

**RIALTO**

BIG SHOWS AND GOOD MUSIC  
Mon., Tues. & Wed.

This is one of those thrilling and soul-stirring pictures with a refinement of treatment that will inspire all—

**CECIL B. DE MILLE**  
Presents the Magnificent Aircraft Production  
**"TILL I COME BACK TO YOU"**  
The Story of the Year

"A MAN AND A MAID"

"Allies Official War Review"  
Pathe World's News  
Shows Start at—1, 3, 5, 7, 9 p. m.  
MATS., All Seats, 15c; Night, 25c

**Lyric Theater**

BUY U. S. STAMPS

TONIGHT at 8:30 and All Week  
Mats. Wed., Thu., Fri., Sat.  
OTIS OLIVER and  
HIS PLAYERS  
in  
**"FRECKLES"**

PRICES—Matinees 10c, 15c, 25c;  
Nights 10c, 25c, 35c  
2 Shows Sat. Night, 7 and 9

**THE COLONIAL**

Mon., Tues. & Wed.

**THE PRUSSIAN CUR**

As Big as the World War  
Admission—5, 10 and 15c  
SHOWS AT—1, 3, 5, 7, and 9

**LIBERTY**

—VAUDEVILLE—  
Mon., Tues. & Wed.

ROBERTS, PEARL & CO.  
THE VENUS TRIO  
CHRISTIE & BENNET  
MONS. HERBERT

The U. S. Government Presents  
the Second Official War Picture  
**AMERICA'S ANSWER**

3 SHOWS DAILY AT—2:30,  
7:00, 9:00—MATS—15c;

**UNI NOTICES**

**Orchestra**  
Orchestra practice has been changed from Monday, Wednesday and Friday evenings to Tuesday and Thursday evenings at 7 o'clock, in the Art gallery.

**Convocation**  
The convocation scheduled for November 6, has been postponed to Wednesday, November 13, at 7:30 p. m. At this time Professor Gillen of the University of Wisconsin, will speak on "Civilian Relief for the Central Divisions." Members of the S. A. T. C. detachment are urged to attend.

**Mystic Fish**  
An important meeting of the Mystic Fish will be held at 5 o'clock p. m. on Wednesday at the Alpha Omicron Pi house.

**OUR WAR-WINNING MACHINES ARE INTRICATELY FASHIONED**

(Continued from page 1)

government kept the knowledge of its makeup under cover and finally, when its description was given out a short time ago, it was so technical that only an engineer could understand it. However, those who know all about aeronautics declare that it is the most perfect of all engines for a plane and will be even better yet when it has undergone a few changes as to lightness and speed.

**Oil**

This great motor needed a lubricant and it was necessary to develop a new kind. It is well known that a large amount of oil must be used in all airplanes and while some engineers insisted on using castor oil mixed with mineral oil, others asked for mineral oil alone. At that time about 5,000,000 gallons of castor oil alone was used which cost about three dollars per gallon.

When the Liberty motor was designed the new problem of lubrication arose and Captain May, of Chicago, one of the first lubrication experts, began making tests. He ran a 65-hour test without stop, standing watch until his work was completed and all his data recorded. The strain on his vitality was too great and he died in May of this year—another martyr to science and to his country. His experiments made possible the securing of a suitable aeroplane oil at about one-fourth of the price of the castor oil, saving the government perhaps \$11,000,000. Reclamation of used oil is also practical now, and at least fifty per cent is used again where previously it was thrown away. This also saves millions of dollars for the government. An airplane firm is also turning out a remarkable engine which is being used in flying boats and is entirely different from the Liberty motor.

The manufacture of airplanes encountered no little difficulty in obtaining some of the material needed, as much of it comes from various parts of the world. Skilled labor is required for many parts especially in the assembling and although high wages were offered it was next to impossible to secure the required number of mechanics.

**Spruce Used**

When it comes to the making of an airplane apart from the motor, spruce is the lumber used. This generally comes from Alaska and the far west and consists of Sitka spruce, white spruce and red spruce. This makes the frames of the wings, ailerons (moving flaps attached to the trailing edge of each plane) fins, rudders, elevators, stabilizer, struts, landing gear, fuselage (body) flooring, engine bed and seats. Spruce is used because it is the toughest of the soft woods for its weight and possesses tremendous absorbing qualities.

About three hundred and fifty pieces of the wood are used in a single airplane.

Nearly all of the available spruce is in Alaska the west coast of British Columbia, and close to the Cascade range in the states of Washington and Oregon. The Lumberjack is the first laborer on the aeroplane when he cuts down these great pine trees—old patriarchs which run up over 150 feet without a branch, and transports them to the big spruce division sawmills. This mill cost the government \$200,000 and is located at the Vancouver barracks in the state of Washington. It has twelve log carriages for conveying spruce to twelve head saws back of which are complete sets of cut off saws and other machinery necessary to convert the wood into a finished product for aeroplane production. There is a regiment of 1,940 men of the second provisional regiment who are working at this mill in three shifts of eight hours each. The wood must be seasoned by a kiln dry-out at the U. S. forestry laboratory, located at the same place. Although perhaps fifty per cent of the wood is thrown out here as unfit and another seven and one-half per cent lost in kiln shrinkage, this process saves the weight of shipping by sending the dried wood to the factory. The production of spruce and fir is nearly up to the amount needed, including the 72,800,000 feet sent to the allies.

**Making Propellers**

Twenty-five experienced American manufacturers are now producing a total of from 350 to 400 highest quality aeroplane propellers per day for the air service. The building of this part of the machine is interesting for

It requires perfection as to the dimensions. The double bladed propeller is built up from boards about one-inch in thickness and cut out to the rough shape of the finished product. The wood must be free of all defects, with a straight grain running the entire length of the piece. The boards are assembled and placed in a hot box preparatory to the glueing together which is done rapidly and the glued blocks left in clamps or presses for twenty-four hours. The blocks are next cut down by carving machines, lathes, shapers, etc., to within about one-fourth of an inch of the final completed size and shape and in that state are hung for two weeks in a conditioning room before being worked to the final finish. The latter is done by what is called bench work where the propeller is completed and ready for the varnish. Everything here must be accurate and conform exactly to the pitch and shape and the two blades must be in exact alignment and track. The propeller acting as a fly wheel for the air motor must be perfectly balanced. When the propeller is finished in the white it is ready for inspection of joints, after which it is given five coats of spar varnish and rebalanced. The four-bladed propeller is more often used than the three-blade, because of its simpler, stronger construction features. The two-bladed one is even more efficient than either of the others and would always be used if the arrangement of the engine permitted.

The laying of the keel (as the fitting of the wing spars and ribs or cross pieces is known) is done by expert mechanics and is most interesting. The making, or rather covering, of the wings is done by women and linen is used because it is the only fabric that will not rip as do other materials when struck by bullets. The greater part of this linen comes from England. Covering the wings is delicate work. The women who do this work use a three-inch needle in the sewing and are most careful. After they have finished the wing is covered with three coats of a chemical cellulose preparation, about fifty gallons being used to every plane. It is known as "doping" the wings. A final application of varnish is applied and the wing becomes a strong wind-resisting waterproof part.

**Thousands of Nails and Screws**

It is then ready to be assembled with the engine, propeller, fuselage, etc., which has been prepared by another set of men and women who have worked over the body with compressed air tools smoothing out the aluminum part of the fuselage, etc. The whole thing is a mass of nails and screws, for in one of the French

**Orpheum** PHONE 86631  
ADVANCED VAUDEVILLE

MONDAY, TUESDAY AND WEDNESDAY  
Continuous Shows—1:00; 3:00; 7:30; 9:00 p. m.  
DOROTHY PHILLIPS  
in  
**"The Talk of the Town"**  
News Weekly-Allied War Review  
Matinees—15c —ALL SEATS— Evening—25c  
THURSDAY, FRIDAY, SATURDAY, NOV. 7, 8, 9  
2:15—Twice Daily—8:15  
ORPHEUM CIRCUIT VAUDEVILLE  
(Complete Bill will be announced in Thursday's papers)  
SPECIAL NOTICE—Starting with Thursday's matinee, the Orpheum prices will be the same as last season—  
Matinees—25c, 50c Nights—25c, 50c, 75c

planes more than 23,000 screws and nails were used to hold it together. Even the simpler planes require over 7,000 nails and screws.

Recently the mark on our planes abroad had to be changed, due to the fact that the star, its insignia, was sometimes mistaken for the German cross when the machine was at a high altitude or at a certain angle with another aeroplane. So we have adopted the design of the allies—a simple bull's eye of red, white and blue.

**PROFANITY IN BARRACKS NO LONGER TOLERATED**

Majority Agree to Put Taboo on Gambling and Improper Language

Following the meetings held by "Dad" Elliot Saturday and Sunday, the spirit of reformation ran rampant among the men stationed at the local barracks.

Sunday evening, Walter Judd, commanding officer of Company C, started circulation of resolutions which had for their chief aims, the abolishment of all objectionable speech around the barracks, as well as gambling and other kindred habits.

Many of the boys realized that they had become lax in their personal habits since their first day in the bar-

racks, and were more than ready to take steps to become better men. It will be a difficult matter for any man to stand out against the principles which have been laid down in the resolutions since practically every man in the Social Science barracks has affixed his signature to the pledge.

The resolution which so many of the boys will try to live up to follows:

"We will cease all profanity, especially smutty stories and insinuations, also gambling and all other habits which we know will undermine our efficiency as American soldiers; furthermore, we will do our best to clean these things out of our barracks life. We are for clean thought, clean speech and clean living."

**Industrial Worker Visits Campus—**

Mr. Nelson A. Barrett, who took work in Russian and French on the campus two years ago, is in the city for a few days. Mr. Nelson had an interview with Secretary of War Baker on the great need of forming an American industrial board for the introduction of American industries into Russia. The work of the board will be to establish American factories and introduce American manufacturing and commercial methods. This relation will be of equal benefit to both countries.

There is a strong probability of Mr. Nelson serving on this board. He has been in the consular service in Russia and has a thorough knowledge of Russian language.

**Real Coat Weather Hasn't Caught Us Napping**

For Saturday We Offer a Pleasing Variety of Models and Fabrics at

**\$25**

We believe that in LATENESS of the styles, QUALITY of materials and WORKMANSHIP, these coats are different from those ordinarily seen at \$25.00.

Many were selected by our Garment Buyer when in New York last month and represent the season's most advanced style ideas. Colors are black, taupe, Burgundy, blue and brown. Collars are of fur, plush and self materials.

**Rudge & Guenzel Co**