

## AERONAUTICS

# Fast Jet Bombers Tested

Two six-jet-engine Army bombers, built for high speed flying, have unusual thin wings to decrease air resistance. One is capable of over 480 miles an hour.

## See Front Cover

► THE swept-back wings and other design features in the Army's newest jet-propelled bomber, now ready for ground and taxi tests at the Boeing Aircraft Co., in Seattle, Wash., follow the latest tested developments for speedy planes of the future.

This six-jet-engine bomber, the Army XB-47, or the Boeing Stratojet, is an experimental model to test the new in design. It is approximately the size of the B-29 Superfortress. The sharply swept-back wing and tail surfaces are ultra-thin to decrease air resistance at high speeds. Knife-blade leading edges on plane wing are conceded as essential on planes to fly at speeds approaching that of sound. Blunt leading edges develop heavy shock waves at transonic speeds which require much power to combat.

The six engines used in the Stratojet

were built by General Electric Company. They are carried under the wing surfaces, three on each wing. Two of the three are in a single housing close to the fuselage, the third is well out, relatively near the wing tip in an unusual position.

Another six-jet bomber for the Army under flight tests at the Glenn L. Martin plant near Baltimore is shown on the front cover of this week's SCIENCE NEWS LETTER. Its engines, also made by General Electric, are in banks of three under each wing. It is a long-range plane, capable of over 480 miles an hour, and can carry a bomb load of over ten tons. Its Army designation is the XB-48.

The Martin bomber has a wingspan of about 108 feet, and is 86 feet in overall length. The new Boeing bomber is 116 feet in wingspan and 108 feet in length. Both have thin wings to decrease air resistance, and both have landing wheels in tandem under the

fuselage, and light wheels for stability under the engine.

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## BIOCHEMISTRY

## New Anti-Germ Compound Found in Radish Seed

► RADISHES are responsible for the newest addition to the chemical family of antibiotics, or penicillin-like germ-checking substances. Drs. George Ivanovics and Stephan Horvath of the University of Szeged, Hungary, announce (*Nature*, Aug. 30) the discovery of an antibiotic compound in radish seed.

It will not be useful in medicine, in its present form at least, because experiments have shown it to be poisonous to animals. It has also been found highly active in preventing the germination of seeds of various kinds of plants, including cabbage and mustard, which are relatives of the radish, as well as members of the cucumber and grass families.

Because the generic name of the radish is *Raphanus*, the new antibiotic has been named raphanin.

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## METEOROLOGY

## Cloud-Height Record Made Continuously at Airports

► A CONTINUOUS cloud-height record at over 42 Naval airports is now made automatically by a new photoelectric instrument developed by the Navy in cooperation with General Electric Co.

The instrument, called a ceilometer, measures the cloud ceilings over the airfield up to 10,000 feet by means of a reflected beam of light. It is an improvement over earlier similar methods in that it makes use of a modulated beam of light from a 25,000,000 candle-power projector which, being on special wavelengths, can be identified by receiving instruments. Another advantage is that it can be used in the daytime.

The apparatus obtains the height of a cloud ceiling from the ground by triangulation. The beam sent from the projector, after reflection from the base of the cloud, is received by the photoelectric detector which is at a known distance from the projector. An electric signal corresponding to the reflected light signal, and the angle at which it enters the detector, is transmitted to the airport recording machine.

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**"STRATOJET"**—This is the new experimental Boeing XB-47 with six jet engines. Notice the very thin swept back wings, which it is hoped will give the plane great speed, and the position of two of the jets near the wing tips.