

INVENTION

Invention for Detecting Airplanes at Night

Can Be Used on Plane to Avoid Collision With Another Or on Ground for Gunfire Control; Works by Radio

RADIO waves about 20 inches long form the fingers which detect invisible airplanes at night, according to a new invention just granted patent 2,231,929 by the U. S. Patent Office. This patent went to Joseph Lyman, of Huntington, N. Y., who assigned it to the Sperry Gyroscope Co., Inc., of Brooklyn.

Repeatedly reports have come from England that R.A.F. fighter planes have some new equipment enabling them to detect Nazi bombing planes in full darkness. The exact nature of the device has not been revealed but, judging by Mr. Lyman's description of his invention, it might serve the purpose.

"The novel indicator," he states in the specifications, "is adapted for use on aircraft either for indicating the direction of approach of other aircraft, to thereby prevent collision under conditions of poor or zero visibility, or for use on the ground as when locating aircraft for purposes of gunfire control, or for controlling aircraft landings from the ground, and for other purposes."

He suggests the use of signals of 600 megacycles, or about 20 inches wavelength, because these can be generated and detected by simple means, and are not greatly interfered with by natural phenomena, such as solar radiation. These are about a hundredth of the wavelength of the 6 megacycle signals used for transatlantic short wave broadcasts.

The apparatus consists of a receiving antenna in a parabolic reflector which sweeps around several hundred times a second. At the same time, the axis of rotation itself turns, but more slowly, so that the antenna sweeps all the way around. Because of the reflector it will only receive signals originating in the direction to which it is pointed. Instead of one such antenna, two can be used, one sweeping vertically, the other horizontally.

In peace time, the approaching airplane might have its own transmitter

and send out a continuous warning. Since enemy bombers would hardly be so obliging, however, it can also operate with a transmitter on the defending plane, since the other would reflect the waves from its metal shell. In either event, the receivers pick up the signal only at one instant in their sweep, and this is shown by a spot of light on the end of a cathode ray tube, like that used in television receivers. The position of the spot shows the exact direction of the other plane.

For fire control from the ground, where more bulky equipment may be employed, parabolic transmitting antennas are also used, which turn in step with those of the receiver. This is more

efficient, because the signals are sent only in the direction where they will be detected, not broadcast.

Science News Letter, March 8, 1941

ZOOLOGY

Baby Gibbon Jealously Kept From Human Sight

ONE of the rarest babies ever born beneath the Stars and Stripes, an infant gibbon that first saw the light on Jan. 31, on the famous "monkey island" off the coast of Puerto Rico, is still the most jealously guarded. Its ape parents have thus far permitted only one person to see it—a gentle, slow-moving, easy-going Puerto Rican keeper named Juan Ramos. They hide it from every other human, stated Michael Tomilin, superintendent of the great simian colony, who is at present a visitor in New York at the College of Physicians and Surgeons, Columbia University.

So far as Mr. Tomilin's records show, only four gibbon babies have ever been born on American soil. Two of these died very young; the only other one known to be alive at present is in the Philadelphia Zoo. (*Turn to next page*)



AIRPLANE CREATION

This is the loft in the engineering department of the new Vega Airplane Company plant in California. Air conditioning, fluorescent lighting, and many other modern conveniences help to speed the defense program here.