, A. E. F., France.
- McKee, Chauncey S., '18. Research Department, Aviation Section, Waco, Texas.
- Mayrose, Herman E., '15. Corporal, Company H., 129th Infantry, Camp Logan, Texas.
- Mendenhall, Charles E., '94. Major, Aviation Section, Scientific Commission, Washington, D. C.
- Meyers, Gordon B., '14. Flying Cadet, Squadron 41, Aviation Barracks, Berkeley, Cal.
- Mikels, John W., '18. Research Department, Aviation Section, Waco, Tex.
- Miner, Erwin J., '07. Captain, 313th Engineers, Camp Dodge, Ia.
- Montgomery, John T., '98. Captain, 55th Engineers R. C., Camp Custer, Mich.
- Moore, Chester E., '14. Research Department, Aviation Section, Waco, Texas.
- Moore, James G., '14. Battery E., 136th Field Artillery, Camp Sheridan, Ala.
- Nicholson, Alexander P., '11. Ensign, Navy.
- O'Brien, Bernard, '09. 1st Lieut., 30th Engineers, M. P. O. 702, A. E. F., France.
- Oglesby, Milton L., '92. Captain, Ordnance Reserve Corps, Washington, D. C.
- Orr, James E., '18. 3d Reg., 3d Co., U. S. Naval Training Station, Newport, R. I.
- Pfau, Albert L. Jr., '14. Private Ordnance Department, Washington, D. C.
- Price, Ralph E., '18. Corporal, Battery D., 324th Heavy Field Artillery, Camp Sherman, O.
- Reagan, Oliver E., '12. 2nd Lieut., 80th Aero Squadron, A. E. F., France.
- Reddie, William W., '12. Lieutenant (J. G.) U. S. N. R. F., U. S. S. Illinois.
- Rehm, Roland C., '12. 1st Lieut., Advance Ordnance Depot No. 4 U. S. Military P. O. No. 706, A. E. F.
- Reid, John, '15. Co. H., 7th Infantry, 3d Division, Camp Greene, N. C.
- Reilly, Charles J., '09. Sergeant, 21st Engineers, A. E. F., France.
- Reiss, Frederick H., '08. 2nd Lieut., F. A. R. B., A. E. F., France.
- Reynolds, O. Frank, '05. Captain, Ordnance R. C.
- Richard, Edward W., '17. Research Department, Aviation Section, Waco, Tex.
- Robbins, John F., '08. Lieutenant (J. G.), U. S. N. R. F., Marine Barracks, Washington, D. C.
- Robinson, Goldsborough, '18. 2nd Lieut., Signal Corps, Carnegie Institute of Technology, Pittsburgh, Pa.
- Rochester, R. K., '01. Major, Railway Transportation Corps, A. E. F., France.
- Rock, Samuel M., '92. 1st Lieut., Coast Guard, U. S. N.
- Rogers, Frank A., '14. Headquarters Co., No. 2, 309th Ammunition Train, Camp Taylor, Ky.
- Rommel, Carl P., '12. Private, Ordnance Department Washington, D. C.
- Schofield, Alonzo D., '07. 1st Lieut., C. A. R. C., A. E. F., France.
- Schoonover, James M., '14. 1st Lieut. 310th Field Signal Battalion, Camp Custer, Mich.
- Schopmeyer, George E., '14. Sergeant, Co. H., 29th Engineers, A. E. F., France.
- Scott, John T., '14. 1st Lieut., 335th Infantry, Camp Taylor, Ky.
- Service, Jerry H., '12. Instructor, U. S. Army School of Military Aeronautics.
- Shaw, Henry M., '10. 1st Lieut., 332nd Artillery, Camp Jackson, N. C.
- Sheldon, J. Ernest, '15. Sergeant, 309th Ammunition Train, Camp Taylor, Ky.
- Smith, Herbert A., '14. 2nd Lieut., Engineers, Camp Taylor, Ky.
- Smith, Harold M., '17. Aviation Section Signal Corps.
- Smith, Richard L., '09. Captain, Office Constructing Quartermaster, Camp Fremont, Cal.
- Smith, Rowland M., '15. Captain, Wichita Falls, Texas.

Smock, Harold E., '16. 2nd Lieut., Aviation Section Signal Corps, San Antonio, Tex.
 Somers, Albert I., '16. Service Battalion Engineers, A. E. F. France.
 Springer, Fred W., '18. U. S. Meteorological Branch, Signal Corps.
 Stalker, James R., '07. 1st Lieut., Quartermaster Corps, Construction Division, Hartford, Conn.
 Stoltz, Roscoe R., '16. 2nd Lieut., Engineers, U. S. R.
 Stoms, Marion W., '14. 1st Sergeant, Ice Plant Company 301, A. P. O. 713, A. E. F. France.
 Stone, Sam P., '16. 2nd Lieut., American University Experiment Station.
 Streckler, Robert A., '07. Captain, Co. A., 309th Engineers, Camp Taylor, Ky.
 Stuart, Ralph A., '16. Inspector, Signal Corps, U. S. A.
 Struck, Charles M., '10. Squad 5080, 22nd Recruiting Co., 8th Platoon, Fort Thomas, Ky.
 Templeton, Robert J., '14. 1st Lieut., 32nd Engineers, Camp Grant, Ill.
 Tilley, James M., '11. 2nd Lieut., Field Artillery, A. E. F. France.
 Tilley, Milton, '17. 2nd Lieut., Aviation Section Signal Corps.
 Toner, Irwin D., '04. 2nd Lieut., 49th Engineers (Railway), Fort Meyer, Va.
 Townley, Fred L., 2nd Lieut., Infantry.
 Trimble, Ray, '16. Naval Aeronautical Training.
 Tygart, J. Burch, '14. Research Department, Aviation Section, Waco, Texas.
 Wallace, Hugh E., '15. Private, Aviation Section, Signal Corps, Camp Lowe, Dallas, Texas.
 Weinhardt, Robert A., '16. 1st Lieut., Aviation Corps, Massachusetts Institute of Technology, Boston, Mass.
 Wente, Walter C., '17. Sergeant, Field Hospital—329, Sanitary Train 308, Camp Sherman, O.
 Whitacre, Verne L., '16. Research Department, Aviation Section, Waco, Texas.
 Williams, Chester A., '17. 2nd Lieut., Camp Jackson, N. C.
 Woodling, Wayne C., '18. Research Department, Aviation Section, Waco, Texas.
 Worthington, Arthur W., '06. 1st Lieut., Engineers (Military Railways), A. E. F. France.

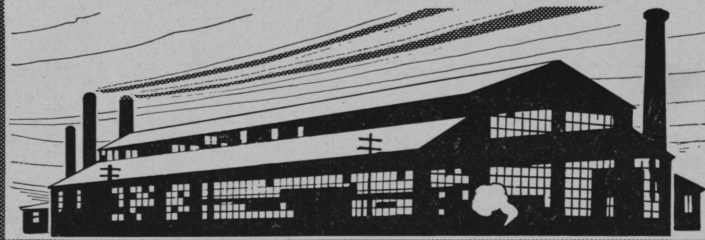
NON-GRADUATES.

Abbett, Edward B., '10. Captain, Artillery.
 Adams, A. Stanley, '08. Sergeant, Battery C., 65th Artillery, C. A. C., A. E. F. France.
 Amour, Lewellyn, '18. Camp Sevier, S. C.
 Buck, Ralph P., '18. Naval Aviation, A. E. F. France.
 Charman, Howard C., '15. 1st Lieut., Cavalry, Fort Douglas, Ariz.
 Cooke, Joe, '13. Signal Corps.
 Cooper, Clyde, Medical Department.
 Cortelyou, Chester H., '18. Private, 268th Aero Squadron, Chanute Field.
 Duncan, John M., '08. 2nd Lieut., Field Artillery.
 Furry, J. Forrest, '18. Research Department, Aviation Section, Waco, Texas.
 Ewens, Edwin, '19. 2nd Lieut. Coast Artillery.
 Gillum, Richard P., '19. Private, Field Artillery, Jefferson Barracks, Mo.
 Goodman, Edwin R., '17. 1st Lieut., Infantry O. R. C.
 Grafe, P. J., '18. Private, Engineers Corps, A. E. F. France.
 Heinl, Robert D., '04. Editor Emergency Fleet News, Washington, D. C.
 Kurfess, Leland S., '20. Lieutenant.

Lammers, R. Earl, '14. Sergeant, First Truck Company, 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, New York City.
 Neukom, Albert '14. 309th Engineers, Camp Taylor, Ky.
 Offutt, R. Keith, '17. 1st Lieut., Machine Gun Company, 152nd Infantry, Camp Shelby, Miss.
 O'Neil, Robert E., '20.
 Peddle, James B., '12. Naval Aviation.
 Petri, J. Stanley, '19. Camp Shelby, Miss.
 Pruett, Jesse R., '14. Private, 5th Cavalry, Fort Bliss, Tex.
 Puckett, Edward L., '11. Aviation Corps.
 Reese, Joseph, '19. Machine Gun Company, 33d Infantry, Camp Taylor, Ky.
 Reynolds, Myron B., '04. Captain, 305th Engineers, Camp Lee, Va.
 Riggs, E. S., '17. Captain, Infantry, Camp Taylor, Kentucky.
 Rohm, Arthur, '13. 1st Lieutenant, 340th Field Artillery, Trench Motar Battery, Camp Funton, Kansas.
 Shilt, F. C., '19.
 Scott, Richard, '18. U. S. S. Florida, care Postmaster, New York, N. Y.
 Scovell, Robert J., '08. 2nd Lieut., Instructor American University, Washington, D. C.
 Smith, Chester C., '18. Sergeant, Medical Corps, Fort Riley, Kan.
 Snead, J. Melvin, '08. Captain.
 Steeg, Ernest R., '16. 2nd Lieut., Co. L., 343d Infantry, 84th Division, Camp Grant, Ill.
 Stone, George M., '02.
 Thomas, Herbert C., '09. 1st Lieutenant.
 Zimmerman, John C., '19. Private, Aviation Research, Waco, Texas.

CIVILIAN SERVICE.

Dreifus, Alvin, '12. Bureau of Yards and Docks, Navy Department, Washington, D. C.
 Edwards, Edmund P., '99. National Council of Defense.
 Frisz, Frederick J., '09. Ship Draftsman, Navy Department, Washington, D. C.
 Hengsen, Walter O., '06. Expert Radio Aid, U. S. N.
 Housom, Chenoweth, '02. Mechanical Engineer, Bureau of Mines, Worcester, Mass.
 Layman, W. Arnold, '92. National Council of Defense.
 Lewis, L. Wallace, '13. Submarine Draftsman, Balboa Heights, Panama Canal Zone.
 Madison, Richard D., '13. Ordnance Department, U. S. Army, Washington, D. C.
 Moore, Roy D., '14. Inspecting Engineering Materials, Navy Dept., Philadelphia, Pa.
 Pirtle, Clairborne, '98. National Council of Defense.
 Putnam, George R., '90. Bureau of Lighthouses, Commissioner, Washington, D. C.
 Rector, John C., '17. Sea Coast Division, War Department, Washington, D. C.
 Stilz, Oscar W., '15. Aeroplane Division, Nordyke Marmon Company, Indianapolis, Ind.
 Wallner, Edward P., '15. Aeroplane Division, Nordyke Marmon Company, Indianapolis, Ind.
 Whelan, Verne J., '17. Aeroplane Motor Inspector, Nordyke Marmon Company, Indianapolis, Ind.
 Wimsett, Harold O., '11. U. S. General Hospital No. 8, Otesville, New York.



ALUMNI - NOTES

C. A. Dutton, '14, is now located at Bremerton, Wash., where he is Marine Engine and Boiler draftsman in the Navy Yards.

D. M. Howard, '18, has just been commissioned 2nd Lieutenant in the engineers.

Howard J. O'Laughlin, '16, was married to Miss Edna Glick of Terre Haute on Wednesday, June 12.

Irwin D. Toner, '04, has received a lieutenant's commission in the 49th Engineers (Railway) and is at present at Fort Meyer, Va.

R. Thurber Reinhardt, '11, is with the Prest-O-Lite Company, Indianapolis.

Lieut. Chester A. Williams, '17, has been transferred from Camp Grant to Camp Jackson.

W. H. Henry, '14, has been changed from the Chicago office of the Western Electric Co. to the Indianapolis office.

A. D. Pritchard, '09, has been transferred from Chicago to Gary, Ind., with the Western Electric Co.

Davis Levi, '13, is in the Aviation Section Signal Corps at Camp Greene, N. C.

Donald McDaniel, '07, has taken a position with the Hamilton Foundry and Machine Co., at Hamilton, Ohio.

LETTER FROM W. G. ARN.

The following is from a letter from Major W. G. Arn, '97, who is now in France with the 13th Engineers:

"The New York regiment of railway engineers was the one that gave such a good account of itself at Cambrai. None of our men have been in a fight yet, though several of our detachments have been under fire from cannon or from bombs from aeroplanes, or machine guns on aeroplanes. We have dugouts at many stations in which to take shelter in these attacks. Our business is to maintain and operate a broad (standard) gauge military railroad. This of course can not be done right up to the front so we are out of range of rifle and machine gun and small cannon fire from the Ger-

man lines and consequently we have no opportunity to fight back. As much as our work will permit we take shelter from the long range cannon fire and the avion fire. If work is pressing we must grin and risk it. So far we have suffered no loss from hostile fire; our only deaths being from illness or accident.

The very interesting Dec.-Jan. number of the *TECHNIC* just came in a recent mail, and is being read from cover to cover as rapidly as time permits. I enclose copy of brief description of one of my most interesting trips which may be of some interest.

Have just received notification of my promotion to grade of Major, National Army. I will remain with the 13th Engineers.

ROSE LEAVES

THE PRIZE DRILL.

On Monday, June 3d. a prize drill between the two companies at Rose was held on the Campus.

Before the drill the companies were assembled in the Gymnasium, where Mr. Herman Hulman gave a short speech thanking the Rose Battalion for their work as Honor Guard of the Blue Devils. Also Major Cole was presented with an Honorary Military "R" for his work and interest with the military instruction at Rose.

The event proved to be very interesting as the outcome was in doubt throughout the entire drill. Company B, under Captain Cromwell won by the score of 82 to 76. The drill was judged by Colonel George C. Russell of the Uniform Rank, Knights of Pythias, Captain Wayne Bigwood of the Liberty Guards and Sergeant Raymond Harris of Co. A., U. S. A. Engineers. Each company started with a percentage of 100 and was marked down 1% for each mistake made by a private, 3% for a corporal or sergeant, and 5% for a captain or lieutenant.

In the drill of squads, the sixth squad of Company A, commanded by Corporal Woodling, received a prize of \$8 for being the best drilled squad in the battalion. Corporal Reinking of Company A was chosen the best corporal for which he received an elegant fountain pen presented by Captain Bigwood of the Liberty Guards.

Both companies were well represented in the individual drill in the manual of arms. The first prize of \$15 was won by Barnes of Co. B., second prize of \$10 by Mendenhall of Co. A., third prize of \$7 by Froeb of Co. A., fourth prize of \$5 by Brooks of Co. A., fifth prize of \$5 by Arleth of Co. B.

Mr. Herman Hulman donated one hundred dollars of which fifty dollars was used for prizes in the manual of arms and fifty dollars for purchase of a flag for the Battalion. Mr. Hulman's generous contribution is sincerely appreciated by every one connected with Rose.

PEP FEAST.

Saturday evening, June 1 marked the third and last pep feast of the season which was held at the Gym. The affair was under the auspices of the Sophs.

Rufus Wellington Gilbert was Field Marshal of the Eve and got away big as usual. First on the program came several of Tech's celebrated boxers and the evening was christened by a little two round bout by "Harmless Herbie" Briggs and "Scrap Iron" Stinson. (Who incidentally shook a wicked paw.) Our own two midgets "Shorty" Rolshausen and "Skinny" Barnes put on the second bout which soon ended as "Skinny" ran out of wind. "Chicken" Manson and "Battling" Froeb went two sizzling rounds which finished the programme in the squared arena.

Following the boxing exhibition the Sophs opened up a 10 gal. can of ice cream which soon disappeared along with a can of cakes. After the refreshments Captain Bigwood of the Liberty Guards gave a short talk on military work for Rose. President Crapo of the student body gave short talks in respect to Tech in athletics for the coming year. They all decided it was going to be a banner year, so let us work hard and go to the front again in the I. C. A. L.

After the presentation of the letters to the men who won this honor in various branches of sport, the announcement of captains-elect was made. "Slivers" Floyd one of the best all around athletes of Rose was elected as Basketball Captain of 1918. "Butch" Barnes, I. C. A. L. tackle was elected Football Captain for 1918, "Fred" Rolshausen, star slabbist of the Rose nine was elected captain for 1918, and "Freddie" Crapo, speed demon was elected captain for the 1918 track season.

This found the ending of a perfect evening. It was some party, you Sophs.

STUDENT COUNCIL MEETING, JUNE 8, 1918.

Meeting called to order at 4:00 p. m. by Pres. Crapo.

Roll call, Wiedemann absent. Mr. Gilbert, present.

Minutes of previous meeting read and approved.

Wiedemann present at 4:15 p. m.

Moved by Skinner and seconded by Pence that Mr. Gilbert's complete financial report be accepted as read. Carried.

Mr. Crapo reported that a vote of thanks was sent to Mr. Bruce Failey for defraying the expenses of the Rose Baseball team to the extent of \$200.

Moved by Wiedemann, seconded by Barnes that a note of thanks be sent to Mr. Herman Hulman for his presentation of \$100 for prizes for the prize drill. Unanimously carried.

Moved by Skinner, seconded by Maxwell that meeting be adjourned. Motion carried.

Meeting adjourned at 4:45 p. m.

A. N. BARNES,
Secretary.

ROSE MEMORIAL DAY.

Tribute was paid to the memory of Chauncey Rose on the annual Rose Memorial Day which fell on Wednesday, May 15 this year. The usual services were held at the grave of Mr. Rose at three o'clock, at Highland Lawn Cemetery. Representatives of the Rose Ladies' Aid Society, the Rose Dispensary, the children of the Rose Orphan Home and students and faculty of the Rose Polytechnic were in attendance.

Mr. William C. Ball presided at the services. The invocation was delivered by Rev. F. Leroy Brown, following which a sketch of the life of Chauncey Rose was read by Ernest D. Alden, superintendent of the Rose Orphan Home. At the conclusion of the sketch a wreath of red roses was placed on the Rose Monument by two children of the Rose Orphan Home.

Professor Faurot of Rose, gave a sketch of the life of Josephus Collett, one of Chauncey Rose's closest friends, who after the retirement of Mr. Rose was chosen to fill his place.

The Rose students fell into regular company formation and with the faculty and board of managers, marched to the graves of Josephus Collett and James McGregor, where wreathes

of white roses were placed. Flowers were also placed on the graves of Thomas Grey, Richard Thompson, Charles Peddle, Preston Hussey, William Mack and Robert S. Cox who served on boards of the Rose organizations.

INTER-FRATERNITY DANCE.

The second annual Inter-Fraternity Dance of Rose was held on Tuesday evening, May 28 at the Elks Club. Over one hundred attended, including several alumni.

The grand march was started at nine o'clock led by Doctor and Mrs. White and Doctor and Mrs. Johonnott who acted as chaperons. The hall was beautifully decorated in rose and white, the Leo Baxter Orchestra composed of six pieces was hidden by large palms. Frozen punch was served throughout the evening.

All had a most enjoyable time, and it is to be hoped that the Inter-Fraternity Dance will continue to be an annual affair at Rose.

A. T. O. DINNER.

About two dozen members of the local chapter of Alpha Tau Omega were present at the annual farewell banquet held June 8 at the Hotel Deming. V. J. Whelan, present for the alumni, and Warren Hussey from Boston Tech chapter, were guests.

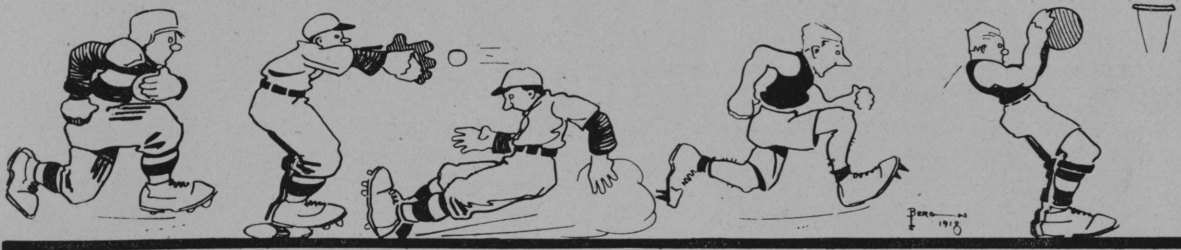
ROSE MEN JOIN NAVAL RESERVES.

The following men have been to Indianapolis to take the examination for the Naval Reserve:

Fred M. Crapo, Richard P. Gillum, H. Winton Streeter, Richard A. Leathers, John K. Pietv, Alvin N. Barnes, Alex P. King, Arthur L. Ervin, Joseph A. Englehard, Rex. J. Self, Adolph E. Reinhard, Herbert B. Sliger, Adolph A. Geiger, Ronald C. Manson, Frank L. Reinmann, Lester S. Stinson, Aaron W. Richardson, Glen N. Maxwell, George R. Probst, William C. Byran, Clyde H. Pence, Arthur D. Orth, Marion G. Flesher, Owen G. Floyd, Jerome Farmer, George W. Brooks, Ray Biller and Milton F. Steffen.

The following have been enrolled:

Richard A. Leathers, Jerome Farmer, William C. Bryan, Adolph E. Reinhard, Alvin N. Barnes, Clyde H. Pence, Ferd Rolshausen, Paul Fuqua, Alexander P. King and George Defel.



ATHLETICS

ROSE-NORMAL.

In the first Normal game, Tech came out victor by a 5-4 score. The margin see-sawed back and forth throughout the whole game. Tech scored first, then the Teachers forged ahead. Tech evened it up and it was 3-2 Rose, when the lucky seventh gave Normal 2 runs and a 1 run lead. Rolshausen's and Brophy's hits tied things in the eighth. Norman went one-two-three in her half of the ninth, but Jake's walk and Pence's timely single gave Rose the winner in her half. Tech could only locate Kerr's offerings on five occasions but poor ball playing on part of I. S. N. helped to score as many tallies. Rolshausen retired eight batsmen by the S. O. Route and allowed six blows. No Rose batter got more than one hit.

Score:

State Normal—	A.B.	R.	H.	P.O.	A.	E.
Lloyd, rf.	4	0	1	1	0	0
Wilson, 2b.	0	0	0	1	2	2
Glenn, 3b.	2	0	0	1	1	2
Garrett, 1b.	4	0	2	10	0	1
Clodfelter, ss.	3	1	1	4	3	0
Schinnerer, cf.	4	1	0	2	0	0
Harris, lf.	3	1	0	0	0	1
Clark, c.	3	0	2	4	1	1
Kerr, p.	4	1	0	2	5	2

Totals31 4 6 *26 12 9

Rose Poly—	A.B.	R.	H.	P.O.	A.	E.
Reinking, lf.	3	1	0	0	0	0
Meadows, 3b.	4	0	0	1	1	0
Reinhard, ss.	5	1	1	0	0	0
Pence, rf.	5	0	0	0	0	0
Steffen, 1b.	3	1	1	7	1	1
Rolshausen, p.	4	1	1	0	6	1
Brophy, 2b.	4	1	1	5	2	1
Ruston, c.	2	0	1	14	1	0
Biller, cf.	3	0	0	0	0	0

Totals33 5 5 27 11 3

State Normal0 2 0 0 0 0 2 0 0-4

Rose Poly1 1 0 0 0 1 0 1 1-5

Bass on balls—Off Kerr, 3; off Rolshausen, 2. Struck out—By Kerr, 2; by Rolshausen, 8. Wild pitch, Rol-

shausen, two. Hit by pitcher, Glenn by Rolshausen. Sacrifice hits, Clodfelter, Clark, Ruston, Biller. Two-base hits, Brophy. Sacrifice fly, Ruston. Double plays—Meadows to Brophy to Steffen. Left on base, Normal, 5; Rose, 8. Stolen bases—Reinhard, Steffen, Garrett, Clark, Kerr. Passed ball—Ruston. Time 1 hour, 35 minutes. Umpire Scanlon. Scorer, Morphet.

ROSE-INDIANA.

Playing a steady game of baseball, Tech overcame a three run lead and won out from Indiana University in the tenth inning 5-4.

Although the Rose team made nine errors it made up for this weakness by heavy batting. Indiana was out-hit, 12 to 5. Rolshausen, with better support could easily have held the opposing batters scoreless and did succeed in holding them helpless in all but two innings. He allowed but five safe hits—Jeffries who worked nine innings for the university team, was hit hard and Faust, who was sent to the mound in the tenth, was also found for two safeties and the winning run. Rolshausen won his own game in the tenth by scoring Pence from second with a Texas Leaguer. Ruston, with a double and two singles, and Rolshausen, with two singles, led in the bombardment for the Engineers.

VISITORS SCORE EARLY.

Indiana's big inning came in the first. Casebeer drew a pass. Rauschenbeck whiffed and Peckham went out on a fly, but Julius was safe on Brophy's wild throw to Steffen. Gilbert was walked. Then Driscoll and Batman hit safely, scoring Julius and Gilbert. Rose scored two in the second, when Pence singled, Reinking was passed and Ruston doubled, clearing the sacks. Rose evened the count in the third, when Brophy walked and scored on Pence's double to right. Rolshausen turned back the Hoosiers

for four innings and then three Poly errors in the sixth gave Indiana a score without a hit. Batman scored when Rolshausen threw wild to Meadows in an attempt to catch the Indiana second sacker of the bag. This finished the Indiana scoring, although they threatened in the eighth and ninth. A fast double play in the ninth, Brophy to Reinhard to Steffen cut short their rally.

Rose evened the count in the last half of the sixth. Steffen singled, took second on Rolshausen's sacrifice, but was out at the plate trying to score on Reinking's infield hit. Then Ruston arose to the occasion again and brought Reinking home with his second double. After failing to count on three safeties in the ninth, Rose jumped on Faust who was sent to the mound in place of Jeffries and singles by Pence and Rolshausen brought in the winning tally. The score:

Indiana—	A.B.	R.	H.	P.O.	A.	E.
Casebeer, 3b.	5	1	0	1	0	1
Rauschenbeck, ss.	5	0	1	3	3	0
Peckham, lf.	5	0	0	1	0	0
Julius, c.	5	1	1	12	0	2
Gilbert, cf.	3	1	0	0	0	1
Driscoll, rf.	5	0	1	0	0	0
Batman, 2b.	5	1	1	3	2	0
Sutheimer, 1b.	3	0	1	9	1	0
Jeffries, p.	2	0	0	0	1	0
Faust, p.	0	0	0	0	0	0
Totals	38	4	5	*29	7	4

*Two out when winning run was scored.

Rose Poly—	A.B.	R.	H.	P.O.	A.	E.
Brophy, 2b.	4	1	1	1	3	3
Meadows, 3b.	5	0	0	4	2	1
Reinhard, ss.	5	0	0	2	6	2
Pence, rf.	4	2	3	1	0	0
Steffen, 1b.	4	0	1	17	1	0
Rolshausen, p.	2	0	2	0	5	1
Reinking, lf.	3	2	1	0	0	0
Ruston, c.	4	0	3	5	0	2
Biller, cf.	4	0	1	0	0	0
*Englehard	0	0	0	0	0	0
Totals	35	5	12	30	17	9

*Ran for Biller in the ninth.

Indiana	3	0	0	0	0	1	0	0	0	0—4
Rose	0	2	1	0	0	1	0	0	0	1—5

Base on balls—Off Rolshausen, 6; off Jeffries, 3. Struck out—By Rolshausen, 3; by Jeffries, 9; by Faust, 1. Wild pitch—Rolshausen. Sacrifice hit—Steffen, Rolshausen (3); Sutheimer, Jeffries. Two-base hits—Ruston (2); Pence, Julius. Double plays—Brophy to Reinhard to Steffen; Rauschenbeck to Batman. Stolen bases—Rauschenbeck, Reinking (2); Brophy. Passed balls—Julius (2). Time of game—2 hours, 5 minutes. Umpire—Scanlon.

ROSE-NORMAL.

The second Normal game proved to be one of the best exhibitions of baseball ever seen in this city. Both teams played sensational ball behind two equally matched slabbists and the affair went 20 scoreless innings, darkness finally calling a halt. Though nary a player crossed the plate the game was full of thrills. Time and time again one team threatened but invariably the other tightened up and no scores resulted.

The excitement was intense in the eighteenth when with a man on second and third Rolshausen purposely passed Clark filling the bases with none out, and then whiffed three men in a row. After the ninth the Rose infield played air tight ball and more than once after men had been purposely passed hard chances were handled without a slip and the side retired. In the nineteenth Glenn was forced at the plate.

Tech held the hitting honors with 12 against the Teacher's 11. Errors were three apiece. Jake Reinking got by with 4 hits in 8 trips. Steffen connected thrice and Capt. Ick and Meadows poked out two singles. Ruston put up a nice defensive game taking 20 chances without an error. Rolshausen fanned eleven Teachers.

Score:

State Normal—	A.B.	R.	H.	P.O.	A.	E.
Lloyd, rf.	9	0	1	3	0	0
Wilson, 2b.	9	0	1	3	6	0
Glenn, 3b.	7	0	1	0	1	0
Garrett, 1b.	8	0	1	19	1	1
Clodfelter, ss.	6	0	3	7	3	2
Schinneer, cf.	7	0	1	6	0	0
Harris, lf.	4	0	0	1	0	0
*Moye, lf.	3	0	0	0	0	0
Clark, c.	7	0	3	18	1	0
Kerr, p.	7	0	0	3	8	0
Totals	67	0	11	60	20	3

*Batted for Harris in 13th.

Rose Poly—	A.B.	R.	H.	P.O.	A.	E.
Meadows, 3b.	9	0	2	1	6	0
Brophy, 2b.	8	0	1	9	4	1
Reinhard, ss.	8	0	2	1	4	2
Pence, rf.	8	0	0	2	0	0
Steffen, 1b.	8	0	3	25	1	0
Rolshausen, p.	8	0	0	1	7	0
Reinking, lf.	8	0	4	2	0	0
Ruston, c.	7	0	0	19	1	0
Biller, cf.	4	0	0	0	0	0
*Rosenbaum, c.	3	0	0	0	0	0
†Englehart, cf.	1	0	0	0	0	0
Totals	72	0	12	60	23	3

*Batted for Biller in eleventh.

†Batted for Rosenbaum in nineteenth.

At the annual farewell pep feast, "R's" were awarded for this last year. For baseball Ruston, Rolshausen, Steffen, Brophy, Capt. Reinhard, Meadows, Reinking, Pence and Biller were the honored ones. In track, Capt. Floyd and John Burns were fortunate. The following basketball men were also decorated: Capt. Floyd, Reinhard, Reinking, Burns, Streeter and Krausbek.

terially and decrease the number of replacement parts necessary.

NEW SOURCES OF SUPPLY.

Quantity production on the scale necessary demanded the enlargement of all existing new plants and factories. A certain amount of time was available before it was necessary to use these instruments on planes in service—the sources of supply and the creation of many planes themselves had to be built. According orders were placed from three to eight months ahead of requirements, but only in such quantities as would insure a steady production, owing to the certainty of improvements in the various designs.

The early plans of the production department have developed from two to five sources for each instrument, established both as a safety measure and as a means of placing future orders on a strictly competitive basis.

SOME OF THE INSTRUMENTS.

Various instruments developed by the Signal Corps include:

The *tachometer*, or revolution counter, is an instrument which indicates the number of revolutions per minute at which the engine is running. Unlike the speedometer on an automobile, it does not translate revolutions into miles per hour; another instrument gives the speed in relation to the air. When instrument matters were taken up last July there were no tachometers manufactured in this country of the type which has proven most successful abroad; namely, the escapement or chromatic type. Two large manufacturing companies are now turning out these instruments in large quantities, one of them 100 a day and a third company has also in production a new centrifugal type.

THE AIR SPEED INDICATOR.

The *air speed indicator* is a pressure gauge for showing the speed of the plane in relation to the air, not the earth. This instrument includes what is known as a Venturi-Pitot tube, which is fastened to a strut and takes in the air from ahead. The air sets up a corresponding pressure in an auxiliary tube, which is calibrated and indicated on a dashboard recording pressure gauge.

The altimeter is an aneroid barometer, graduated to read height above the earth instead of pressure. Under standard specifications a reduction in weight and size was effected in the manufacture of these instruments, which are

now being produced in large quantities and of a quality equal to the best foreign make. Three standard types are made, with ranges of 20,000, 25,000 and 30,000 feet. Production was up to 500 a week in April.

THE AEROPLANE COMPASS

The airplane compass—After much experimental work this instrument has not yet reached the perfection desired. A new type, having advantages over any present form of compass, especially as to compactness, is now used. In the development of this instrument effort has been made to reduce the weight to the safest. The book is supplemented with a large scale required in the airplane. One concern is now turning out compasses at the rate of 200 a week.

Airplane clocks.—Due to the development which had been made in clocks for automobiles, it was only necessary to standardize a design of mounting in order to adopt such clocks to airplanes. Sufficient quantities are now available for all needs.

Pressure gauges—Instrument-board pressure gauges were already manufactured here in large quantities, and as soon as standard specifications were developed production started. Two types are used, one to register the air pressure which forces the gasoline to the engine and the other to show the pressure produced in the oiling system by the oil-circulating pump. Standard forms of cases and dials with interchangeable glasses and bezels have been designed.

THE RADIATOR THERMOMETER.

Radiator thermometer—This instrument is mounted on the instrument board, where it indicates the temperature of the cooling water in the engine. Undue heating shows that the engine is not running properly or that more water is needed. Thermometers of this type made here were, and still are, being submitted to extensive tests. Efforts were also made to stimulate the trade toward developing more accurate and reliable instruments, and now a sufficient supply is available from two sources.

Banking indicator.—This is an instrument used to show when a plane is correctly banked in making a turn. Spirit level, balance, and gyroscopic types are being used. The problem of indicating the extent to which a plane is inclined to the horizontal in the air is a very complicated one. No simple solution has yet been reached. Fortunately, it is not often necessary to determine whether the plane is exactly horizontal, except in connection with bomb dropping. Development work is under

way which it is hoped will lead to improvement of devices already in use abroad.

Aldis Sight.—This sight, which is used in connection with fixed guns firing through the propeller, has been copied, as regards its optical features, from an English instrument; but the construction has been modified in such a way that the behavior of the instrument in actual use will probably be very much improved. After a number of tests and experiments satisfactory instruments are now available. The makers have been assisted in recomputing the lenses to suit the optical glass available in this country. The illumination of these sights for night operation is also being studied.

STANDARDIZATION OF PARTS.

Standardization.—In connection with the design of the above instruments it has been found possible, without delaying production, to standardize them to a much greater extent than has been done abroad. In this way the number of necessary replacement of parts has been considerably reduced, and a uniform type of dial has been adopted which, as to legibility, will be equal to the best that has so far been used. All finished instruments are carefully tested before being mounted on the planes.

Among other things, safety belts for pilots, observers, and gunners have been designed and are now in production; radio and photographic apparatus, ordnance devices and oxygen apparatus have also been developed and put in course of manufacture.

POISON GAS AND LIQUID FIRE.

THE present war has produced some of the finest (if we may use the term in this sense) devices for destroying life that have ever been known.

Let us consider the poison gas development up to the present time. When the Germans first brought out this new mode of warfare they used plain chlorine. But finally the Allied chemists devised a helmet which rendered the chlorine harmless and turned it into common salt. Then the Germans began to elaborate on their compounds of poison gases, and it was not quite so easy to analyze them. The latest gases are the tear gas and arsine gas. The Germans have not enough of the compounds with which to prepare arsine gas and so they cannot use it as extensively as they had planned. On the other hand, the Allies have enough of the necessary compounds to generate

NITROGEN FIXATION.

The work of the Government in developing processes for the fixation of nitrogen is discussed at length in the new Year Book of the United States Department of Agriculture. In this discussion Frederick W. Brown, of the Bureau of Soils, speaks very encouragingly of a new process, involving the use of carbide, which appears to have advantage over the cyanamid methods, and which, through economies effected, may be able to operate successfully under American conditions.

BOOK REVIEW.

Manufacturing Opportunities in the State of Washington, by Harry F. Giles, Deputy Commissioner, State Bureau of Statistics and Immigration. Pp. 240.

A book in which the author wishes to attract the attention of capitalists and business men to the opportunities in the State of Washington. The book gives general information about the state, the transportation advantages, markets, and resources, such as lumber, fruit, mineral resources, water power, etc.

There are tables showing the industries desired by various communities, and what advantages and resources there are in that section. possible minimum and to decrease the space map of Washington. This book should prove of unusual interest to anyone who is looking for new business or manufacturing opportunities.

enough gas to kill every person in Germany. There is no known antidote for arsine gas, and so it will remain one of the most deadly poisons in use today.

Liquid fire is another product of the Huns. They use large steel tanks in which a petroleum compound of low ignition point is stored under pressure. As this liquid is forced through the nozzle it is ignited and the whole stream immediately takes fire. It can be forced to comparatively great distances and will burn anything combustible that it strikes. A favorite sport of the Huns is to disable one of the British tanks, and when it is in this helpless condition, spray liquid fire on it and literally roast the crew alive. The Allies have retaliated in the branch of warfare and the German "Flammen-wefer" is used very extensively and with good results.



DIFFERENTIALS

THE ENGINEER.

Sung to the Tune of "Son of a Gambolier," at a meeting of the Engineering Society of Buffalo.

Who is the man designs our pumps with judgment,
skill and care?
Who is the man that builds 'em and who keeps them
in repair?
Who has to shut them down because the valve seats
disappear?
The bearing-wearing, gearing-tearing mechanical
engineer.

Who buys his juice for half a cent and wants to
charge a dime?
Who when we've signed the contract can't deliver
half the time?
Who thinks a loss of twenty-six per cent is nothing
queer?
The volt-inducing, load-reducing electrical engineer.

Who is it takes a transit out to find a sewer to tap?
Who then with care extreme locates the junction on
the map?
Who is it goes to dig it up and finds it nowhere near?
The mud-bespattered, torn and tattered civil engi-
neer.

Who thinks without his products we would all be in
the lurch?
Who has a heathen idol which he designates Re-
search.

Who tints the creeks, perfumes the air, and makes
the lanscapes drear?
The stink-evolving, grass-dissolving chemical engi-
neer.

Who is the man who'll draw a plan for everything
you desire?
From a trans-Atlantic liner to a hair-pin made of
wire?
With "ifs" and "ands," "howe'ers" and "buts" who
makes his meaning clear?
The work-disdaining, fee-retaining consulting engi-
neer.

Who builds a road for fifty years that disappears in
two?
Then changes his identity, so no one's left to sue?
Who covers all the traveled roads with fifty oily
smear?
The bump-providing, rough-on-riding highway engi-
neer.

Who takes the pleasure out of life and makes exist-
ence hell?
Who'll fire a real good-looking one because she can-
not spell?
Who substitutes a dictaphone for coral tinted ear?
The penny-chasing, dollar-wasting efficiency engi-
neer.

THE FEMININE IDEA.

"Why did the army reject Tom?"
"On account of his eyes."
"Why, I think, they're pretty, don't you?"

R. P. I.

Jake (during a lecture in Fessor's solid
analytics): "Not so loud, 'Fessor, how can I get
my French for next hour?"

R. P. I.

Hensgen, dubiously to Leathers who has just
finished an explanation of something in Radio:
"Yes,—but now, is that exactly—according to
Hoyle?"

Probst to Rhinehard: "Say Ick, who in
hell is Hoyle?"

LOST IN TRANSMISSION.

"Bernice is an awful prude!"
"News to me! Tell me why."
"Refused to ride with me when I told her
the car's gears were stripped."—*Chaparral*.

R. P. I.

Knippy (on electricity quiz): "There will be
one more question, but you can answer it with
three words."

Voice in Rear: "They'll probably be, 'I don't
know.'"

R. P. I.

Floyd: "Were you out after eight last night?"
Richey: "Oh, no, only one."

MILITARY PRECISION.

A negro drill sergeant was addressing a squad of colored "rookies" under him. He said: "I want you niggers to understan' dat you is to car'y out all o'ders giben on de risin' reflection ob de final word ob comman'. Now when we's passin' dat reviewin' stan', at de comman' 'Eyes Right!' I wants to hear ever' nigger's eyeballs click."

R. P. I.

Captain: "How many fathoms?"

Pilot: "Can't touch bottom, sir."

Captain: "Well, damn it, how near do you come?"

R. P. I.

"Are you lost, my little fellow?" asked a gentleman of a four-year-old one day.

"No," sobbed he in reply, "b-but my mother is."

R. P. I.

"What were you in jail for, Sambo?"

"Fo' borryin' money, sah!"

"But they don't jail people for borrowing money."

"I know, but in dis case I had to knock the man down three or four times, before he would lend it to me."

R. P. I.

Manson gave another long speech the other day."

"That so? What did he talk about?"

"He didn't say."

R. P. I.

BY THEIR STRIPES YE SHALL KNOW THEM.

When the donkey saw the zebra

He began to switch his tail;

"Good night!" he said, with frightful mien,

"There's a horse that's been in jail."

Awgwan.

R. P. I.

GOOD THOUGHTS.

Master: "What! Forgotten your pencil again? What would you think of a soldier who went to war without a gun?"

Tommy: "I'd think he was an officer, sir."
—*Passing Show.*

"Could you spare a hungry man a nickel?"

"Yes, if you'll tell me where a man can buy anything to eat with a nickel."

R. P. I.

She: "How can I induce you to leave?"

He: "By letting me stay a little longer."

R. P. I.

FORCE OF HABIT.

Page Boy: "Your wife wishes to speak to you on the telephone, sir."

Boi Vivant: "Goo' Lor'! Fetch me a clove, boy—quick!"—*Boston Transcript.*

R. P. I.

SO CLEVER.

Caswell—Heard about the former king of Portugal?

Hope—Naw.

Caswell—Well, he got so clever at handling a rifle—port arms, right shoulder, etc., that—

Hope—What?

Caswell—That his folks call him Manuel.—*Brunonian.*

R. P. I.

Richey—"Do you think my moustache becoming?"

Probst—"It may becoming, but it hasn't arrived yet."

R. P. I.

More than 50,000,000 articles are handled each week by the central branch of the British ministry of munitions.

R. P. I.

In the brightest moonlight it is almost impossible to see an areoplane flying at a height of from 10,000 to 15,000 feet.

R. P. I.

Since the commencement of the war the manufacture of beer in England has been reduced from 36,000,000 barrels to 14,000,000 barrels.

R. P. I.

Of the 5,236 conscientious objectors whose cases have come to the attention of the British authorities, 4,660 have been courtmartialed for refusing to obey orders and sentenced to hard labor.

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THRILLING FACTS FOR CHEMISTS.

Carbamat, of Glasgow, has discovered that hydroxylamine hydrochloride in solution with vitric acid with fully developed grains of anhydrated calcium tetrasulphide, is very nice.

The Ervin and Schlaman Co., printers of Chemical texts, saved fourteen pages in Dr. Manson's latest treatise by spelling the word "sulphur" with an "f."

Jumpanki, Hawaii, produced 91,000 pounds of sodium meta-phalsepache in 1917.

In many collegiate R. O. T. C. camps it has been found that the chemical laboratories lend themselves beautifully for final gas-mask tests.

It has been recently discovered that one hundred cubic centimeters of natural water with six cubic centimeters of tenth normal sodium hydroxide and phenolphthalein, is of a baby pink color.

ARTHUR M. HOOD
Rose '93

GEORGE B. SCHLEY

HOOD & SCHLEY

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Organization have a good

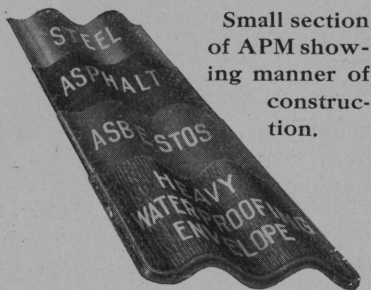
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Taken for that Mother, Wife or Sweetheart
They will appreciate it!

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Small section of APM showing manner of construction.


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