

## Do You Know?

Some bacteria are 25% sulfur.

Popcorn kept in sealed cans retains the proper moisture content for best popping.

Kingbirds, which grow to be eight inches long, can see insects 170 feet away.

New silicone greases are claimed to be ideal for permanent lubrication of ball bearings.

Wood of the poplar tree is widely used in making berry boxes and fruit baskets because it is soft, tough, clear, tasteless and odorless.

Allspice, technically pimento in Jamaica from which it comes, got its name because it has a flavor similar to a mixture of cinnamon, cloves and nutmeg.

If you want to keep fishworms in captivity put them in a wash-tub filled with a half-and-half mixture of rich earth and dried coffee grounds; a pound each of vegetable shortening and corn meal will feed 5,000 for a month.

Fossils of 28 different kinds of previously unknown animals recently unearthed in Colombia, now at the University of California, include an animal which had habits like a wolf but which was a marsupial, the family of the kangaroo and opossum.

### ELECTRONICS

## Improved Radar

New especially designed ground-based and airborne equipment and land-based long-range radiobeacons proposed to make commercial flying safer.

► IMPROVED ground-based and airborne radar equipment, especially designed for the purpose, and a network of land-based long-range radio-beacons were proposed as means of making commercial flying safer by Henry Busignies of the International Telephone and Telegraph Corporation. He described what he termed a radical new system of airport traffic control and navigation along airways, called "Navar," and a proposed worldwide system of long-range radiobeacons called "Navaglobe" for short.

The proposal was made at the week-long Army-sponsored conference in Washington, D. C., attended by military and civilian aviation experts, at which technical systems of making all-weather flying safer are being discussed.

The navar system, he stated, would project an electronic "moving picture" on a chart in the airport control center, showing the location and identity of every plane in the sky within 80 miles of the airport.

Navar, developed by Mr. Busignies, is, he said, an application of most of the types of radar proved during the war. In addition to the constantly moving radar picture in the ground-based control room, the pilot of a navar-equipped plane will see on his own radar scope his own and all other aircraft near his position and altitude, in relation to each other and to the ground, in one map-like indication, he stated.

The ground radar installation will show the planes in the area on three scopes, Mr. Busignies explained, each scope covering a certain category of aircraft. "Member" planes, he said, are those equipped with navar and tuned to the local control station; "guests" are planes whose navar sets are tuned to another station; and "strangers" are aircraft without navar. At the ground navar station the images of all planes in all three scopes are transmitted through a specially designed projector onto a large map of the area on a wall screen.

In addition to the lateral positions of planes in the area, he continued, the figures on the map representing member planes will show adjacent groups of letters and numbers identifying each

plane and telling its altitude. The equipment permitting this feature is based on the IFF (identification—friend or foe) automatic radar method used by aircraft during the war. This IFF equipment answers automatically certain "stock" questions about flying conditions without attention of the crew.

The complete coordinated picture of all aerial activity in the control area is retransmitted by the ground station and picked up by the navar-equipped planes, he further explained. The airborne radar scope is viewed through a translucent map of the control area so that the pilot sees his own and other planes in relation to the ground as well as to each other.

Science News Letter, February 16, 1946

Raw cotton is being turned into fabric cotton without spinning and weaving through the use of a resin binder.

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