

AERONAUTICS

Rural Air Traffic Control

Radar stations in eastern states could assist bad weather traveling of aircraft between ports. They would not be used for bad weather landings.

► TWENTY scanning radar stations properly distributed in the eastern portion of the United States could be used to control effectively airplane traffic in open spaces between airports, the American Society of Mechanical Engineers in Los Angeles was told by Dr. L. A. DuBridge, president of the California Institute of Technology.

"The radar pictures from all 20 screens could be transmitted by radio to a central control station, or each station could tune in and see the pattern of any other station," he said. "The radar picture can even be radioed to the pilot so he can see for himself where he is and what traffic pattern he is in."

These stations could assist in bad-weather traveling but would not be used for bad-weather landings. Other instruments, including the radar-radio ground control approach device (GCA), are needed in the actual landing. Long-range ground radar stations are needed at airports, he said. They can provide a ground control officer with full information of the actual traffic pattern over a wide area. This system is now being tested at the National Airport in Washington, D. C.

Plastics in Planes

More than 300 applications of over 20 different plastic materials are used on present-day luxury transports, such as the new DC-6, R. J. Considine of the Douglas Aircraft Company stated at the same meeting. The development of plastics for use in airplanes is evolving at approximately the same rate as the airframe itself, he said.

Plastics were used as substitute materials because of shortages during and immediately following the war, but many of their applications have become permanent because of their excellent record.

The reason for increased use of plastics in aircraft is to be found in the strength-weight ratio. Designers are on a never-ending quest for new materials with a higher strength in proportion to weight. But plastics or any other materials are not employed in present air-

frame design, he asserted, unless they will do their particular functions as well as, or better than, any other material known to the designer.

Science News Letter, June 7, 1947

CHEMISTRY

Amorphous Carbon Made From Oil in New Process

► AMORPHOUS CARBON, impalpably fine, sooty-black stuff useful as rubber filler and for pigment purposes, is economically produced from the poorest grades of crude oil by a process on which U. S. Patent 2,420,999 has been granted to Joseph W. Ayers of Easton, Pa. The oil is injected as a high-pressure jet into a closed retort, along with a stream of air to produce partial combustion at temperatures ranging from 2,000 to 3,000 degrees Fahrenheit. At the other end, a continuous stream of carbon black is drawn off, collected with an electrostatic precipitator and stored until ready for packaging. Rights in the patent are assigned to the Phillips Petroleum Company.

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ORNITHOLOGY

Male Birds' Crows Counted To Give Pheasant Census

► TURNING OUT before dawn to count the number of crows of the cock pheasants is one of the springtime tasks of the field biologists of the North Dakota State Game and Fish Department. This pheasant crowing count is a new census technique used when the pheasant census is fairly low, replacing the usual roadside count.

In making a pheasant-crowing count a township is chosen for a study area. The biologist begins his count 20 minutes before sunrise. He stops his car every two miles and records the number of pheasant crows heard in two minutes. This is believed to be a reliable census technique because a male pheasant does not crow more than once in two minutes and the call can be heard about one mile. This count is conducted for one

and a half hours in the early morning. Pheasants crow only in April, May and June.

This unusual wild game count was developed by Jim Kimball of the South Dakota conservation department. It is now widely used in the Dakotas to determine the state game pheasant population. Results of these game surveys in the spring determine whether to open the season in the various counties. It is also used to set the bag limits for fall hunting.

A high-frequency radio receiving set which picks up only the crows of the pheasants has been developed by the federal aid coordinator of the Game and Fish Department at Bismarck to aid in taking the pheasant-crowing count.

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