AERONAUTICS

Refueling in Mid-Air

➤ REFUELING long-range planes in mid-air may become a relatively common practice, it was predicted recently by Sir Alan J. Cobham of England, managing director of Flight Refuelling, Ltd.

Advantages include elimination of the necessity of making stops between terminals to take on gasoline, decreasing the time required for long flights, and the ability to carry heavier payloads due to the saving in weight from lesser loads of fuel.

Refueling in mid-air is not a new procedure. American stunt flyers during the past two decades have remained in the air for weeks at a time by mid-air refueling. The equipment used, however, was somewhat crude. The British company represented by Sir Alan has approached the problem from a scientific viewpoint, and during the past 15 years has succeeded in developing equipment that makes mid-air refueling more practical.

It was this British company that supplied the equipment for refueling the U. S. Air Force bombers that took part in the recent round-the-world-non-stop flight, and also the more recent achievement of an English jet-fighter which remained in the air for 12 hours.

Flight-refueling systems are safe, simple, reliable and inexpensive, according to Sir Alan. The equipment on the plane to be refueled consists of fuel lines built into the airframe and usually leading to a single intake. Automatic valves at each tank permit the selective filling of individual tanks or any number of tanks.

The pilot of an airliner equipped for mid-air refueling merely flies on a straight and steady course, the aviation scientist explained. The flight engineer presses a button which lets out a "drogue" or specially equipped fuel line from the tail of the plane. A tanker approaches from the rear and, with an automatic probe, makes the fueling connection. The tanks are filled automatically and the engineer presses another button which retracts the drogue.

Fuel is transferred under pressure at rates up to 300 gallons a minute, but, due to the closed system, no leakage occurs at any time during the operation. The British system is now available to Flight Refueling, Inc., Danbury, Conn.

Science News Letter, September 10, 1949

On This Week's Cover

➤ THE crafty crab spider captures its prey in its long, powerful front legs, concealing itself in flowers and leaves and lying in wait for its victims.

This spider has the ability to change its color so that it will blend with the color of its surroundings. Generally its color ranges from white to yellow, and it has a few darker markings on its body to help camouflage it.

It's called a crab spider because it runs sidewise like a crab when it is disturbed. When it is pulled from its hiding place, it will hang on by spinning a fine line of beautiful silk that glistens in the sunlight.

Science News Letter, September 10, 1949

GENERAL SCIENCE

Elect FIDO Developer Head Of British Science Group

➤A SCIENTIST who helped develop the fog-fighting system that saved the lives of countless American fliers during World War II has just been elected to one of the highest positions in British science.

The new president of the British Association for the Advancement of Science, Brig. Gen. Sir Harold Hartley, served as a scientific adviser to the Petroleum Warfare Department and was concerned with the development of FIDO (fog, intensive dispersal of), which used controlled fires to clear the fog over landing fields. This system was used on American and British airports in England during the war to clear landing fields for returning fliers. It is now experimentally in use at some American airports.

Science News Letter, September 10, 1949

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