

AERONAUTICS

Great Circle Route

War developed aircraft equipment makes northern ocean routes usable, enabling transports to fly from New York to Chungking via the Arctic.

► THE "GREAT CIRCLE" route from Seattle to Tokyo, which Army transports will fly on scheduled trips, is but one of several Arctic or near-Arctic routes that will be followed in the future by both commercial and military planes. Distance-saving is the reason; war-developed aircraft equipment makes these northern trans-oceanic flights possible.

The announced Army short route to Japan skims the south-central bulge of the Aleutian islands that stretch from Alaska mainland to Siberian Kamchatka peninsula. Between Seattle and Tokyo planes will make one stop, at Adak, a halfway point. This route is a little more than 4,700 miles, while the present regular route from California to Japan by way of Hawaii and Guam is nearly 8,000 miles.

From New York to Tokyo, following the Great Circle route, planes would travel about 6,700 miles, and would pass over northern Alaska, eastern Siberia and Kamchatka, and the Kurile islands. From Chicago planes would cross Alaska at about the central college city of Fairbanks.

Transatlantic planes now follow Great

Circle routes, or nearly so, in some instances. These are the planes that cross Labrador, and pass just south of Greenland and Iceland. From New York to Moscow by this path, the distance is roughly 4,700 miles, approximately 1,000 miles less than by way of Spain.

Great Circle routes from important American centers to certain Asiatic cities pass close to the North Pole. The route from New York to Chungking, the war capital of China, is one, for example. To reach one of these two cities from the other by air, planes would pass close to the Pole, would travel approximately 7,600 miles as compared with between 11,000 and 12,000 miles via Hawaii. Also from California to Tehran, the capital of Iran, aircraft would cross the Pole, but the air distance is only some 7,400 miles.

The cold weather encountered on these "top-of-the-world" routes no longer is a serious handicap to airplane traffic because of wartime developments. Included are de-icers to keep wings and body free of ice, static dischargers to eliminate troublesome electric charges, accurate altimeters, radar equipment, and loran, by which planes may know their geographical positions at all times.

Science News Letter, September 7, 1946

MEDICINE

Malaria from Transfusion

Blood of a malaria carrier given in transfusion can cause the disease. Two rules are given to avoid transmission of malaria by this method.

► THE DANGER of getting malaria from a blood transfusion has become a real possibility with the return from overseas of sailors and soldiers and a host of non-combatant men and women who were exposed to the disease, two Mayo Clinic physicians warn.

The case of a man who had never been in a malarial region and who developed malaria in December when the temperature was below zero, when it was most unlikely he could have got it in the usual way from a mosquito bite, is reported by Dr. Gerald H. Teasley.

The man had been injured in an automobile accident while away from home and was given three blood transfusions. One of the donors, it was found, was a soldier who had served in the Pacific area for 13 months, taking atabrine daily during that time.

The soldier did not have malaria while overseas, but after his return when he stopped taking atabrine he had five or six attacks. The hospital personnel who examined his blood when he served as a donor did not ask any questions about malaria. A thin smear of his blood

taken after the patient developed malaria showed no malaria germs.

A blood smear with no malaria germs, however, is not proof that a person is free from the parasites, Dr. Teasley points out. No diagnostic test is known which will definitely rule out malaria in a carrier who has been free of symptoms for a long time.

Putting quinine into stored blood at a strength of one to one thousand will not prevent the occurrence of malaria after transfusion, and some scientists have reported that the malarial parasites can live for weeks in blood stored at almost freezing temperature.

Two rules that may help to avoid transmission of malaria by transfusion

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