

Do You Know?

Artificial eyes are now being made of acrylic plastics.

Turkey now has its first window-glass manufacturing plant.

American railroads use more bituminous coal per year than the total amount sold by all retail dealers.

Over 300 species of eucalyptus trees are known, and each produces its own distinctive oil.

Fellowships in health education will be provided by the National Foundation for Infantile Paralysis to train men and women as professional polio fighters.

The frigate bird, also known as the man-of-war, lives principally on fish but they seldom catch their own; they take them forcibly from other fisher-birds.

The alcohol industry, in its efforts to meet war needs, has increased its annual output from 100,000,000 gallons to 610,000,000 gallons.

The American cultivated blueberry, now an important commercial crop, is a result of developments of the past 35 years in the selective breeding of this native fruit.

About 26% of the 460,000,000 acres of commercial forest land in the United States is in federal or state forests, 30% is owned by farmers and the rest by lumbering and other industries.

Asphalt, the common paving material, is used also as a package waterproofing and sealing material, particularly for war supplies sent to humid climates; some say Moses' basket in the bulrushes was waterproofed with it.

A national milkweed-floss collecting campaign is being organized among school children and others; the floss is used in naval and aircraft life preservers to replace the unavailable East Indian kapok.

Langbeinite, a rare mineral found only in five countries, is valuable for fertilizer because the purified ore is a sulfate of potash-magnesia containing 22% potassium oxide and over 18% magnesia.

AERONAUTICS

New P-63 Kingcobra

This fighting plane has 50% greater combat radius and higher speed than the Airacobra. Big advantage is that it can penetrate deeper into enemy territory.

► FACTS ABOUT the Army Air Forces new P-63, an all-metal, low-wing, land monoplane, heavier, more powerful and more completely streamlined than the P-39 Airacobra which it is to replace, have been announced by the War Department.

The official combat radius of the P-63 is 50% greater than that of the P-39. This means that it can engage in aerial combat much deeper in enemy territory.

The new P-63, popularly called the Kingcobra, was developed, beginning in 1942, through the cooperation of the AAF Materiel Command at Wright Field and the manufacturers, the Bell Aircraft Corporation.

It has a service ceiling of nearly 35,000 feet; a new two-stage Allison V-12 engine of 1,500 horsepower thrusts it through the air at speeds close to 400 miles an hour. The plane upon which this ship was based, the P-39, has a 30,000 foot ceiling and a 375-mile-an-hour speed.

The principal changes in the new plane are in the power plant, and the low-drag laminar flow wing. The two-stage engine gives higher compression through the use of a fuel supercharger geared at one speed for medium altitudes and at a higher speed for high altitude flying. It has a rating of 300 more horsepower than the Allison engine in the P-39. The laminar flow wing section is designed to produce minimum drag on all surfaces of the wing and thereby increases the speed of the plane.

Incorporated in the new plane's design are the P-39's cabin with automobile type door, big air-intake scoop beside the pilot's seat and exhaust outlets on the side of the fuselage. The P-63 has a radius of turn shorter than that of any existing U. S. fighter. Its engineers claim it can turn with the Jap Zeros.

The armament of the P-63 is about the same as the P-39. Both are equipped with a distinctive 37 millimeter aerial cannon firing through the propeller hub and four .50 caliber machine guns, two on the wings and two in the nose firing through the propeller arc.

The AAF also revealed recently that

the jet-propulsion plane, produced by Bell Aircraft Corporation and powered by General Electric engines, has been designated as the P-59-A. The jet plane has been named the Airacomet.

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ORDNANCE

Two Novel Gun Mounts For Aircraft Patented

► TWO NOVEL gun mounts for war-planes have recently been patented. One, covered by patent 2,348,209 is the invention of Lt. Col. Rudolph Fink of the Army Air Forces; patent rights are assigned royalty-free to the government.

Instead of securing greater fore-and-aft command through mounting the gun in a protruding blister, Colonel Fink sets it in a hinged, sliding panel; this is flush with the side, and is connected with similar panels on either end, to maintain a wind-tight seal against the outer air.

To Henry K. Growald of San Diego was granted patent 2,348,470, on a detachable ball-and-socket mount, suitable for use on tanks, motor torpedo boats, etc., as well as on airplanes. By training the gun through a tight ball-and-socket arrangement, the length of barrel protruding outside the fuselage can be greatly reduced, with corresponding reduction in air drag.

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AERONAUTICS

Planes Lifted at Take-off By Vertical Blasts of Air

► SOMETHING novel in the way of helping big, heavily loaded airplanes to take off is proposed by two British inventors, T. L. Bonstow and A. E. Margolis, both of London, in patent 2,355,948. They propose to lay conduits under the runways of flying fields, to deliver strong vertical blasts of air as the planes pass over them, thus literally boosting them off the ground.

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