SCIENCE NEWS

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TRAVEL BY AIRPLANE

AIR-MINDED America will have ample aircraft in the near future for passenger travel, air express and mail. Nearly three times as many planes, with nearly six times the seating capacity, will be available for commercial uses as there were before the war when 409 new planes, now on order or on option, are ready for use. All 19 American airlines are increasing their facilities.

These 19 airlines of the United States expect to have 975 planes in their postwar fleets, it is revealed by the Air Transport Association of America. The planes will seat 36,180 passengers. They will provide greater speed, comfort and service than air passengers have ever experienced before. The additional planes will be new, not converted surplus military transports. It has been found, the association states, that the cost of conversion of military transport planes is greater than the cost of new equipment.

The giant of the new planes under order is a 320,000-pound craft, powered with six 5,000 horsepower engines, seating 204 passengers, and with a cruising speed of 340 miles an hour which will enable it to travel from New York to London in nine hours. A new Mars-type 165,000-pound flying boat, four-engined, carrying 106 passengers, will be able to cruise at over 200 miles an hour with a payload of 28,000 pounds for more than 3,000 miles.

Other new planes will have seating capacities ranging from 128 down to 14 passengers. Some will have cruising speeds up to 325 miles per hour. Several will weigh 100,000 pounds or over.

The new planes for overnight trips will have different combinations of staterooms, berths and reclining chairs. They will have separate rest rooms for men and women. Wherever necessary all planes will have pressurized cabins to maintain low-altitude conditions at "over-the-weather" heights, together with air-conditioning, thermostatic temperature control, and individual ventilation. Windows will be larger and better arranged for observation. Electric stoves and refrigeration will permit the serving of satisfying meals.

Many scientific war developments that gave American war planes advantages over those of the enemies will be incorporated into the new civilian commercial aircraft. Among these are radar and electronic devices which permit landing under practically zero ceiling and visibility, and avoid risk of collision by enabling pilots to see other planes even in the thickest weather.

Among the new instruments is the Sperry "Gyrosyn" compass, which is a gyro synchronized with a magnetic compass, giving much greater accuracy in navigation. Also there is a far-advanced, radio-aided system of airway traffic control, which will be vital when planes are landing and taking off six a minute at the larger airports.

ITEMS

QUACK grass or couch grass, notorious as an evil weed in America as well as in its native Europe, has a possible use in animal feeding, according to experiments reported in *Nature*. The research was performed by W. King Wilson, of the Harper Adams Agricultural College at Newport, Shropshire. Quack grass spreads over the ground by means of quick-growing runner-like stems or rhizomes. It can be slowed, though not stopped, by pulling these loose with a rake and stacking them up to dry. But this of course involves labor costs, and no offsetting use has ever been suggested for the dead weed growths. Mr. Wilson made chemical analyses of dried quack-grass rhizomes and found that the food substances in them compared favorably with those in ordinary hay. Then he substituted them for hay in the diet of a group of rabbits, and found that the animals throve at least as well as those of a similar group kept on hay. Quack grass has a number of aliases, though they all sound more or less alike: quick grass, couch grass, twitch grass. To botanists the weed has only one name: *Agropyron repens.*

VEGETABLE produce shipped bedded down in finely granulated ice keeps its freshness, crispness and vitamin C content over a longer period, researches conducted in twenty-one colleges throughout the country have shown. "This method of refrigerating produce with snow-ice is like the protective effect of the late spring snows on vegetation," Charles F. Belshaw, research consultant of the National Association of Ice Industries, said recently, speaking as guest of Science Service, on the CBS program "Adventures in Science." Researches show that vitamin C retention in foods is essential in the retention of flavor and that keeping vegetables fresh through use of snow-ice will bring food to the dinner table so that it tastes better and is nutritionally better. Whole blood is shipped successfully across the Pacific in an insulated container in which the bottled blood is placed in racks around a large compartment of cracked ice, Mr. Belshaw said. Although temperatures inside planes in the Pacific often go as high as 130 degrees, this method keeps the blood to be used in treating the wounded at a temperature between 40 and 45 degrees which is necessary to keep it in usable condition.

THAT alumina, the common oxide of aluminum, which is used as an essential ingredient of super-duty spark plug insulators, high-temperature refractories and insulators, in the field of electronics, has a lower melting point than previously supposed, has now been determined by the National Bureau of Standards. As a result of recent measurements made by R. F. Geller and P. J. Yavorsky, of the bureau staff, the melting point of alumina has been determined as lying within the range 3,630 to 3,690 degrees Fahrenheit. This is lower than the value usually quoted, 3,720 degrees. A reasonably accurate knowledge of the melting point of this material is important because of its wide industrial uses. Three samples containing over 99.9 per cent. of alumina were used in the tests. They were heated in an oxidizing atmosphere in an electric furnace, and the temperatures determined by means of an optical pyrometer.