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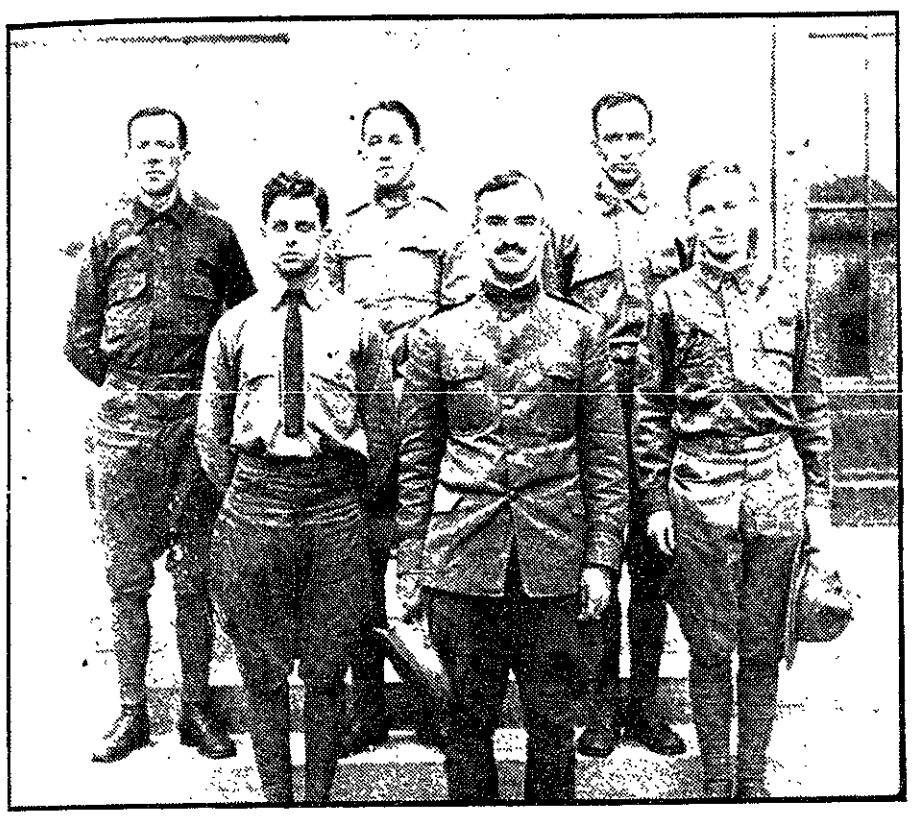
MEDICAL DEPARTMENT OF TECHNOLOGY S.M.A.



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MEDICAL DEPARTMENT, SCHOOL OF MILITARY AERONAUTICS

Left to right, front row:—Sergeant Scutt, Lieutenant E. W. Bartol, Sergeant Levine; back row:—Private Wylie, Sergeant Foulser, Private Taylor.

THIS group of men has direct charge of the health of the 275 odd students in the Technology School of Military Aeronatics. Anything that affects the health of the men in any way comes under their control. They give instruction in hygiene, inoculate the men against diseases, give medical aid wherever needed, and take charge of all cases of sickness arising in the school, with the exception of those of the most serious nature, which are sent to neighboring hospitals for treatment. In addition, this department has charge of the instruction in the use of gas masks, to prepare the aviators in combating this new and powerful weapon of modern warfare.

TRANSATLANTIC FLIGHT

Discussion Carried Further By Hanley Page

Signor Caproni, builder of the great Italian bombing airplanes that bear his name, has had his say about the practicability of trans-Atlantic flight. Now comes Mr. Handley Page, the English manufacturer of equally great and equally well-known bombing machines, to the credit of which stand some remarkable records, including the London-Constantinople flight, and he contributes some new interest in the discussion. For instance, he opposes the scheme of landing ships to be stationed in aero trans-ocean routes.

"In the long run," he says, "we shall find that it is a mistake to rely upon descents to the water. Aeroplanes fly in winds that make the surface of the sea too rough for any aeroplane or seaplane to live in, or get off from; and I am confident that this is the wrong way to approach the work. What we have to do—and, indeed, already have done—is to give the aeroplane endurance as to fuel capacity and reliability as to engine power, so that no descent to the water need be contemplated. The precision of the aerial navigation of today comes into line at the advanced stages we have now reached in these other directions.

"Reliability is secured by multiple engines; in other words, by not putting all your eggs into one basket, multiplicity of motors in an aeroplane gives that reliability which enormously strengthened construction, as compared with land practice, gives to the marine engine. Where long flights are at issue, the engine, of course, must not be

(Continued on page 3)

INSTITUTE RECEIVES A NEW SCHOLARSHIP FUND

The bulk of the estate of the late Jason S. Bailey, who operated a department store on Washington street for many years, will eventually go to charity.

Annie D. Bailey, the widow, is given $10,000 outright and the home at Garfield avenue and Corey street, West Roxbury.

The remainder of his property is given in trust to Horace G. Allen and Annie D. Bailey. They are instructed to pay his adopted daughter, Vivian B. Butler of Newton, the sum of $2000 annually, which is to be increased to $3000 upon the death of her husband, Merrill P. Butler.

The First Parish Church of West Roxbury and the Boston Nursery for Blind Babies are each given $1000 a year.

The balance of the income is to be paid to Mrs. Bailey, and after her death, if the income exceeds $10,000 a year, Harvard University and the Massachusetts Institute of Technology are each to have one-fourth of such excess to establsh schorarships and to be known as the "Jason S. Bailey Fund." The Children's Hospital on Longwood avenue is to have one-fourth and the other fourth is to be divided equally among the Home for Aged Couples, the Home for Aged Men and the Home for Aged Women.

When the last beneficiary has died, the First Parish Church of West Roxbury and the Boston Nursery for Blind Babies are to be paid $25,000 each. Harvard University, the Institute of Technology and the Children's Hospital will receive one-fourth each of the trust fund. The Home for Aged Men, Home for Aged Women and Home for Aged Couples are given one-twelfth each.

Mr. Bailey died July 31. His will was made on Feb. 20, 1918.

AVIATION TRACK MEET

Institute Fliers to Hold Final Contests on August 21

The Technology Naval Aviation School will conduct a track meet for all of the flights under instruction at the school on August 21, at Tech Field. The meet will be under the direction of Ensign Charles G. Squibb, who is the athletic officer at the school, and will be the final meet of the interflight contests which have been run throughout the spring and summer. The preliminary meet was held last week and determined the entries in the final meet, thereby promising to make the final contest a close and hotly contested one.

Ensign Squibb will award ribbons to the winners of the various events, and in addition the leading flight will be honored by some form of recognition of their prowess. He believes that a greater interest can be developed in the future fliers by this system of sport, and he thinks that each flight will work hard to prevail on its best men to go into the competitions.

The contests to include field races, tug-of-war, football, baseball, boat and swimming races. In the preliminary diving contest, Albert Penn, of Texas gave one of the best diving exhibitions which has ever been witnessed in Boston.

ARMY SURGERY DIVISION HAS BIG MOBILE OPERATING UNIT

Complete Five Section Hospital is Serving on the French Front

The Division of General Surgery in the Surgeon General's Office has completed and sent abroad for service near the front a complete mobile operating unit that is motor driven. It is in itself a complete unit made up of five sections, each of which is a complete operating group. Its location is near the base hospital until sent to the relief of evacuating stations near the front line. It moves on motor trucks with trailers and lighter trucks and automobiles, and has a double canvas tent with metal flooring which forms the operating pavilion. The different trucks carry a sterilizing outfit, an X-ray outfit, camp kitchens and supplies, medicines, drugs and surgical instruments, groups of operating surgeons, nurses and orderlies. A body of mechanics accompany them to care for the motor trucks and to keep the entire outfit in good repair. A thirty-horsepower boiler on one of the trucks provides the power for an individual electric light plant and the operation of the X-ray plant.

Ready In An Hour

In somewhat less than an hour after the arrival where needed of the unit or one or more of its sections, the men in the organization will have erected the operating pavilion, have the beds ready, the operating room prepared to receive the wounded for surgical treatment, and everything will be in readiness for the patients. Each section is capable of handling 100 separate cases in twenty-four hours and by the system of relay of surgical and nursing groups the work goes on continuously as long as required. The units then return to the base or are hurried to the next evacuation hospital calling for them.

312 In Personnel of Unit

Following is the organization of the Mobile Operating Unit, all the officers being medical officers: For headquarters a lieutenant colonel, a captain and two quartermaster officers. In each section of the unit there are three majors and nine captains or first lieutenants, one chief nurse, two operating room nurses and seven assistants besides sergeants, mechanicians, two cooks and thirty-five privates. For the entire unit this give a total of sixty-two officers, fifty nurses and 200 enlisted men exclusive of the mechanical repair unit. All the principal officers of the personnel were trained in the medical officers' training camps and have had at least several months practical work in camps or cantonments. In each unit there are

(Continued on page 3)

MOVING PICTURES DISPLAYED ON CAMP HOSPITAL CEILINGS

The problem of how to amuse the wounded soldiers who are unable to sit up has been solved in a simple manner by the Y. M. C. A. at the base hospitals in the camps. Portable motion-picture machines are so stationed that the projections appear on the ceiling, and all the patient lying on his back needs to do is to look up.

In connection with the recreational and entertainment work for the wounded and convalescent soldiers in the cantonments the Y. M. C. A. War Work Council has just given to the Lythic Construction Co., of New York City, the contract for the erection of a large hut at Camp Upton. It will be eighty by fifty-three feet, with a high gable roof and a large chimney at one end, giving it the appearance of an immense farm house of the typically New England homelike sort—the kind suggestive of home comforts and of "the pies mother used to make." The building will be ready for use within six weeks.

One of the efatures of a novel nature will be the so-called "quiet room," where anyone who desired to be alone can go. Another noteworthy matter is that there will be a grand veranda running the entire length of the building and overlooking the athletic grounds.

K. B. PAGE '20 WOUNDED

Institute Man Receives French and American Awards

Private Kenneth B. Page, of the class of 1920, a member of the sanitary detachment of the 104th regiment, has been slightly wounedd, according to a cablegram received from him by his father recently. The cable was worded: "Slightly wounded: Nothing to worry about." Private Page is the son of Mr. and Mrs. Frank R. Page and is one of the youngest men in the regiment.

Private Page left the Institute in April, 1917, and enlisted in the Medical Department of the 104th Regiment. He left for France with the regiment and was soon placed at the fighting front. In April of the following year, 1918, he was decorated for bravery with the "Croix de Guerre," and in July he was further honored by virtue of continued show of bravery, receiving the "Distinguished Service Cross" by General Pershing. He was a member of the Phi Gamma Delta fraternity.

NAVAL ENGINEER REQUIREMENTS

Applicants for enlistment in the Naval Reserve Force with preliminary instruction in the United States Steam Engineering School at Hoboken are accorded the privilege of three months' release for the purpose of harvesting crops, if they so desire.

The training course is of four months' duration, the first month at Stevens Institute, Hoboken, where the preliminary training in boilers, engines, and auxiliaries will be given; then two months, practical work which will be given on coastwise ships, sound and river steamers, tug boats, ferries, and the different repair plants in the vicinity of New York Harbor; then one month of final training in organization, routine, care and upkeep, repairs, Navy regulations, duties of engineer officers and assistants, at Stevens Institute.

The minimum requirements are that applicants be men of ability and officer material, twenty-one to forty years of age, inclusive, and that they have completed a high-school course and graduated at an engineering course in a recognized technical school. If the candidate is undoubtedly qualified he may be enrolled as a chief machinist's mate in the United States Naval Reserve Force. Full information as to the service may be obtained at Room 1217, Little Building, Boylston and Tremont streets.

Our men in the trenches and in the submarine chasers are doing their part. Are your doing your part? Buy War Savings Stamps to your utmost capacity.

JUNIOR FRESHMEN HOLD TRACK MEET

Dean Burton Witnesses First of Two Athletic Contests Which Wind Up Summer Calisthenics Course

SECOND MEET NEXT FRIDAY

A downpour shortly after eight o'clock last Friday morning did not dampen the athletic ardor and enthusiasm of the junior freshmen at the Institute, for there were sixty-eight entries for the four eents, so many, in fact, that there was insufficient time to run off the relay race. The track meet, a windup of the calisthenics which have been held daily since the students began their studies last spring, was held on Tech field. The feature was the tug-of-war, which was won in an explosive fashion by the "T. N. T." team.

The size of the fields convinced the Technology authorities that they are on the right road regarding physical exercise, and competition for the many among the entering classes, rather than the specialization for the few who are excellent physical specimens anyway. For instance, more than fifty appeared for the 100-yard dash, and it was decided to limit the heats to three, as a time-saving method, as the games were limited to an hour. This sprint developed an upset, when E. J. Wilson failed to qualify, but he had good reasons because he slipped at the outset on the muddy track and never figured again.

The first heat of the "100" was won by T. P. Spitz, former track leader at Brookline High, and another Brookline boy—Arthur L. Silver—was just fast enough to finish second in the next heat and qualify. M. V. Hamburger, former Boston English igh boy, won the third heat handily, easing up at the tape, yet having the fastest time of the preliminary heats. With Wilson eliminated it was a foregone conclusion that Hamburger would not have any difficulty in winning the final. But an upset occurred when Silver displayed unexpected speed and won with yards to spare. Silver never had had any athletic experience at Brookline, another indication that competition for the many is greatly to be desired.

Two Newburyport High School boys—E. W. Noyes and E. J. Wilson—were the leaders in the 880-yard event. Noyes was pressed at one stage by Wilson and Spitz, but none of the other dozen starters figured seriously. Tenaciously retaining the lead, Noyes crossed the finish line in 2m 10 2-5s—fast time in view of the conditions. Wilson, only a few strides behind the winner, led Spitz by five seconds, but the real race was for third place and Spitz led Crosby by only one-fifth of a second. The boys used sneakers in all the events.

M. V. Hamburger was a victor in the obstacle race and as this preceded the final in the sprint, it is likely that

(Continued on page 3)

JAMES J. MAHAR '02 IS MADE SCHOOLHOUSE COMMISSIONER

Mayor Peters of Boston announced, last week, the following nomination which he later sent to the Civil Service Commission:

James J. Mahar, 68 L street, South Boston, to be Schoolhouse Commissioner of the City of Boston.

Mr. Mahar has been heating and ventilating engineer in the Schoolhouse Department for several years. He is a graduate of South Boston grammar and English High Schools, and was graduated from Technology in the Class of 1902, with special qualifications in mechanical engineering along heating and ventilating lines. He is president of the Young Men's Catholic Association, a director of the City of Boston Employes' Credit Union, a member of Elm Hill Council, K. of C., and of the South Boston Trade Association.

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The Editor-in-Chief is always responsible for the opinions expressed in the editorial columns, and the Managing Editor for the matter which appears in the news columns.

IN CHARGE THIS ISSUE

Carole A. Clarke '21 ..... Night Editor

WEDNESDAY, AUGUST 14, 1918

AFTER THE WAR

IT is surely not entirely out of place to do a little planning now for after the war. The crisis has been passed, and although it may take two or three years to complete the downfall of Germany, we need to start figuring on a solution for the industrial complication which must inevitably come at the end of hostilities.

Since we entered the war successful efforts have been made to do away with all unnecessary industries, and to fill with women workers the places of the men called to service from the important industries. This plan of action has worked extremely well, and women are fast becoming more popular than men in some of the important employments. As long as the war lasts this service is very laudable, and we are proud to know that sterling qualities are characteristic of our people.

But how are matters going to stand after the war? Many of the big manufacturing plants, notably the munition factories, will all but close down; millions of men will be returning from France, and will find their jobs either wiped out altogether, or filled by women or the stay-at-homes. If the factories of the country can supply the needs of the people at home and the soldiers abroad in times of war, will not the same factories working under the same conditions as in war be able to supply to a large extent the demands of this country in times of peace? What, then, will become of the surplus millions returning all at once? In other words, many of the non-working class have been educated through necessity to labor; these persons are not going to be willing to give up their positions at the end of the war. The men returning must have jobs, and if they cannot get them in essential industries, many non-essential and undesirable occupations will spring up throughout the country.

You say that manufacturers will give to the men returning their old positions. We are afraid many of them, in fact the majority of them, will be like the employer who, when asked if he would reinstate men in his factory who had entered the service, replied that he could get as good results from his new women employees and at lower cost than he had been able to do with the men who had left, and that he did not propose to make a change back to the old conditions after the war. He was immediately threatened by the labor unions that his shop would be closed unless he signed a written agreement to reinstate his old men. He signed the statement.

1. Every large employer should give a written agreement to the state wherein his factory is located that he will reinstate whereever possible all men who left his employ to enter the service of the United States.

2. The Government should retain control of public utilities, and should employ as many people as possible in the extention of these utilities. In this way the resources of the country would become much more highly developed.

3. The Government should encourage great advances in building after the war.

4. Acting on the assumption that the greater proportion of people that are engaged in necessary occupations, the less time each person must work, that the workingman's day be shortened and wages kept the same. This action would necessitate the employment of more labor.

PERSONALS

Word has recently been received that **Alfred K. Althouse** of the Class of 1917, has enlisted in the Engineer Corps. A letter just received by Professor Dewey says: "Yesterday I resigned my position as Mechanical Assistant in the American International Shipbuilding Corporation at Hog Island, Pennsylvania, and tomorrow will leave for Washington Barracks, being voluntarily inducted into the Engineer Corps. If successful, in about a month I will be sent to the Engineer Officers' Training Camp at Camp Humphreys, Virginia."

Althouse prepared for the Institute

ALFRED K. ALTHOUSE '17

Engineering Administration Course at the Norristown (Pa.) Hight School and Mercersburg Academy. During his course at Technology he was a member of the Civil Engineering Society, Corporation XV, the Banjo Club, the class tug-o'-war, and the class crew. He is a member of Lambda Chi Alpha fraternity.

Another candidate for a rank in THE TECH'S list of the youngest captains in the United States Army, is **George A. Nelson Jr.**, who was born on June 6, 1894, which, as has been suggested would place him near the top on the roll of Technology men who have been commissioned captains at an exceptionally early age.

Captain Nelson prepared for the In-

CAPT. G. A. NELSON, JR. '17

stitute at the College of the City of New York, where he received his B. S. degree. At Technology he was enrolled in the Civil Engineering Course, being a member of the Civil Engineering Society and Delta Kappa Epsilon fraternity. He was graduated in June, 1917, and shortly afterwards left for Fortress Monroe, Virginia, to enter the Coast Artillery Corps. Nelson was sent to France in December, and was there commissioned captain in May, 1918, at the age of twenty-three years. His present address is Battery D, Fifty-second Artillery, Coast Artillery Corps, U. S. A., A. E. F.

The wedding of Miss Maude Gwynne Shepherd, daughter of Mr. and Mrs. William E. Shepherd of 16 East Sixty-ninth street, New York City, and **Mr. Ernest Harrah** of Philadelphia, whose engagement has just been announced, will take place on August 24th at Narragansett Pier, where the Shepherd family are spending the summer. Miss Shepherd was presented to society several seasons ago. She is a grand-niece of the late Cornelius Vanderbilt. Mr. Harrah is the son of Mr. Charles Harran of Philadelphia and was graduated from the Mechanical Engineering Course at Technology with the Class of 1905.

Charles W. Drew, Jr. '19 is back at the Institute in the uniform of the U. S. Marine Corps. Drew expects to remain at Technology for a few weeks in order to complete the work of his Senior year that he may be recommended for his degree in September in accordance with the latest faculty ruling. After his work here, Drew will probably be sent to the Marine training station in the South for a brief period of instruction prior to being ordered to the other side.

Mr. and Mrs. Frederick D. Ennis of 7 Norfolk terrace, Arlington, Mass., announce the engagement of their niece, Miss Florence Van Rensselaer, to Mr. **Osgood W. Holt**, son of Mr. and Mrs. James O. Holt of 16 Pleasant street, Arlington. Mr. Holt, who was graduated from Technology with the Class of

OSGOOD W. HOLT '17

1917, left school before the end of the term last year to take up Government work in the submarine construction department at the Fore River shipyard, where he has been for the last fifteen months.

At Technology Mr. Holt was registered in the Mechanical Engineering Course, and was active in undergraduate affairs, being a member of the Mechanical Engineering Society and on the board of Tech Show.

Announcement is made of the marriage of Miss Gertrude Lamson, daughter of Mr. and Mrs. Fred C. Lamson of 65 Mt. Vernon street, Cambridge, to **Lieutenant Mahlon M. Read** of Winthrop, formerly of Cambridge. The bridal

LIEUT. MAHLON M. READ '18

couple will live with the bride's parents, after a wedding tour. The bride will continue her course at Radcliffe. Read was graduated from Technology in the Electrical Engineering Course with the Class of 1918. He is stationed at Fort Warren.

Albert Kruse '20, former Night Editor of THE TECH, has enlisted in the Aviation Detachment of the United States Naval Reserve Force, and is now going through his preliminary training at the Commonwealth Pier in Boston. After several weeks at the Pier, he will be sent to the Receiving Ship at Technology and will pursue the prescribed course for Naval Aviators here.

Kruse was a well known member of the Course IV men, and was engaged in several of the Institute activities, among them THE TECH, Tech Show, and the Woop Garoo, of which he was art editor. He is a member of the Phi Kappa Sigma fraternity.

NAVIATORS HAVE NARROW ESCAPE

Milan P. Fletcher and J. E. Chapman, students in the Technology Naval Aviation School, narrowly escaped death last Sunday night when their automobile was hit by a Montreal train on the Fitchburg divison of the Boston and Maine Railroad near the Stony Brook crossing at Waltham, Mass. Details of the accident have not been received, but it is known that although the car was completely demolished, the occupants managed to get out of it before the collision, with the result that neither was injured.

BROOKLINE MAN BEQUEATHS MONEY TO THE INSTITUTE

The will of Albert H. Munsell of Brookline, just filed in the Norfolk county court, provides that the bulk of his estate, about $35,000, after being held in trust for the benefit of his mother until her death, shall be then divided equally between a Brookline hospital, the Massachusetts Institute of Technology, the Masachusetts Normal Art School and the Hospital for Blind Babies of the Brookline Friendly Society.

JNIOR FRESHMAN TRACK MEET

(Continued from page 1)

ver's freshness was a factor in the ult. Hamburger rounded the ham-r-throwing cage, scrambled over o platforms on which directors of listhenics led their companies; then ared two flights of hurdles and shed to the finish. J. M. Briggs of w Bedford was second and Ralph E. rdinand of Winthrop High, third. A mber of students remained out of e various events especially to run the relay, consequently they were appointed when they had to go to eir classrooms without competing.

Dean Alfred E. Burton and John chie, Jr., of Technology, refereed l judged, respectively, in the events, ile Morris E. Kanaly, rbother of e physical director was the starter. ile Morris E. Kanaly, brother of emonies, and his assistants were W. Hamburger, A. F. Rogers, H. G. Griffs and E. W. Richards of the class 1921. Friday, starting at 8 A. M., ter events will be held for the nior freshmen in the Charles River sin in front of the Walker Memol. A dressing race and other novies are being planned. Summary last Friday's events:

100-Yard Dash—First heat won by itz; second, Chutter; time, 11 3-5s. cond heat won by Wildner; second, ver; time, 12s. Third heat won by mburger; second, Ferdinand; time, 2-5s. Final heat won by Silver; ond, Chutter; third, Hamburger; me, 11 2-5s.

Tug-of-war—Won by T. N. T.; seed, Bolsheviki.

880-Yard Run—Won by Noyes; sec-d, Wilson; third, Spitz; time, 2m. 2-5s.

Obstacle Race—Won by Hamburger; ond, Briggs; third, Ferdinand; time, 2-5s.

MOBILE OPERATING UNIT

(Continued from page 1)

r surgical groups, each consisting of chief surgeon, an assistant, a nurse d an anaesthetist and one enlisted gical assistant. A detail of these ses took a special six weeks' course in ministering anaesthetics at the Mayo spitals in Rochester, Minn. The ented personnel is largely composed of dents from the University of Calinia, who have been in training at lentown, Pa. A separate unit conting of auto-truck men, mechanics, vers and truckmasters under suitable ers is added to each section of the it. There are four principal heavy cks in each section: the power truck ries the boiler: the sterilizing truck e sterilizing outfit for all dressings; third truck canvas operating pavilion d its metal floors; and the fourth gical supplies and drugs. Each of ese trucks hauls a trailer. One is a chen, another carries provisions and ra equipment: the third, operating om fixtures, and the fourth the electric hting and the X-ray outfit. Ten light tor trucks carry all the rest of the tfit including the entire personnel.

The Division of General Surgery, unrecently under Col. William H. Monef, N. A., and now under Lieut. Col. ymond P. Sullivan, has had entire arge of designing, organizing and outting this hospital unit. Its officers d the plans of the French and English bile units to guide them, but they e worked out this plan wholly on eir own ideas. This unit is now in rvice with the 1st Army Corps in ance.

TRANSATLANTIC FLIGHT

(Continued from page 1)

iven at top speed. The aeroplane st be capable of remaining in flight en though the engines are not all nning. All this is now an accomshed fact. One can go further still support of this and predict that the roplane of the future will have a y small landing undercarriage, one t suited for alighting on specially pared places; it will never have to ght save at suitably appointed landd stations.

We should ever keep in mind the ential condition that the primary ject of the flying machine is to fly, t to drop to earth here, there and erywhere. The aeroplane should erefore be designed on the lines of e eagle and not on those of the rnidoor fowl. We can do away with e enforced landing through motor ilure; and the problem raised by the k of losing the way, and thereby ing compelled to land off the route; solved. Additional force is given to is argument by the fact that float boat aeroplanes are less efficient rodynamically than those with ordinary landing undercarriages; the ats or floats, as the case may be, e a serious handicap. By proceeding by indirect methods, by not boldly facing the clear issue, content never to get beyond the clumsy landing devices of today, and the still clumsier and more handicapping sea-floats and boats, we simply delay progress. The argument that an aeroplane is not a bird, and that the latter is not troubled by engine-failure, is met by the successful production of multiple-engine machines, in which the risk of total engine failure is overcome, combined with improved methods of aerial navigation.

"Every industry passes through the stage in which the aeroplane industry now finds itself. Take, as an example, motor-cars, and compare the family brougham of early days, with its high wheels and the coachman on the box-seat, with the modern car.

"The first trans-Atlantic flights will probably be at rather a high altitude," added Mr. Handley Page. "The advantages are many, and they include the fact that although speed may be a trifle less, the distance accomplished for a given expenditure of fuel is greater.

"There is no reason why long-distance aeroplanes built in America for the war should not go to France by air instead of using up precious tonnage. But apart from war purposes, consider mail and passenger carrying. The map of the world may be judged on a scale of days, not miles. Take a map of England of 100 years ago and compare it with a map of the world today. New York is now actually nearer London, owing to the aeroplane, than Edinburgh was 100 years ago. The demand will be for mail-carrying first. You practically do away with the Deferred Telegram rate at half price for a stipulated permitted delay of twenty-four hours in transmission. How much better to write a letter, and send it by aeroplane! Ask any business man which he prefers, cable or letter, where the advantage of the former in the matter of time is wiped out.

"As to passengers, the day will soon come when the saving of time by flying will attract business men. The cost of trans-Atlantic travel by steamship is largely determined by the time occupied, in terms of food consumed, service, etc. And many will welcome an end to the six days of almost complete severance from the world, six days of a monotonous churning of the sea ever in the center of a landless world."

PUT BAN ON USE OF STEEL

Production of American steel mills will be applied only to essential uses under a general policy as to the use of iron and steel during the war announced by the War Industries Board. Manufacturers, jobbers and retailers in iron and steel, described by the board as "now the world's most precious metal," are asked to guard distribution so that there may be no stain on the spirit of the policy.

Curtailments of industries using iron and steel will be made effective, the board said, with as little disturbance to industries as war requirements will permit.

The present and constantly increasing steel requirements, the board says, of American Government and its a.. for direct and indirect war needs are so enormous as to absorb virtually all of t heconstantly expanding production capacity of the country. These demands must always be met 100 per cent and promptly.

"The result is obvious," the board's announcement adds. "There will be comparatively little iron and steel left to distribute to those industries engaged in non-war work, and to consumers for application to non-war uses."

Easy to buy, convenient to handle, no red tape—Get a WAR SAVINGS STAMP today.

PHYSICAL DIRECTOR ENTERS SERVICE

Technology's most recent loss among its faculty, due to the war, is that of John A. Macdonald, one of our physical directors, who is now a first lieutenant in the Aviation Corps. Lieutenant Macdonald reported for duty on August 3rd at the Medical Laboratory, Mineola, Long Island. After some preliminary training he will be an assistant flight surgeon at an aviation base.

Although Lieutenant Macdonald has only been at the Institute since July 1, 1917, he has become very much attached to the work and expressed deep regret upon leaving the position with which he was so well satisfied. He feels that he is well fitted for his new work because his work in the past has always been more or less along medical lines.

Lieutenant Macdonald has been active in Y. M. C. A., club and college life as both physical director and athletic coach for seventeen years. He has also been an active competitor in athletic sports since 1892 and has held the professional championship title. Some of his records are: High jump, 6 ft. 1 1-4 in.; 16 lb. shot put, 42 ft. 11 in.; and 16 lb. hammer throw, 158 ft.

In his time Lieutenant Macdonald has taken part in every athletic event except distance runs, and has continued his activities up to the present time, but he feels now that his call to service means the last of his competitive career.

Although the Institute regrets losing a man whose loss will be felt in more ways than one it feels that his subsequent enlistment will be a material gain to the service of our country.

LIEUTENANT JOHN A. MACDONALD

RIVETLESS SHIP A SUCCESS; SHIPPING BOARD TO BUILD MORE WELDED VESSELS

The first rivetless steel vessel has completed her maiden voyage successfully. With a full cargo and in rough weather, she answered in a satisfactory way the severe tests imposed. The vessel is twelve feet between perpendiculars, siteen feet beam, displacement 275 tons. More than 240 man hours were saved in construction and an economy of more than 1000 pounds of metal was effected by the absence of rivets. The cost of electrodes, owing mainly to the present limited use was considerable, but it is estimated that future demand and competition will reduce the price sixty per cent. It was possible to build this vessel, an experimental ship, at a saving of from twenty-five to forty per cent in time and about ten per cent in material. Riveting will probably not be dispensed with altogether, as for certain sections it is cheaper and quicker than electric welding, but the combination of riveting and welding is likely to be extensively adopted as in case, for instance, some 10,000-ton ships be constructed, the number of rivets to be used is reduced to two and a half per cent.

All Plates Welded

Instead of the plates of this vessel being riveted and caulked, they are joined together by electric welding. The shell, up to and including the bottom seam of the bilge plate, is continuously welded inside and out. The cross seams are similarly treated. The outside is continuously welded and the inside "tack-welded," that is to say, a short section—say, three inches — is welded and then another section of about twice as much is skipped. The frames, floors, deck brackets, and non-watertight bulkheads, are tack-welded, and the watertight bulkheads continuously welded. In the case of the deck-plates butt-welding has been adopted, the plates being arranged end to end, without any overlap. It is considered that the mode of construction followed allows a good margin of safety.

Earlier Applications

From the earliest days of shipbuilding the art of welding, as practiced by the smiths and by the forger, has played a most important part in the provision of many items of structure and outfit. Within more recent times the application of the term welding has been greatly extended, until at present it covers not only the original smithy welding, but also the more modern forms of fusion welding, as applied to sheet metal and other light work.

Fusion welding by the oxy-acetylene process, in which the weld is made by heating the edges or surfaces of the pieces to be joined to fusion heat and adding fused metal of similar composition—generally soft Swedish iron—as may be necessary to make up the joint, has long been used by the shipbuilder for a variety of purposes. Among these may be mentioned welding the seams of ventilation trunks, boxes and stowages, vent cowls, etc., filling up odd holes in plates and angles, and welding up small cracks and flaws in plates, angles, and castings. Generally speaking, this system of welding has been applied to items which are not subjected to any serious internal or external pressure, and do not form part of the structural strength of the ship.

Oiltight Compartments

Recent developments in the process of welding by means of the electric are have called attention to the possibilities of its application to a much wider range of shipbuilding operations. The process would appear to be peculiarly suitable for much of the work on destroyers, provided that it can withstand the stresses caused by the natural vibration in this class of vessel. Much of the trouble which the builder of destroyers has to overcome is due to the fact that many large compartments have to be made absolutely oiltight for holding oil fuel. Many of the plates forming the boundaries of these tanks are little more than one-half inch in thickness, and caulking has therefore to be done, with extreme care. The fitting and caulking of angle collars to bulkheads, of bulkhead boundary bars to shell, and of decks to shell and bulkheads, also involves a very great amount of difficult and costly work.

The application of the electric arc system of welding to the butts, laps and boundary angles of lower decks (which form the crowns of oil fuel tanks) would seem to be peculiarly suitable, as the plane of the lower deck is practically coincident with the neutral axis of the hull considered as a girder, and the deck is therefore practically free from the alternating stresses to which the upper deck shell plating, etc., are subjected. Watertight and oil-tight bulkheads are to some extent liable to vibration, but, as this is seldom excessive, the application of electric welding to them would seem to be quite possible, and would be of enormous advantage in many ways. As regards these two items alone, a very considerable saving of labor would result. Drilling, punching and countersinking of rivet holes would be entirely done away with.

Extension of the System

As a substitute for riveted connections in many other jobs the system promises well, and such items as funnels, boiler uptakes, machinery casing tops, light deck structures, gun platforms and fittings, readily suggest themselves as suitable for the application of electric welding. But whether it will prove generally applicable to the butts and seams of shell and deck plating will depend upon the success with which the welded joints can withstand the stresses set up in a seaway, and, in the case of destroyers, upon the possibility of efficiently welding high tensile steel. In addition, there is the practical difficulty of properly closing the landing edges of shell-plates having considerable curvature and twist without drilling holes for a very large number of service bolts.

PENNSYLVANIA STATE COLLEGE—Dr. Arthur Holmes, dean of the Pennsylvania State College for the last six years, has resigned to accept the presidency of Drake University, at Des Moines, Ia. He will take his new position Sept. 1.

Dean Holmes came to State College in 1912 from the University of Pennsylvania, where he was head of the department of philosophy for four years.

WILLIAMS COLLEGE—Dr. Harry A. Garfield, president of Williams College, recently announced plans for a change in the curriculum to put the undergraduates in special training for war service.

The course of studies has been modified to meet the government's plans, he said, and special courses will be designed to increase the scope of military instruction along the lines suggested from Washington for members of the students' army training corps.

LEHIGH UNIVERSITY—Dr. H. S. Drinker, president of Lehigh University, in a statement several days ago reported that there has been a very large number of applicants for admission to the university's three-year war courses entitling graduates to degrees in engineering and arts and science. He pointed out that, while these new courses cover the full schedules formerly given in four years, sufficient vacation time is nevertheless afforded.

The Lehigh University three-year course in ship construction and marine transportation, to be started in September, will be under the direction of Prof. F. P. McKibben, head of the Department of Civil Engineering. The new course will be a combination of engineering and economics to prepare students for ship construction.

TUFTS COLLEGE—The carpenter class of the Tufts College Training Detachment, which arrived on June 17 and has completed its course at the college, was transferred to service elsewhere. On Monday the machinist and auto mechanic classes which have been in training for eight weeks will be transferred. A total of 150 men were enrolled in these classes. Next week 150 additional men will arrive at Tufts so that the detachment will continue to be maintained at its present strength of 250 men.

A dance, attended by about 150 of the members of the detachment, was given in Goddard Gymnasium last evening. The music was furnished by an orchestra which has been organized among the men. The committee in charge consisted of Miss Blanche Hooper, Miss Margaret Belles, Mrs. Charles H. Gray and Sergeants Maxie, Spollet and Titus.

Lieutenant H. H. Mosher has been added to the headquarters staff of the detachment.

MIDDLEBURY COLLEGE—One of the most successful social events of the tenth summer session of Middlebury College was an entertainment given by the students of the French department to the faculties and members of the various other departments connected with the college. The main feature of the evening's programme was a comedy entitled "La Marraine Inconnue," composed for the occasion by the Vicomte de la Jarrie, representative of the French government, who is at present associated with Professor H. P. Williamson de Visme, director of the Ecole du Chateau de Soisy, France, as head of the French department of the Middlebury summer session. Although an amateur performance, the roles were uniformly well played, the costumes good, the stage settings appropriate. The clever dialogue which runs through the play was interrupted now and then by appropriate songs and dances, the music for which was composed by Harris G. Shaw, the Boston organist. Other features of the evening's programme were songs by H. P. Williamson de Pisme and Grecian dances by Miss Alice Kush of New York, a student in the French department.

NORTHWESTERN UNIVERSITY—In order to meet the evident desire of the War Department to qualify young men while in college as rapidly as possible for military and other national service, Northwestern University proposes two new courses of study based largely on military training and subjects immediately connected with military service. The first course makes provision for a student to secure a bachelor's degree in three years from the date of his admission to college, provided he spends the two intervening summers in study or military training. The course includes six hours of military drill a week in conformity to the plans of the War Department, with a large amount of mathematical and scientific study. It is equally valuable to men planning to enter the Navy. The requirement for the bachelor's degree remains 120 semester hours as before, and the usual courses in English, foreign languages and history are included, but other courses bearing on the life and physical condition of the soldier are given prominent place. The chief difference between this course and the ordinary course for a degree is that work commonly elected by the student has been replaced by military subjects. The saving of one year of time and the preparation for military or naval service are the notable features.

The university further proposes to open the way for younger students to profit by the provision of the War Department for military instruction in colleges, by offering a special college course for conditioned students. By this arrangement young men with not more than three units of entrance condition may enter the college course, provided that if eighteen years of age they enlist in the Students' Army Training Corps in accordance with the plan of the War Department. If under eighteen years of age they must enroll for the prescribed course and promise to enlist on reaching eighteen years. These students may make up entrance deficiencies and complete the course for a bachelor's degree in four years of study, including such of the intervening summers as are necessary. The programme arranged for such students includes military training, English, mathematics, a foreign language and a laboratory science. It is the declared intention of the War Department to retain members of the Students' Army Training Corps in college until they reach the draft age unless urgent military emergencies should arise. These changes in the curriculum have been made as war emergency measures and it is expected that they will be discontinued at the close of the war.

Line up and sign up on National War Savings Day.